

Basin Environmental Service Technologies, LLC

3100 Plains Highway
P. O. Box 301
Lovington, New Mexico 88260
jwlowry@basinenv.com

Office: (575) 396-2378 Fax: (575) 396-1429



REMEDIATION SUMMARY AND SITE CLOSURE REQUEST

BOPCO, LP
JAMES RANCH UNIT #21 SWD AQUILA 8 DIESEL RELEASE
Eddy County, New Mexico
Unit Letter "G" (SW/NE), Section 21, Township 22 South, Range 30 East
Latitude 32.381464° North, Longitude 103.883210° West
NMOCD Reference #2RP-2285

Prepared For:

BOPCO, LP
522 W. Mermod, Suite 704
Carlsbad, New Mexico 88220

Prepared By:

Basin Environmental Service Technologies, LLC
3100 Plains Highway
Lovington, New Mexico 88260

June 2014

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 01 2014

RECEIVED

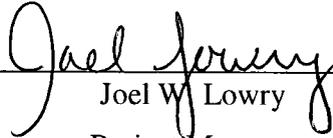

Joel W. Lowry
Project Manager

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1.0 INTRODUCTION & BACKGROUND INFORMATION

Basin Environmental Service Technologies, LLC (Basin), on behalf of BOPCO, LP (BOPCO), has prepared this *Remediation Summary and Site Closure Request* for the release site known as James Ranch Unit #21 SWD Aquila 8 Diesel Release (JRU #21 SWD Diesel Release). The legal description of the release site is Unit Letter "G" (SW/NE), Section 21, Township 22 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the release site are 32.381464° North latitude and 103.883210° West longitude. The property affected by the release is owned by the United States Department of the Interior - Bureau of Land Management (BLM). A "Site Location Map" is provided as Figure 1.

On January 13, 2014, BOPCO discovered a release had occurred on the JRU #21 SWD Well Pad. A one-inch (1") transfer hose from the diesel bulk storage tank was laid on the ground unattended and while the valve was left open, resulting in the release of approximately one thousand (1,000) gallons of diesel fuel. The New Mexico Oil Conservation Division (NMOCD)-Artesia District Office, New Mexico Environment Department (NMED) and BLM were notified of the incident immediately. The "Release Notification and Corrective Action" (Form C-141) indicated the release affected an area on the well pad measuring approximately fifty feet (50') by fifty feet (50') and collected in approximately one hundred and eighty-five linear feet (185') of containment ditch that had been dug around the tanks and generators. During initial response activities, the valve was closed and approximately four hundred (400) gallons of diesel were recovered. The Form C-141 is provided as Appendix A. General photographs of the release site are provided as Appendix B.

On April 20, 2014, the drilling rig and associated tanks and generators were moved off location. Beginning April 29, 2014, heavily impacted material was scraped up and stockpiled on-site atop an impermeable liner, pending final disposition.

On May 2, 2014, a five-point composite waste characterization sample (Composite 1) was collected from the stockpiled material and submitted to the laboratory for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), and arsenic, silver, barium, cadmium, chromium, lead, mercury and selenium (RCRA 8 Metals) using toxicity characteristic leaching procedure (TCLP). Laboratory analytical results indicated all RCRA 8 Metal concentrations were less than the appropriate laboratory method detection limit (MDL), with the exception of barium, which exhibited a concentration of 0.518 ppm. In addition, soil sample Composite 1 was also analyzed for Reactivity, Corrosivity and Ignitability (RCI), which indicated the reactive sulfide concentrations was 0.0100 ppm, the reactive cyanide concentration was less than the appropriate laboratory MDL, the pH was 7.41 and ignitability was greater than 140 degrees Fahrenheit. Soil sample Composite 1 was also analyzed for concentrations of TPH, which were determined to be 9,088 ppm. A summary of "Waste Characterization Data" is provided as Table 2.

2.0 NMOCD SITE CLASSIFICATION

A search of the New Mexico Water Rights Reporting System (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE) indicated information was unavailable for Section 21, Township 22 South, Range 30 East. A depth to groundwater reference map utilized by the NMOCD indicates groundwater should be encountered at approximately ninety (90) to one hundred feet (100') below ground surface (bgs). Based on the NMOCD ranking system, ten (10) points will be assigned to the site as a result of this criterion.

A search of the NMWRRS database indicated there are no water wells within 1,000 feet of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

There are no surface water bodies within 1,000 feet of the release. Based on the NMOCD ranking system, zero (0) points will be assigned to the site as a result of this criterion.

NMOCD guidelines indicate the JRU #21 SWD Diesel 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)
- BTEX – 50 mg/Kg (ppm)
- TPH – 1,000 mg/Kg (ppm)

3.0 SUMMARY OF SOIL REMEDIATION ACTIVITIES

On May 5, 2014, Basin began excavating impacted soil at the release site. The floor and sidewalls of the excavation were advanced until field tests suggested concentrations of BTEX and TPH were below NMOCD regulatory standards. Excavated soil was stockpiled on-site atop an impermeable liner, pending final disposition.

On May 6, 2014, twelve (12) confirmation soil samples (SSW #1, SSW #2, SESW, NESW, Floor #1, Floor #2, Floor #3, Floor #4, Floor #5, PA-SSW, PA-ESW and PA-WSW) were collected from the excavation floor and sidewalls and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in each of the submitted soil samples, with the exception of soil samples Floor #1, Floor #2 and Floor #1, which exhibited TPH concentrations of 556 ppm, 335 ppm and 127 ppm, respectively. Soil sample Floor #1 was also analyzed for concentrations of BTEX, which were determined to be 0.432 ppm. A summary of “Concentrations of Benzene, BTEX and TPH in Soil” is provided in Table 1. A “Site & Sample Location Map” is provided as Figure 2. Laboratory analytical reports are provided as Appendix C.

On March 8, 2014, four (4) confirmation soil samples (NSW, WSW, PA-NSW and PA-Floor @ 10') were from the excavation floor and sidewalls and submitted to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were less than the laboratory MDL in each of the submitted soil samples, with the exception of soil sample NSW, which exhibited a TPH concentration of 793 ppm. Soil sample NSW was also analyzed for BTEX concentrations, which were determined to be less than the appropriate laboratory MDL.

Between May 20 and 21, 2014, approximately three hundred and forty cubic yards (340 yd³) of impacted material was transported to Lea Land, Inc. (NMOCD Permit #WM-01-035), for disposal. The final dimensions of the excavation were approximately ten (10) to fifty feet (50') in width, seventy-five feet (75') in length and one (1) to ten feet (10') in depth. Upon receiving laboratory analytical data from confirmation soil samples, the excavated area was backfilled with locally purchased, non-impacted caliche and contoured to meet the needs of the well pad.

4.0 QA/QC PROCEDURES

4.1 Soil Sampling

Soil samples were delivered to Cardinal Laboratories, Inc., in Hobbs, New Mexico, for BTEX and/or TPH 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

4.2 Decontamination of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

4.3 Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form(s). These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

5.0 SITE CLOSURE REQUEST

Confirmation soil samples collected from the floor and sidewalls of the JRU #21 SWD Diesel Release excavation were analyzed by an NMOCD-approved laboratory, which determined concentrations of BTEX and TPH were less than NMOCD regulatory standards in each of the submitted soil samples. Based on these laboratory analytical results, Basin recommends BOPCO provide the NMOCD-Artesia District Office and the BLM a copy of this *Remediation Summary and Site Closure Request* and request the NMOCD grant site closure to the JRU #21 SWD Diesel Release site.

6.0 LIMITATIONS

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

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

7.0 DISTRIBUTION:

- Copy 1: Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division (District 2)
1301 E. Grand Avenue
Artesia, NM 88210
- Copy 2: James Amos
Bureau of Land Management
602 E. Greene Street
Carlsbad, New Mexico 88220
- Copy 3: Tony Savoie
BOPCO, LP
522 W. Mermod, Suite 704
Carlsbad, NM 88220
- Copy 4: Basin Environmental Service Technologies, LLC
P.O. Box 301
Lovington, NM 88260

FIGURES

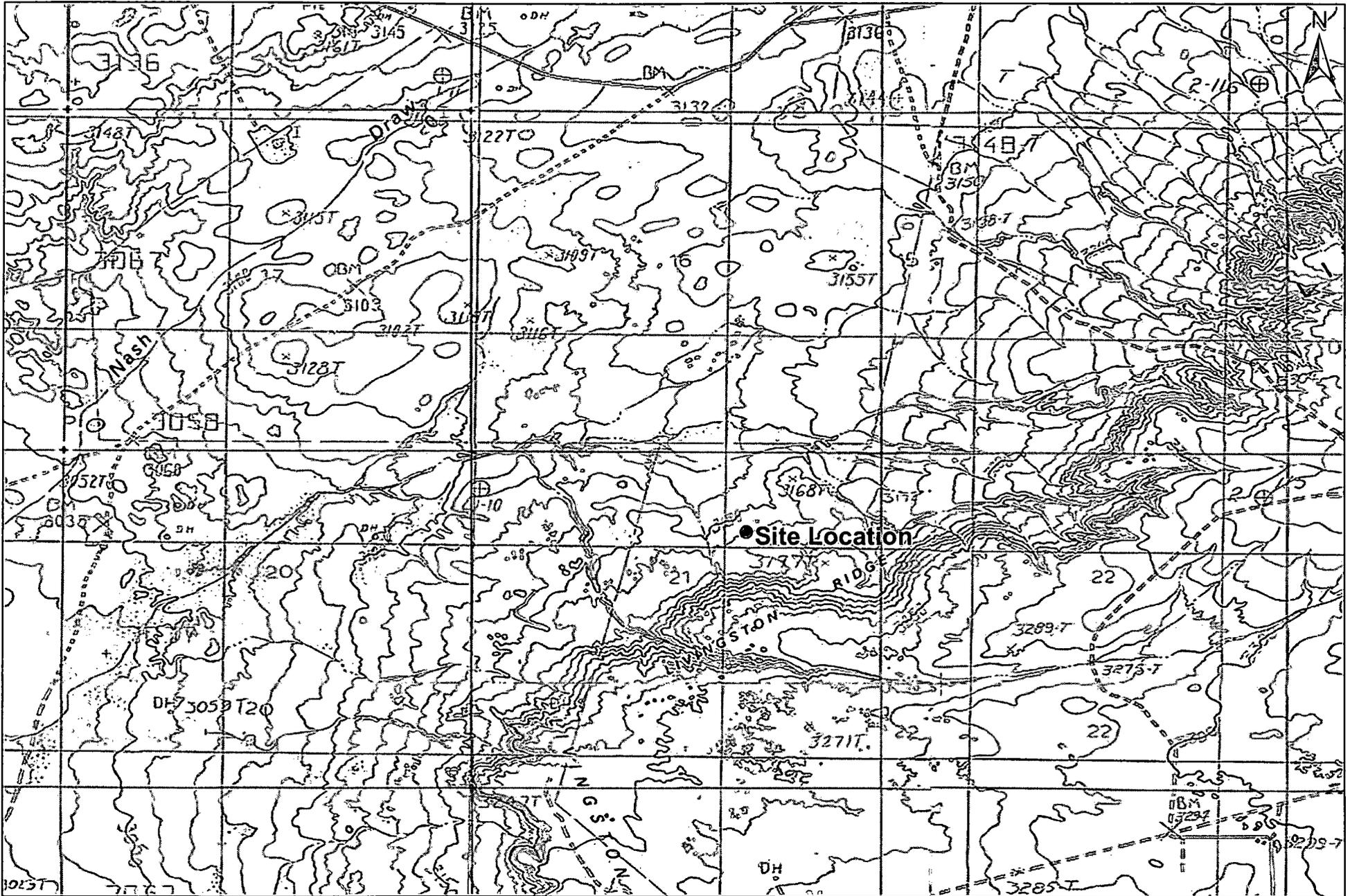
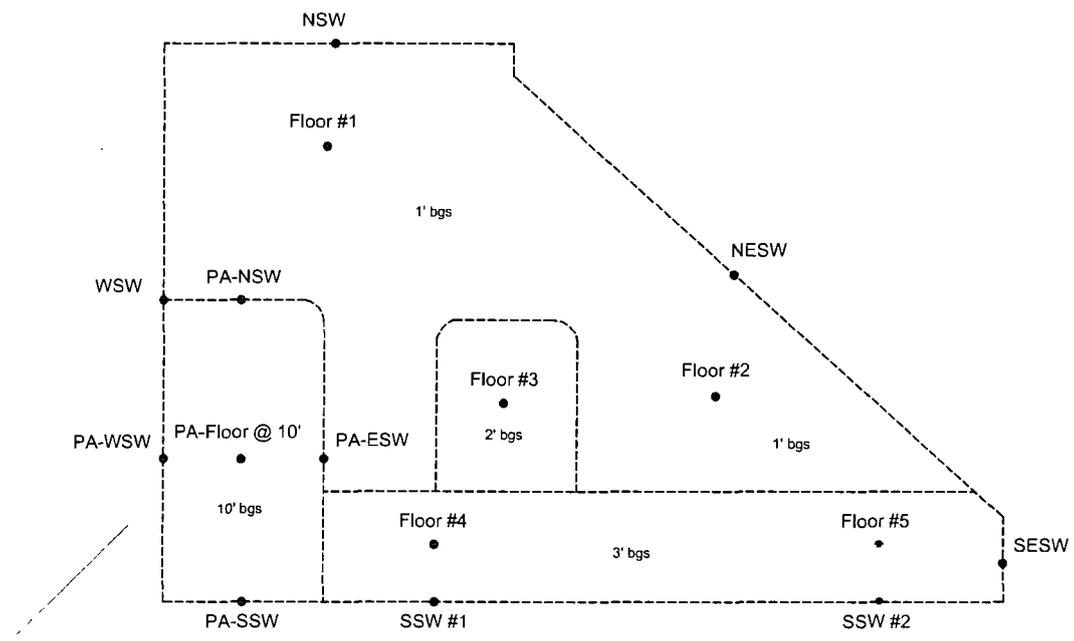


Figure 1
Site Location Map
BOPCO, LP
JRU #21 SWD Aquila 8 Diesel Release
Eddy County, New Mexico
NMOCD Reference #: 2RP-2285

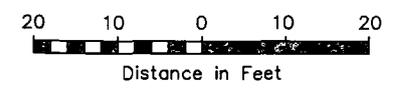


Basin Environmental Service Technologies, LLC
 3100 Plains Hwy.
 Lovington, NM 88260

Drawn By: BJA	Checked By: BRB
May 29, 2014	Scale: 1" = 2000'



Pooling Area



Legend:

- Excavation Extent
- Sample Location
- 2' bgs Grade

Figure 2
Site & Sample Location Map
BOPCO, L.P.
JRU #21 SWD Aquila 8 Diesel Spill
Eddy County, New Mexico
NMOCD Ref# 2RP-2285

Basin Environmental Services

Prep By: JWL	Checked By: BJA
May 7, 2014	Scale 1"=20'

TABLES

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

**BOPCO, LP
JRU #21 SWD AQUILA 8 DIESEL RELEASE
EDDY COUNTY, NEW MEXICO**

SAMPLE LOCATION	SAMPLE DEPTH (BGS)	SAMPLE DATE	SOIL STATUS	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M			TOTAL TPH C ₆ -C ₃₅ (mg/Kg)
				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)	
SSW #1	2'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
SSW #2	2'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
SESW	2'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
NESW	10"	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
Floor #1	1'	5/6/2014	In-Situ	<0.050	0.118	0.080	0.234	0.432	<10.0	556	<10.0	556
Floor #2	1'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	323	12.3	335
Floor #3	2'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	127	<10.0	127
Floor #4	3'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
Floor #5	3'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
PA-SSW	7'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
PA-ESW	7'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
PA-WSW	7'	5/6/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
NSW	10"	5/7/2014	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	764	29.7	794
WSW	3'	5/7/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
PA-NSW	7'	5/7/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
PA-Floor @ 10'	10'	5/7/2014	In-Situ	-	-	-	-	-	<10.0	<10.0	<10.0	<10.0
NMOCD Criteria				10				50				1,000

- = Not analyzed.

**TABLE 2
WASTE CHARACTERIZATION DATA**

BOPCO, LP
JRU #21 SWD AQUILA 8 DIESEL RELEASE
EDDY COUNTY, NEW MEXICO

SAMPLE LOCATION	SAMPLE DATE	SW846 8260B					SW846 8015B			
		TCLP BENZENE (mg/L)	TCLP TOLUENE (mg/L)	TCLP ETHYL-BENZENE (mg/L)	TCLP TOTAL XYLENES (mg/L)	TCLP TOTAL BTEX (mg/L)	GRO C ₆ -C ₁₀ (mg/Kg)	DRO C ₁₀ -C ₂₈ (mg/Kg)	ORO C ₂₈ -C ₃₅ (mg/Kg)	TOTAL TPH C ₆ -C ₃₅ (mg/Kg)
Composite 1	05/02/14	<0.050	<0.050	<0.050	<0.150	<0.300	236	8,730	122	9,088

SAMPLE LOCATION	SAMPLE DATE	SW846 7470A	SW846 6010B							ASTM D 93-80	SW846 9010	SW846 9030	SW846 9045
		TCLP MERCURY (mg/L)	TCLP LEAD (mg/L)	TCLP ARSENIC (mg/L)	TCLP CHROMIUM (mg/L)	TCLP SILVER (mg/L)	TCLP SELENIUM (mg/L)	TCLP BARIUM (mg/L)	TCLP CADMIUM (mg/L)	FLASH POINT (Deg F)	REACTIVE CYANIDE (mg/Kg)	REACTIVE SULFIDE (mg/Kg)	pH
Composite 1	05/02/14	<0.0002	<0.100	<0.100	<0.050	<0.050	<0.200	0.518	<0.050	>140	<0.100	0.01	7.41

APPENDICES

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

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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

Release Notification and Corrective Action

n HMP 14/2240947 OPERATOR Initial Report Final Report

Name of Company: Aquila Drilling-BOPCO, L.P. <i>260737</i>	Contact: Tony Savoie BOPCO, Clay Gordy Aquila
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. BOPCO 575-887-7329, Aquila 940-761-3153
Facility Name: JRU-21 SWD-1	Facility Type: Drilling Rig

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-41074
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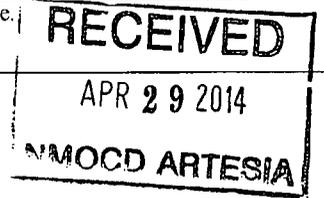
LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	21	22S	30E	1508	North	1926	East	Eddy

Latitude N 32.381464 Longitude W 103.883210

NATURE OF RELEASE

Type of Release: Diesel	Volume of Release: 1000 gallons	Volume Recovered: 400 gallons
Source of Release: Bulk Storage 1" hose	Date and Hour of Occurrence: 1/13/14 approximately 5:00 a.m.	Date and Hour of Discovery: 1/13/14 at approximately 5:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher NMOCD, Jim Amos BLM, John Wells NMED	
By Whom? Tony Savoie	Date and Hour: NMOCD 1/13/14 at 10:33 a.m., BLM at 10:57a.m., NMED at 11:00 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		



Describe Cause of Problem and Remedial Action Taken.*
Fuel was being transferred via a 1" hose, the hose was laid on the ground un-attended and the valve was left open. The valve was closed upon discovery.

Describe Area Affected and Cleanup Action Taken.*
The spill impacted an area approximately 50 ft. X 50 ft. around the diesel storage tanks and approximately 185 ft. of containment ditch that had been dug around the tanks and generators. Approximately 400 gallons of diesel was recovered, remediation will take place after the rig, tanks and generators have been removed. The rig moved off location on 4/20/14. DFSI, will begin remediation activities on 4/29/14. The waste generated by the spill will be tested to determine the complete waste characteristics before moving off-site
The spill area will be cleaned up in accordance to the NMOCD, BLM and NMED remediation guidelines.

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

Signature: <i>Tony Savoie</i>	OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie Printed Name: Clay Gordy Operations Mgr. for Aquila	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Waste Management and Remediation Specialist	Approval Date: <i>5/2/14</i>	Expiration Date: <i>NA</i>
E-mail Address: <i>tasavoie@basspet.com</i>	Conditions of Approval: Remediation per OCD Rule & Guidelines, & like approval by BLM. SUBMIT REMEDIATION	Attached <input type="checkbox"/>
Date: <i>4/24/14 4/29/14</i> Phone: 432-556-8731	PROPOSAL NO LATER THAN: <i>6/2/14</i>	

* Attach Additional Sheets If Necessary

28P-2285

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

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised August 8, 2011

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

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

Release Notification and Corrective Action

ZEP-2285

OPERATOR

Initial Report Final Report

Name of Company: Aquila Drilling -BOPCO, LP	Contact: Tony Savoie BOPCO. Clay Gordy Aquila
Address: 522 W. Mermod, Suite 704, Carlsbad, NM 88220	Telephone No. BOPCO (575)887-7329, Aquila 940-761-3153
Facility Name: JRU-21 SWD-1	Facility Type: Drilling Rig

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-41074
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	21	22S	30E	1508	North	1926	West	Eddy

Latitude N 32.381464 Longitude W 103.883210

NATURE OF RELEASE

Type of Release Diesel	Volume of Release 1000 gallons	Volume Recovered 400 gallons
Source of Release Bulk Storage 1" hose	Date and Hour of Occurrence 1/13/14 approximately 5:00 a.m.	Date and Hour of Discovery 1/13/14 approximately 5:00 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher NMOCD, Jim Amos BLM, John Wells NMED	
By Whom? Tony Savoie	Date and Hour NMOCD 1/13/14 at 10:33 a.m., BLM at 10:57 a.m., NMED at 11:00 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

NM OIL CONSERVATION

If a Watercourse was Impacted, Describe Fully.*
ARTESIA DISTRICT
JUL 01 2014

Describe Cause of Problem and Remedial Action Taken.*
Fuel was being transferred via a 1" hose, the hose was laid on the ground unattended and the valve was left open. The valve was closed upon discovery.

RECEIVED

Describe Area Affected and Cleanup Action Taken.*
The spill impacted an area approximately 50 ft. x 50 ft. around the diesel storage tanks and approximately 185 ft. of containment ditch that had been dug around the tanks and generators. Approximately 400 gallons of diesel was recovered, remediation will take place after the rig, tanks and generators have been removed. The rig moved off location on 4/20/14. DFSI, will begin remediation activities on 4/29/14. The waste generated by the spill will be tested to determine the complete waste characteristics before moving off-site.

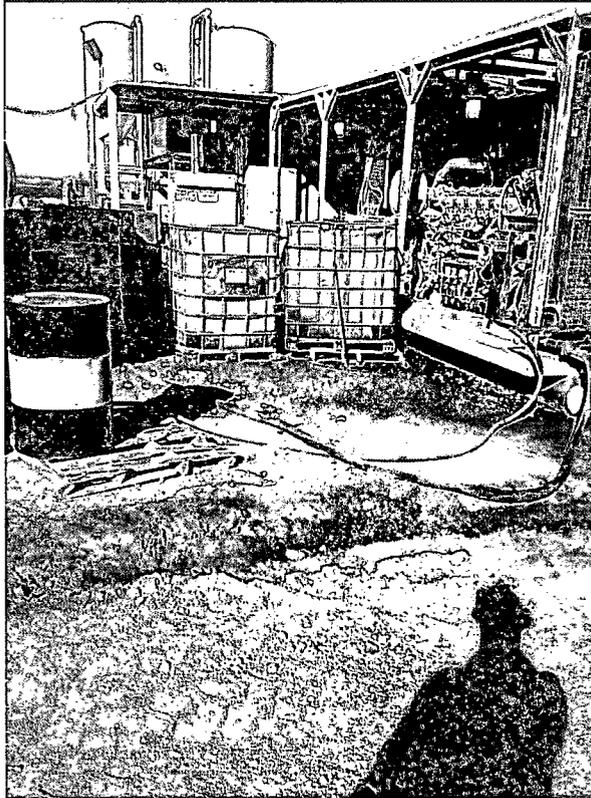
Approximately 340 cu. yds of impacted soil was excavated from an area measuring approximately 10' to 50' in width, 75' in length, and 1' to 10' in depth. Impacted soil was hauled to an NMOCD-approved disposal facility. The excavation was backfilled with locally purchased, non-impacted material. **Please reference the attached Remediation Summary and Site Closure Request for detail of Remediation Activities.**

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.

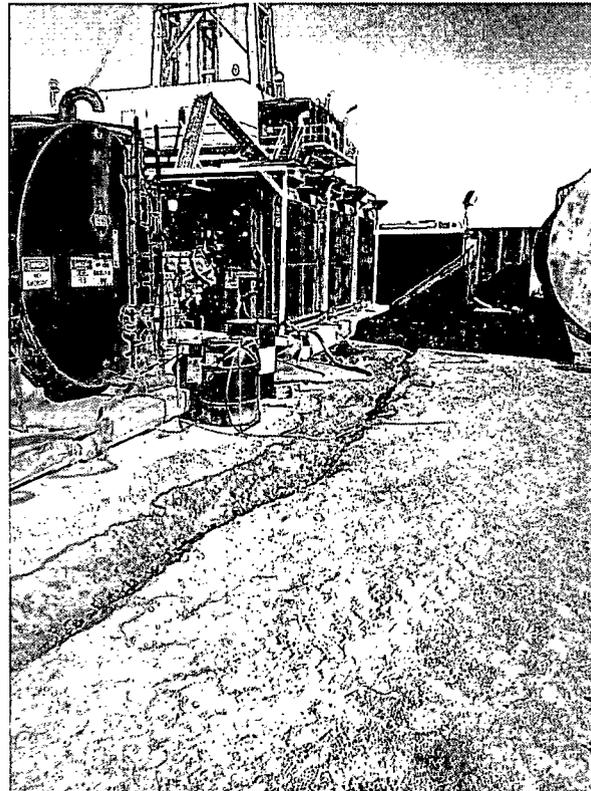
Signature: <i>Tony Savoie</i>		OIL CONSERVATION DIVISION	
Printed Name: Tony Savoie		Approved by Environmental Specialist:	
Title: Waste Management and Remediation Specialist		Approval Date:	Expiration Date:
E-mail Address: tasavoie@basspet.com		Conditions of Approval:	
Date: <i>7/1/14</i>	Phone: 432-556-8730	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

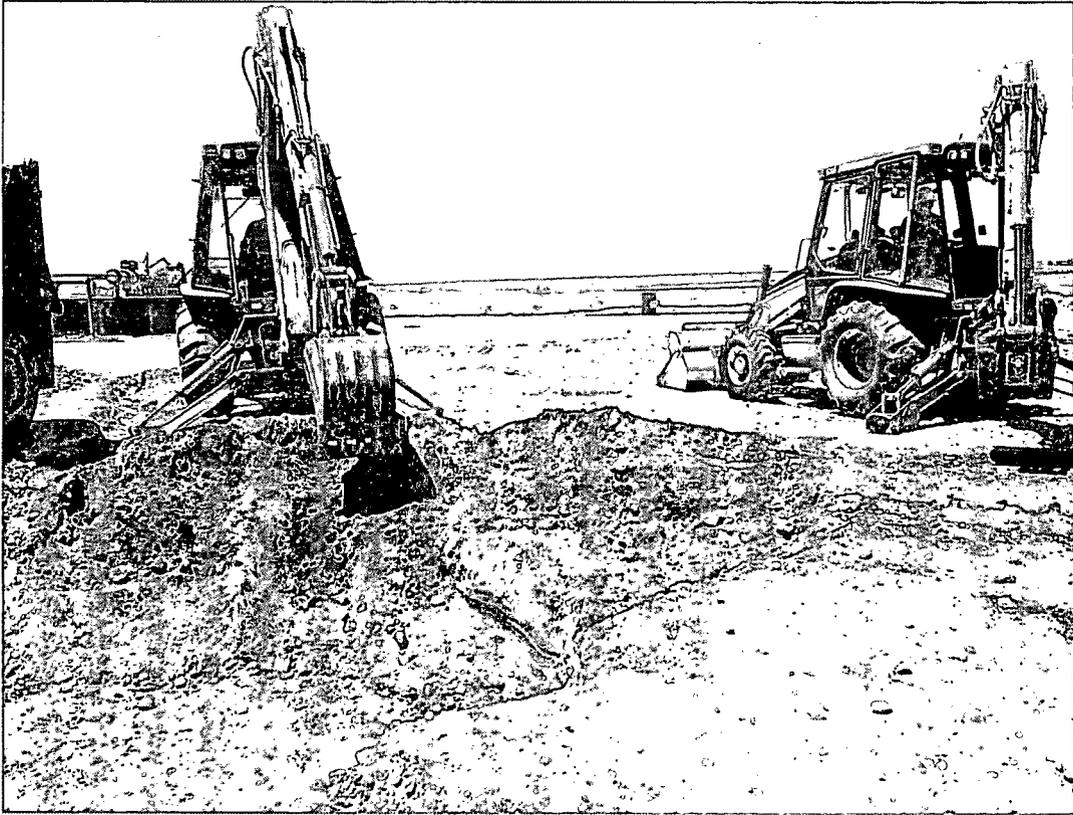
Appendix B
Photographs



Photograph of the initial release at the JRU #21 SWD Aquila 8 Diesel Release site.



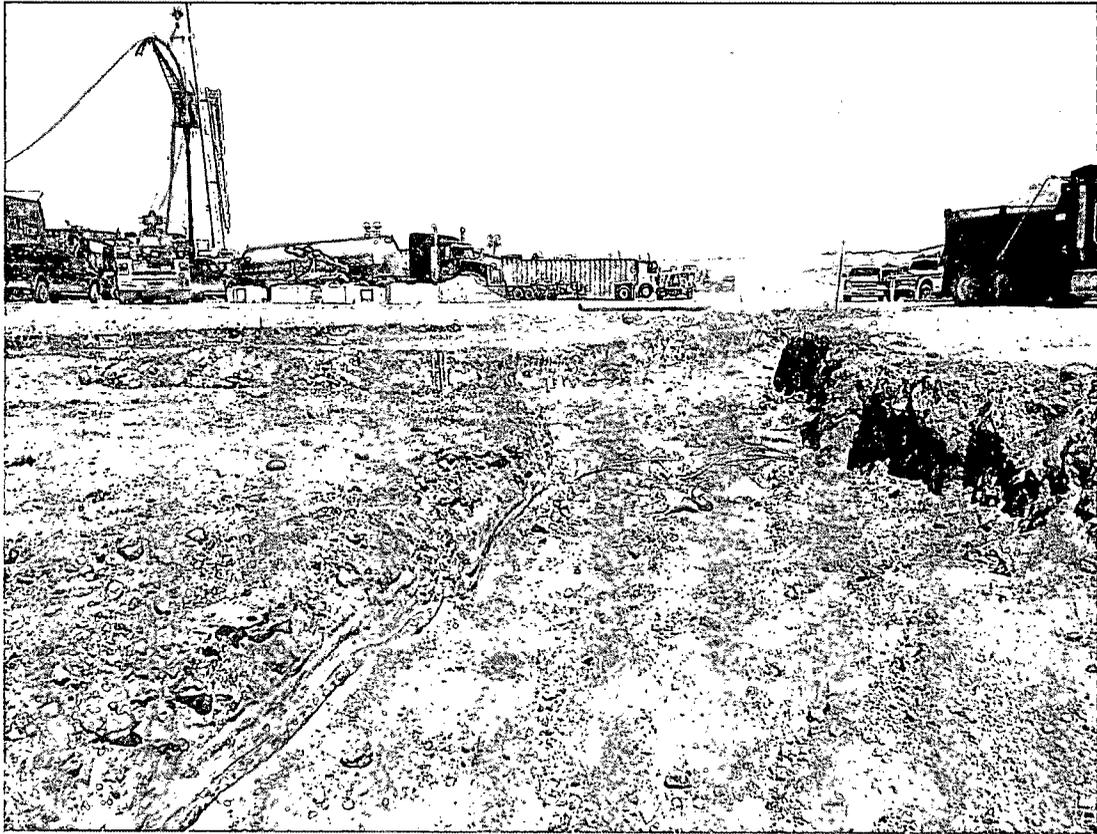
Photograph of the initial release at the JRU #21 SWD Aquila 8 Diesel Release site.



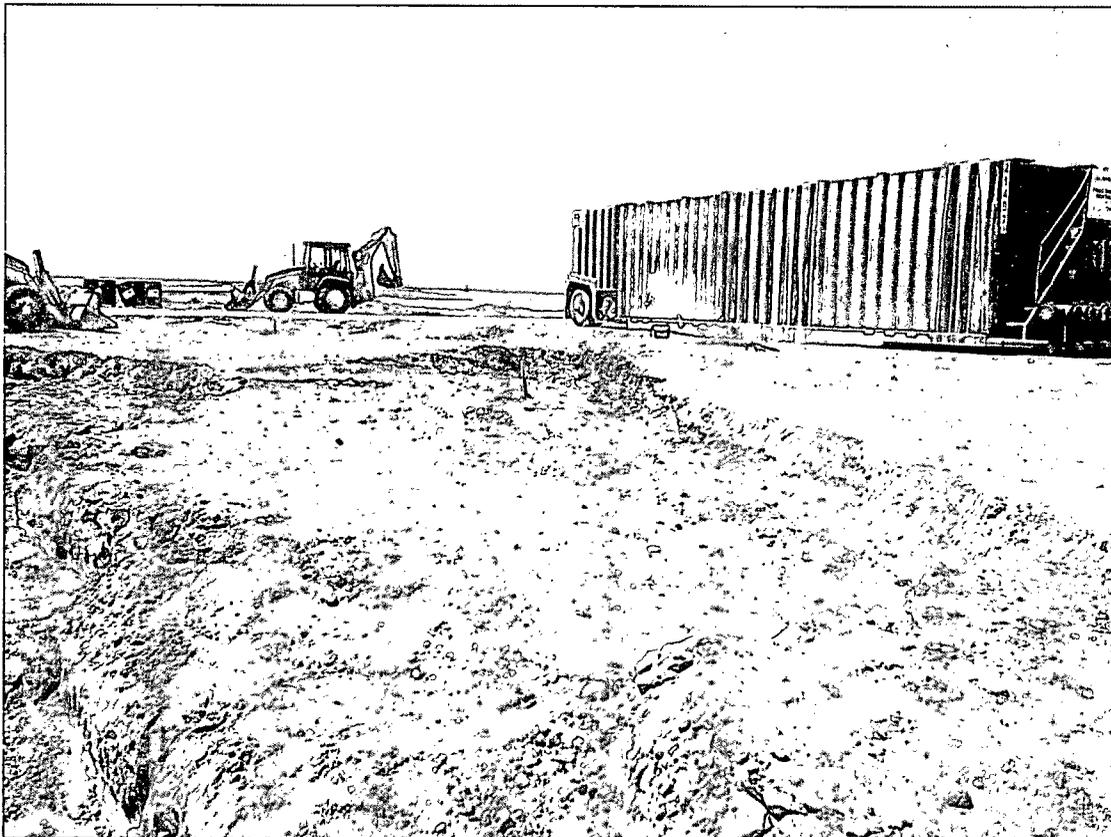
Photograph of excavation activities at the JRU #21 SWD Aquila 8 Diesel Release site.



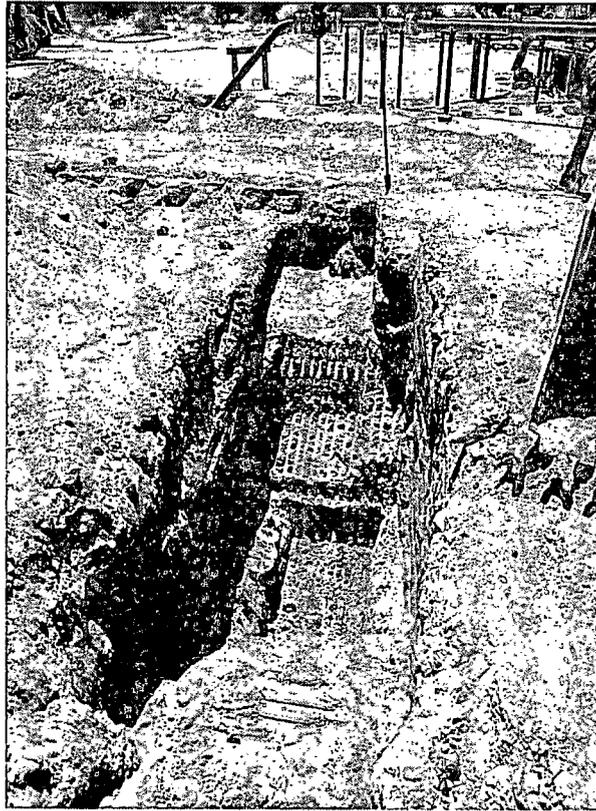
Photograph of excavation activities at the JRU #21 SWD Aquila 8 Diesel Release site.



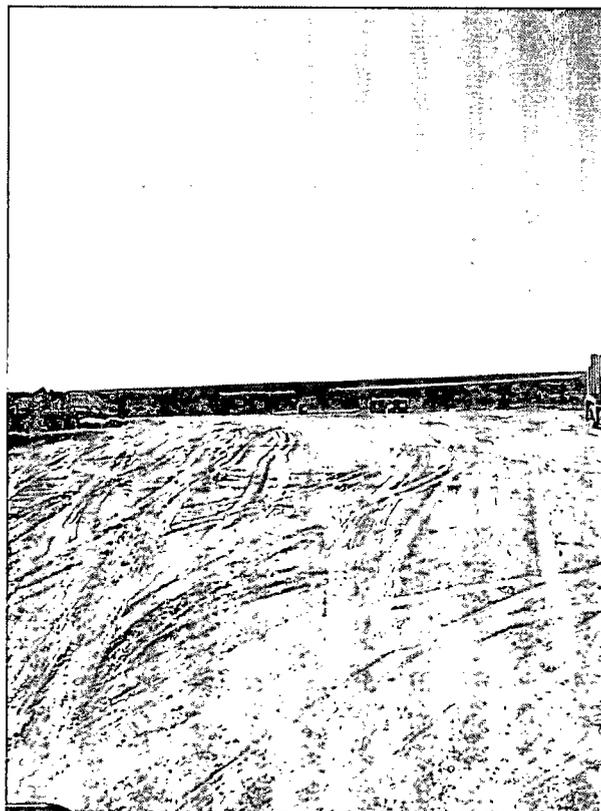
Photograph of the excavated area at the JRU #21 SWD Aquila 8 Diesel Release site.



Photograph of the excavated area at the JRU #21 SWD Aquila 8 Diesel Release site.



Photograph of the excavated pooling area at the JRU #21 SWD Aquila 8 Diesel Release site.



Photograph of the JRU #21 SWD Aquila 8 Diesel Release site after remediation activities.

Appendix C
Laboratory Analytical Reports

May 15, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: JRU-21 SWD AQUILLA #8 DIESEL SPILL

Enclosed are the results of analyses for samples received by the laboratory on 05/07/14 12:10.

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

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SSW #1 (H401387-01)

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	107 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

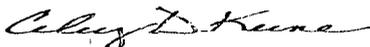
Sample ID: SSW #2 (H401387-02)

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	109 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: SESW (H401387-03)

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	124 %	65.2-140							
Surrogate: 1-Chlorooctadecane	122 %	63.6-154							

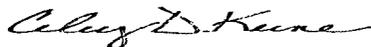
Sample ID: NESW (H401387-04)

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	112 %	65.2-140							
Surrogate: 1-Chlorooctadecane	116 %	63.6-154							

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: FLOOR #1 (H401387-05)

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/14/2014	ND	2.57	128	2.00	1.88	
Toluene*	0.118	0.050	05/14/2014	ND	2.46	123	2.00	0.702	
Ethylbenzene*	0.080	0.050	05/14/2014	ND	2.31	115	2.00	1.10	
Total Xylenes*	0.234	0.150	05/14/2014	ND	7.02	117	6.00	0.363	
Total BTEX	0.432	0.300	05/14/2014	ND					

Surrogate: Dibromofluoromethane 96.6 % 61.3-142

Surrogate: Toluene-d8 103 % 71.3-129

Surrogate: 4-Bromofluorobenzene 109 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	556	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					

Surrogate: 1-Chlorooctane 97.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 88.7 % 63.6-154

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: FLOOR #2 (H401387-06)

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	323	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	12.3	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	106 %	65.2-140							
Surrogate: 1-Chlorooctadecane	108 %	63.6-154							

Sample ID: FLOOR #3 (H401387-07)

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	127	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	117 %	65.2-140							
Surrogate: 1-Chlorooctadecane	122 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: FLOOR #4 (H401387-08)

TPH 8015M	mg/kg		Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58		
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16		
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	108 %	65.2-140								
Surrogate: 1-Chlorooctadecane	111 %	63.6-154								

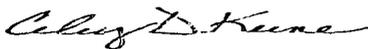
Sample ID: FLOOR #5 (H401387-09)

TPH 8015M	mg/kg		Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58		
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16		
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	105 %	65.2-140								
Surrogate: 1-Chlorooctadecane	105 %	63.6-154								

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: PA-SSW (H401387-10)

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	111 %	65.2-140							
Surrogate: 1-Chlorooctadecane	111 %	63.6-154							

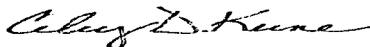
Sample ID: PA-ESW (H401387-11)

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	109 %	65.2-140							
Surrogate: 1-Chlorooctadecane	109 %	63.6-154							

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/07/2014	Sampling Date:	05/06/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

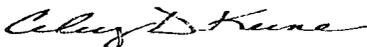
Sample ID: PA-WSW (H401387-12)

TPH 8015M	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2014	ND	216	108	200	7.58	
DRO >C10-C28	<10.0	10.0	05/10/2014	ND	237	118	200	7.16	
EXT DRO >C28-C35	<10.0	10.0	05/10/2014	ND					
<hr/>									
Surrogate: 1-Chlorooctane	119 %	65.2-140							
Surrogate: 1-Chlorooctadecane	121 %	63.6-154							

Cardinal Laboratories

* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

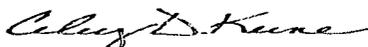
Notes and Definitions

- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the 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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Celey D. Keene, Lab Director/Quality Manager

May 15, 2014

JOEL LOWRY

Basin Environmental Service

P.O. Box 301

Lovington, NM 88260

RE: JRU-21 SWD AQUILLA #8 DIESEL SPILL

Enclosed are the results of analyses for samples received by the laboratory on 05/08/14 10:04.

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

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

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

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/08/2014	Sampling Date:	05/07/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: NSW (H401397-01)

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/14/2014	ND	2.57	128	2.00	1.88		
Toluene*	<0.050	0.050	05/14/2014	ND	2.46	123	2.00	0.702		
Ethylbenzene*	<0.050	0.050	05/14/2014	ND	2.31	115	2.00	1.10		
Total Xylenes*	<0.150	0.150	05/14/2014	ND	7.02	117	6.00	0.363		
Total BTEX	<0.300	0.300	05/14/2014	ND						

Surrogate: Dibromofluoromethane 96.0 % 61.3-142

Surrogate: Toluene-d8 101 % 71.3-129

Surrogate: 4-Bromofluorobenzene 115 % 65.7-141

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/12/2014	ND	195	97.3	200	0.174		
DRO >C10-C28	764	10.0	05/12/2014	ND	205	102	200	0.686		
EXT DRO >C28-C35	29.7	10.0	05/12/2014	ND						

Surrogate: 1-Chlorooctane 110 % 65.2-140

Surrogate: 1-Chlorooctadecane 129 % 63.6-154

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/08/2014	Sampling Date:	05/07/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: WSW (H401397-02)

TPH 8015M	mg/kg	Analyzed By: MS								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/12/2014	ND	195	97.3	200	0.174		
DRO >C10-C28	<10.0	10.0	05/12/2014	ND	205	102	200	0.686		
EXT DRO >C28-C35	<10.0	10.0	05/12/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	120 %	65.2-140								
Surrogate: 1-Chlorooctadecane	120 %	63.6-154								

Sample ID: PA-NSW (H401397-03)

TPH 8015M	mg/kg	Analyzed By: MS								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	05/12/2014	ND	195	97.3	200	0.174		
DRO >C10-C28	<10.0	10.0	05/12/2014	ND	205	102	200	0.686		
EXT DRO >C28-C35	<10.0	10.0	05/12/2014	ND						
<hr/>										
Surrogate: 1-Chlorooctane	98.2 %	65.2-140								
Surrogate: 1-Chlorooctadecane	95.2 %	63.6-154								

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Celest 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:	05/08/2014	Sampling Date:	05/07/2014
Reported:	05/15/2014	Sampling Type:	Soil
Project Name:	JRU-21 SWD AQUILLA #8 DIESEL SPILL	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

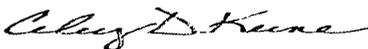
Sample ID: PA-FLOOR @ 10' (H401397-04)

TPH 8015M	mg/kg	Analyzed By: MS							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/12/2014	ND	195	97.3	200	0.174	
DRO >C10-C28	<10.0	10.0	05/12/2014	ND	205	102	200	0.686	
EXT DRO >C28-C35	<10.0	10.0	05/12/2014	ND					
<hr/>									
<i>Surrogate: 1-Chlorooctane</i>	<i>120 %</i>	<i>65.2-140</i>							
<i>Surrogate: 1-Chlorooctadecane</i>	<i>121 %</i>	<i>63.6-154</i>							

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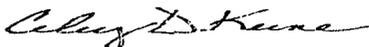
Notes and Definitions

- 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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Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 6 of 6

Company Name: Basin Environmental Service Technologies, LLC		BILL TO		ANALYSIS REQUEST														
Project Manager: Joel Lowry		P.O. #:		Chloride TPH (8015M) BTEX (8021B) <i>added 5/14</i> HOLD FOR TPH														
Address: P.O. Box 301		Company: BOPCO, LP																
City: Lovington State: NM Zip: 88260		Attn: Tony Savoie																
Phone #: (575)396-2378 Fax #: (575)396-1429		Address: 522 W. Marland																
Project #: Project Owner:		City: Carlsbad																
Project Name: JRU-21 SWD Aquila #8 Diesel Spill		State: NM Zip: 88220																
Project Location: Eddy Co., NM		Phone #: (432)556-8730																
Sampler Name: <i>JOEL LOWRY</i>		Fax #:																
FOR LAB USE ONLY																		
Lab I.D.		Sample I.D.		# GRAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.		SAMPLING					
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME		
<i>H401397</i>																		
<i>1</i>	<i>NSW</i>	<i>1</i>	<i>1</i>												<i>5/7/14</i>	<i>1115</i>	<i>x</i>	<i>X</i>
<i>2</i>	<i>WSW</i>	<i>1</i>	<i>1</i>												<i>5/7/14</i>	<i>1130</i>	<i>x</i>	
<i>3</i>	<i>PA-NSW</i>	<i>1</i>	<i>1</i>												<i>5/7/14</i>	<i>1145</i>	<i>x</i>	
<i>4</i>	<i>PA-Floor @ 10'</i>	<i>1</i>	<i>1</i>												<i>5/7/14</i>	<i>1200</i>	<i>x</i>	

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Relinquished By: <i>Joel Lowry</i>		Date: <i>5/8/14</i>		Received By: <i>B.B. Blakemore</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Time: <i>7:23</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By: <i>B.B. Blakemore</i>		Date: <i>5-8-14</i>		Received By: <i>Jodi Benson</i>		REMARKS: HOLD FOR TPH-BTEX Please email results to pm@basinenv.com, TASavoie@BassPet.com & SJWalters@BassPet.com			
		Time: <i>10:04</i>							
Delivered By: (Circle One)				Sample Condition		CHECKED BY: <i>[Signature]</i>			
Sampler - UPS - Bus - Other:				Cool Intact					
				<i>5.6°</i>					
				<input type="checkbox"/> Yes <input type="checkbox"/> No					
				<input type="checkbox"/> Yes <input type="checkbox"/> No					

#54

May 16, 2014

TONY SAVOIE

Bass Enterprises

522 W. Mermod #709

Carlsbad, NM 88220

RE: JRU-21 SWD #1

Enclosed are the results of analyses for samples received by the laboratory on 05/02/14 13:34.

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

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

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

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

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:

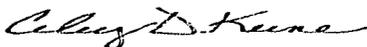
Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
--	--	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
COMPOSITE 1	H401347-01	Soil	02-May-14 09:00	02-May-14 13:34

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
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COMPOSITE 1
H401347-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories
Inorganic Compounds

Ignitability	> 140			°F	1	4031305	AP	13-May-14	ASTM D 93-80	
pH*	7.41		0.100	pH Units	1	4050910	AP	09-May-14	9045	
Reactive Cyanide	ND		0.100	mg/kg	1	4051611	AP	16-May-14	9010	
Reactive Sulfide	0.0100		0.0100	mg/kg	1	4051611	AP	16-May-14	9030	

TCLP Volatile Organic Compounds by GCMS

Benzene*	ND		0.050	mg/L	100	4050608	ms	07-May-14	1311/8260B	
Toluene*	ND		0.050	mg/L	100	4050608	ms	07-May-14	1311/8260B	
Ethylbenzene*	ND		0.050	mg/L	100	4050608	ms	07-May-14	1311/8260B	
m+p - Xylene	ND		0.100	mg/L	100	4050608	ms	07-May-14	1311/8260B	
Total Xylenes*	ND		0.150	mg/L	100	4050608	ms	07-May-14	1311/8260B	
o-Xylene	ND		0.050	mg/L	100	4050608	ms	07-May-14	1311/8260B	
Surrogate: Dibromofluoromethane			98.9 %	87.3-113		4050608	ms	07-May-14	1311/8260B	
Surrogate: Toluene-d8			106 %	89.6-110		4050608	ms	07-May-14	1311/8260B	
Surrogate: 4-Bromofluorobenzene			109 %	82.3-119		4050608	ms	07-May-14	1311/8260B	

Petroleum Hydrocarbons by GC FID
S-04

GRO C6-C10	236		10.0	mg/kg	1	4051301	MS	13-May-14	8015B	
DRO >C10-C28	8730		10.0	mg/kg	1	4051301	MS	13-May-14	8015B	
EXT DRO >C28-C35	122		10.0	mg/kg	1	4051301	MS	13-May-14	8015B	
Surrogate: 1-Chlorooctane			269 %	65.2-140		4051301	MS	13-May-14	8015B	
Surrogate: 1-Chlorooctadecane			277 %	63.6-154		4051301	MS	13-May-14	8015B	

Green Analytical Laboratories
TCLP Metals by ICP

Arsenic	ND		0.100	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
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Analytical Results For:

Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
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COMPOSITE 1
H401347-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
---------	--------	-----	-----------------	-------	----------	-------	---------	----------	--------	-------

Green Analytical Laboratories
TCLP Metals by ICP

Barium	0.518		0.040	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
Cadmium	ND		0.050	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
Chromium	ND		0.050	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
Lead	ND		0.100	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
Selenium	ND		0.200	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	
Silver	ND		0.050	mg/L	1	B405110	JGS	14-May-14	EPA200.7/60 10 B	

TCLP Mercury by CVAA

Mercury	ND		0.0002	mg/L	1	B405133	JGS	15-May-14	245.1	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
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Inorganic Compounds - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4031305 - NO PREP

LCS (4031305-BS1)				Prepared & Analyzed: 13-Mar-14						
Ignitability	80.0		°F	77.0		104	97.5-105			
Duplicate (4031305-DUP1)				Source: H400611-01 Prepared: 13-Mar-14 Analyzed: 19-Mar-14						
Ignitability	> 140		°F			0.00			20	

Batch 4050910 - NO PREP

LCS (4050910-BS1)				Prepared & Analyzed: 09-May-14						
pH	7.00		pH Units	7.00		100	90-110			
Duplicate (4050910-DUP1)				Source: H401324-03 Prepared & Analyzed: 09-May-14						
pH	7.92	0.100	pH Units		7.86			0.760	20	

Batch 4051611 - General Prep - Wet Chem

Blank (4051611-BLK1)				Prepared & Analyzed: 16-May-14						
Reactive Cyanide	ND	0.100	mg/kg							
Reactive Sulfide	ND	0.0100	mg/kg							
Duplicate (4051611-DUP1)				Source: H401347-01 Prepared & Analyzed: 16-May-14						
Reactive Sulfide	0.0200	0.0100	mg/kg		0.0100			66.7	20	
Reactive Cyanide	ND	0.100	mg/kg		0.00				20	

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Analytical Results For:

Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
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TCLP Volatile Organic Compounds by GCMS - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 4050608 - Volatiles
Blank (4050608-BLK1)

Prepared & Analyzed: 06-May-14

Benzene	ND	0.0005	mg/L							
Toluene	ND	0.0005	mg/L							
Ethylbenzene	ND	0.0005	mg/L							
m+p - Xylene	ND	0.001	mg/L							
o-Xylene	ND	0.0005	mg/L							
Total Xylenes	ND	0.002	mg/L							
Surrogate: Dibromofluoromethane	0.00979		mg/L	0.0100		97.9	87.3-113			
Surrogate: Toluene-d8	0.0103		mg/L	0.0100		103	89.6-110			
Surrogate: 4-Bromofluorobenzene	0.00969		mg/L	0.0100		96.9	82.3-119			

LCS (4050608-BS1)

Prepared & Analyzed: 06-May-14

Benzene	0.023	0.0005	mg/L	0.0200		114	86-119			
Toluene	0.023	0.0005	mg/L	0.0200		114	84-118			
Ethylbenzene	0.022	0.0005	mg/L	0.0200		112	83-119			
m+p - Xylene	0.046	0.001	mg/L	0.0400		115	82-122			
Total Xylenes	0.068	0.002	mg/L	0.0600		114	82-122			
o-Xylene	0.023	0.0005	mg/L	0.0200		113	82-121			
Surrogate: Dibromofluoromethane	0.0100		mg/L	0.0100		100	87.3-113			
Surrogate: Toluene-d8	0.0104		mg/L	0.0100		104	89.6-110			
Surrogate: 4-Bromofluorobenzene	0.0102		mg/L	0.0100		102	82.3-119			

LCS Dup (4050608-BSD1)

Prepared & Analyzed: 06-May-14

Benzene	0.022	0.0005	mg/L	0.0200		110	86-119	3.67	24	
Toluene	0.022	0.0005	mg/L	0.0200		109	84-118	4.36	24	
Ethylbenzene	0.021	0.0005	mg/L	0.0200		107	83-119	4.97	25	
m+p - Xylene	0.044	0.001	mg/L	0.0400		110	82-122	4.07	25	
o-Xylene	0.021	0.0005	mg/L	0.0200		107	82-121	5.45	25	
Total Xylenes	0.065	0.002	mg/L	0.0600		109	82-122	4.53	25	
Surrogate: Dibromofluoromethane	0.0102		mg/L	0.0100		102	87.3-113			
Surrogate: Toluene-d8	0.0103		mg/L	0.0100		103	89.6-110			
Surrogate: 4-Bromofluorobenzene	0.0102		mg/L	0.0100		102	82.3-119			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Bass Enterprises 522 W. Mermod #709 Carlsbad NM, 88220	Project: JRU-21 SWD #1 Project Number: NONE GIVEN Project Manager: TONY SAVOIE Fax To: (505) 887-7473	Reported: 16-May-14 16:20
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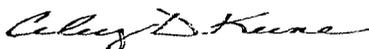
Petroleum Hydrocarbons by GC FID - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 4051301 - General Prep - Organics										
Blank (4051301-BLK1)					Prepared & Analyzed: 13-May-14					
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C35	ND	10.0	mg/kg							
Total TPH C6-C28	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	61.3		mg/kg	50.0		123	65.2-140			
Surrogate: 1-Chlorooctadecane	62.6		mg/kg	50.0		125	63.6-154			
LCS (4051301-BS1)					Prepared & Analyzed: 13-May-14					
GRO C6-C10	189	10.0	mg/kg	200		94.6	66.4-124			
DRO >C10-C28	205	10.0	mg/kg	200		103	61.6-132			
Total TPH C6-C28	395	10.0	mg/kg	400		98.6	69.7-122			
Surrogate: 1-Chlorooctane	60.7		mg/kg	50.0		121	65.2-140			
Surrogate: 1-Chlorooctadecane	64.6		mg/kg	50.0		129	63.6-154			
LCS Dup (4051301-BSD1)					Prepared & Analyzed: 13-May-14					
GRO C6-C10	196	10.0	mg/kg	200		98.0	66.4-124	3.60	23.4	
DRO >C10-C28	213	10.0	mg/kg	200		107	61.6-132	3.63	23.1	
Total TPH C6-C28	409	10.0	mg/kg	400		102	69.7-122	3.61	20.6	
Surrogate: 1-Chlorooctane	63.2		mg/kg	50.0		126	65.2-140			
Surrogate: 1-Chlorooctadecane	66.6		mg/kg	50.0		133	63.6-154			

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* = Accredited Analyte

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TCLP Metals by ICP - Quality Control
Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B405110 - EPA 3005
Blank (B405110-BLK2)

Prepared: 13-May-14 Analyzed: 14-May-14

Chromium	ND	0.050	mg/L							
Barium	0.035	0.010	mg/L							B3
Selenium	ND	0.200	mg/L							
Silver	ND	0.050	mg/L							
Lead	ND	0.100	mg/L							
Cadmium	ND	0.050	mg/L							
Arsenic	ND	0.100	mg/L							

LCS (B405110-BS1)

Prepared: 13-May-14 Analyzed: 14-May-14

Selenium	7.97	0.200	mg/L	8.00		99.6	85-115			
Silver	0.090	0.050	mg/L	0.100		89.8	85-115			
Lead	2.02	0.100	mg/L	2.00		101	85-115			
Chromium	2.00	0.050	mg/L	2.00		100	85-115			
Arsenic	3.97	0.100	mg/L	4.00		99.2	85-115			
Cadmium	1.93	0.050	mg/L	2.00		96.3	85-115			
Barium	1.93	0.010	mg/L	2.00		96.4	85-115			

LCS Dup (B405110-BSD1)

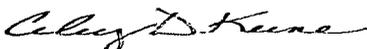
Prepared: 13-May-14 Analyzed: 14-May-14

Cadmium	1.96	0.050	mg/L	2.00		97.9	85-115	1.65	20	
Lead	1.96	0.100	mg/L	2.00		97.9	85-115	3.04	20	
Selenium	7.78	0.200	mg/L	8.00		97.3	85-115	2.39	20	
Silver	0.088	0.050	mg/L	0.100		88.2	85-115	1.80	20	
Barium	1.88	0.010	mg/L	2.00		93.8	85-115	2.74	20	
Arsenic	3.84	0.100	mg/L	4.00		96.0	85-115	3.30	20	
Chromium	1.94	0.050	mg/L	2.00		97.2	85-115	3.12	20	

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TCLP Mercury by CVAA - Quality Control
Green Analytical Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B405133 - EPA 245.1/7470										
LCS (B405133-BS1)										
					Prepared & Analyzed: 15-May-14					
Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115			
LCS Dup (B405133-BSD1)										
					Prepared & Analyzed: 15-May-14					
Mercury	0.0021	0.0002	mg/L	0.00200		105	85-115	1.09	20	

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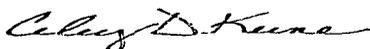
Notes and Definitions

- Z-01 > 140
- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- B3 Target analyte detected in method blank or continuing calibration blank. Reporting limit elevated to account for blank result.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: <u>Bopco</u>				BILL-TO				ANALYSIS REQUEST																							
Project Manager: <u>Lance Crenshaw</u>				P.O. #:																											
Address:				Company: <u>Bopco</u>																											
City:		State:		Zip:		Attn: <u>Tony Savoie</u>																									
Phone #:		Fax #:		Address:																											
Project #: <u>JRV-21 SWD #1</u> Project Owner:				City:																											
Project Name:				State: Zip:																											
Project Location:				Phone #:																											
Sampler Name:				Fax #:																											
FOR LAB USE ONLY																															
Lab I.D.	Sample I.D.			G	C	COMP.	CONTAINERS													MATRIX				PRESERV.		SAMPLING					
								GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME													
<u>H401347</u>	<u>Composite 1</u>			<u>01</u>	<u>01</u>	<u>01</u>	<u>01</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<u>5-2-14</u>	<u>9:00</u>	<div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">ICLP Composite</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">ICLP Metals</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">ICLP BTEX</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">RCI</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH 8015</p> </div> </div>												

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Relinquished By: <u>Lance Crenshaw</u>		Date: <u>5/2/14</u>		Received By: <u>Ally Green</u>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: <u>7:34</u>						Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: <u>TASavoie@Bassnet.com</u> <u>Ngladden@diversiifiedfsi.com</u>			
Time:									
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)			
				<input type="checkbox"/> Yes <input type="checkbox"/> No		<u>cd</u>			
				<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes					

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326