RECEIVED
By Kellie Jones at 2:50 pm, Oct 13, 2015

APPROVED CONDITIONAL
By Kellie Jones at 2:50 pm, Oct 13, 2015

1. Ensure BLM approval/concurrence.

October 12, 2015 Reference No. 088210-14

Ms. Kellie Jones
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
1625 N. French Dr.
Hobbs, New Mexico 88240

Ms. Shelly Tucker
Environmental Protection Specialist
Bureau of Land Management
620 E. Greene St
Carlsbad, NM 88220

Dear Ms. Jones and Ms. Tucker:

Re: Revised Work Plan
Falcon Federal 25 #2H
RP# 1RP-3686
Unit M, Section 24, Township 24-S, Range 33-E
Latitude: N 32.1820, Longitude: W 103.5312
Lea County, New Mexico

On behalf of EOG Resources, Inc. (EOG), Conestoga-Rovers and Associates (CRA) is pleased to present this work plan to the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management. This work plan represents a modification of a workplan that was previously submitted to the NMOCD. This modification request is being provided based on additional site specific field data that was recently obtained.

1. Project Information

The Falcon Federal 25 #2H site (hereafter referred to as the "Site"), is an active well location situated approximately 20 miles northwest of Jal in Lea County, New Mexico (see Figure 1). It is located in Unit M, Section 24, Township 24 South, Range 33 East. According to EOG personnel, a release of approximately 20 barrels of produced water occurred due to a ruptured seam on a polyethylene flow line. Upon discovery, the line was repaired. No fluids were able to be recovered. A C-141 was submitted to the NMOCD and remediation permit number 1RP-3686 was assigned.

CRA mobilized a field technician to the Site to perform an initial soil sampling event to assess the horizontal and vertical extent of the release. Three soil samples were collected from depths ranging from one to 1.5 feet (ft) below ground surface (bgs). Hand auger refusal was encountered at those depths. Samples were sent to Xenco Laboratories of Odessa, Texas for laboratory analysis of benzene, toluene, ethyl benzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), and

GHD Services Inc.
6121 Indian School Road NE Suite 200 Albuquerque New Mexico 87110 USA
T 505 884 0672 **F** 505 884 4932 **W** www.ghd.com

chloride. Analytical results from these samples ranged from 317 milligrams per Kilogram (mg/Kg) to 3200 mg/Kg (see attached analytical data and Figure 2). Total petroleum hydrocarbon concentrations ranged from below the laboratory reporting limit (LRL) to 87.7 mg/Kg. Concentrations of benzene, toluene, ethylbenzene, and xylene were below the LRL.

Additional soil sampling was performed using a backhoe at the site in October 2015. Two locations were field screened for chloride concentrations and samples were collected at depth. One test pit was excavated approximately 150 feet south of the release area. Field screening from soil samples collected from this test pit indicated that chloride concentrations were below regulatory limits at a depth of 12 ft bgs. A second test pit was excavated near the southern end of the release and indicated chloride concentrations were below regulatory limits at a depth of four ft bgs.

During test pit excavation, a very hard caliche layer was encountered at a depth of approximately two ft bgs. The caliche layer extended to a depth of approximately 4 ft bgs. Based on these new findings, EOG is requesting a modification to the original workplan. The modification will consist of placing a liner above the caliche layer at a depth of approximately two ft bgs. Details for this modification request are below.

2. Scope of Work

The scope of work for this project will involve the excavation of impacted soil accompanied by soil sample analysis. Field screening of soils will be performed to guide excavation activities. Subsequently, the excavation will be backfilled with clean soil, fertilized, and seeded. The following outlines basic project details that will be completed by CRA and EOG subcontractors:

Field Program

The field program will consist of the following:

- The impacted area has been estimated to be approximately 530 feet long with varying widths (see **Figure 2**). Impacted soil in the affected area will be excavated until field screening indicates that the soil is below the RRALs. Impacted soil will be disposed of at the Sundance/Parabo facility, in Eunice, New Mexico;
- Soils will be field screened for organic vapors using a calibrated photoionization detector and the heated headspace method. Soils will be field screened for chloride during excavation by mixing soil samples with de-ionized water. The rinsate will be analyzed using Hach chloride test strips. If field screening indicates that soils are below RRALs, excavation would halt to minimize excavating clean soil;
- A 20 mil polyethylene liner will be placed in the bottom of the excavation. The liner will be placed on top of the caliche, but no less than two feet in depth. Liner seams will be overlapped a minimum of 24 inches. Each liner will be placed without rips or tears; and
- The excavation will be backfilled to grade using clean fill material. The disturbed area will be fertilized and reseeded with a BLM and/or State Land Office-approved seed mix.

Health and Safety Considerations

Personal protective equipment, including fire-retardant clothing, steel-toed work boots, gloves, safety glasses, and hard hats will be required during all field tasks. The project health and safety plan will be maintained on Site and will be reviewed and signed by on Site personnel, subcontractors, and authorized visitors.

Quality Assurance/ Quality Control

Confirmation soil sampling will be completed in accordance with our standard Quality Assurance/ Quality Control procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

Reporting

A short letter report summarizing remediation activities will be submitted. The letter report will include a Site description, project history, description of field events, a discussion of results, and recommendations (if any). The report will include:

- A scaled Site plan showing the locations of the excavation and other Site features;
- Tabulation of field screening and laboratory analytical results;
- Copies of landfill manifests; and
- Geotagged photographic documentation of field activities.

3. Work Plan Approval Request

CRA is prepared to initiate the scope of work immediately. If you have any questions or comments with regards to this work plan, please do not hesitate to contact our Albuquerque office at (505) 884-0672. Your timely response to this correspondence is appreciated.

Sincerely,

GHD

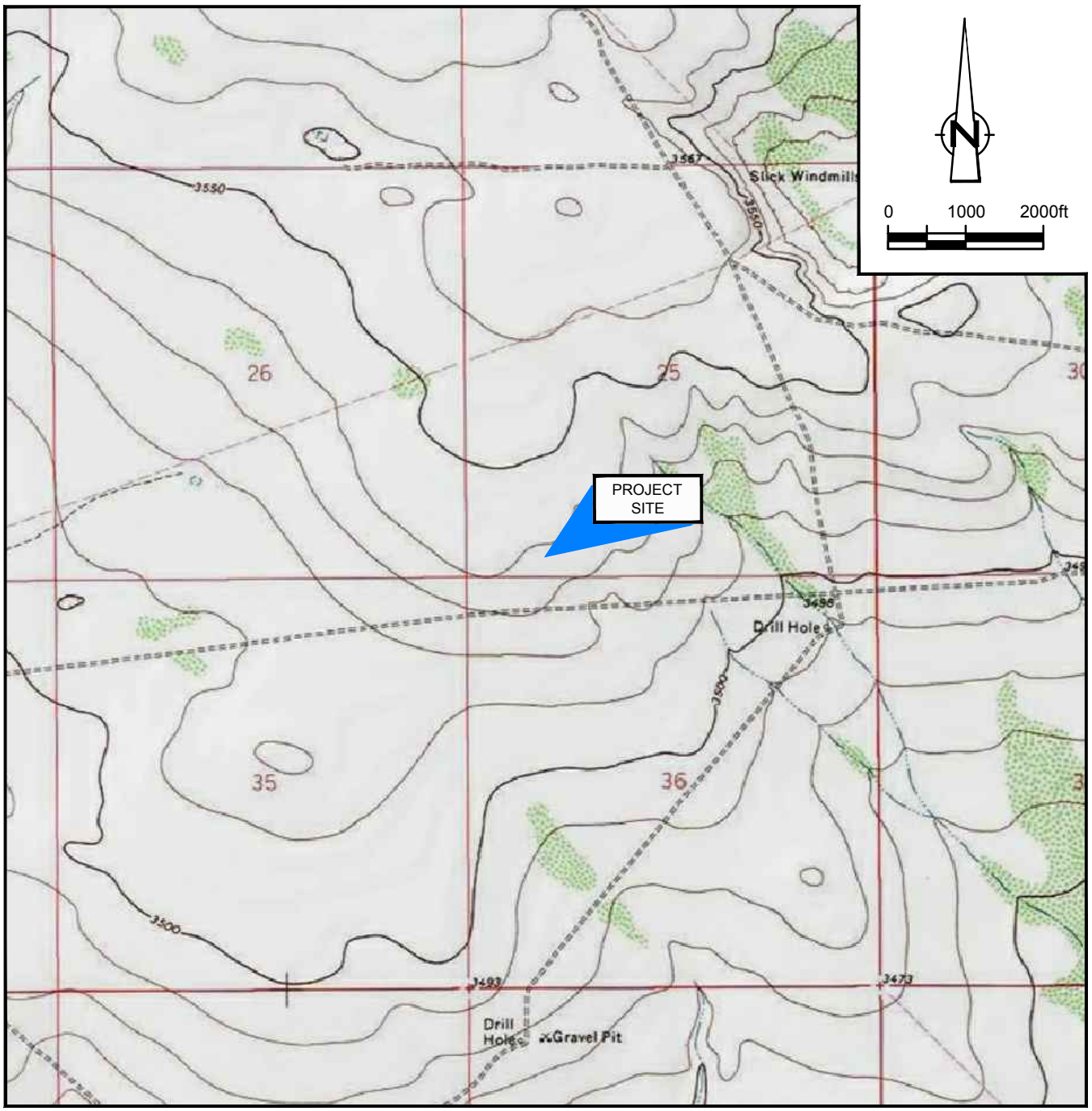
Bernard Bockisch, PMP
Senior Project Manager

BB/mc/1

Encl. (2)

Enclosures:
Figure 1 - Site Location Map
Figure 2 - Site Detail Map

Figures



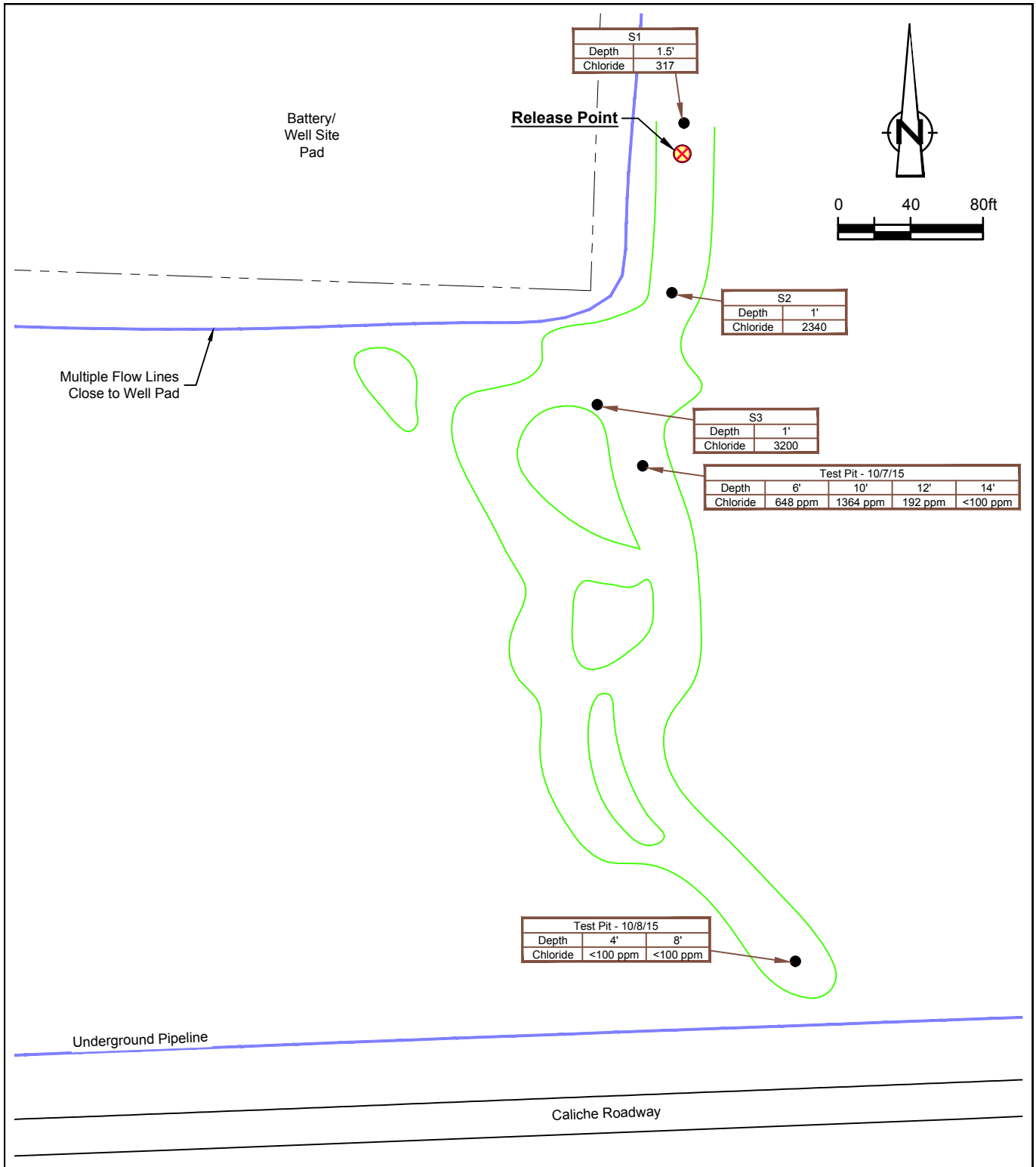
SOURCE: USGS 7.5 MINUTE QUAD
"BELL LAKE, NEW MEXICO"

LAT/LONG: 32.1820° NORTH, 103.5312° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
FALCON FEDERAL 25 #2H
LEA COUNTY, NEW MEXICO
EOG Resources

088210-14(000)GN-DL001 JUN 24/2015



NOTES:

1. Samples S1, S2, and S3 were analyzed by EPA Method 300.0.
2. Samples collected from test pits are field screening data.

LEGEND

- Surface/Test Pit Sample Location
- Release Boundary
- Above Ground Flow Line

Figure 2

SITE DETAILS MAP
FALCON FEDERAL 25 #2H
LEA COUNTY, NEW MEXICO
EOG Resources

Attachment A
Analytical Report

Analytical Report 510179

for

GHD-Albuquerque, NM

Project Manager: Bernie Bockisch

Falcon 25 #2

088210/14

04-AUG-15

Collected By: Client

12600 West I-20 East Odessa, Texas 79765

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

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)

04-AUG-15

Project Manager: **Bernie Bockisch**
GHD-Albuquerque, NM
6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): **510179**
Falcon 25 #2
Project Address: Lea County,NM

Bernie Bockisch:

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) 510179. 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. 510179 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 510179

GHD-Albuquerque, NM, Albuquerque, NM

Falcon 25 #2

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SO-088210-14-062315-SP-01	S	06-23-15 11:56		510179-001
SO-088210-14-062315-SP-02	S	06-23-15 12:26		510179-002
SO-088210-14-062315-SP-03	S	06-23-15 12:40		510179-003

CASE NARRATIVE

Client Name: GHD-Albuquerque, NM
Project Name: Falcon 25 #2

Project ID: *088210/14*
Work Order Number(s): *510179*

Report Date: *04-AUG-15*
Date Received: *06/24/2015*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-971291 BTEX by EPA 8021B
Lab Sample ID 510179-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 510179-001, -002, -003.
The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 510179

GHD-Albuquerque, NM, Albuquerque, NM

Project Name: Falcon 25 #2

Project Id: 088210/14
Contact: Bernie Bockisch
Project Location: Lea County,NM

Date Received in Lab: Wed Jun-24-15 09:45 am
Report Date: 04-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	510179-001		510179-002		510179-003					
	Field Id:	SO-088210-14-062315-SP-05		SO-088210-14-062315-SP-05		SO-088210-14-062315-SP-0					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Jun-23-15 11:56		Jun-23-15 12:26		Jun-23-15 12:40					
BTEX by EPA 8021B	***Extracted:***	Jun-29-15 12:00		Jun-29-15 12:00		Jun-29-15 12:00					
	Analyzed:	Jun-29-15 21:20		Jun-29-15 21:37		Jun-30-15 12:21					
	Units/RL:										
Total Xylenes		ND	0.00108	ND	0.00117	ND	0.00120				
Total BTEX		ND	0.00108	ND	0.00117	ND	0.00120				
BTEX by EPA 8021B	***Extracted:***	Jun-29-15 12:00		Jun-29-15 12:00		Jun-29-15 12:00					
	Analyzed:	Jun-29-15 21:20		Jun-29-15 21:37		Jun-30-15 12:21					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00108	ND	0.00117	ND	0.00120				
Toluene		ND	0.00215	ND	0.00235	ND	0.00241				
Ethylbenzene		ND	0.00108	ND	0.00117	ND	0.00120				
m,p-Xylenes		ND	0.00215	ND	0.00235	ND	0.00241				
o-Xylene		ND	0.00108	ND	0.00117	ND	0.00120				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jun-24-15 17:00		Jun-24-15 17:00		Jun-24-15 17:00					
	Analyzed:	Jun-25-15 18:15		Jun-25-15 18:38		Jun-25-15 19:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		317	21.6	2340	236	3200	482				
Percent Moisture	***Extracted:***										
	Analyzed:	Jun-25-15 17:05		Jun-25-15 17:05		Jun-25-15 17:05					
	Units/RL:	%	RL	%	RL	%	RL				
Percent Moisture		7.50	1.00	15.3	1.00	16.9	1.00				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 510179

GHD-Albuquerque, NM, Albuquerque, NM

Project Name: Falcon 25 #2

Project Id: 088210/14
Contact: Bernie Bockisch
Project Location: Lea County,NM

Date Received in Lab: Wed Jun-24-15 09:45 am
Report Date: 04-AUG-15
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	510179-001		510179-002		510179-003				
	Field Id:	SO-088210-14-062315-SP-05		O-088210-14-062315-SP-05		O-088210-14-062315-SP-0				
	Depth:									
	Matrix:	SOIL		SOIL		SOIL				
	Sampled:	Jun-23-15 11:56		Jun-23-15 12:26		Jun-23-15 12:40				
TPH By SW8015 Mod	***Extracted:***	Jun-26-15 12:00		Jun-26-15 12:00		Jun-26-15 12:00				
	Analyzed:	Jun-26-15 14:06		Jun-26-15 15:16		Jun-26-15 15:40				
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL			
C6-C12 Gasoline Range Hydrocarbons		ND	16.2	ND	17.7	ND	18.1			
C12-C28 Diesel Range Hydrocarbons		ND	16.2	ND	17.7	87.7	18.1			
C28-C35 Oil Range Hydrocarbons		ND	16.2	ND	17.7	ND	18.1			
Total TPH		ND	16.2	ND	17.7	87.7	18.1			

Kelsey Brooks
Project Manager

Flagging Criteria

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

Form 2 - Surrogate Recoveries

Project Name: Falcon 25 #2

Work Orders : 510179,

Project ID: 088210/14

Lab Batch #: 971238 **Sample:** 510179-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/15 14:06

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 971238 **Sample:** 510179-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/15 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	117	100	117	70-135	
o-Terphenyl	54.9	50.0	110	70-135	

Lab Batch #: 971238 **Sample:** 510179-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/15 15:40

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	114	100	114	70-135	
o-Terphenyl	54.6	50.0	109	70-135	

Lab Batch #: 971291 **Sample:** 510179-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/15 21:20

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 971291 **Sample:** 510179-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/15 21:37

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0278	0.0300	93	80-120	
4-Bromofluorobenzene	0.0325	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: Falcon 25 #2

Work Orders : 510179, **Project ID:** 088210/14

Lab Batch #: 971291 **Sample:** 510179-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/30/15 12:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0256	0.0300	85	80-120	
4-Bromofluorobenzene	0.0267	0.0300	89	80-120	

Lab Batch #: 971238 **Sample:** 694488-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/15 12:57

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	51.6	50.0	103	70-135	

Lab Batch #: 971291 **Sample:** 694408-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/15 18:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0268	0.0300	89	80-120	
4-Bromofluorobenzene	0.0314	0.0300	105	80-120	

Lab Batch #: 971238 **Sample:** 694488-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/15 13:20

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	57.8	50.0	116	70-135	

Lab Batch #: 971291 **Sample:** 694408-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/15 18:57

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	0.0349	0.0300	116	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: Falcon 25 #2

Work Orders : 510179, **Project ID:** 088210/14

Lab Batch #: 971238 **Sample:** 694488-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/26/15 13:43

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	100	110	70-135	
o-Terphenyl	59.5	50.0	119	70-135	

Lab Batch #: 971291 **Sample:** 694408-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/15 20:14

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 971238 **Sample:** 510179-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/15 14:29

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.6	105	70-135	
o-Terphenyl	57.3	49.8	115	70-135	

Lab Batch #: 971291 **Sample:** 510179-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/15 20:31

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0339	0.0300	113	80-120	

Lab Batch #: 971238 **Sample:** 510179-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/26/15 14:53

SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	100	106	70-135	
o-Terphenyl	56.9	50.0	114	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: Falcon 25 #2

Work Orders : 510179, **Project ID:** 088210/14

Lab Batch #: 971291 **Sample:** 510179-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/15 20:47

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0282	0.0300	94	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	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: Falcon 25 #2

Work Order #: 510179 **Project ID:** 088210/14

Analyst: ARM **Date Prepared:** 06/29/2015 **Date Analyzed:** 06/29/2015

Lab Batch ID: 971291 **Sample:** 694408-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	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	0.0899	90	0.100	0.0901	90	0	70-130	35	
Toluene	<0.00200	0.100	0.0894	89	0.100	0.0895	90	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0896	90	0.100	0.0904	90	1	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.183	92	0.200	0.184	92	1	70-135	35	
o-Xylene	<0.00100	0.100	0.0944	94	0.100	0.0939	94	1	71-133	35	

Analyst: JUM **Date Prepared:** 06/24/2015 **Date Analyzed:** 06/25/2015

Lab Batch ID: 971041 **Sample:** 694329-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	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
Chloride	<2.00	50.0	52.0	104	50.0	51.5	103	1	90-110	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: Falcon 25 #2

Work Order #: 510179 **Project ID:** 088210/14

Analyst: PJB **Date Prepared:** 06/26/2015 **Date Analyzed:** 06/26/2015

Lab Batch ID: 971238 **Sample:** 694488-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	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
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	917	92	1000	935	94	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	987	99	1000	1000	100	1	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: Falcon 25 #2

Work Order #: 510179

Lab Batch #: 971041 **Project ID:** 088210/14

Date Analyzed: 06/25/2015 **Date Prepared:** 06/24/2015 **Analyst:** JUM

QC- Sample ID: 510064-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	81.0	267	364	106	80-120	

Lab Batch #: 971041

Date Analyzed: 06/25/2015 **Date Prepared:** 06/24/2015 **Analyst:** JUM

QC- Sample ID: 510163-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	1770	3110	5020	105	80-120	

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: Falcon 25 #2

Work Order # : 510179 **Project ID:** 088210/14

Lab Batch ID: 971291 **QC- Sample ID:** 510179-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/29/2015 **Date Prepared:** 06/29/2015 **Analyst:** ARM

Reporting Units: mg/kg

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	<0.00108	0.108	0.0699	65	0.108	0.0667	62	5	70-130	35	X
Toluene	<0.00215	0.108	0.0583	54	0.108	0.0602	56	3	70-130	35	X
Ethylbenzene	<0.00108	0.108	0.0556	51	0.108	0.0575	53	3	71-129	35	X
m,p-Xylenes	<0.00215	0.215	0.102	47	0.216	0.111	51	8	70-135	35	X
o-Xylene	<0.00108	0.108	0.0658	61	0.108	0.0646	60	2	71-133	35	X

Lab Batch ID: 971238 **QC- Sample ID:** 510179-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/26/2015 **Date Prepared:** 06/26/2015 **Analyst:** PJB

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	<16.2	1080	998	92	1080	992	92	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.2	1080	1070	99	1080	1080	100	1	70-135	35	

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

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

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

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: Falcon 25 #2

Work Order #: 510179

Lab Batch #: 971067 **Project ID:** 088210/14

Date Analyzed: 06/25/2015 17:05 **Date Prepared:** 06/25/2015 **Analyst:** WRU

QC- Sample ID: 510179-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	7.50	7.68	2	20	

Lab Batch #: 971067

Date Analyzed: 06/25/2015 17:05 **Date Prepared:** 06/25/2015 **Analyst:** WRU

QC- Sample ID: 510216-002 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	2.19	2.30	5	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

CHAIN OF CUSTODY RECORD

COC NO.: 46541
PAGE 1 OF 1

CONESTOGA-ROVERS & ASSOCIATES

Address: 1621 Indian School Rd NE, Albuquerque, NM 87110
Phone: 505-884-0672 Fax: _____

510179 (See Reverse Side for Instructions)

Project No/ Phase/Task Code: 088210/14	Laboratory Name: Xenco Labs - Odessa	Lab Location: Odessa, TX	SSOW ID:
Project Name: Falcon Fed 25 #2	Lab Contact: Kelsey Brooks	Lab Quote No:	Cooler No:
Project Location: Lea County, NM			Carrier: fed-EX
Chemistry Contact: Bernie Bocklisch bbocklisch@craworld.com			Airbill No:
Sampler(s): Steve Perez			Date Shipped: 06/23/15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other: ICE	Total Containers/Sample	Analysis Requested: Chloride 300.0	BTEX 8015	TPH 8021	MS/MSD Request	Comments/ Special Instructions:
1	SO-088210-14-062315-SP-01	06/23/15	1156	SO	G								X		X	X	X		
2	SO-088210-14-062315-SP-02	↓	1226										↓		↓	↓	↓		
3	SO-088210-14-062315-SP-03	↓	1240										↓		↓	↓	↓		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☑ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Total Number of Containers: 3

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Steve Perez	CRA	06/23/15	5:15		Xenco	6/24/15	945
2.								
3.								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga-Rovers & Associates-Albuqu

Date/ Time Received: 06/24/2015 09:45:00 AM

Work Order #: 510179

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)?	2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#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?	**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: 06/24/2015

Checklist reviewed by: Kelsey Brooks Date: 06/24/2015