

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: Holly Energy Partners	Contact: Allison Stockweather, EHS Senior Manager	
Address: 1602 West Main Street, Artesia, NM 88210	Telephone No.: 575-746-9338	
Facility Name: RJU South 4" Pipeline, Crude Oil Gathering	Facility Type: Pipeline	
Surface Owner	Mineral Owner	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County: Eddy County
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Latitude 32.801149 Longitude -104.051554

NATURE OF RELEASE

Type of Release: Crude Oil Release, Pipeline	Volume of Release: 28 bbls	Volume Recovered: 15 bbls
Source of Release: Hole in pipeline	Date and Hour of Occurrence: 03/09/14, 11:20 AM	Date and Hour of Discovery: Updated information provided to EHS on 03/10/14, 11:00 AM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required HEP EHS telephone notification to NMED was made within 24 hours to Ruth Horowitz who submitted the notification to OCD.	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Please see attached CRA 2RP-2367 Site Closure Report.

Describe Area Affected and Cleanup Action Taken.*
Please see attached CRA 2RP-2367 Site Closure Report

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: 	<u>OIL CONSERVATION DIVISION</u>	
Printed Name: Allison Stockweather	Approved by Environmental Specialist:	
Title: EHS Senior Manager	Approval Date:	Expiration Date:
E-mail Address: Allison.Stockweather@hollyenergy.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>02/03/15</u> Phone: 575-746-5475		

* Attach Additional Sheets If Necessary



www.CRAworld.com



Final Report

SITE CLOSURE REPORT RJU SOUTH 4" PIPELINE RELEASE 2RP-2367

SW/4 of Section 26, Township 17 South, Range 29 East
Eddy County, New Mexico

Prepared for: Holly Energy Partners

Conestoga-Rovers & Associates

2135 South Loop, 250 West
Midland, Texas 79703

February 2015 • 086361 • Report No. 1



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Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) appreciates the opportunity to submit this Site Closure Report on behalf of Holly Energy Partners (HEP) to the New Mexico Oil Conservation District (NMOCD) for 2RP-2367.

This Site Closure Report provides documentation associated with a crude oil pipeline release and the implementation and management of assessment and restoration activities along the RJU South 4" pipeline located in Eddy County, New Mexico. The closure activities were documented and performed by CRA and its contractors. The RJU South 4" pipeline (crude oil only, no produced water) release ("Site"), is located in the SW 1/4 of Section 26, Township 17 South, Range 29-East, approximately four miles southwest of Loco Hills, New Mexico as shown on the Site Location Map (Figures 1 and 2). A Phillips 66 petroleum pipeline crosses the HEP RJU South 4" pipeline at the release point. The NMOCD "Guidelines for Remediation of Leaks, Spills and Releases," published August 13, 1993, was utilized for assessment, remediation and closure activities in association with this project.

The scope of work for the assessment and restoration activities was developed between HEP and CRA personnel. CRA was responsible for project management; general oversight of the assessment, delineation, remediation and reclamation activities; and, waste coordination documentation of the field work. The scope of work included:

- Waste characterization of crude oil-impacted soils, including analytical testing and use of NMOCD Form C-138 (Appendix A) for waste management purposes.
- Excavation of test pits and collection of soil samples to evaluate the vertical and horizontal extent of the crude oil impacted soils. Deeper test pit excavations were expected in the area proximate to the release point. Soil samples were analyzed for Total Petroleum Hydrocarbons (TPH) impacts to 5,000 mg/kg and benzene (10 mg/kg), toluene, ethylbenzene, and xylenes (BTEX) impacts to 50 mg/kg. Highly impacted soils were identified for proper disposal at the R360 waste facility in Lea County, New Mexico.
- Subsequent excavation events, pending results of the initial test pit samples to remove remaining soils exhibiting concentrations above regulatory levels.
- Backfilling of the remedial excavations; grading of the construction-affected area to minimize erosion and re-seeding of the construction-affected area with native plants and grasses in accordance with Bureau of Land Management (BLM) directives.
- Preparation of a site closure report documenting assessment and remediation activities to provide to NMOCD along with the "Final Report" version of the C-141 (Release Notification and Corrective Action) Form.

Section 2.0 Release Information and Response Activities

A crude oil pipeline release was discovered at the Site on March 9, 2014 near the HEP N. RJU South 4" pipeline. The release was caused by a small hole found on the 4" line on March 10, 2014 and, subsequently, a clamp was installed over the hole to prevent further release. The 28 barrel crude oil release was immediately reported to the NMOCD by HEP. NMOCD Form C-141, Release Notification and Corrective Action, dated March 21, 2014 was submitted to the agency containing "Initial Report" information regarding the location, nature of release, remedial actions taken and other details. A copy of this NMOCD Form C-141 is attached in Appendix A.

Vacuum trucks recovered approximately 15 barrels of crude oil from the release area. The remaining fluids saturated the shallow soil and ran along the surface creating a spill path, approximately 90' long and 10' wide, to the south of the release site, before pooling to the southwest. The pool of crude oil was approximately 50' long in the north-south direction and 40' wide in the east-west direction. An emergency excavation removed approximately 120 cubic yards of impacted soil from the release area. The soil was placed on polyvinyl sheeting adjacent to the remedial excavation. Subsequently, the damaged section of the pipeline was replaced. Surface soils at the site were primarily loose, wind-blown sand deposits that were effective in absorbing the released liquids. The Petroleum Recovery Research Center (PRRC) Web Mapping Portal was utilized to research the depth to groundwater in the general area. No groundwater wells or depth to groundwater (DTW) data was available within a 5-6 mile radius of the release. In personal communications with Mike Bratcher with the NMOCD District 2 office, the agency reported that there is "no protectable groundwater resource" present in the release area. Beyond the 5-6 mile radius, the DTW ranged from 79 to 246 feet below the ground surface. Additionally, the NMOCD District 2 confirmed that there is "no protectable groundwater resource" present in the release area.

CRA inspected the Site on March 26, 2014 with a HEP representative and OneSource Industrial (One Source) to evaluate the site conditions and plan for additional assessment and remedial actions. Additionally, CRA met with HEP Operations to obtain details on the incident and coordinate subsequent activities. A composite waste soil sample was collected for waste characterization purposes and NMOCD Form C-138 completion, Request for Approval to Accept Solid Waste, generation and approval. The RJU South 4" crude oil pipeline is not directly associated with Exploration and Production (E&P) activities as the liquids have changed custody from lease operations. The waste materials associated with the release are considered "RCRA non-exempt". A Site aerial map is presented as Figure 2.

CRA made a secondary site visit on May 19, 2014 to examine the excavation and evaluate if the roads could handle the traffic of the haul trucks. The roads were determined to be sufficient to

handle the traffic and there appeared to be no site changes from the previous visit. The initially excavated impacted soils remained stockpiled on-site. During the Site visits, CRA obtained information to develop assessment and remediation work tasks required to move the project toward regulatory closure.

A Site Closure Work Plan was developed and submitted to Mike Bratcher, NMOCD, on April 21, 2014. The 1993 NMOCD guidance document for the site ranking criteria was evaluated, and the total ranking score was determined to be "0". Therefore, the recommended remediation action levels (RRALs) utilized were 5,000 mg/kg for TPH, 10 mg/kg for benzene and 50 mg/kg for total BTEX. After discussion with the NMOCD and HEP representatives, the work plan was verbally approved by the agency on July 8, 2014. Mr. Bratcher provided NMOCD Remediation Permit number, 2RP-2367 for the release incident.

Section 3.0 Soil Assessment, Delineation, and Remediation

3.1 Test Pit Assessment

Upon arrival to the Site to perform soil removal operations on August 6, 2014, Stop Work Authority was issued as utilities at the Site had not been marked. One Call (811) notifications were updated for a re-mark of utilities including HEP and Conoco Phillips pipelines. Approval was given by HEP to load the first dump truck with the previously excavated crude oil impacted soils. After the line re-marking, One Source began excavating the 13 test pit locations on August 7, 2014 using a backhoe. The test pits were designed to evaluate the vertical and horizontal extent of the crude oil impacts. The crude oil impacted areas and test pit locations with associated analytical summaries are depicted on Figure 3.

Test pit samples (delineation samples, DS) were collected on August 7, 2014 from each of the test pit locations at depths of 2-8 feet below ground surface (bgs). The samples were submitted to Xenco Laboratories in Odessa, Texas and analyzed for TPH by SW 8015 Modified method (C6 to C35) and BTEX by EPA method 8021B. Results of the assessment analytical data are summarized in Table 1. Samples collected from the edges of the crude oil pool, DS #1 and 2, exhibited BTEX and TPH concentrations above the NMOCD Recommended remediation action levels (RRALs). Along the spill path, DS #5, 6 and 7 exhibited TPH concentrations above the RRALs. Within the emergency excavation area, DS # 9 and 12 exhibited BTEX and TPH concentrations above the RRALs and DS #13 exhibited TPH concentrations above RRALs. The remaining DS locations (1, 2, 3, 4, 8, 10, and 11) exhibited BTEX and TPH concentrations below RRALs. Site photographs depicting the affected areas and test pits are presented in Appendix C. Copies of certified laboratory reports and chain of custody documentation are attached in Appendix D.

3.2 Soil Excavation

Soil excavating operations were conducted at the Site on August 7, 2014 and re-commenced between August 27 and September 17, 2014. The heavily stained soil around the affected areas was removed and stockpiled adjacent to the remedial excavations. A Petroflag TPH field screening kit was utilized during excavations to evaluate TPH concentrations to below RRALs as the impacted soils were being over-excavated. Approximately 974 cubic yards (cy) of soil was removed from the remedial excavations.

3.3 Confirmation Sampling and Site Restoration

Confirmation sampling and site restoration activities were suspended on separate occasions due to significant rainfall in the area of the excavation. On October 13, 2014, CRA arrived on-site to assess the amount of water present in the bottom of the excavation. Approximately four feet of water was standing in the excavation. A transfer pump was used to remove the water from the excavation to the southwest of the excavation site into the open field. The site was then left to continue drying out so confirmation sampling could take place.

CRA returned to the Site on October 22, 2014 to collect confirmation samples with Randy Pair of the Bureau of Land Management (BLM). Mr. Pair was not able to be present at the Site, and gave verbal confirmation for sampling to take place. Thirteen confirmation samples were collected from the excavation area (Figure 4). Analytical results from Xenco Laboratories confirmed that all confirmation samples were below NMOCD RRALs for benzene, total BTEX and, total TPH (Table 1).

On December 16, 2014, following verification that all confirmation samples were below NMOCD RRALs, the excavation area was backfilled with 760 cubic yards of soil from a BLM borrow pit approximately five miles away. The BLM contract for sale of mineral material is included as Appendix F. The site was then graded to the native landscape and capped using topsoil from within the project area to provide a native seed bank for the re-seeding process. A BLM-approved #2 seed mixture specified for areas with the endangered Lesser Prairie Chicken (LPC) and sandy soils was purchased from Curtis and Curtis, Inc. in Clovis, New Mexico and hand-broadcast over the excavation area on December 18, 2014, per BLM requirements. Following hand-broadcasting, a harrow was used to till in the seed.

Section 4.0 Waste Management

A composite waste characterization soil sample was collected from the Site on March 26, 2014 for analysis by Xenco Laboratories in Odessa, Texas. The sample was analyzed for TPH and BTEX for waste profiling and facility approval purposes (see C-138 in Appendix A). The R360 waste facility in western Lea County, New Mexico was used for the disposal of the impacted

soil. The waste characterization analytical data is included on Table 1 and the reports are included in Appendix D. The following table summarizes the approximately 974 cy of impacted soils that were removed from the remedial excavations. The waste manifests are included in Appendix E.

Date	Number of Loads	Cubic Yards/Load	Total Cubic Yards
August 6, 2014	1	17	17
August 7, 2014	1	17	17
August 27, 2014	15	20	300
August 28, 2014	8	20	160
August 29, 2014	9	20	180
September 16, 2014	5	20	100
September 17, 2014	10	20	200
	TOTAL		974

Section 5.0 Summary

A crude oil pipeline release was discovered at the Site on March 9, 2014 near the RJU South 4" pipeline as a result of a small hole. The following are summary points for the release incident:

- NMOCD Form C-141, Release Notification and Corrective Action, dated March 21, 2014, was submitted to the agency regarding the details of the reported approximate 28 barrel crude oil release.
- The NMOCD "Guidelines for Remediation of Leaks, Spills and Releases," published August 13, 1993, was utilized for project activities. Based on a ranking criteria score of "0", site RRALs utilized were 5,000 mg/kg for TPH, 10 mg/kg for benzene, and 50 mg/kg for total BTEX.
- The extent of the hydrocarbon-impacted soils was defined by collecting delineation samples from the area proximate to the release site and along the spill path. Both Petroflag field screening and analytical methods were utilized to verify excavations reached the extent of the crude oil impacts.
- Confirmation samples were collected from within the excavation to verify that hydrocarbon-impacted soils above the NMOCD RRALs had been removed.
- Soil exhibiting TPH and BTEX concentrations above NMOCD RRALs, (974 cy), was removed from the remedial excavations and disposed of at the R360 waste facility in western Lea County, New Mexico.
- The excavation area was backfilled using material from a BLM borrow pit; graded back to the native landscape; and capped with topsoil from within the project area to provide a natural seed base.

- A BLM-approved #2 seed mixture, specified for areas with the endangered LPC and sandy soils, was hand-broadcast over the excavation area and tilled into the soil using a harrow.
- Assessment, remediation, restoration, and closure activities were performed in coordination with appropriate BLM and NMOCD personnel and guidelines.

Section 6.0 Site Closure Request for 2RP-2367

This Site Closure Report for the HEP RJU South 4" Pipeline Release, 2RP-2367, provides documentation of closure activities performed at the release site. Based on assessment and corrective actions performed to date and documented in this report, CRA, on behalf of HEP, respectfully requests the NMOCD to rule that no further action for this Site is warranted.

Please feel free to contact Nathan Knowles at the CRA Midland office if there are any questions or additional information is required.

Sincerely,

Conestoga-Rovers & Associates

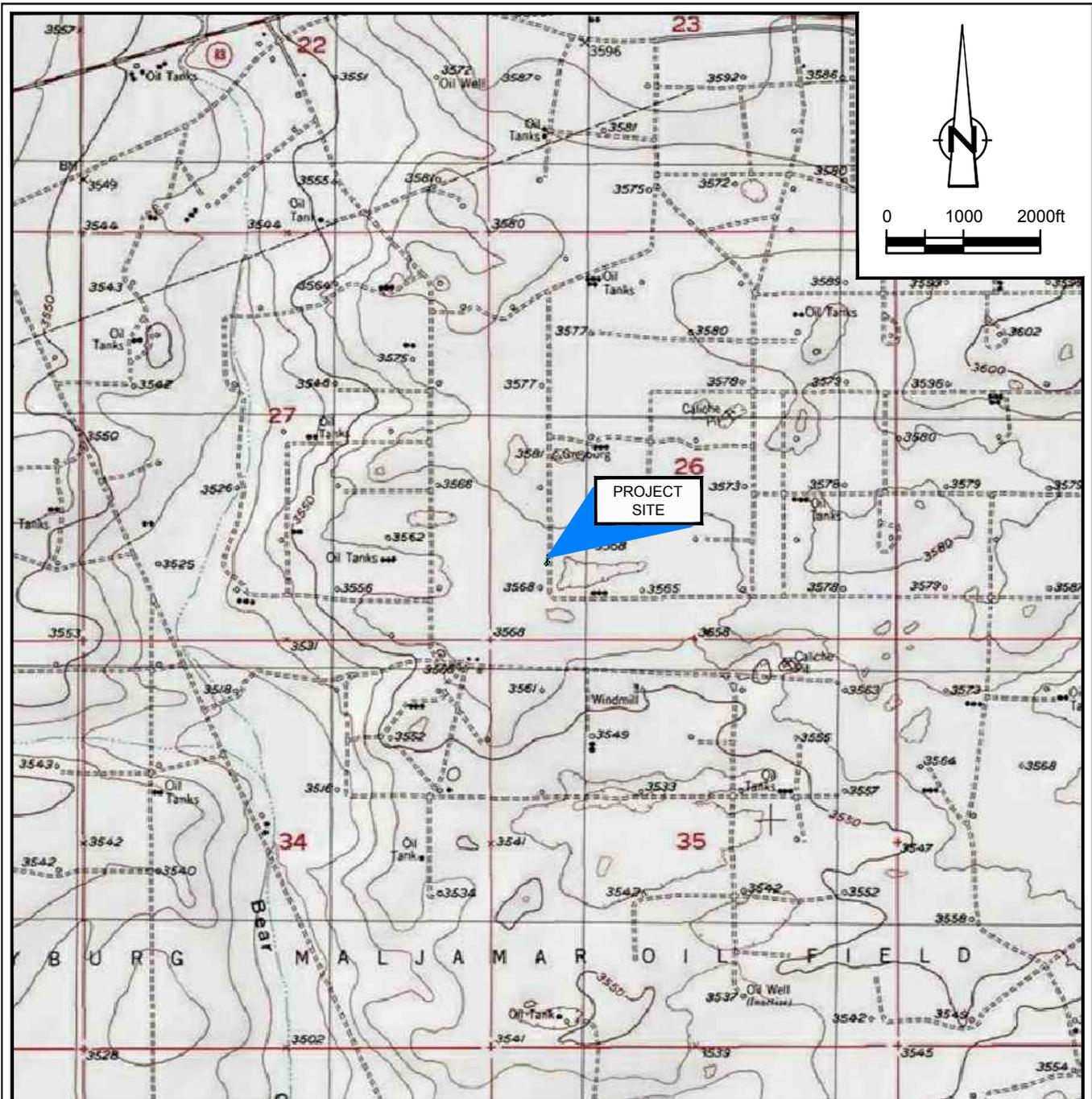


Thomas C. Larson
Principal, Midland Operations Manager



Nathan Knowles
Project Manager

Figures



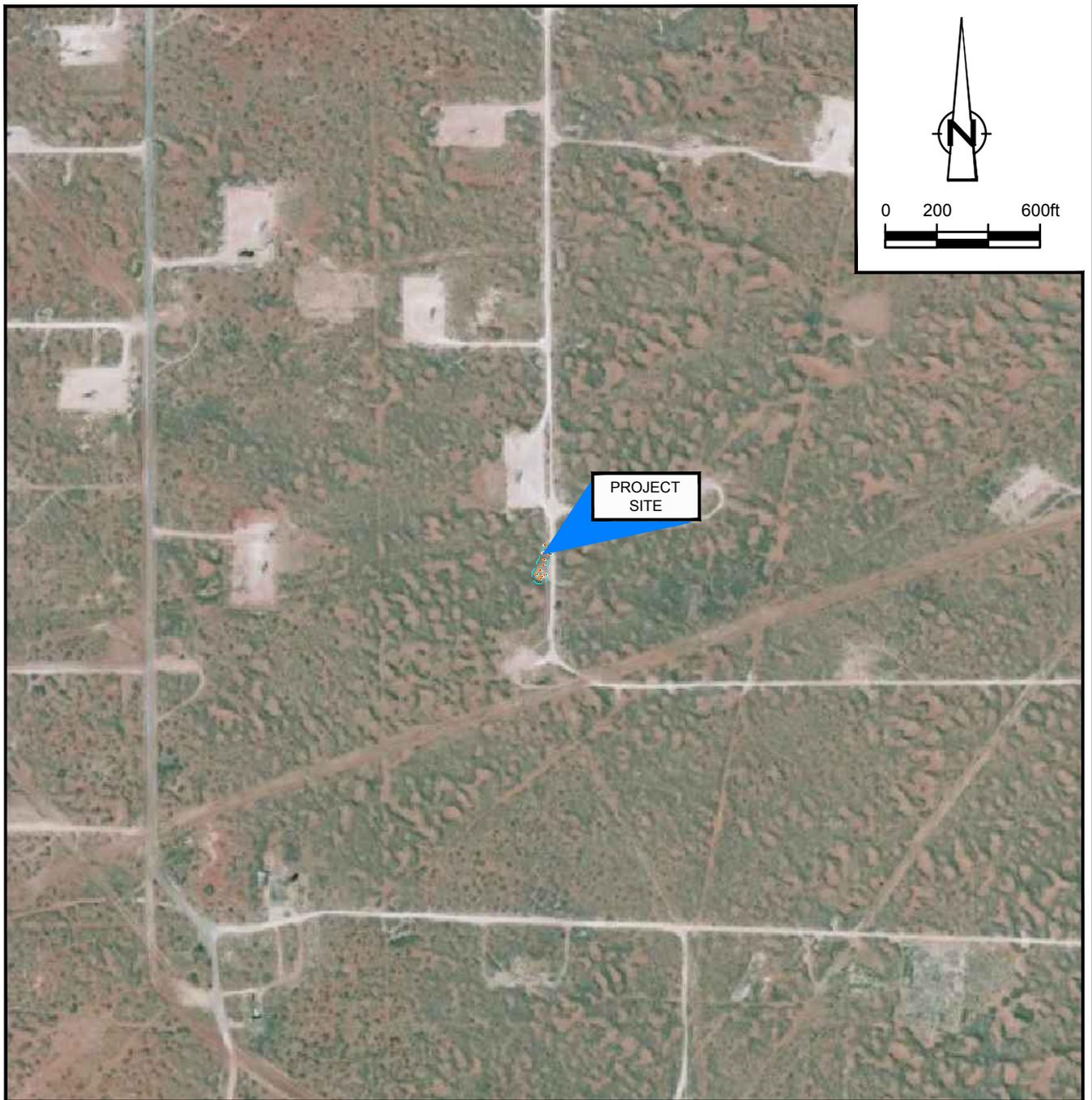
SOURCE: USGS 7.5 MINUTE QUAD
 "RED LAKE SE, NEW MEXICO"

LAT/LONG: 32.8011° NORTH, 104.0515° WEST
 COORDINATE: NAD83 DATUM, U.S. FOOT
 STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
 RJU SOUTH 4" CRUDE OIL RELEASE SITE
 SECTION 26, T-17-S, R-29-E
 EDDY COUNTY, NEW MEXICO
Holly Energy Partners





LAT/LONG: 32.8011° NORTH, 104.0515° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 2
SITE AERIAL MAP
RJU SOUTH 4" CRUDE OIL RELEASE SITE
SECTION 26, T-17-S, R-29-E
EDDY COUNTY, NEW MEXICO
Holly Energy Partners



NOTES:

1. Release point GPS: 32.801149,-104.051554
2. Release date: March 9, 2014
3. Yellow shaded cells indicate soil concentration exceedance of OCD RRALs (1993 Guidance).

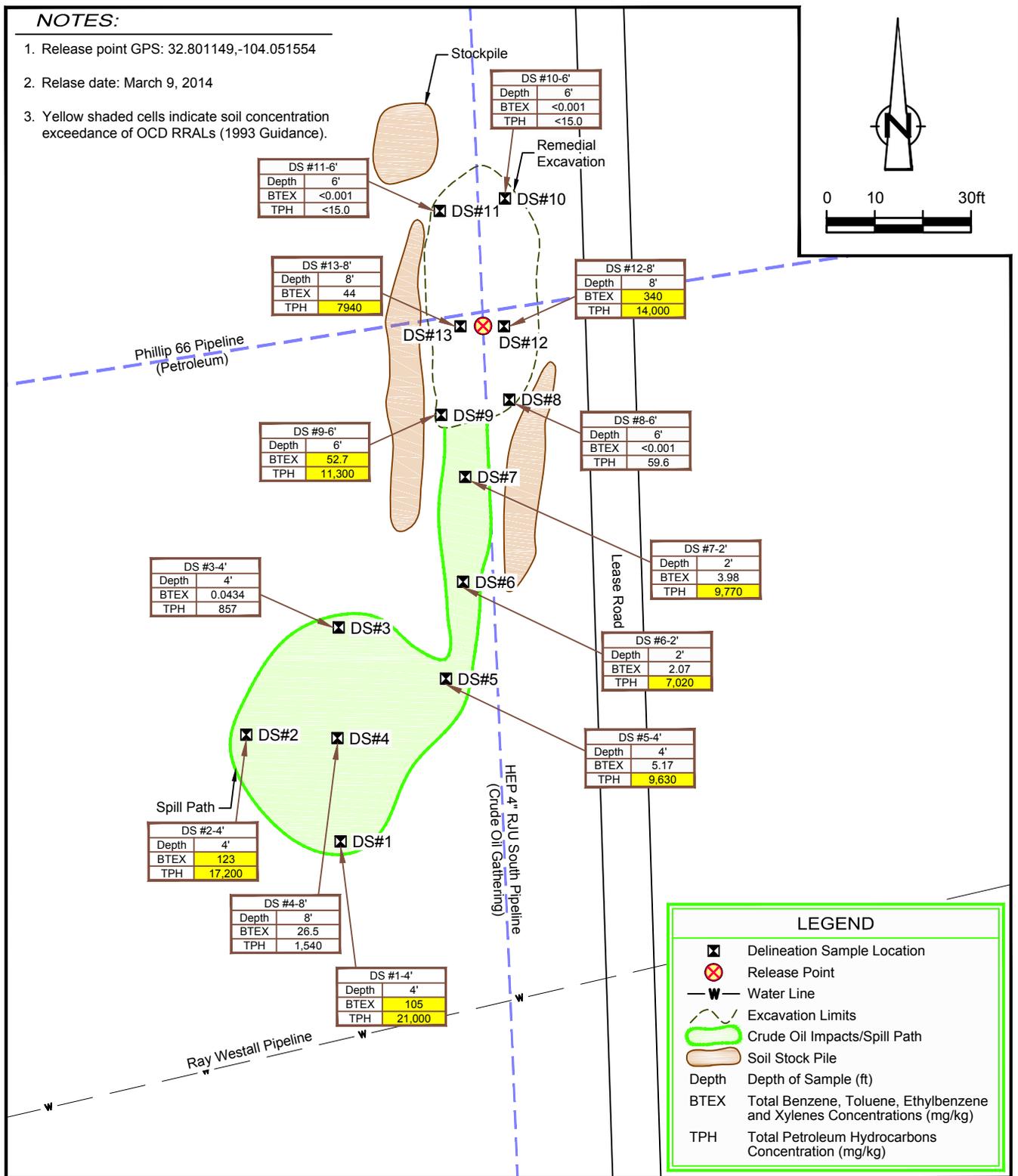
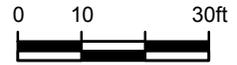


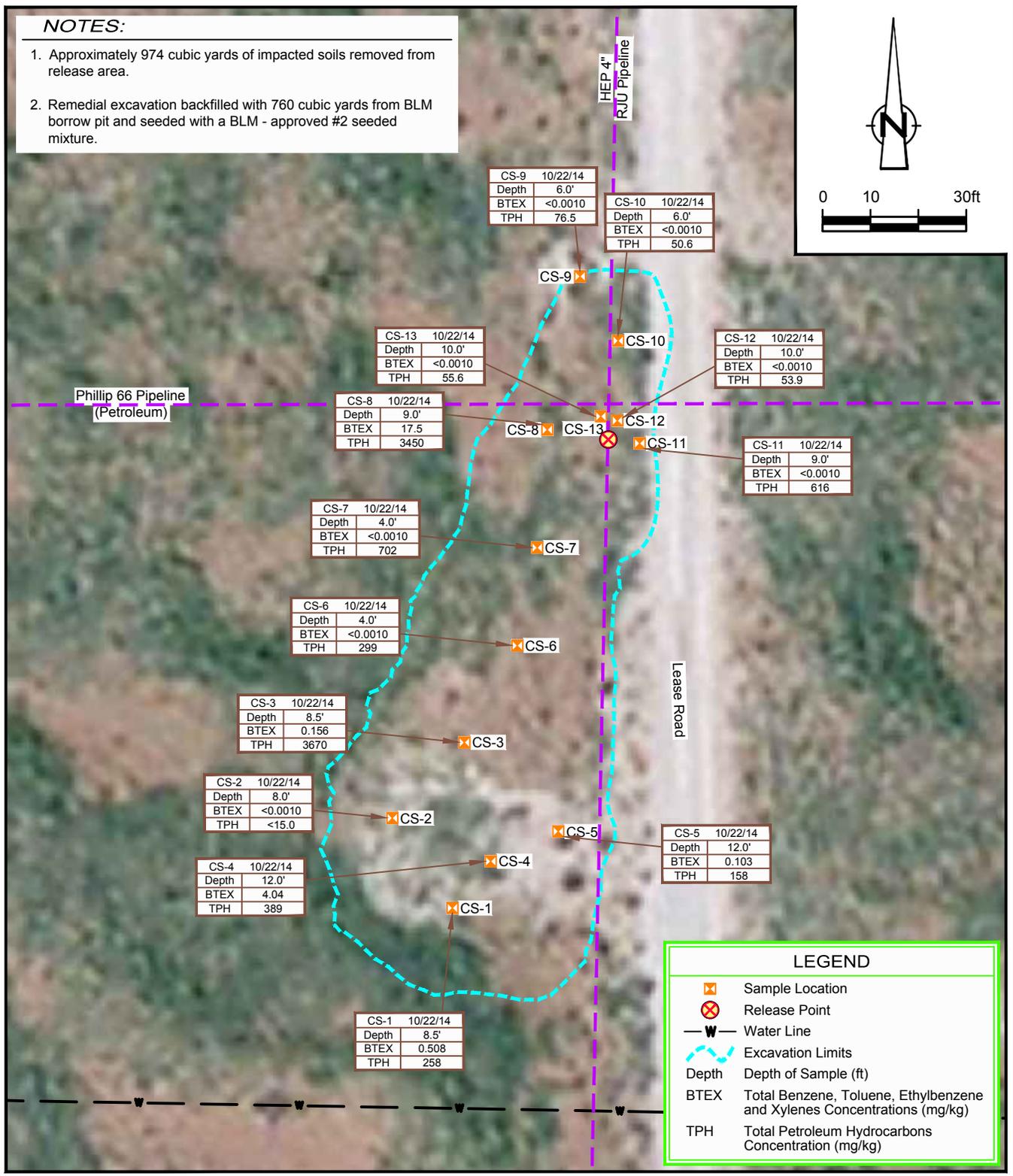
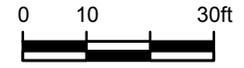
Figure 3

**SITE DETAIL AND DELINEATION SAMPLES
 RJU SOUTH 4" CRUDE OIL RELEASE SITE
 SECTION 26, T-17-S, R-29-E
 EDDY COUNTY, NEW MEXICO
 Holly Energy Partners**



NOTES:

1. Approximately 974 cubic yards of impacted soils removed from release area.
2. Remedial excavation backfilled with 760 cubic yards from BLM borrow pit and seeded with a BLM - approved #2 seeded mixture.



LEGEND

- Sample Location
- Release Point
- Water Line
- Excavation Limits
- Depth Depth of Sample (ft)
- BTEX Total Benzene, Toluene, Ethylbenzene and Xylenes Concentrations (mg/kg)
- TPH Total Petroleum Hydrocarbons Concentration (mg/kg)

Figure 4

CONFIRMATION SOIL ANALYTICAL RESULTS
RJU SOUTH 4" CRUDE OIL RELEASE SITE
SECTION 26, T-17-S, R-29-E
EDDY COUNTY, NEW MEXICO
Holly Energy Partners



Tables

TABLE 1

SOIL ANALYTICAL SUMMARY
RJU SOUTH SPILL MANAGEMENT
Loco Hills, New Mexico

Sample ID	Depth (bgs)	Sample Date	BTEX (EPA 8021B)					TPH (SW 8015 Modified)			
			Benzene	Toluene	Ethyl-Benzene	Xylenes	Total BTEX	C6-C12 Gas Range Hydrocarbons	C12-C28 Diesel Range Hydrocarbons	C28-C35 Oil Range Hydrocarbons	Total TPH
NMOCD Recommended Remediation Action Levels			10	---	---	---	50	---	---	---	5000
			(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Waste Profile (composite)	--	3/26/2014	0.412	--	--	--	0.412	3550	17200	898	21648
DS #1-4'	4.0	8/7/14	<0.00100	7.32	37.4	60.6	105	4480	16100	440	21000
DS #2-4'	4.0	8/7/14	<0.00100	10.1	44.2	69.1	123	3750	13100	316	17200
DS #3-4'	4.0	8/7/14	<0.00100	<0.00200	0.00974	0.0337	0.0434	55.7	777	23.9	857
DS #4-8'	8.0	8/7/14	0.224	4.34	9.8	12.1	26.5	324	1180	35.6	1540
DS #5-4'	4.0	8/7/14	0.0572	0.753	1.55	2.81	5.17	1290	8130	205	9630
DS #6-2'	2.0	8/7/14	<0.00100	0.0786	0.117	1.87	2.07	762	6090	166	7020
DS #7-2'	2.0	8/7/14	0.0198	0.496	1.05	2.41	3.98	1290	8250	225	9770
DS #8-6'	6.0	8/7/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	59.6	<15.0	59.6
DS #9-6'	6.0	8/7/14	<0.00100	3.54	9.48	39.7	52.7	3210	8060	<15.0	11300
DS #10-6'	6.0	8/7/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0
DS #11-6'	6.0	8/7/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0
DS #12-8'	8.0	8/7/14	2.18	56.2	98.2	183	340	4670	9320	<15.0	14000
DS #13-8'	8.0	8/7/14	<0.00100	3.73	10.9	29.4	44	2000	5940	<15.0	7940
CS-1	8.5	10/22/14	<0.00100	<0.00200	0.0103	0.498	0.508	68.7	189	<15.0	258
CS-2	8.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<15.0
CS-3	8.5	10/22/14	<0.00100	<0.00200	<0.00100	0.156	0.156	353	3120	192	3670
CS-4	12.0	10/22/14	<0.00100	0.0449	1.65	2.35	4.04	130	259	<15.0	389
CS-5	12.0	10/22/14	<0.00100	<0.00200	0.00413	0.0991	0.103	45.7	112	<15.0	158
CS-6	4.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	299	<15.0	299
CS-7	4.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	667	34.6	702
CS-8	9.0	10/22/14	<0.00100	<0.00200	0.777	16.7	17.5	783	2550	119	3450
CS-9	6.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	76.5	<15.0	76.5
CS-10	6.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	50.6	<15.0	50.6
CS-11	9.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	566	49.8	616
CS-12	10.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	53.9	<15.0	53.9
CS-13	10.0	10/22/14	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	55.6	<15.0	55.6

Notes:

1. All analytical results reported in (mg/kg) milligrams per kilogram
2. BTEX analysis by Method EPA 8021 B
3. TPH analysis by Method SW 8015 Modified
4. Highlighted cells indicate concentrations exceeding guidance RRALS
5. RRALS from 1993 New Mexico OCD Release Guidance Document, site ranking score = 0
6. < indicates below laboratory Reporting Limit (RL)
7. bgs- below ground surface
8. DS- Delineation sample
9. CS- Confirmation sample
10. (--) Indicates not sampled

Appendices

Appendix A

New Mexico Oil Conservation District Forms C-138 and C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
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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-138
Revised March 12, 2007

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

*Surface Waste Management Facility Operator
and Generator shall maintain and make this
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Holly Energy Partners, 1602 W. Main Street, Artesia, NM 88210
2. Originating Site: RJU South
3. Location of Material (Street Address, City, State or ULSTR): 4 miles SW of Loco Hills, New Mexico, Eddy County, Texas
4. Source and Description of Waste: Soil impacted with crude oil from pipeline release.
Estimated Volume 800 (yd ³) bbls Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, Allison Stockweather, representative of authorized agent for Holly Energy Partners do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input checked="" type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input checked="" type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, Roberto Canales Jr., representative for TCB Environmental Solutions do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: One Source Industrial

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #:
R360 Half Way Facility, Permit # R-9166

Method of Treatment and/or Disposal:

Evaporation Injection Treating Plant Landfarm Landfill Other

Waste Acceptance Status:

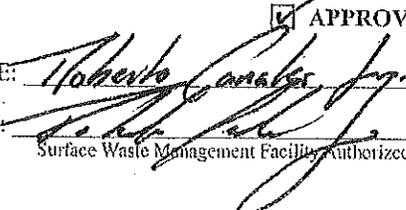
APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Roberto Canales Jr.

TITLE: Site Manager

DATE: 6/24/14

SIGNATURE: 
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 575-887-6504

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

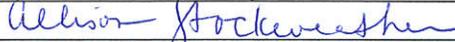
Name of Company: Holly Energy Partners		Contact: Allison Stockweather, Senior EHS Manager	
Address: 1602 West Main Street, Artesia, NM 88210		Telephone No.: 575-746-9338	
Facility Name: RJU South 4" Pipeline, Crude Oil Gathering		Facility Type: Pipeline	
Surface Owner	Mineral Owner	API No.	

LOCATION OF RELEASE: see latitude and longitude below.

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
								Eddy County

Latitude 32.801149 **Longitude** -104.051554

NATURE OF RELEASE

Type of Release: Crude Oil Release, Pipeline	Volume of Release: 28 bbls	Volume Recovered: 15 bbls
Source of Release: Hole in pipeline	Date and Hour of Occurrence: 03/09/14, 11:20 am	Date and Hour of Discovery: Updated information provided to EHS on 03/10/14, 11:00 am
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
HEP EHS telephone notification to NMED was made w/in 24 hours to Ruth Horowitz who submitted the notification to OCD.		
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* NA		
Describe Cause of Problem and Remedial Action Taken.* HEP was notified of the release by Concho. A HEP operator isolated the 4" hand-run line; notified the appropriate HEP contacts; and dispatched excavation crews. A small hole was found in the pipeline on 03/10/14. HEP Operations installed a clamp and subsequently replaced the pipe. The majority of the release was contained on the right-of-way. The pipeline is a non-regulated asset.		
Describe Area Affected and Cleanup Action Taken.* Vacuum trucks recovered 15 bbls of free product. The site will be assessed and remediated in accordance with NMOCD regulations.		
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: Allison Stockweather	Approved by Environmental Specialist:	
Title: Senior EHS Manager	Approval Date:	Expiration Date:
E-mail Address: Allison.Stockweather@hollyenergy.com	Conditions of Approval:	
Date: 03/21/14 Phone: 575-746-5475	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

Appendix B

Site Chronology

Site Chronology
Holly Energy Partners (HEP)
RJU South 4" Pipeline Crude Oil Release

March 9, 2014 (Sunday)	At approximately 11:20 AM, a crude pipeline release was discovered by a Concho Oil and Gas pumper near the HEP RJU South 4" pipeline. The 28 barrel crude oil release was immediately reported to the New Mexico Oil Conservation District (NMOCD).
March 10, 2014 (Monday)	A small hole was discovered on the HEP pipeline and a clamp was installed over the hole to stop further leakage. Vacuum trucks reportedly recovered 15 barrels of oil from the release area and the damaged section of pipeline was replaced. Approximately 120 cubic yards of impacted soil were removed from the release point and placed on polyvinyl sheeting adjacent to the remedial excavation.
March 21, 2014 (Friday)	NMOCD Form C-141, Release Notification and Corrective Action, submitted to the agency.
March 26, 2014 (Wednesday)	CRA inspected the Site, with OneSource Industrial, to evaluate site conditions and plan for additional assessment and remedial actions. Additionally, CRA met with HEP's Levi Polito to obtain details on the incident and coordinate subsequent activities. A composite waste sample was collected for waste characterization purposes and generation of NMOCD for C-138, Request for Approval to Accept Solid Waste.
May 19, 2014 (Monday)	Additional inspection of the site, including the excavation and roads. The roads were determined to be sufficient as to handle the traffic of the haul trucks. No changes were observed from the previous site visit. Crude oil impacted soils remain stockpiled on-site.
August 6, 2014 (Wednesday)	Upon arrival to the Site, no utilities were marked and Stop Work Authority (SWA) was issued. 811 was contacted for a re-mark of the site. HEP was contacted to obtain approval to load dump truck with impacted soils. Approval was given by HEP to load dump truck with impacted soils without the One Call re-mark. One truck load, 17 cubic yards, of impacted soil was hauled off-site to R360 landfill.
August 7, 2014 (Thursday)	Loaded Truck #2 with 17 cubic yards of impacted soils to be hauled off to R360 landfill. Excavation of 13 test pit locations commenced. Prior to sampling, approval for sampling was given by the Bureau of Land Management (BLM) representative and it was noted that the BLM does not need to be on-site for collection of delineation samples. Thirteen delineation samples were collected. A photo-ionization detector (PID) was used to evaluate the absence or presence of volatile organic compounds (VOCs).

August 27, 2014 (Wednesday)	Met on-site with D&D Construction and HEP representative for safety meeting and Job Safety Analysis (JSA) review. Began hauling impacted soils to R360 landfill. In total, 15 loads of 20 cubic yards each were hauled off-site. Impacted soils remain on-site to be hauled off.
August 28, 2014 (Thursday)	Met on-site with D&D construction and HEP representative for safety meeting and JSA review. Additional foreman present from Phillips 66 (P66) as a P66 petroleum pipeline crosses the HEP 4" pipeline. Excavation around the pipelines commenced. Eight 20 cubic yard loads of impacted soil were hauled off-site to R360 landfill. Impacted soils remain on-site for haul-off.
August 29, 2014 (Friday)	Met on-site with D&D Construction and HEP representative for safety meeting and JSA review. Nine 20 cubic yard loads of impacted soil hauled off-site to R360 landfill. D&D Construction crew shut down until further notice due to rain.
September 15, 2014 (Monday)	Site visit postponed due to rain in the forecast.
September 18-20, 2014 (Thursday-Saturday)	Heavy rainfall in and around the site location caused areal flooding and pooling of water in the excavation bottom.
October 1, 2014 (Wednesday)	Site visit made by Steven Perez out of the Albuquerque office to assess site conditions following heavy rainfall in the area. Mr. Perez reported approximately 4 feet of standing water in the excavation area.
October 7, 2014 (Tuesday)	Additional site visit made by Steven Perez to assess amount of water still in the excavation area. Water level had not changed much since the last visit and approximately four feet of water still stood in the excavation.
October 13, 2014 (Monday)	Arrived on-site to assess the amount of water in the bottom of the excavation. A transfer pump was used to remove approximately 4 feet of water from the excavation. Additionally, the fence around the excavation was repaired.
October 22, 2014 (Wednesday)	BLM representative, Randy Pair, was not able to make it to the site, but verbally confirmed work could take place. 13 confirmation samples were collected from the excavation and five of the samples were field screened using Petroflag.
December 17, 2014 (Wednesday)	Backfilling activities commenced by hauling in 760 cubic yards of soil from a BLM borrow pit approximately five miles away.
December 18, 2014 (Thursday)	The area was capped with native topsoil from within the project area. The excavation was graded back to the natural landscape and the BLM-approved seed mixture was hand-broadcast across the excavation area. A harrow was then used to till the seed into the topsoil.

Appendix C

Site Photographs



Photo 1 – March 26, 2014: looking north showing impacted soils and stockpiles.



Photo 2 – March 26, 2014: looking north showing the emergency excavation around the Phillips 66 Pipeline (top) and HEP RJU South 4" Pipeline (bottom).

SITE PHOTOGRAPHS



Photo 3 – August 27, 2014: looking south as excavations along the spill path began.



Photo 4 – August 28, 2014 facing northwest showing western extent of the spill path excavation.

SITE PHOTOGRAPHS



Photo 5 – August 29, 2014: looking north along the spill path.



Photo 6 – August 29, 2014 facing south west. The emergency excavation is in the foreground with the spill path excavation in the background.

SITE PHOTOGRAPHS



Photo 7 – September 22, 2014: Emergency excavation following heavy rains on September 18-20, 2014.



Photo 8 – October 7, 2014: Emergency excavation following heavy rains in September.

SITE PHOTOGRAPHS



Photo 9 – October 22, 2014: facing west following removal of approximately 4 feet of water from the spill path excavation.



Photo 10 – October 22, 2014: looking north along the spill path excavation.

SITE PHOTOGRAPHS



Photo 11 – Emergency excavation on October 22, 2014 looking north.



Photo 12 – December 16, 2014: looking north/northwest during backfill activities.

SITE PHOTOGRAPHS



Photo 13 – December 16, 2014: Hand-broadcasting of BLM-approved Lesser Prairie Chicken (LPC) seed mix over the backfilled excavations.



Photo 14 – December 16, 2014: looking south at the backfilled excavations.

SITE PHOTOGRAPHS

Appendix D

Certified Laboratory Reports

Analytical Report 482259

for Conestoga Rovers & Associates

Project Manager: Nathan Knowles

Holly Energy RJU

086361

11-APR-14

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)

New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)

Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



11-APR-14

Project Manager: **Nathan Knowles**
Conestoga Rovers & Associates
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **482259**
Holly Energy RJU
Project Address: TX

Nathan Knowles:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 482259. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 482259 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America



Sample Cross Reference 482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Waste Profile	S	03-26-14 13:40		482259-001



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: Waste Profile	Matrix: Soil	Sample Depth:
Lab Sample Id: 482259-001	Date Collected: 03.26.14 13.40	Date Received: 03.28.14 16.15
Analytical Method: Reactive Cyanide by EPA 9010B		Prep Method:
Analyst: BFO	% Moist:	Tech: BFO
Seq Number: 937689	Date Prep:	
Subcontractor: SUB: E871002	Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Cyanide	57-12-5	ND	0.200	0.176	mg/kg	04.02.14 12:12	U	1

Analytical Method: TCLP Mercury by SW 7470A	Prep Method: SW7470P
Analyst: DAB	Tech: DAB
Seq Number: 937576	Date Prep: 04.01.14 13.00
Subcontractor: SUB: E871002	Prep seq: 653334

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Mercury	7439-97-6	0.000139	0.000200	0.0000291	mg/L	04.01.14 17:13	J	1

Analytical Method: TCLP Metals by SW846 6010B	Prep Method: 3010A
Analyst: MKO	Tech: MKO
Seq Number: 938325	Date Prep: 04.01.14 12.00
Subcontractor: SUB: E871002	Prep seq: 653316

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Antimony	7440-36-0	ND	0.100	0.0294	mg/L	04.10.14 23:06	U	5
Arsenic	7440-38-2	0.0322	0.100	0.0275	mg/L	04.10.14 23:06	J	5
Barium	7440-39-3	1.19	0.0500	0.00674	mg/L	04.10.14 23:06		5
Beryllium	7440-41-7	ND	0.0200	0.00245	mg/L	04.10.14 23:06	U	5
Cadmium	7440-43-9	ND	0.0500	0.0122	mg/L	04.10.14 23:06	U	5
Chromium	7440-47-3	0.00578	0.0500	0.00405	mg/L	04.10.14 23:06	J	5
Lead	7439-92-1	ND	0.0500	0.0118	mg/L	04.10.14 23:06	U	5
Nickel	7440-02-0	0.0344	0.0500	0.0154	mg/L	04.10.14 23:06	J	5
Selenium	7782-49-2	ND	0.150	0.0219	mg/L	04.10.14 23:06	U	5
Silver	7440-22-4	ND	0.100	0.0279	mg/L	04.10.14 23:06	U	5



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: **Waste Profile**

Matrix: Soil

Sample Depth:

Lab Sample Id: 482259-001

Date Collected: 03.26.14 13.40

Date Received: 03.28.14 16.15

Analytical Method: Flash Point (CC) SW-846 1010

Prep Method:

Analyst: DHE

% Moist:

Tech: DHE

Seq Number: 937776

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Flash Point		>180			Deg F	04.03.14 12:40	U	1

Analytical Method: Reactive Sulfide by SW 9030B

Prep Method:

Analyst: DHE

% Moist:

Tech: DHE

Seq Number: 937681

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
Sulfide	18496-25-8	40.0	50.0	6.72	mg/kg	04.02.14 16:55	J	1

Analytical Method: Soil pH by EPA 9045C

Prep Method:

Analyst: DHE

% Moist:

Tech: DHE

Seq Number: 937540

Date Prep:

Subcontractor: SUB: E871002

Prep seq:

Parameter	CAS Number	Result	ML	SDL	Units	Analysis Date	Flag	Dil Factor
pH	12408-02-5	8.53			SU	04.01.14 16:09		



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: Waste Profile	Matrix: Soil	Sample Depth:
Lab Sample Id: 482259-001	Date Collected: 03.26.14 13.40	Date Received: 03.28.14 16.15
Analytical Method: TPH by Texas1005		Prep Method: 1005
Analyst: FOV	% Moist: 4.47	Tech: FOV
Seq Number: 937459	Date Prep: 03.31.14 14.41	
Subcontractor: SUB: E871002	Prep seq: 653242	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHCG12	3550	26.0	15.6	mg/kg	03.31.14 22:52		1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	17200	130	78.0	mg/kg	04.01.14 11:46	D	5
C28-C35 Oil Range Hydrocarbons	PHCG2835	898	26.0	15.6	mg/kg	03.31.14 22:52		1
Total TPH 1005	PHCG635	21600		15.6	mg/kg	04.01.14 11:46		

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	112	70 - 135	%		
o-Terphenyl	200	70 - 130	%		**

Analytical Method: TCLP SVOCs by EPA 8270C	Prep Method: 3510C	
Analyst: PKH	% Moist:	Tech: PKH
Seq Number: 937957	Date Prep: 04.05.14 10.42	
Subcontractor: SUB: E871002	Prep seq: 653536	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
1,4-Dichlorobenzene	106-46-7	ND	0.0250	0.00474	mg/L	04.07.14 14:17	U	1
2,4,5-Trichlorophenol	95-95-4	ND	0.0250	0.00447	mg/L	04.07.14 14:17	U	1
2,4,6-Trichlorophenol	88-06-2	ND	0.0250	0.00543	mg/L	04.07.14 14:17	U	1
2,4-Dinitrotoluene	121-14-2	ND	0.0250	0.00384	mg/L	04.07.14 14:17	U	1
2-methylphenol	95-48-7	ND	0.0250	0.00426	mg/L	04.07.14 14:17	U	1
3&4-Methylphenol	15831-10-4	ND	0.0250	0.00420	mg/L	04.07.14 14:17	U	1
Hexachlorobenzene	118-74-1	ND	0.0250	0.00451	mg/L	04.07.14 14:17	U	1
Hexachlorobutadiene	87-68-3	ND	0.0250	0.00495	mg/L	04.07.14 14:17	U	1
Hexachloroethane	67-72-1	ND	0.0250	0.00514	mg/L	04.07.14 14:17	U	1
Nitrobenzene	98-95-3	ND	0.0250	0.00508	mg/L	04.07.14 14:17	U	1
Pentachlorophenol	87-86-5	ND	0.0500	0.00261	mg/L	04.07.14 14:17	U	1
Pyridine	110-86-1	ND	0.0500	0.00370	mg/L	04.07.14 14:17	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorophenol	52	30 - 100	%		
Phenol-d6	49	15 - 94	%		
Nitrobenzene-d5	57	46 - 111	%		
2-Fluorobiphenyl	61	44 - 117	%		
2,4,6-Tribromophenol	73	48 - 117	%		
Terphenyl-D14	83	46 - 126	%		



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: Waste Profile	Matrix: Soil	Sample Depth:
Lab Sample Id: 482259-001	Date Collected: 03.26.14 13.40	Date Received: 03.28.14 16.15
Analytical Method: BTEX by SW 8260B		Prep Method: 5030B
Analyst: SAD	% Moist: 4.47	Tech: SAD
Seq Number: 937534	Date Prep: 04.01.14 15.30	
Subcontractor: SUB: E871002	Prep seq: 653312	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.412	0.104	0.0199	mg/kg	04.01.14 15:45		99

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	92	74 - 126	%		
1,2-Dichloroethane-D4	88	80 - 120	%		
Toluene-D8	126	73 - 132	%		
4-Bromofluorobenzene	112	58 - 152	%		

Analytical Method: TCLP VOAs by EPA 8260B	Prep Method: 5030B	
Analyst: MCH	% Moist:	Tech: MCH
Seq Number: 937788	Date Prep: 04.02.14 17.24	
Subcontractor: SUB: E871002	Prep seq: 653470	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	0.00655	0.0250	0.00102	mg/L	04.02.14 20:16	J	5
2-Butanone	78-93-3	ND	0.250	0.00660	mg/L	04.02.14 20:16	U	5
Carbon Tetrachloride	56-23-5	ND	0.0250	0.00140	mg/L	04.02.14 20:16	U	5
Chlorobenzene	108-90-7	ND	0.0250	0.00112	mg/L	04.02.14 20:16	U	5
Chloroform	67-66-3	ND	0.0250	0.00120	mg/L	04.02.14 20:16	U	5
1,4-Dichlorobenzene	106-46-7	ND	0.0250	0.000989	mg/L	04.02.14 20:16	U	5
1,2-Dichloroethane	107-06-2	ND	0.0250	0.000790	mg/L	04.02.14 20:16	U	5
1,1-Dichloroethene	75-35-4	ND	0.0250	0.00136	mg/L	04.02.14 20:16	U	5
Tetrachloroethylene	127-18-4	ND	0.0250	0.00115	mg/L	04.02.14 20:16	U	5
Trichloroethene	79-01-6	ND	0.0250	0.00192	mg/L	04.02.14 20:16	U	5
Vinyl Chloride	75-01-4	ND	0.0100	0.00146	mg/L	04.02.14 20:16	U	5

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	100	75 - 131	%		
1,2-Dichloroethane-D4	97	63 - 144	%		
Toluene-D8	95	80 - 117	%		
4-Bromofluorobenzene	98	74 - 124	%		



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: **653242-1-BLK** Matrix: Solid Sample Depth:
 Lab Sample Id: 653242-1-BLK Date Collected: Date Received:
 Analytical Method: TPH by Texas1005 Prep Method: 1005
 Analyst: FOV % Moist: Tech: FOV
 Seq Number: 937459 Date Prep: 03.31.14 14.05
 Subcontractor: SUB: E871002 Prep seq: 653242

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
C6-C12 Gasoline Range Hydrocarbons	PHCG612	ND	25.0	15.0	mg/kg	03.31.14 17:46	U	1
C12-C28 Diesel Range Hydrocarbons	PHCG1028	ND	25.0	15.0	mg/kg	03.31.14 17:46	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	ND	25.0	15.0	mg/kg	03.31.14 17:46	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
1-Chlorooctane	89	70 - 135	%		
o-Terphenyl	90	70 - 130	%		

Sample Id: **653312-1-BLK** Matrix: Solid Sample Depth:
 Lab Sample Id: 653312-1-BLK Date Collected: Date Received:
 Analytical Method: BTEX by SW 8260B Prep Method: 5030B
 Analyst: SAD % Moist: Tech: SAD
 Seq Number: 937534 Date Prep: 04.01.14 11.16
 Subcontractor: SUB: E871002 Prep seq: 653312

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.00100	0.000192	mg/kg	04.01.14 12:45	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	97	74 - 126	%		
1,2-Dichloroethane-D4	90	80 - 120	%		
Toluene-D8	102	73 - 132	%		
4-Bromofluorobenzene	104	58 - 152	%		



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: 653316-1-BLK	Matrix: Water	Sample Depth:
Lab Sample Id: 653316-1-BLK	Date Collected:	Date Received:
Analytical Method: TCLP Metals by SW846 6010B		Prep Method: 3010A
Analyst: MKO	% Moist:	Tech: MKO
Seq Number: 938325	Date Prep: 04.01.14 12.00	
Subcontractor: SUB: E871002	Prep seq: 653316	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Antimony	7440-36-0	ND	0.0200	0.00589	mg/L	04.10.14 22:08	U	1
Arsenic	7440-38-2	ND	0.0200	0.00550	mg/L	04.10.14 22:08	U	1
Barium	7440-39-3	ND	0.0100	0.00135	mg/L	04.10.14 22:08	U	1
Beryllium	7440-41-7	ND	0.00400	0.000490	mg/L	04.10.14 22:08	U	1
Cadmium	7440-43-9	ND	0.0100	0.00243	mg/L	04.10.14 22:08	U	1
Chromium	7440-47-3	ND	0.0100	0.000811	mg/L	04.10.14 22:08	U	1
Lead	7439-92-1	ND	0.0100	0.00237	mg/L	04.10.14 22:08	U	1
Nickel	7440-02-0	ND	0.0100	0.00307	mg/L	04.10.14 22:08	U	1
Selenium	7782-49-2	ND	0.0300	0.00439	mg/L	04.10.14 22:08	U	1
Silver	7440-22-4	ND	0.0200	0.00559	mg/L	04.10.14 22:08	U	1

Sample Id: 653334-1-BLK	Matrix: Water	Sample Depth:
Lab Sample Id: 653334-1-BLK	Date Collected:	Date Received:
Analytical Method: TCLP Mercury by SW 7470A		Prep Method: SW7470P
Analyst: DAB	% Moist:	Tech: DAB
Seq Number: 937576	Date Prep: 04.01.14 13.00	
Subcontractor: SUB: E871002	Prep seq: 653334	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Mercury	7439-97-6	ND	0.000200	0.0000291	mg/L	04.01.14 16:46	U	1



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: 653470-1-BLK	Matrix: Water	Sample Depth:
Lab Sample Id: 653470-1-BLK	Date Collected:	Date Received:
Analytical Method: TCLP VOAs by EPA 8260B		Prep Method: 5030B
Analyst: MCH	% Moist:	Tech: MCH
Seq Number: 937788	Date Prep: 04.02.14 12.20	
Subcontractor: SUB: E871002	Prep seq: 653470	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Benzene	71-43-2	ND	0.0250	0.00102	mg/L	04.02.14 12:50	U	5
2-Butanone	78-93-3	ND	0.250	0.00660	mg/L	04.02.14 12:50	U	5
Carbon Tetrachloride	56-23-5	ND	0.0250	0.00140	mg/L	04.02.14 12:50	U	5
Chlorobenzene	108-90-7	ND	0.0250	0.00112	mg/L	04.02.14 12:50	U	5
Chloroform	67-66-3	ND	0.0250	0.00120	mg/L	04.02.14 12:50	U	5
1,4-Dichlorobenzene	106-46-7	ND	0.0250	0.000989	mg/L	04.02.14 12:50	U	5
1,2-Dichloroethane	107-06-2	ND	0.0250	0.000790	mg/L	04.02.14 12:50	U	5
1,1-Dichloroethene	75-35-4	ND	0.0250	0.00136	mg/L	04.02.14 12:50	U	5
Tetrachloroethylene	127-18-4	ND	0.0250	0.00115	mg/L	04.02.14 12:50	U	5
Trichloroethene	79-01-6	ND	0.0250	0.00192	mg/L	04.02.14 12:50	U	5
Vinyl Chloride	75-01-4	ND	0.0100	0.00146	mg/L	04.02.14 12:50	U	5

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
Dibromofluoromethane	104	75 - 131	%		
1,2-Dichloroethane-D4	112	63 - 144	%		
Toluene-D8	98	80 - 117	%		
4-Bromofluorobenzene	97	74 - 124	%		



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX

Holly Energy RJU

Sample Id: 653536-1-BLK	Matrix: Water	Sample Depth:
Lab Sample Id: 653536-1-BLK	Date Collected:	Date Received:
Analytical Method: TCLP SVOCs by EPA 8270C		Prep Method: 3510C
Analyst: PKH	% Moist:	Tech: PKH
Seq Number: 937957	Date Prep: 04.05.14 10.00	
Subcontractor: SUB: E871002	Prep seq: 653536	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
1,4-Dichlorobenzene	106-46-7	ND	0.00500	0.000947	mg/L	04.07.14 12:19	U	1
2,4,5-Trichlorophenol	95-95-4	ND	0.00500	0.000893	mg/L	04.07.14 12:19	U	1
2,4,6-Trichlorophenol	88-06-2	ND	0.00500	0.00109	mg/L	04.07.14 12:19	U	1
2,4-Dinitrotoluene	121-14-2	ND	0.00500	0.000767	mg/L	04.07.14 12:19	U	1
2-methylphenol	95-48-7	ND	0.00500	0.000851	mg/L	04.07.14 12:19	U	1
3&4-Methylphenol	15831-10-4	ND	0.00500	0.000839	mg/L	04.07.14 12:19	U	1
Hexachlorobenzene	118-74-1	ND	0.00500	0.000902	mg/L	04.07.14 12:19	U	1
Hexachlorobutadiene	87-68-3	ND	0.00500	0.000989	mg/L	04.07.14 12:19	U	1
Hexachloroethane	67-72-1	ND	0.00500	0.00103	mg/L	04.07.14 12:19	U	1
Nitrobenzene	98-95-3	ND	0.00500	0.00102	mg/L	04.07.14 12:19	U	1
Pentachlorophenol	87-86-5	ND	0.0100	0.000522	mg/L	04.07.14 12:19	U	1
Pyridine	110-86-1	ND	0.0100	0.000741	mg/L	04.07.14 12:19	U	1

Surrogate	% Recovery	Limits	Units	Analysis Date	Flag
2-Fluorophenol	65	30 - 100	%		
Phenol-d6	48	15 - 94	%		
Nitrobenzene-d5	95	46 - 111	%		
2-Fluorobiphenyl	98	44 - 117	%		
2,4,6-Tribromophenol	93	48 - 117	%		
Terphenyl-D14	109	46 - 126	%		

Sample Id: 937681-1-BLK	Matrix: Solid	Sample Depth:
Lab Sample Id: 937681-1-BLK	Date Collected:	Date Received:
Analytical Method: Reactive Sulfide by SW 9030B		Prep Method:
Analyst: DHE	% Moist:	Tech: DHE
Seq Number: 937681	Date Prep:	
Subcontractor: SUB: E871002	Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Sulfide	18496-25-8	ND	50.0	6.72	mg/kg	04.02.14 16:55	U	1



Certificate of Analytical Results

482259



Conestoga Rovers & Associates, Midland, TX
Holly Energy RJU

Sample Id: 937689-1-BLK	Matrix: Solid	Sample Depth:
Lab Sample Id: 937689-1-BLK	Date Collected:	Date Received:
Analytical Method: Reactive Cyanide by EPA 9010B		Prep Method:
Analyst: BFO	% Moist:	Tech: BFO
Seq Number: 937689	Date Prep:	
Subcontractor: SUB: E871002	Prep seq:	

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Cyanide	57-12-5	ND	0.200	0.176	mg/kg	04.02.14 12:12	U	1



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Reactive Cyanide by EPA 9010B

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Day)	Time Held Extracted (Day)	Date Analyzed	Max Holding Time Analyzed (Day)	Time Held Analyzed (Day)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.2, 2014	14	7	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Percent Moisture

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Mar.31, 2014	45	5	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Flash Point (CC) SW-846 1010

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.3, 2014	30	8	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : TCLP Metals by SW846 6010B

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014	Apr. 1, 2014	180	6	Apr.10, 2014	180	9	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : TCLP Mercury by SW 7470A

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.1, 2014	28	6	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : TCLP VOAs by EPA 8260B

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.2, 2014	14	7	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : BTEX by SW 8260B

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.1, 2014	14	6	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : TCLP SVOCs by EPA 8270C

Client : Conestoga Rovers & Associates

Work Order #: 482259

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014	Apr. 5, 2014	7	10	Apr.7, 2014	40	2	F



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Reactive Sulfide by SW 9030B

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.2, 2014	14	7	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : Soil pH by EPA 9045C

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014				Apr.1, 2014	28	6	P



XENCO Laboratories
CHRONOLOGY OF HOLDING TIMES



Analytical Method : TPH by Texas1005

Client : Conestoga Rovers & Associates

Work Order #: **482259**

Project ID: 086361

Field Sample ID	Date Collected	Date Received	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
Waste Profile	Mar. 26, 2014	Mar. 28, 2014	Mar. 31, 2014	14	5	Mar.31, 2014	14	0	P

F = These samples were analyzed outside the recommended holding time.

P = Samples analyzed within the recommended holding time.

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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3725 E. Atlanta Ave, Phoenix, AZ 85040	(770) 449-8800	(770) 449-5477
	(602) 437-0330	



Analytical Log

Analytical Method: TPH by Texas1005
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937459
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u>Waste Profile DL</u>	<u>482259-001</u>	<u>DL</u>
<u></u>	<u>482186-001 S</u>	<u>MS</u>
<u></u>	<u>482186-001 SD</u>	<u>MSD</u>
<u></u>	<u>653242-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653242-1-BLK</u>	<u>BLK</u>
<u></u>	<u>653242-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method: BTEX by SW 8260B
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937534
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u>Waste Profile DL</u>	<u>482259-001</u>	<u>DL</u>
<u></u>	<u>482288-001 S</u>	<u>MS</u>
<u></u>	<u>482288-001 SD</u>	<u>MSD</u>
<u></u>	<u>653312-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653312-1-BLK</u>	<u>BLK</u>



Analytical Log

Analytical Method: Soil pH by EPA 9045C Batch #: 937540
Project Name: Holly Energy RJU Project ID: 086361
Client Name: Conestoga Rovers & Associates WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482266-001 D</u>	<u>MD</u>



Analytical Log

Analytical Method: TCLP Mercury by SW 7470A
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937576
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482140-001 S</u>	<u>MS</u>
<u></u>	<u>482140-001 SD</u>	<u>MSD</u>
<u></u>	<u>653334-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653334-1-BLK</u>	<u>BLK</u>
<u></u>	<u>653334-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method: Reactive Sulfide by SW 9030B
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937681
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482158-001 D</u>	<u>MD</u>
<u></u>	<u>937681-1-BKS</u>	<u>BKS</u>
<u></u>	<u>937681-1-BLK</u>	<u>BLK</u>
<u></u>	<u>937681-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method: Flash Point (CC) SW-846 1010
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937776
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482540-001 D</u>	<u>MD</u>
<u></u>	<u>937776-1-BKS</u>	<u>BKS</u>



Analytical Log

Analytical Method: TCLP VOAs by EPA 8260B
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937788
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482324-002 S</u>	<u>MS</u>
<u></u>	<u>482324-002 SD</u>	<u>MSD</u>
<u></u>	<u>653470-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653470-1-BLK</u>	<u>BLK</u>



Analytical Log

Analytical Method: TCLP SVOCs by EPA 8270C
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 937957
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482636-001 S</u>	<u>MS</u>
<u></u>	<u>653536-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653536-1-BLK</u>	<u>BLK</u>
<u></u>	<u>653536-1-BSD</u>	<u>BSD</u>



Analytical Log

Analytical Method: TCLP Metals by SW846 6010B
Project Name: Holly Energy RJU
Client Name: Conestoga Rovers & Associates

Batch #: 938325
Project ID: 086361
WO Number: 482259

Client Sample Id	Lab Sample Id	QC Types
<u>Waste Profile</u>	<u>482259-001</u>	<u>SMP</u>
<u></u>	<u>482140-001 S</u>	<u>MS</u>
<u></u>	<u>482140-001 SD</u>	<u>MSD</u>
<u></u>	<u>653316-1-BKS</u>	<u>BKS</u>
<u></u>	<u>653316-1-BLK</u>	<u>BLK</u>
<u></u>	<u>653316-1-BSD</u>	<u>BSD</u>



Form 2 - Surrogate Recoveries

Project Name: Holly Energy RJU

Work Orders : 482259,

Project ID: 086361

Lab Batch #: 937534

Sample: 653312-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/01/14 11:54

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0509	0.0500	102	74-126	
1,2-Dichloroethane-D4	0.0481	0.0500	96	80-120	
Toluene-D8	0.0539	0.0500	108	73-132	
4-Bromofluorobenzene	0.0502	0.0500	100	58-152	

Lab Batch #: 937534

Sample: 653312-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 04/01/14 12:45

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0486	0.0500	97	74-126	
1,2-Dichloroethane-D4	0.0452	0.0500	90	80-120	
Toluene-D8	0.0509	0.0500	102	73-132	
4-Bromofluorobenzene	0.0520	0.0500	104	58-152	

Lab Batch #: 937534

Sample: 482288-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/01/14 14:27

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0552	0.0500	110	74-126	
1,2-Dichloroethane-D4	0.0530	0.0500	106	80-120	
Toluene-D8	0.0568	0.0500	114	73-132	
4-Bromofluorobenzene	0.0689	0.0500	138	58-152	

Lab Batch #: 937534

Sample: 482288-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 04/01/14 14:53

SURROGATE RECOVERY STUDY

BTEX by SW 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0544	0.0500	109	74-126	
1,2-Dichloroethane-D4	0.0555	0.0500	111	80-120	
Toluene-D8	0.0559	0.0500	112	73-132	
4-Bromofluorobenzene	0.0705	0.0500	141	58-152	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Holly Energy RJU

Work Orders : 482259,

Project ID: 086361

Lab Batch #: 937957

Sample: 653536-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L		Date Analyzed: 04/07/14 12:19		SURROGATE RECOVERY STUDY		
TCLP SVOCs by EPA 8270C		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
2-Fluorophenol		32.6	50.0	65	30-100	
Phenol-d6		23.9	50.0	48	15-94	
Nitrobenzene-d5		47.6	50.0	95	46-111	
2-Fluorobiphenyl		49.1	50.0	98	44-117	
2,4,6-Tribromophenol		46.7	50.0	93	48-117	
Terphenyl-D14		54.3	50.0	109	46-126	

Lab Batch #: 937957

Sample: 653536-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L		Date Analyzed: 04/07/14 12:43		SURROGATE RECOVERY STUDY		
TCLP SVOCs by EPA 8270C		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
2-Fluorophenol		32.7	50.0	65	30-100	
Phenol-d6		26.9	50.0	54	15-94	
Nitrobenzene-d5		48.3	50.0	97	46-111	
2-Fluorobiphenyl		48.9	50.0	98	44-117	
2,4,6-Tribromophenol		51.5	50.0	103	48-117	
Terphenyl-D14		53.3	50.0	107	46-126	

Lab Batch #: 937957

Sample: 653536-1-BSD / BSD

Batch: 1 Matrix: Water

Units: mg/L		Date Analyzed: 04/07/14 13:06		SURROGATE RECOVERY STUDY		
TCLP SVOCs by EPA 8270C		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
2-Fluorophenol		32.6	50.0	65	30-100	
Phenol-d6		26.0	50.0	52	15-94	
Nitrobenzene-d5		46.8	50.0	94	46-111	
2-Fluorobiphenyl		46.8	50.0	94	44-117	
2,4,6-Tribromophenol		48.1	50.0	96	48-117	
Terphenyl-D14		52.1	50.0	104	46-126	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Holly Energy RJU

Work Orders : 482259,

Project ID: 086361

Lab Batch #: 937957

Sample: 482636-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/L

Date Analyzed: 04/07/14 13:54

SURROGATE RECOVERY STUDY

TCLP SVOCs by EPA 8270C Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorophenol	37.2	50.0	74	30-100	
Phenol-d6	39.2	50.0	78	15-94	
Nitrobenzene-d5	43.4	50.0	87	46-111	
2-Fluorobiphenyl	46.1	50.0	92	44-117	
2,4,6-Tribromophenol	51.4	50.0	103	48-117	
Terphenyl-D14	54.5	50.0	109	46-126	

Lab Batch #: 937788

Sample: 653470-1-BKS / BKS

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/02/14 11:05

SURROGATE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0482	0.0500	96	75-131	
1,2-Dichloroethane-D4	0.0442	0.0500	88	63-144	
Toluene-D8	0.0475	0.0500	95	80-117	
4-Bromofluorobenzene	0.0486	0.0500	97	74-124	

Lab Batch #: 937788

Sample: 653470-1-BLK / BLK

Batch: 1 Matrix: Water

Units: mg/L

Date Analyzed: 04/02/14 12:50

SURROGATE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0520	0.0500	104	75-131	
1,2-Dichloroethane-D4	0.0562	0.0500	112	63-144	
Toluene-D8	0.0492	0.0500	98	80-117	
4-Bromofluorobenzene	0.0484	0.0500	97	74-124	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Holly Energy RJU

Work Orders : 482259,

Project ID: 086361

Lab Batch #: 937788

Sample: 482324-002 S / MS

Batch: 1 Matrix: Solid

Units: mg/L

Date Analyzed: 04/02/14 17:43

SURROGATE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0511	0.0500	102	75-131	
1,2-Dichloroethane-D4	0.0496	0.0500	99	63-144	
Toluene-D8	0.0471	0.0500	94	80-117	
4-Bromofluorobenzene	0.0526	0.0500	105	74-124	

Lab Batch #: 937788

Sample: 482324-002 SD / MSD

Batch: 1 Matrix: Solid

Units: mg/L

Date Analyzed: 04/02/14 18:09

SURROGATE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Dibromofluoromethane	0.0484	0.0500	97	75-131	
1,2-Dichloroethane-D4	0.0475	0.0500	95	63-144	
Toluene-D8	0.0485	0.0500	97	80-117	
4-Bromofluorobenzene	0.0513	0.0500	103	74-124	

Lab Batch #: 937459

Sample: 653242-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/31/14 17:46

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.7	100	89	70-135	
o-Terphenyl	45.0	50.0	90	70-130	

Lab Batch #: 937459

Sample: 653242-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 03/31/14 18:05

SURROGATE RECOVERY STUDY

TPH by Texas1005 Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.3	100	93	70-135	
o-Terphenyl	48.0	50.0	96	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: Holly Energy RJU

Work Orders : 482259,

Project ID: 086361

Lab Batch #: 937459

Sample: 653242-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg		Date Analyzed: 03/31/14 18:24		SURROGATE RECOVERY STUDY		
TPH by Texas1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		93.2	100	93	70-135	
o-Terphenyl		46.8	50.0	94	70-130	

Lab Batch #: 937459

Sample: 482186-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 03/31/14 19:21		SURROGATE RECOVERY STUDY		
TPH by Texas1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		92.9	99.7	93	70-135	
o-Terphenyl		47.3	49.9	95	70-130	

Lab Batch #: 937459

Sample: 482186-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg		Date Analyzed: 03/31/14 19:40		SURROGATE RECOVERY STUDY		
TPH by Texas1005		Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes						
1-Chlorooctane		93.3	99.6	94	70-135	
o-Terphenyl		47.5	49.8	95	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Blank Spike Recovery



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID:

086361

Lab Batch #: 937534

Sample: 653312-1-BKS

Matrix: Solid

Date Analyzed: 04/01/2014

Date Prepared: 04/01/2014

Analyst: SAD

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

BTEX by SW 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.000192	0.100	0.108	108	62-132	

Lab Batch #: 937689

Sample: 937689-1-BKS

Matrix: Solid

Date Analyzed: 04/02/2014

Date Prepared: 04/02/2014

Analyst: BFO

Reporting Units: mg/kg

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

Reactive Cyanide by EPA 9010B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Cyanide	<7.04	2000	2350	118	60-120	

Lab Batch #: 937788

Sample: 653470-1-BKS

Matrix: Water

Date Analyzed: 04/02/2014

Date Prepared: 04/02/2014

Analyst: MCH

Reporting Units: mg/L

Batch #: 1

BLANK /BLANK SPIKE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Blank Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Control Limits %R	Flags
Benzene	<0.00102	0.250	0.219	88	68-123	
2-Butanone	<0.00660	0.500	0.424	85	49-135	
Carbon Tetrachloride	<0.00140	0.250	0.222	89	68-135	
Chlorobenzene	<0.00112	0.250	0.230	92	78-124	
Chloroform	<0.00120	0.250	0.213	85	71-119	
1,4-Dichlorobenzene	<0.000989	0.250	0.217	87	80-119	
1,2-Dichloroethane	<0.000790	0.250	0.220	88	64-130	
1,1-Dichloroethene	<0.00136	0.250	0.214	86	68-116	
Tetrachloroethylene	<0.00115	0.250	0.206	82	79-122	
Trichloroethene	<0.00192	0.250	0.216	86	74-123	
Vinyl Chloride	<0.00146	0.250	0.198	79	59-124	

Blank Spike Recovery [D] = 100*[C]/[B]

All results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit



BS / BSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID: 086361

Analyst: DHE

Date Prepared: 04/02/2014

Date Analyzed: 04/02/2014

Lab Batch ID: 937681

Sample: 937681-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Reactive Sulfide by SW 9030B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Sulfide	<6.72	20000	19600	98	20000	19200	96	2	60-120	20	

Analyst: DAB

Date Prepared: 04/01/2014

Date Analyzed: 04/01/2014

Lab Batch ID: 937576

Sample: 653334-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Mercury	<0.0000291	0.00200	0.00198	99	0.00200	0.00195	98	2	80-120	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID: 086361

Analyst: MKO

Date Prepared: 04/01/2014

Date Analyzed: 04/10/2014

Lab Batch ID: 938325

Sample: 653316-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Antimony	<0.00589	1.00	1.10	110	1.00	1.10	110	0	80-120	20	
Arsenic	<0.00550	1.00	1.06	106	1.00	1.05	105	1	80-120	20	
Barium	<0.00135	1.00	1.05	105	1.00	1.04	104	1	80-120	20	
Beryllium	<0.000490	1.00	1.07	107	1.00	1.05	105	2	80-120	20	
Cadmium	<0.00243	1.00	1.04	104	1.00	1.04	104	0	80-120	20	
Chromium	<0.000811	1.00	1.09	109	1.00	1.09	109	0	80-120	20	
Lead	<0.00237	1.00	1.10	110	1.00	1.10	110	0	80-120	20	
Nickel	<0.00307	1.00	1.11	111	1.00	1.10	110	1	80-120	20	
Selenium	<0.00439	1.00	1.07	107	1.00	1.06	106	1	80-120	20	
Silver	<0.00559	0.500	0.512	102	0.500	0.475	95	7	80-120	20	

Relative Percent Difference RPD = 200*(C-F)/(C+F)

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID: 086361

Analyst: PKH

Date Prepared: 04/05/2014

Date Analyzed: 04/07/2014

Lab Batch ID: 937957

Sample: 653536-1-BKS

Batch #: 1

Matrix: Water

Units: mg/L

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TCLP SVOCs by EPA 8270C	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
1,4-Dichlorobenzene	<0.000947	0.0500	0.0420	84	0.0500	0.0423	85	1	37-111	30	
2,4,5-Trichlorophenol	<0.000893	0.0500	0.0515	103	0.0500	0.0496	99	4	39-125	30	
2,4,6-Trichlorophenol	<0.00109	0.0500	0.0511	102	0.0500	0.0490	98	4	42-125	30	
2,4-Dinitrotoluene	<0.000767	0.0500	0.0512	102	0.0500	0.0507	101	1	41-128	30	
2-methylphenol	<0.000851	0.0500	0.0404	81	0.0500	0.0403	81	0	36-105	30	
3&4-Methylphenol	<0.000839	0.0500	0.0389	78	0.0500	0.0388	78	0	35-96	30	
Hexachlorobenzene	<0.000902	0.0500	0.0495	99	0.0500	0.0477	95	4	39-128	30	
Hexachlorobutadiene	<0.000989	0.0500	0.0452	90	0.0500	0.0454	91	0	31-120	30	
Hexachloroethane	<0.00103	0.0500	0.0425	85	0.0500	0.0429	86	1	37-109	30	
Nitrobenzene	<0.00102	0.0500	0.0506	101	0.0500	0.0513	103	1	37-114	30	
Pentachlorophenol	<0.000522	0.0500	0.0395	79	0.0500	0.0381	76	4	10-137	40	
Pyridine	<0.000741	0.0500	0.0222	44	0.0500	0.0197	39	12	16-135	40	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID: 086361

Analyst: FOV

Date Prepared: 03/31/2014

Date Analyzed: 03/31/2014

Lab Batch ID: 937459

Sample: 653242-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	751	75	1000	748	75	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	974	97	1000	976	98	0	70-135	35	

Relative Percent Difference RPD = $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] = $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] = $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: Holly Energy RJU



Work Order #: 482259

Lab Batch #: 937957

Date Analyzed: 04/07/2014

QC- Sample ID: 482636-001 S

Reporting Units: mg/L

Date Prepared: 04/05/2014

Batch #: 1

Project ID: 086361

Analyst: PKH

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
TCLP SVOCs by SW-846 8270C	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
1,4-Dichlorobenzene	<0.00474	0.250	0.182	73	37-111	
2,4,5-Trichlorophenol	<0.00447	0.250	0.259	104	39-125	
2,4,6-Trichlorophenol	<0.00543	0.250	0.243	97	42-125	
2,4-Dinitrotoluene	<0.00384	0.250	0.251	100	41-128	
2-methylphenol	<0.00426	0.250	0.206	82	36-105	
3&4-Methylphenol	<0.00420	0.250	0.216	86	35-96	
Hexachlorobenzene	<0.00451	0.250	0.239	96	39-128	
Hexachlorobutadiene	<0.00495	0.250	0.196	78	31-120	
Hexachloroethane	<0.00514	0.250	0.180	72	37-109	
Nitrobenzene	<0.00508	0.250	0.236	94	37-114	
Pentachlorophenol	<0.00261	0.250	0.244	98	10-137	
Pyridine	<0.00370	0.250	0.137	55	16-135	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259
Lab Batch ID: 937534
Date Analyzed: 04/01/2014
Reporting Units: mg/kg

Project ID: 086361
QC- Sample ID: 482288-001 S Batch #: 1 Matrix: Soil
Date Prepared: 04/01/2014 Analyst: SAD

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by SW 8260B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.000229	0.119	0.141	118	0.118	0.131	111	7	62-132	25	

Lab Batch ID: 937576 QC- Sample ID: 482140-001 S Batch #: 1 Matrix: Soil
Date Analyzed: 04/01/2014 Date Prepared: 04/01/2014 Analyst: DAB
Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Mercury by SW 7470A	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Mercury	<0.0000291	0.00200	0.00200	100	0.00200	0.00195	98	3	75-125	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259

Project ID: 086361

Lab Batch ID: 938325

QC- Sample ID: 482140-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 04/10/2014

Date Prepared: 04/01/2014

Analyst: MKO

Reporting Units: mg/L

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP Metals by SW846 6010B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Antimony	<0.0294	5.00	5.40	108	5.00	5.34	107	1	80-120	20	
Arsenic	<0.0275	5.00	5.35	107	5.00	5.30	106	1	80-120	20	
Barium	0.684	5.00	5.97	106	5.00	5.91	105	1	80-120	20	
Beryllium	<0.00245	5.00	5.34	107	5.00	5.32	106	0	80-120	20	
Cadmium	<0.0122	5.00	5.25	105	5.00	5.21	104	1	80-120	20	
Chromium	0.0120	5.00	5.35	107	5.00	5.35	107	0	80-120	20	
Lead	<0.0118	5.00	5.35	107	5.00	5.31	106	1	80-120	20	
Nickel	0.0766	5.00	5.55	109	5.00	5.51	109	1	80-120	20	
Selenium	<0.0219	5.00	5.44	109	5.00	5.38	108	1	80-120	20	
Silver	0.0529	2.50	2.46	96	2.50	2.36	92	4	80-120	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(C-F)/(C+F)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.



Form 3 - MS / MSD Recoveries



Project Name: Holly Energy RJU

Work Order #: 482259
Lab Batch ID: 937788
Date Analyzed: 04/02/2014
Reporting Units: mg/L

Project ID: 086361
QC- Sample ID: 482324-002 S
Date Prepared: 04/02/2014
Batch #: 1 Matrix: Solid
Analyst: MCH

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TCLP VOAs by EPA 8260B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00102	0.250	0.199	80	0.250	0.214	86	7	66-142	25	
2-Butanone	<0.00660	0.500	0.453	91	0.500	0.449	90	1	60-140	25	
Carbon Tetrachloride	<0.00140	0.250	0.205	82	0.250	0.215	86	5	62-125	25	
Chlorobenzene	<0.00112	0.250	0.197	79	0.250	0.213	85	8	60-133	25	
Chloroform	<0.00120	0.250	0.201	80	0.250	0.216	86	7	70-130	25	
1,4-Dichlorobenzene	<0.000989	0.250	0.201	80	0.250	0.206	82	2	75-125	25	
1,2-Dichloroethane	<0.000790	0.250	0.215	86	0.250	0.220	88	2	68-127	25	
1,1-Dichloroethene	<0.00136	0.250	0.164	66	0.250	0.206	82	23	59-172	25	
Tetrachloroethylene	<0.00115	0.250	0.174	70	0.250	0.184	74	6	71-125	25	X
Trichloroethene	<0.00192	0.250	0.193	77	0.250	0.204	82	6	62-137	25	
Vinyl Chloride	<0.00146	0.250	0.163	65	0.250	0.175	70	7	60-140	25	

Lab Batch ID: 937459
Date Analyzed: 03/31/2014
Reporting Units: mg/kg

QC- Sample ID: 482186-001 S
Date Prepared: 03/31/2014
Batch #: 1 Matrix: Soil
Analyst: FOV

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by Texas1005 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<29.9	2000	1500	75	1990	1540	77	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<29.9	2000	1950	98	1990	2110	106	8	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: Holly Energy RJU

Work Order #: 482259

Lab Batch #: 937776

Project ID: 086361

Date Analyzed: 04/03/2014 11:40

Date Prepared: 04/03/2014

Analyst: DHE

QC- Sample ID: 482540-001 D

Batch #: 1

Matrix: Soil

Reporting Units: Deg F

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Flash Point (CC) SW-846 1010	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Flash Point	>180	>180	0	25	U

Lab Batch #: 937443

Date Analyzed: 03/31/2014 17:02

Date Prepared: 03/31/2014

Analyst: DHE

QC- Sample ID: 482259-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.47	3.94	13	20	

Lab Batch #: 937689

Date Analyzed: 04/02/2014 12:12

Date Prepared: 04/02/2014

Analyst: BFO

QC- Sample ID: 482158-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Reactive Cyanide by EPA 9010B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Cyanide	<0.176	<0.176	0	20	U

Lab Batch #: 937681

Date Analyzed: 04/02/2014 16:55

Date Prepared: 04/02/2014

Analyst: DHE

QC- Sample ID: 482158-001 D

Batch #: 1

Matrix: Soil

Reporting Units: mg/kg

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Reactive Sulfide by SW 9030B	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Sulfide	<6.72	<6.72	0	20	U

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Holly Energy RJU

Work Order #: 482259

Lab Batch #: 937540

Project ID: 086361

Date Analyzed: 04/01/2014 16:09

Date Prepared: 04/01/2014

Analyst: DHE

QC- Sample ID: 482266-001 D

Batch #: 1

Matrix: Soil

Reporting Units: SU

	SAMPLE / SAMPLE DUPLICATE RECOVERY				
Soil pH by EPA 9045C	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
pH	7.87	7.89	0	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Conestoga Rovers & Associates

Date/ Time Received: 03/28/2014 04:15:00 PM

Work Order #: 482259

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	25
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	N/A
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	N/A
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:	PH Device/Lot#:
----------	-----------------

Checklist completed by:  Date: 03/28/2014
Ruriko Konuma

Checklist reviewed by:  Date: 03/28/2014
Kelsey Brooks

Analytical Report 491109

for

Conestoga Rovers & Associates

Project Manager: Nathan Knowles

RJU South

086361

18-AUG-14

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-16-TX), Arizona (AZ0765), Florida (E871002), Louisiana (03054)

New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)

Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



18-AUG-14

Project Manager: **Nathan Knowles**
Conestoga Rovers & Associates
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **491109**
RJU South
Project Address: Loco Hills,NM

Nathan Knowles:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 491109. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 491109 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Conestoga Rovers & Associates, Midland, TX

RJU South

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
DS #1-4'	S	08-07-14 14:15	- 4 ft	491109-001
DS #2-4'	S	08-07-14 14:20	- 4 ft	491109-002
DS #3-4'	S	08-07-14 14:25	- 4 ft	491109-003
DS #4-8'	S	08-07-14 14:27	- 8 ft	491109-004
DS #5-4'	S	08-07-14 14:30	- 4 ft	491109-005
DS #6-2'	S	08-07-14 14:33	- 2 ft	491109-006
DS #7-2'	S	08-07-14 14:39	- 2 ft	491109-007
DS #8-6'	S	08-07-14 14:42	- 6 ft	491109-008
DS #9-6'	S	08-07-14 14:45	- 6 ft	491109-009
DS #10-6'	S	08-07-14 14:47	- 6 ft	491109-010
DS #11-6'	S	08-07-14 14:50	- 6 ft	491109-011
DS #12-8'	S	08-07-14 14:52	- 8 ft	491109-012
DS #13-8'	S	08-07-14 14:55	- 8 ft	491109-013



CASE NARRATIVE



Client Name: Conestoga Rovers & Associates

Project Name: RJU South

Project ID: 086361
Work Order Number(s): 491109

Report Date: 18-AUG-14
Date Received: 08/08/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 491109

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Fri Aug-08-14 11:10 am

Report Date: 18-AUG-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	491109-001	491109-002	491109-003	491109-004	491109-005	491109-006
	<i>Field Id:</i>	DS #1-4'	DS #2-4'	DS #3-4'	DS #4-8'	DS #5-4'	DS #6-2'
	<i>Depth:</i>	4 ft	4 ft	4 ft	8 ft	4 ft	2 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-07-14 14:15	Aug-07-14 14:20	Aug-07-14 14:25	Aug-07-14 14:27	Aug-07-14 14:30	Aug-07-14 14:33
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-16-14 18:00	Aug-16-14 18:00	Aug-13-14 16:00	Aug-16-14 18:00	Aug-13-14 16:00	Aug-13-14 16:00
	<i>Analyzed:</i>	Aug-17-14 13:38	Aug-17-14 13:54	Aug-14-14 12:27	Aug-17-14 14:11	Aug-14-14 13:34	Aug-14-14 13:50
	<i>Units/RL:</i>	mg/kg RL					
Benzene		ND 0.276	ND 0.279	ND 0.00556	0.224 0.0304	0.0572 0.00535	ND 0.00519
Toluene		7.32 0.552	10.1 0.557	ND 0.0111	4.34 0.0609	0.753 0.0107	0.0786 0.0104
Ethylbenzene		37.4 0.276	44.2 0.279	0.00974 0.00556	9.80 0.0304	1.55 0.00535	0.117 0.00519
m,p-Xylenes		40.4 0.552	48.4 0.557	0.0258 0.0111	8.16 0.0609	1.81 0.0107	1.24 0.0104
o-Xylene		20.2 0.276	20.7 0.279	0.00785 0.00556	3.93 0.0304	0.996 0.00535	0.633 0.00519
Total Xylenes		60.6 0.276	69.1 0.279	0.0337 0.00556	12.1 0.0304	2.81 0.00535	1.87 0.00519
Total BTEX		105 0.276	123 0.279	0.0434 0.00556	26.5 0.0304	5.17 0.00535	2.07 0.00519
Percent Moisture	<i>Extracted:</i>	Aug-12-14 17:00					
	<i>Analyzed:</i>	Aug-12-14 17:00					
	<i>Units/RL:</i>	% RL					
Percent Moisture		9.83 1.00	10.5 1.00	10.2 1.00	18.2 1.00	6.58 1.00	3.60 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-13-14 10:00					
	<i>Analyzed:</i>	Aug-13-14 19:35	Aug-13-14 20:00	Aug-13-14 20:25	Aug-13-14 20:52	Aug-13-14 21:18	Aug-13-14 21:43
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		4480 82.9	3750 83.5	55.7 16.7	324 18.3	1290 80.1	762 77.7
C12-C28 Diesel Range Hydrocarbons		16100 82.9	13100 83.5	777 16.7	1180 18.3	8130 80.1	6090 77.7
C28-C35 Oil Range Hydrocarbons		440 82.9	316 83.5	23.9 16.7	35.6 18.3	205 80.1	166 77.7
Total TPH		21000 82.9	17200 83.5	857 16.7	1540 18.3	9630 80.1	7020 77.7

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 491109

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Fri Aug-08-14 11:10 am

Report Date: 18-AUG-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	491109-007	491109-008	491109-009	491109-010	491109-011	491109-012
	<i>Field Id:</i>	DS #7-2'	DS #8-6'	DS #9-6'	DS #10-6'	DS #11-6'	DS #12-8'
	<i>Depth:</i>	2 ft	6 ft	6 ft	6 ft	6 ft	8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-07-14 14:39	Aug-07-14 14:42	Aug-07-14 14:45	Aug-07-14 14:47	Aug-07-14 14:50	Aug-07-14 14:52
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-13-14 16:00	Aug-13-14 16:00	Aug-16-14 18:00	Aug-13-14 16:00	Aug-13-14 16:00	Aug-16-14 18:00
	<i>Analyzed:</i>	Aug-14-14 14:07	Aug-14-14 11:05	Aug-17-14 14:28	Aug-14-14 11:21	Aug-14-14 11:38	Aug-17-14 14:44
	<i>Units/RL:</i>	mg/kg RL					
Benzene		0.0198 0.00515	ND 0.00574	ND 0.287	ND 0.00640	ND 0.00550	2.18 0.313
Toluene		0.496 0.0103	ND 0.0115	3.54 0.574	ND 0.0128	ND 0.0110	56.2 0.626
Ethylbenzene		1.05 0.00515	ND 0.00574	9.48 0.287	ND 0.00640	ND 0.00550	98.2 0.313
m,p-Xylenes		1.17 0.0103	ND 0.0115	27.6 0.574	ND 0.0128	ND 0.0110	132 0.626
o-Xylene		1.24 0.00515	ND 0.00574	12.1 0.287	ND 0.00640	ND 0.00550	51.0 0.313
Total Xylenes		2.41 0.00515	ND 0.00574	39.7 0.287	ND 0.00640	ND 0.00550	183 0.313
Total BTEX		3.98 0.00515	ND 0.00574	52.7 0.287	ND 0.00640	ND 0.00550	340 0.313
Percent Moisture	<i>Extracted:</i>	Aug-12-14 17:00					
	<i>Analyzed:</i>	Aug-12-14 17:00					
	<i>Units/RL:</i>	% RL					
Percent Moisture		2.99 1.00	12.9 1.00	13.5 1.00	21.9 1.00	9.04 1.00	20.4 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Aug-13-14 10:00	Aug-13-14 10:00	Aug-13-14 12:00	Aug-13-14 12:00	Aug-13-14 12:00	Aug-13-14 12:00
	<i>Analyzed:</i>	Aug-13-14 22:08	Aug-13-14 22:33	Aug-13-14 22:29	Aug-13-14 22:53	Aug-13-14 23:17	Aug-13-14 23:41
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		1290 77.2	ND 17.2	3210 86.4	ND 19.2	ND 16.4	4670 93.8
C12-C28 Diesel Range Hydrocarbons		8250 77.2	59.6 17.2	8060 86.4	ND 19.2	ND 16.4	9320 93.8
C28-C35 Oil Range Hydrocarbons		225 77.2	ND 17.2	ND 86.4	ND 19.2	ND 16.4	ND 93.8
Total TPH		9770 77.2	59.6 17.2	11300 86.4	ND 19.2	ND 16.4	14000 93.8

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 491109

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Fri Aug-08-14 11:10 am

Report Date: 18-AUG-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	491109-013					
	Field Id:	DS #13-8'					
	Depth:	8 ft					
	Matrix:	SOIL					
	Sampled:	Aug-07-14 14:55					
BTEX by EPA 8021B	Extracted:	Aug-16-14 18:00					
	Analyzed:	Aug-17-14 15:33					
	Units/RL:	mg/kg RL					
	Benzene	ND	0.0283				
Toluene	3.73	0.0567					
Ethylbenzene	10.9	0.0283					
m,p-Xylenes	20.3	0.0567					
o-Xylene	9.08	0.0283					
Total Xylenes	29.4	0.0283					
Total BTEX	44.0	0.0283					
Percent Moisture	Extracted:	Aug-12-14 17:00					
	Analyzed:	Aug-12-14 17:00					
	Units/RL:	% RL					
Percent Moisture	12.2	1.00					
TPH By SW8015 Mod	Extracted:	Aug-13-14 12:00					
	Analyzed:	Aug-14-14 00:06					
	Units/RL:	mg/kg RL					
	C6-C12 Gasoline Range Hydrocarbons	2000	85.3				
	C12-C28 Diesel Range Hydrocarbons	5940	85.3				
C28-C35 Oil Range Hydrocarbons	ND	85.3					
Total TPH	7940	85.3					

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **SQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948074

Sample: 491109-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 19:35

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.7	120	70-135	
o-Terphenyl	57.9	49.9	116	70-135	

Lab Batch #: 948074

Sample: 491109-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 20:00

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.7	125	70-135	
o-Terphenyl	57.1	49.9	114	70-135	

Lab Batch #: 948074

Sample: 491109-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 20:25

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	99.9	120	70-135	
o-Terphenyl	63.4	50.0	127	70-135	

Lab Batch #: 948074

Sample: 491109-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 20:52

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.6	116	70-135	
o-Terphenyl	63.0	49.8	127	70-135	

Lab Batch #: 948074

Sample: 491109-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 21:18

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.8	110	70-135	
o-Terphenyl	40.6	49.9	81	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948074

Sample: 491109-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 21:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.9	121	70-135	
o-Terphenyl	42.5	50.0	85	70-135	

Lab Batch #: 948074

Sample: 491109-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 22:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	99.9	121	70-135	
o-Terphenyl	61.3	50.0	123	70-135	

Lab Batch #: 948125

Sample: 491109-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 22:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.7	114	70-135	
o-Terphenyl	54.4	49.9	109	70-135	

Lab Batch #: 948074

Sample: 491109-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 22:33

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	57.4	49.9	115	70-135	

Lab Batch #: 948125

Sample: 491109-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 22:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	51.3	50.0	103	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948125

Sample: 491109-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 23:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.6	99.6	97	70-135	
o-Terphenyl	48.8	49.8	98	70-135	

Lab Batch #: 948125

Sample: 491109-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 23:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.6	106	70-135	
o-Terphenyl	53.0	49.8	106	70-135	

Lab Batch #: 948125

Sample: 491109-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 00:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.9	102	70-135	
o-Terphenyl	38.4	50.0	77	70-135	

Lab Batch #: 948194

Sample: 491109-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 11:05

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0263	0.0300	88	80-120	
4-Bromofluorobenzene	0.0266	0.0300	89	80-120	

Lab Batch #: 948194

Sample: 491109-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 11:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0279	0.0300	93	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948194

Sample: 491109-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 11:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0276	0.0300	92	80-120	

Lab Batch #: 948194

Sample: 491109-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 12:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0284	0.0300	95	80-120	

Lab Batch #: 948194

Sample: 491109-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 13:34

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 948194

Sample: 491109-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 13:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0291	0.0300	97	80-120	
4-Bromofluorobenzene	0.0309	0.0300	103	80-120	

Lab Batch #: 948194

Sample: 491109-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/14/14 14:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0286	0.0300	95	80-120	
4-Bromofluorobenzene	0.0324	0.0300	108	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948394

Sample: 491109-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 13:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 948394

Sample: 491109-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 13:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0280	0.0300	93	80-120	
4-Bromofluorobenzene	0.0304	0.0300	101	80-120	

Lab Batch #: 948394

Sample: 491109-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 14:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 948394

Sample: 491109-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 14:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0274	0.0300	91	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

Lab Batch #: 948394

Sample: 491109-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 14:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0295	0.0300	98	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948394

Sample: 491109-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 15:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0255	0.0300	85	80-120	
4-Bromofluorobenzene	0.0303	0.0300	101	80-120	

Lab Batch #: 948074

Sample: 659934-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 10:49

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	57.6	50.0	115	70-135	

Lab Batch #: 948125

Sample: 659993-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 15:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	55.4	50.0	111	70-135	

Lab Batch #: 948194

Sample: 660025-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 18:00

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0274	0.0300	91	80-120	

Lab Batch #: 948394

Sample: 660143-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/17/14 05:39

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0263	0.0300	88	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948074

Sample: 659934-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 11:17

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	64.7	50.0	129	70-135	

Lab Batch #: 948125

Sample: 659993-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 15:41

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	120	100	120	70-135	
o-Terphenyl	64.1	50.0	128	70-135	

Lab Batch #: 948194

Sample: 660025-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 18:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0289	0.0300	96	80-120	
4-Bromofluorobenzene	0.0300	0.0300	100	80-120	

Lab Batch #: 948394

Sample: 660143-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/17/14 05:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 948074

Sample: 659934-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 12:08

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	63.1	50.0	126	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948125

Sample: 659993-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 16:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	64.3	50.0	129	70-135	

Lab Batch #: 948194

Sample: 660025-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/13/14 18:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0293	0.0300	98	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 948394

Sample: 660143-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/17/14 06:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0285	0.0300	95	80-120	

Lab Batch #: 948074

Sample: 490975-004 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 15:05

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.8	118	70-135	
o-Terphenyl	62.6	49.9	125	70-135	

Lab Batch #: 948125

Sample: 491118-003 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 17:47

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.9	106	70-135	
o-Terphenyl	55.5	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 491109,

Project ID: 086361

Lab Batch #: 948394

Sample: 490901-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 06:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0315	0.0300	105	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 948074

Sample: 490975-004 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 15:34

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	99.9	130	70-135	
o-Terphenyl	62.1	50.0	124	70-135	

Lab Batch #: 948125

Sample: 491118-003 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/13/14 18:11

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	60.1	49.9	120	70-135	

Lab Batch #: 948394

Sample: 490901-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/17/14 06:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0311	0.0300	104	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: RJU South

Work Order #: 491109

Project ID: 086361

Analyst: ARM

Date Prepared: 08/13/2014

Date Analyzed: 08/13/2014

Lab Batch ID: 948194

Sample: 660025-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00500	0.500	0.481	96	0.500	0.501	100	4	70-130	35	
Toluene	<0.0100	0.500	0.500	100	0.500	0.515	103	3	70-130	35	
Ethylbenzene	<0.00500	0.500	0.516	103	0.500	0.529	106	2	71-129	35	
m,p-Xylenes	<0.0100	1.00	1.05	105	1.00	1.07	107	2	70-135	35	
o-Xylene	<0.00500	0.500	0.498	100	0.500	0.511	102	3	71-133	35	

Analyst: ARM

Date Prepared: 08/16/2014

Date Analyzed: 08/17/2014

Lab Batch ID: 948394

Sample: 660143-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00100	0.100	0.104	104	0.100	0.106	106	2	70-130	35	
Toluene	<0.00200	0.100	0.102	102	0.100	0.105	105	3	70-130	35	
Ethylbenzene	<0.00100	0.100	0.107	107	0.100	0.111	111	4	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.209	105	0.200	0.219	110	5	70-135	35	
o-Xylene	<0.00100	0.100	0.101	101	0.100	0.105	105	4	71-133	35	

Relative Percent Difference RPD = 200*(C-F)/(C+F)

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



BS / BSD Recoveries



Project Name: RJU South

Work Order #: 491109

Project ID: 086361

Analyst: ARM

Date Prepared: 08/13/2014

Date Analyzed: 08/13/2014

Lab Batch ID: 948074

Sample: 659934-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	875	88	1000	1100	110	23	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1080	108	1000	1230	123	13	70-135	35	

Analyst: ARM

Date Prepared: 08/13/2014

Date Analyzed: 08/13/2014

Lab Batch ID: 948125

Sample: 659993-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	1030	103	1000	963	96	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1120	112	1000	1140	114	2	70-135	35	

Relative Percent Difference RPD = 200*(C-F)/(C+F)

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



Form 3 - MS / MSD Recoveries



Project Name: RJU South

Work Order #: 491109
Lab Batch ID: 948394
Date Analyzed: 08/17/2014
Reporting Units: mg/kg

Project ID: 086361
QC- Sample ID: 490901-001 S
Date Prepared: 08/16/2014
Batch #: 1 Matrix: Soil
Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00103	0.103	0.104	101	0.102	0.0999	98	4	70-130	35	
Toluene	<0.00205	0.103	0.103	100	0.102	0.0974	95	6	70-130	35	
Ethylbenzene	<0.00103	0.103	0.108	105	0.102	0.102	100	6	71-129	35	
m,p-Xylenes	<0.00205	0.205	0.212	103	0.205	0.199	97	6	70-135	35	
o-Xylene	<0.00103	0.103	0.102	99	0.102	0.0965	95	6	71-133	35	

Lab Batch ID: 948074
Date Analyzed: 08/13/2014
Reporting Units: mg/kg

QC- Sample ID: 490975-004 S
Date Prepared: 08/13/2014
Batch #: 1 Matrix: Soil
Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<20.8	1380	1320	96	1390	1400	101	6	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<20.8	1380	1470	107	1390	1590	114	8	70-135	35	

Lab Batch ID: 948125
Date Analyzed: 08/13/2014
Reporting Units: mg/kg

QC- Sample ID: 491118-003 S
Date Prepared: 08/13/2014
Batch #: 1 Matrix: Soil
Analyst: ARM

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<15.8	1050	944	90	1050	1010	96	7	70-135	35	
C12-C28 Diesel Range Hydrocarbons	27.1	1050	1050	97	1050	1110	103	6	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: RJU South

Work Order #: 491109

Lab Batch #: 948003

Project ID: 086361

Date Analyzed: 08/12/2014 17:00

Date Prepared: 08/12/2014

Analyst: WRU

QC- Sample ID: 491109-005 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	6.58	6.26	5	20	

Lab Batch #: 948003

Date Analyzed: 08/12/2014 17:00

Date Prepared: 08/12/2014

Analyst: WRU

QC- Sample ID: 491265-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	4.10	3.61	13	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit



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Page 2 of 2

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Xenco Quote #

Xenco Job #

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

CP1109

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes	
Company Name / Branch: CRA		Project Name/Number: 086361-RSU South													
Company Address:		Project Location: Loce Hills NM													
Email: AKnowles@CRAWorld.com		Invoice To:													
Phone No:		PO Number: See SSOW													
Project Contact: Nathan Knowles															
Sampler's Name: Nathan Knowles															
No.	Field ID / Point of Collection	Sample Depth	Time	Date	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Field Comments
1	DS# 11-6'	6'	14:50	8/7	SO	1									TPH ✓
2	DS# 12-8'	8'	14:50	8/7	SO	1									BTEX ✓
3	DS# 13-8'	8'	14:55	8/7	SO	1									See SSOW for methods
4															
5															
6															
7															
8															
9															
10															

Turnaround Time (Business days) _____ Data Deliverable Information _____ Notes: _____

Same Day TAT 5 Day TAT Level II Std QC Level IV (Full Data Pkg /raw data)
 Next Day EMERGENCY 7 Day TAT Level III Std QC+ Forms TRRP Level IV
 2 Day EMERGENCY Contract TAT Level 3 (CLP Forms) UST / RG -411
 3 Day EMERGENCY TRRP Checklist

TAT Starts Day received by Lab, if received by 3:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
<i>Walt R</i>	<i>8/8 11:10</i>	<i>Walt R</i>	<i>8/8 11:10</i>												

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Conestoga Rovers & Associates
Date/ Time Received: 08/08/2014 11:10:00 AM
Work Order #: 491109

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	Yes
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	No
#21 <2 for all samples preserved with HNO3,HCL, H2SO4?	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: _____ PH Device/Lot#: _____

Checklist completed by: *Kelsey Brooks*
 Kelsey Brooks

Date: 08/08/2014

Checklist reviewed by: _____

Date: _____

Analytical Report 495738

for

Conestoga Rovers & Associates

Project Manager: Nathan Knowles

RJU South

086361

28-OCT-14

Collected By: Client



12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-14-18), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
New Jersey (TX007), North Carolina(681), Oklahoma (9218), Pennsylvania (68-03610)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD (L10-135)
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



28-OCT-14

Project Manager: **Nathan Knowles**
Conestoga Rovers & Associates
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **495738**
RJU South
Project Address: Loco Hills, NM

Nathan Knowles:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 495738. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 495738 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Kelsey Brooks

Project Manager

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Sample Cross Reference 495738



Conestoga Rovers & Associates, Midland, TX

RJU South

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS1-102214	S	10-22-14 11:22	- 8.5 ft	495738-001
CS2-102214	S	10-22-14 11:04	- 8 ft	495738-002
CS3-102214	S	10-22-14 11:24	- 8.5 ft	495738-003
CS4-102214	S	10-22-14 10:55	- 12 ft	495738-004
CS5-102214	S	10-22-14 10:50	- 12 ft	495738-005
CS6-102214	S	10-22-14 11:08	- 4 ft	495738-006
CS7-102214	S	10-22-14 11:10	- 4 ft	495738-007
CS8-102214	S	10-22-14 11:12	- 9 ft	495738-008
CS9-102214	S	10-22-14 11:14	- 6 ft	495738-009
CS10-102214	S	10-22-14 11:16	- 6 ft	495738-010
CS11-102214	S	10-22-14 11:18	- 9 ft	495738-011
CS12-102214	S	10-22-14 11:20	- 10 ft	495738-012
CS13-102214	S	10-22-14 11:22	- 10 ft	495738-013



CASE NARRATIVE



Client Name: Conestoga Rovers & Associates

Project Name: RJU South

Project ID: 086361
Work Order Number(s): 495738

Report Date: 28-OCT-14
Date Received: 10/22/2014

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analysis Summary 495738

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Wed Oct-22-14 04:50 pm

Report Date: 28-OCT-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	495738-001	495738-002	495738-003	495738-004	495738-005	495738-006
	<i>Field Id:</i>	CS1-102214	CS2-102214	CS3-102214	CS4-102214	CS5-102214	CS6-102214
	<i>Depth:</i>	8.5 ft	8 ft	8.5 ft	12 ft	12 ft	4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Oct-22-14 11:22	Oct-22-14 11:04	Oct-22-14 11:24	Oct-22-14 10:55	Oct-22-14 10:50	Oct-22-14 11:08
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-23-14 15:00					
	<i>Analyzed:</i>	Oct-23-14 19:52	Oct-24-14 08:33	Oct-23-14 23:22	Oct-24-14 10:11	Oct-23-14 20:24	Oct-23-14 20:40
	<i>Units/RL:</i>	mg/kg RL					
Benzene		ND 0.00106	ND 0.00124	ND 0.00116	ND 0.0125	ND 0.00127	ND 0.00119
Toluene		ND 0.00213	ND 0.00247	ND 0.00233	0.0449 0.0250	ND 0.00253	ND 0.00238
Ethylbenzene		0.0103 0.00106	ND 0.00124	ND 0.00116	1.65 0.0125	0.00413 0.00127	ND 0.00119
m,p-Xylenes		0.287 0.00213	ND 0.00247	0.0799 0.00233	1.69 0.0250	0.0553 0.00253	ND 0.00238
o-Xylene		0.211 0.00106	ND 0.00124	0.0762 0.00116	0.658 0.0125	0.0438 0.00127	ND 0.00119
Total Xylenes		0.498 0.00106	ND 0.00124	0.156 0.00116	2.35 0.0125	0.0991 0.00127	ND 0.00119
Total BTEX		0.508 0.00106	ND 0.00124	0.156 0.00116	4.04 0.0125	0.103 0.00127	ND 0.00119
Percent Moisture	<i>Extracted:</i>	Oct-23-14 16:50					
	<i>Analyzed:</i>	Oct-23-14 16:50					
	<i>Units/RL:</i>	% RL					
Percent Moisture		6.32 1.00	19.5 1.00	14.1 1.00	20.8 1.00	21.5 1.00	16.4 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-23-14 16:00					
	<i>Analyzed:</i>	Oct-24-14 13:53	Oct-24-14 14:42	Oct-24-14 15:55	Oct-24-14 16:19	Oct-24-14 16:43	Oct-24-14 17:06
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		68.7 16.0	ND 18.6	353 17.4	130 18.9	45.7 19.1	ND 17.9
C12-C28 Diesel Range Hydrocarbons		189 16.0	ND 18.6	3120 17.4	259 18.9	112 19.1	299 17.9
C28-C35 Oil Range Hydrocarbons		ND 16.0	ND 18.6	192 17.4	ND 18.9	ND 19.1	ND 17.9
Total TPH		258 16.0	ND 18.6	3670 17.4	389 18.9	158 19.1	299 17.9

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 495738

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Wed Oct-22-14 04:50 pm

Report Date: 28-OCT-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	495738-007	495738-008	495738-009	495738-010	495738-011	495738-012
	<i>Field Id:</i>	CS7-102214	CS8-102214	CS9-102214	CS10-102214	CS11-102214	CS12-102214
	<i>Depth:</i>	4 ft	9 ft	6 ft	6 ft	9 ft	10 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
<i>Sampled:</i>	Oct-22-14 11:10	Oct-22-14 11:12	Oct-22-14 11:14	Oct-22-14 11:16	Oct-22-14 11:18	Oct-22-14 11:20	
BTEX by EPA 8021B	<i>Extracted:</i>	Oct-23-14 15:00					
	<i>Analyzed:</i>	Oct-24-14 09:54	Oct-24-14 12:04	Oct-24-14 08:50	Oct-24-14 09:06	Oct-23-14 23:06	Oct-24-14 09:22
	<i>Units/RL:</i>	mg/kg RL					
Benzene		ND 0.00113	ND 0.0569	ND 0.00122	ND 0.00106	ND 0.00110	ND 0.00111
Toluene		ND 0.00225	ND 0.114	ND 0.00244	ND 0.00211	ND 0.00220	ND 0.00221
Ethylbenzene		ND 0.00113	0.777 0.0569	ND 0.00122	ND 0.00106	ND 0.00110	ND 0.00111
m,p-Xylenes		ND 0.00225	11.6 0.114	ND 0.00244	ND 0.00211	ND 0.00220	ND 0.00221
o-Xylene		ND 0.00113	5.08 0.0569	ND 0.00122	ND 0.00106	ND 0.00110	ND 0.00111
Total Xylenes		ND 0.00113	16.7 0.0569	ND 0.00122	ND 0.00106	ND 0.00110	ND 0.00111
Total BTEX		ND 0.00113	17.5 0.0569	ND 0.00122	ND 0.00106	ND 0.00110	ND 0.00111
Percent Moisture	<i>Extracted:</i>	Oct-23-14 16:50					
	<i>Analyzed:</i>	Oct-23-14 16:50					
	<i>Units/RL:</i>	% RL					
Percent Moisture		11.7 1.00	12.4 1.00	18.1 1.00	5.80 1.00	9.52 1.00	9.93 1.00
TPH By SW8015 Mod	<i>Extracted:</i>	Oct-23-14 16:00					
	<i>Analyzed:</i>	Oct-24-14 17:30	Oct-24-14 17:56	Oct-24-14 18:19	Oct-24-14 19:43	Oct-24-14 20:16	Oct-24-14 20:51
	<i>Units/RL:</i>	mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons		ND 16.9	783 17.1	ND 18.3	ND 15.9	ND 16.5	ND 16.6
C12-C28 Diesel Range Hydrocarbons		667 16.9	2550 17.1	76.5 18.3	50.6 15.9	566 16.5	53.9 16.6
C28-C35 Oil Range Hydrocarbons		34.6 16.9	119 17.1	ND 18.3	ND 15.9	49.8 16.5	ND 16.6
Total TPH		702 16.9	3450 17.1	76.5 18.3	50.6 15.9	616 16.5	53.9 16.6

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 495738

Conestoga Rovers & Associates, Midland, TX



Project Id: 086361

Contact: Nathan Knowles

Project Name: RJU South

Date Received in Lab: Wed Oct-22-14 04:50 pm

Report Date: 28-OCT-14

Project Location: Loco Hills, NM

Project Manager: Kelsey Brooks

Analysis Requested	Lab Id:	495738-013					
	Field Id:	CS13-102214					
	Depth:	10 ft					
	Matrix:	SOIL					
	Sampled:	Oct-22-14 11:22					
BTEX by EPA 8021B	Extracted:	Oct-23-14 15:00					
	Analyzed:	Oct-24-14 09:38					
	Units/RL:	mg/kg RL					
	Benzene	ND 0.00113					
Toluene	ND 0.00227						
Ethylbenzene	ND 0.00113						
m,p-Xylenes	ND 0.00227						
o-Xylene	ND 0.00113						
Total Xylenes	ND 0.00113						
Total BTEX	ND 0.00113						
Percent Moisture	Extracted:						
	Analyzed:	Oct-23-14 16:50					
	Units/RL:	% RL					
Percent Moisture	12.5 1.00						
TPH By SW8015 Mod	Extracted:	Oct-23-14 16:00					
	Analyzed:	Oct-24-14 21:28					
	Units/RL:	mg/kg RL					
	C6-C12 Gasoline Range Hydrocarbons	ND 17.1					
C12-C28 Diesel Range Hydrocarbons	55.6 17.1						
C28-C35 Oil Range Hydrocarbons	ND 17.1						
Total TPH	55.6 17.1						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Kelsey Brooks
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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12600 West I-20 East, Odessa, TX 79765	(813) 620-2000	(813) 620-2033
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3725 E. Atlanta Ave, Phoenix, AZ 85040	(770) 449-8800	(770) 449-5477
	(602) 437-0330	



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953772

Sample: 495738-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 19:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 953772

Sample: 495738-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 20:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0284	0.0300	95	80-120	
4-Bromofluorobenzene	0.0301	0.0300	100	80-120	

Lab Batch #: 953772

Sample: 495738-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 20:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0299	0.0300	100	80-120	
4-Bromofluorobenzene	0.0291	0.0300	97	80-120	

Lab Batch #: 953772

Sample: 495738-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 23:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0258	0.0300	86	80-120	

Lab Batch #: 953772

Sample: 495738-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 23:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	80-120	
4-Bromofluorobenzene	0.0279	0.0300	93	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953772

Sample: 495738-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 08:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0296	0.0300	99	80-120	
4-Bromofluorobenzene	0.0289	0.0300	96	80-120	

Lab Batch #: 953772

Sample: 495738-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 08:50

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0322	0.0300	107	80-120	
4-Bromofluorobenzene	0.0294	0.0300	98	80-120	

Lab Batch #: 953772

Sample: 495738-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 09:06

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0328	0.0300	109	80-120	
4-Bromofluorobenzene	0.0297	0.0300	99	80-120	

Lab Batch #: 953772

Sample: 495738-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 09:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0299	0.0300	100	80-120	

Lab Batch #: 953772

Sample: 495738-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 09:38

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0318	0.0300	106	80-120	
4-Bromofluorobenzene	0.0308	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953772

Sample: 495738-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 09:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0294	0.0300	98	80-120	
4-Bromofluorobenzene	0.0283	0.0300	94	80-120	

Lab Batch #: 953772

Sample: 495738-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 10:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0243	0.0300	81	80-120	
4-Bromofluorobenzene	0.0334	0.0300	111	80-120	

Lab Batch #: 953772

Sample: 495738-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 12:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0281	0.0300	94	80-120	

Lab Batch #: 953910

Sample: 495738-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 13:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.5	99.7	99	70-135	
o-Terphenyl	52.1	49.9	104	70-135	

Lab Batch #: 953910

Sample: 495738-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 14:42

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.9	99.8	98	70-135	
o-Terphenyl	53.4	49.9	107	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953910

Sample: 495738-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 15:55

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.6	109	70-135	
o-Terphenyl	48.6	49.8	98	70-135	

Lab Batch #: 953910

Sample: 495738-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 16:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.9	110	70-135	
o-Terphenyl	58.6	50.0	117	70-135	

Lab Batch #: 953910

Sample: 495738-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 16:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	54.1	50.0	108	70-135	

Lab Batch #: 953910

Sample: 495738-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 17:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.6	101	70-135	
o-Terphenyl	57.0	49.8	114	70-135	

Lab Batch #: 953910

Sample: 495738-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 17:30

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.7	106	70-135	
o-Terphenyl	62.0	49.9	124	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953910

Sample: 495738-008 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 17:56

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	47.3	49.9	95	70-135	

Lab Batch #: 953910

Sample: 495738-009 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 18:19

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.9	100	70-135	
o-Terphenyl	54.8	50.0	110	70-135	

Lab Batch #: 953910

Sample: 495738-010 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 19:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	99.8	93	70-135	
o-Terphenyl	48.5	49.9	97	70-135	

Lab Batch #: 953910

Sample: 495738-011 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 20:16

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	79.7	99.8	80	70-135	
o-Terphenyl	43.8	49.9	88	70-135	

Lab Batch #: 953910

Sample: 495738-012 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 20:51

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.9	99.8	75	70-135	
o-Terphenyl	38.2	49.9	77	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953910

Sample: 495738-013 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 21:28

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	74.8	99.7	75	70-135	
o-Terphenyl	37.7	49.9	76	70-135	

Lab Batch #: 953772

Sample: 663448-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/23/14 17:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0269	0.0300	90	80-120	

Lab Batch #: 953910

Sample: 663507-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/24/14 12:13

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 953772

Sample: 663448-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/23/14 17:58

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0312	0.0300	104	80-120	
4-Bromofluorobenzene	0.0293	0.0300	98	80-120	

Lab Batch #: 953910

Sample: 663507-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/24/14 12:38

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	37.3	50.0	75	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



Form 2 - Surrogate Recoveries

Project Name: RJU South

Work Orders : 495738,

Project ID: 086361

Lab Batch #: 953772

Sample: 663448-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/23/14 18:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0314	0.0300	105	80-120	
4-Bromofluorobenzene	0.0287	0.0300	96	80-120	

Lab Batch #: 953910

Sample: 663507-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 10/24/14 13:03

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	100	109	70-135	
o-Terphenyl	37.4	50.0	75	70-135	

Lab Batch #: 953772

Sample: 495738-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/23/14 18:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0344	0.0300	115	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

Lab Batch #: 953910

Sample: 495738-002 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 15:07

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	119	99.7	119	70-135	
o-Terphenyl	63.1	49.9	126	70-135	

Lab Batch #: 953910

Sample: 495738-002 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 10/24/14 15:31

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	99.8	114	70-135	
o-Terphenyl	63.2	49.9	127	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.



BS / BSD Recoveries



Project Name: RJU South

Work Order #: 495738

Project ID: 086361

Analyst: ARM

Date Prepared: 10/23/2014

Date Analyzed: 10/23/2014

Lab Batch ID: 953772

Sample: 663448-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
Benzene	<0.00100	0.100	0.0901	90	0.100	0.0895	90	1	70-130	35	
Toluene	<0.00200	0.100	0.0958	96	0.100	0.0953	95	1	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0988	99	0.100	0.0985	99	0	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.203	102	0.200	0.202	101	0	70-135	35	
o-Xylene	<0.00100	0.100	0.0955	96	0.100	0.0942	94	1	71-133	35	

Analyst: ARM

Date Prepared: 10/23/2014

Date Analyzed: 10/24/2014

Lab Batch ID: 953910

Sample: 663507-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Analytes											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	909	91	1000	916	92	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1090	109	1000	1090	109	0	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Blank Spike Recovery [D] = 100*(C)/[B]

Blank Spike Duplicate Recovery [G] = 100*(F)/[E]

All results are based on MDL and Validated for QC Purposes



Form 3 - MS Recoveries

Project Name: RJU South



Work Order #: 495738

Lab Batch #: 953772

Date Analyzed: 10/23/2014

QC- Sample ID: 495738-002 S

Reporting Units: mg/kg

Date Prepared: 10/23/2014

Batch #: 1

Project ID: 086361

Analyst: ARM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00124	0.124	0.0966	78	70-130	
Toluene	<0.00248	0.124	0.103	83	70-130	
Ethylbenzene	<0.00124	0.124	0.105	85	71-129	
m,p-Xylenes	<0.00248	0.248	0.222	90	70-135	
o-Xylene	<0.00124	0.124	0.107	86	71-133	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Relative Percent Difference [E] = 200*(C-A)/(C+B)

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



Form 3 - MS / MSD Recoveries



Project Name: RJU South

Work Order # : 495738

Project ID: 086361

Lab Batch ID: 953910

QC- Sample ID: 495738-002 S

Batch #: 1 **Matrix:** Soil

Date Analyzed: 10/24/2014

Date Prepared: 10/23/2014

Analyst: ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C12 Gasoline Range Hydrocarbons	<18.6	1240	1090	88	1240	1100	89	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<18.6	1240	1260	102	1240	1290	104	2	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*((C-F)/(C+F))

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Sample Duplicate Recovery

Project Name: RJU South

Work Order #: 495738

Lab Batch #: 953737

Project ID: 086361

Date Analyzed: 10/23/2014 16:50

Date Prepared: 10/23/2014

Analyst: WRU

QC- Sample ID: 495738-004 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	20.8	20.6	1	20	

Lab Batch #: 953737

Date Analyzed: 10/23/2014 16:50

Date Prepared: 10/23/2014

Analyst: WRU

QC- Sample ID: 495750-001 D

Batch #: 1

Matrix: Soil

Reporting Units: %

SAMPLE / SAMPLE DUPLICATE RECOVERY					
Percent Moisture	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Analyte					
Percent Moisture	8.71	8.53	2	20	

Spike Relative Difference RPD $200 * |(B-A)/(B+A)|$
 All Results are based on MDL and validated for QC purposes.
 BRL - Below Reporting Limit



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 Dallas, Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

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Odessa, Texas (432-562-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

CHAIN OF CUSTODY

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Handwritten signature

Client / Reporting Information

Company Name / Branch: **GRA** Project Name/Number: **080321 R50 Sunk**

Company Address: **Midland TX** Project Location: **Leeco Hills NM**

Email: **AKnowles@ccr.com** Phone No: **432-571-0004** Invoice To: **Leeco Hills NM**

Project Contact: **Nathan Knowles** PO Number:

Sampler's Name: **Nathan Knowles**

No.	Field ID / Point of Collection	Collection	Matrix	# of bottles	HCI	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information	Matrix Codes
1	CS1-102214	8.5' 10/22	S	1									BTEX IPH	
2	CS2-102214	8.5' 11/01	S	1										
3	CS3-102214	8.5' 11/24	S	1										
4	CS4-102214	12' 10:55	S	1										
5	CS5-102214	12' 10:50	S	1										
6	CS6-102214	4' 11:08	S	1										
7	CS7-102214	4' 11:10	S	1										
8	CS8-102214	9' 11:12	S	1										
9	CS9-102214	6' 11:14	S	1										
10	CS10-102214	4' 11:16	S	1										

Turnaround Time (Business days): **5** Data Deliverable Information: **Level II Std QC**

Same Day TAT 5 Day TAT Level II Std QC Level IV (Full Data Pkg /raw data)

Next Day EMERGENCY 7 Day TAT Level III Std QC+ Forms TRRP Level IV

2 Day EMERGENCY Contract TAT Level 3 (CLP Forms) UST/RG-411

3 Day EMERGENCY TRRP Checklist

TAT Starts Day received by Lab, if received by 3:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: **Nathan Knowles** Date Time: **10/22/14 4:50** Received By: **Nathan Knowles**

Relinquished by: **Nathan Knowles** Date Time: **10/22/14 4:50** Received By: **Nathan Knowles**

Relinquished by: **Nathan Knowles** Date Time: **10/22/14 10:58** Received By: **Nathan Knowles**

Relinquished by: **Nathan Knowles** Date Time: **10/22/14 10:58** Received By: **Nathan Knowles**

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.



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CHAIN OF CUSTODY

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Odessa, Texas (432-563-1800)
 Norcross, Georgia (770-449-8800)
 Xenco Quote #

Lakeland, Florida (863-646-8526)
 Tampa, Florida (813-620-2000)
 Xenco Job #

415738

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes		
Company Name / Branch: CRA		Project Name/Number: 086361 P50 South														
Company Address: Millerville		Project Location: Loop Hills NM														
Email: Alknows@xenco.com		Invoice To:														
Phone No: 409-537-0004		PO Number:														
Project Contact: Nathan Hyatt																
Sampler's Name: Nathan Hyatt																
No.	Field ID / Point of Collection	Sample Depth	Collection Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Notes	Field Comments
1	CS11-168214	9'	10/22	11:18	S	1										
2	CS12-102214	10'	10/22	11:20	S	1										
3	CS13-102214	10'	10/22	11:22	S	1										
4																
5																
6																
7																
8																
9																
10																

BTEX
TPH

See SSW

Turnaround Time (Business days) Same Day TAT 5 Day TAT 7 Day TAT

Next Day EMERGENCY Contract TAT

2 Day EMERGENCY TRRP Checklist

3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 3:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
1	10/22 4:50	2	10/22 14:50	3		4		5			

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negotiated under a fully executed client contract.



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In



Client: Conestoga Rovers & Associates

Date/ Time Received: 10/22/2014 04:50:00 PM

Work Order #: 495738

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Sample instructions complete on Chain of Custody?	Yes
#9 Any missing/extra samples?	No
#10 Chain of Custody signed when relinquished/ received?	Yes
#11 Chain of Custody agrees with sample label(s)?	Yes
#12 Container label(s) legible and intact?	Yes
#13 Sample matrix/ properties agree with Chain of Custody?	Yes
#14 Samples in proper container/ bottle?	Yes
#15 Samples properly preserved?	Yes
#16 Sample container(s) intact?	Yes
#17 Sufficient sample amount for indicated test(s)?	Yes
#18 All samples received within hold time?	Yes
#19 Subcontract of sample(s)?	No
#20 VOC samples have zero headspace (less than 1/4 inch bubble)?	N/A
#21 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	N/A
#22 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by: 
Kelsey Brooks

Date: 10/22/2014

Checklist reviewed by: 
Kelsey Brooks

Date: 10/23/2014

Appendix E

Waste Manifests

Appendix F

Bureau of Land Management (BLM) Contract

United States Department of the Interior
Bureau of Land Management
 CARLSBAD FIELD OFFICE
 620 E. GREENE
 CARLSBAD, NM 88220 -6292
 Phone: (575) 234-5972

Receipt

No: 3185137

Transaction #: 3278230	
Date of Transaction: 12/08/2014	
CUSTOMER:	
CONESTOGA-ROVERS & ASSOCIATES 2135 S LOOP 250 W MIDLAND, TX 79703-7404 US	

LINE #	QTY	DESCRIPTION	REMARKS	UNIT PRICE	TOTAL
1	900.00	MINERAL MATERIALS / PD MINERAL MATERIAL COMPETITIVE/NONCOMP. SALE / PAYMENT CASES: NMNM 133563/\$720.00 PROJECT: LUGD35015240		- n/a -	720.00
2	1.00	MINERAL MATERIALS / PD MINERAL MATERIAL COMPETITIVE/NONCOMP. SALE / PROCESSING FEE CASES: NMNM 133563/\$46.00 PROJECT: LVEMG15CG410		- n/a -	46.00
TOTAL:					\$766.00

PAYMENT INFORMATION			
NOTE: Items will appear on credit card statement as "Bureau of Land Mgmt CO".			
1	AMOUNT:	766.00	POSTMARKED: N/A
	TYPE:	CREDIT CARD	RECEIVED: 12/08/2014
	NAME:	CONESTOGA-ROVERS & ASSOCIATES 2135 S LOOP 250 W MIDLAND TX 79703-7404 US	
	CARD NO:	XXXXXXXXXXXX8647	AUTH CODE: 03093C
	NAME ON CARD:	NATHAN KNOWLES	
	EXPIRES:	02/2017	
	SIGNATURE:		

REMARKS

Sec. 5. Risk of loss

(a) You assume complete risk of loss for all materials to which you have title. If material covered by this contract is damaged or destroyed before title passes, you are liable for all loss suffered if you or your agents are directly or indirectly responsible for the damages. If you are not responsible for the damage or destruction, you are liable only to the extent that the loss was caused by your failure to remove the material under the terms of this contract. You are still liable for breach of contract or any wrongful or negligent act.

Sec. 6. Liability for damage to materials not sold to you

(a) You are liable for loss or damage to materials not sold to you if you or your agents are directly or indirectly responsible for the damage or loss. You are also liable if you fail to perform under the contract according to BLM's instructions and the United States incurs costs resulting from your breach of any contract term or your failure to use proper conservation practices. If the damage resulted from willful or gross negligence, you are liable for triple the appraised value of the damaged or destroyed materials. If the damage or destruction did not result from willful or gross negligence, you are liable for lesser charges, but not less than the appraised value of the materials.

Sec. 7. Stipulations and reserved terms

(a) Your rights are subject to the regulations at 43 CFR Group 3600 now or hereafter in force and to any stipulations and the mining plan attached to this contract.

BLM will check this box if there are stipulations attached to this contract.

Sec. 8. Notice of operations

(a) You must notify BLM immediately when you begin and end operations under this contract. If BLM has specified a time frame for notification, you must comply with that time frame.

Sec. 9. Assignments

(a) You may not assign this contract without BLM's written approval.

Sec. 10. Modification of the Approved Mining or Reclamation Plan

(a) You or BLM may initiate modification of these plans to adjust for changed conditions, or to correct any oversight. The conditions for BLM requiring you to modify these plans, or approving your request for modification are found in the regulations at 43 CFR 3601.44.

Sec. 11. Expiration of contract Expiration Date: 12/12/2014

(a) This contract will expire _____ months, 14 years, _____ days from its approval date, unless BLM extends the term or renews the contract.

Sec. 12. Extensions of time

(a) BLM may grant you an extension of time in which to comply with contract provisions under the regulations at 43 CFR 3602.27. For contracts with terms over 90 days, you must apply in writing no less than 30 or more than 90 days before your contract expires. For contracts with terms of 90 days or less you must apply no later than 15 days before your contract expires.

Sec. 13. Renewal of renewable competitive contract

(a) BLM will renew your renewable competitive contract if you apply in writing no less than 90 days before your contract expires and you meet the conditions in the regulations at 43 CFR 3602.47

Sec. 14. Time for removing personal property

(a) You have 3 days (not to exceed 90) from the date this contract expires to remove your equipment, improvements, and other personal property from US lands or rights-of-way. You may leave in place improvements such as roads, culverts, and bridges if BLM consents. Any property remaining after this period ends, including extracted materials, becomes the property of the United States. You will remain liable for any costs of removing and disposing of the property and restoring the site.

Sec. 15. Violations and cancellations

(a) If you violate any terms or provisions of this contract, BLM may cancel your contract following the regulations at 43 CFR 3601.60 et seq., and recover all damages suffered by the United States, including applying any advance payments you made under this contract toward the payment of the damages.

(b) If you extract any mineral materials sold under this contract during a suspension period, or after the contract has expired or been canceled, you have committed, and may be charged with, willful trespass.

Sec. 16. Responsibility for damages suffered or costs incurred by the United States

(a) If you, your contractors, subcontractors or employees breach this contract or commit any wrongful or negligent act, you are liable for any resulting damages suffered or costs incurred by the United States. You must pay the United States within 30 days after receiving a written demand from BLM.

Sec. 17. Equal opportunity clause

(a) The actions you take in hiring must comply with the provisions of Executive Order No. 11246 of Sept. 24, 1965, as amended, which describe the nondiscrimination clauses. You may get a copy of this order from BLM.

Sec. 18. Effective date

If this contract becomes effective on the date BLM signs the contract, BLM will check this box.

If this contract becomes effective only after certain conditions are met, BLM will check this box, list the conditions below, and indicate the effective date.

Mineral Destination

Township: T17S Range: R29E Section: 26 Footages: _____ Job Type: environmental

Operator: _____ Well Name: RJU South Number of Vehicles: _____

Job Details --Standard Pit Stipulations attached

--Purchaser must have a copy of this contract present in each vehicle handling minerals when working at pit site

--Borm pit entrance 4' when removal of material is complete

--No Trackhoes allowed in pit

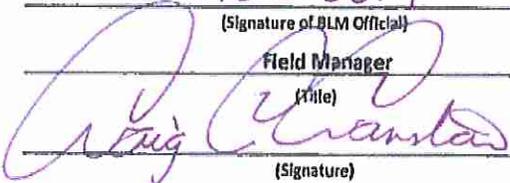
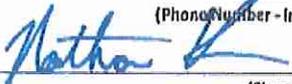
--No pit high walls are to remain in pit or be generated by contractor

--'Dig Safe' clearance required (phone #811)

--Dust control and road protection required, using water during dry periods

Sec. 19. Appeal

(a) You may appeal any decision that BLM makes in regard to this contract under Parts 4 and 1840 of Title 43 of the Code of Federal Regulations.

The following parties have executed this contract as of:		(Contract Date)	<u>11/28/2014</u>
PURCHASER		THE UNITED STATES OF AMERICA	
Conestoga-Rovers & Associates (CRA)		DOI - Bureau of Land Management	
(Individual or Firm Name)		(Print Name of BLM Official)	
<u>2135 S. Loop 250, Midland, TX 79703</u>		<u>12.5.2014</u>	
(Address)		(Signature of BLM Official)	
Phone Number: <u>(432) 686-0086</u> Fax Number:			
(Phone Number - Include area code)		Field Manager	
		(Title)	
(Signature)		(Signature)	

If you are a corporation, affix corporate seal here:

Title 18 U.S.C. 1001, makes it a crime for any person knowingly or willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction, subject to a fine of up to \$10,000 and imprisonment up to 5 years.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 601 et seq.; 43 CFR Group 3600

PRINCIPAL PURPOSE: BLM uses this information to identify the parties entering into contracts for disposing of mineral materials.

ROUTINE USES: BLM will transfer information from the record or the record itself to appropriate Federal, State, local, or foreign agencies, when relevant to criminal, civil, or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If you do not provide this information to BLM, we will not be able to process your application for a contract.

The Paperwork Reduction Act requires us to inform you that:

The BLM is collecting this information to process your application and effect a binding contract.

The BLM will use this information to identify and communicate with applicants.

You must respond to this request to get a benefit.

You do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average about 1 hour per response, including the time for reviewing instructions gathering and maintaining data, and completing and reviewing the form. You may submit comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-D103), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

EXHIBIT A - MINERAL PIT STIPULATIONS

Mining Plan

1. The material pit will be mined according to the mining plan.

(A) Mining will be restricted within the surveyed Archaeological boundaries which are marked by steel T posts or metal rods.

2. The overburden and/or topsoil will be stockpiled along the outer rim of the first cell of a new pit. Following the first mined cell all top soil is to be stockpiled in the bottom of the previously mined out cell to be used to reclaim the pit. NO overburden or top soil shall leave the pit.

3. Damage to the locality will be restricted to the area needed for extraction of the materials. NO excavating without first calling and having New Mexico Dig One field clearance (Call, USA National Cell # 811).

4. Restrict extraction of mineral material to within the surveyed area and active mineral pit cell being harvested (Example: 120' wide by 600' long cell) Metal T-post have been placed along four corners of the mineral material pit to distinguish outer boundaries of the entire mineral pit. If T-posts are missing, for your safety, call the BLM office at (575) 234-5972.

5. All vehicles shall be confined to roads and the designated boundaries of the working areas. In addition Lesser Prairie chicken timing stipulations may be required for construction activities in the area of East Eddy Lea County's starting March 3, active until June 15, from 03:00 to 09:00 Hrs.

6. On leaving a material site, it will be cleaned and dressed. All rubbish and debris will be removed and the site dressed by dragging, blading, or otherwise smoothing the excavated surface.

7. The mineral material site will be maintained so as to diminish injury to people, livestock and wildlife. All open excavations need sloped side walls.

8. The open pit slope shall be graded not less than 3 (three) feet horizontal to 1 (one) foot vertical (3 to 1 slope). Test pit are to be back filled.

9. Extreme care and caution will be given as to the existence of underground cables and pipelines in the locality to be excavated. Any existing structures will not be disturbed or damaged in any way by an excavation within a material site. No soil stockpile or excavation activity is to be within 30 feet of any underground or aboveground utility structure.

(A) New Mexico Call One is a state law that requires a dig clearance for all earth work. Call USA National Cell Phone Number 811 prior to excavation.

(B) Contact pipeline and waterline lease holders in this area prior to digging to determine exact locations of any buried pipe.

(C) Stake off any pipes that are discovered and post signs. Cell # 811

10. The material site access roads will be maintained so as not to cause wear and water erosion. Water bars should be constructed across roads in accordance with Bureau of Land Management (BLM) specifications.

11. Natural drainage systems shall not be blocked. Cuts or fills causing siltation or accumulation of debris in stream channels shall be avoided. Precaution will be taken in staging any spoil piles or material stockpiles to insure that siltation of streams, tanks, and ponds does not occur.

12. This permit may be canceled by the BLM when it is found that the permittee has violated federal law regulations, any clause of the contract, or any of the attached special stipulation. Funds are forfeited by Holder.

General Conditions of Approval

1. The holder shall indemnify the United State against any liability for damage to life or property arising from the occupancy or use of public lands under this authorization.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et, seq.) with regard to any toxic substances that are used, generated by or stored on the pipeline route or on facilities authorized. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1 - 761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et, seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et, seq.) on this pipeline (unless the release or threatened release is wholly unrelated to the holder's activity on the pipeline). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the authorization, any oil or other pollutant should be discharged, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or cleanup such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting therefrom, the Authorized Officer may take such measures as deemed necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any liability or responsibility.

5. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder shall be responsible for the cost of evaluation and any decision as to the proper mitigation measure will be made by the Authorized Officer after consulting with the holder.

6. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes.

7. The holder shall be responsible for weed control on disturbed areas within the limits of the site. The holder is responsible for consultation with the authorized office and/or local authorities for acceptable weed control methods. The mineral material mining site and construction area will be kept free of the following plant species; Malta starthistle, African rue, Scotch thistle, and saltcedar.

8. The holder shall be responsible for maintaining the site in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during mineral removal or site construction and no further construction will be done until clearance has been issued by the Authorized Officer. Special restoration stipulations or realignment may be required."

Mineral Material Sites

1. All design, material, and construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices. Dig One Call required - Cell Phone Number 811

2. The holder shall conduct all activities associated with the construction, operation, and termination of the material pit within the authorized limits.

3. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair impacted improvements to at least their former state. The holder shall contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates shall be allowed unless approved by the Authorized Officers. Close Gates

4. The holder shall be responsible for the actions and operations of any third party users associated with this authorization. All such use shall be subject to the applicable terms, conditions, and stipulations of this authorization. (Example: Dust control required – water the roads.)

5. The road proposed as part of this authorization shall be constructed and maintained in accordance with the BLM standards prescribed for a roads and the New Mexico Roads Policy.(Example: one lane, 14'W x .5'H, turnout)

6. Topsoil material moved in conjunction with clearing and stripping prior to mineral (caliche, gravel, clay) removal, shall be conserved in stockpiles (within the material site). No top soil shall be removed from the mineral pit.

7. Excess excavated, unsuitable, or slide material shall be disposed of as directed by the authorized officer.

8. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of two inches deep, the soil shall be deemed too wet to adequately support construction equipment.

9. Existing permitted roads and trails on public lands that are blocked as the result of the material pit activities shall be rerouted or rebuilt as directed by the authorized officer. No soil is to be stock piled on underground utilities. Holder is responsible for removing stock pile off underground utility.

10. The holder shall recontour the disturbed area and obliterate all earth work by removing embankments, backfilling excavations, and grading to reestablish the approximate original contour of the land as determined by the authorized officer. BLM land shall not storage vehicles or equipment.

11. The BLM will monitor construction on this material pit site. Notify the appropriate Resource Area Office, BLM at least (one) working days prior to commencing excavation at (575) 234-5972. The holder shall have a copy of the authorized mineral material permit including C.O.A's and stipulations at the material pit site prior to and during excavation and removal of mineral material from a federal material pit. Surface disturbance, excavation and removal of mineral material cannot commence until the mineral material permit is physically at the material site. The holder will have the authorized mineral material permit available for inspection by the authorized officer at the material site location. Operations by the holder within a federal material site will cease upon discovery by the Authorized Officer that the authorized mineral material permit is not available for inspection or is not valid due to permit volume or date expiration.

HYDROGEN SULFIDE (H2S) PRODUCTIVE AREA STIPULATIONS:

1. Hydrogen Sulfide Training All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing excavation or removal of mineral from the material site:

(A) The hazards and characteristics of hydrogen sulfide (H2S).

(B) The proper use and maintenance of personal protective equipment and life support systems.

(C) The proper use of H2S detectors, alarms, warning systems, briefing areas, evacuations procedures, and prevailing winds.

(D) The proper techniques for first aid and rescue procedures.

2. EMERGENCY EQUIPMENT REQUIREMENTS

(A) SIGNS- One sign located at the mineral material pit entrance with the following language:

CAUTION – POTENTIAL POISON GAS

HYDROGEN SULFIDE (H2S)

NO ADMITTANCE WITHOUT AUTHORIZATION

(B) WINDSOCK – WINDSTREAMERS- One windsack or streamer which is 36" (in length) located at the pit entrance and at a height visible from the pit area.

(C) HYDROGEN SULFIDE DETECTOR AND ALARMS A. H2S detectors or monitors with alarm will be used by all personal located within the mineral material site.

BLM personal evacuate at 10ppb H2S, and notify BLM office.

(D) CONDITION FLAGS A. One each of green, yellow, and red condition flags to be displayed to denote conditions.

GREEN – NORMAL CONDITIONS

YELLOW – POTENTIAL DANGER

RED – DANGER, H2S PRESENT

3. MINERAL MATERIAL EXCAVATION AND REMOVAL WILL CEASE AND THE AREA WILL BE EVACUATED WHEN H2S CONDITIONS ARE IDENTIFIED.

Pipeline Safety Act of 2006 and
U.S. Code: Title 49

Release date March 17, 2005

Sec. 60123. Criminal penalties

(A) General Penalty

A person knowingly and willfully violating section 60114(c), 60116(a), or 60128 of this Title or a regulation prescribed or order issued under this chapter shall be fined under Title 18, imprisoned for not more than 5 years, or both.

(B) Penalty for Damaging or Destroying Facility

A person knowingly and willfully damaging or destroying an interstate gas pipeline facility or interstate hazardous liquid pipeline facility, or attempting or conspiring to do such an act, shall be fined under Title 18, imprisoned for not more than 20 years, or both, and, if death results to any person, shall be imprisoned for any term of years or for life.

(C) Penalty for Damaging or Destroying Sign

A person knowingly and willfully defacing, damaging, removing, or destroying a pipeline sign or right-of-way marker required by a law or regulation of the United States shall be fined under Title 18, imprisoned for not more than 1 year, or both.

(D) Penalty for Not Using One-Call Call # 811 Notification System or Not Heeding Location Information or OSHA required utility Marking

A person shall be fined under Title 18, imprisoned for not more than 5 years, or both, if the person knowingly and willfully –

(1) engages in an excavation activity –

(A) without first using an available one-call notification system to establish the location of underground facilities in the excavation area; or

(B) without paying attention to appropriate location information or markings the operator of a pipeline facility establishes; and

(2) subsequently damages –

(A) a pipeline facility that results in death, serious bodily harm, or actual damage to property of more than \$50,000;

(B) a pipeline facility that does not report the damage promptly to the operator of the pipeline facility and to other appropriate authorities; or

(C) a hazardous liquid pipeline facility that results in the release of more than 50 barrels of product.

