CONESTOGA-ROVERS
& ASSOCIATES

6121 Indian School Road NE, Suite 200
Albuquerque, New Mexico 87110
Telephone: (505) 884-0672 Fax: (505) 884-4932
www.CRAworld.com

May 27, 2015 Reference No. 088210-12

RECEIVED
By OCD District 1 at 10:29 am, Jun 01, 2015

APPROVED ; CONDITIONAL
By OCD District 1 at 10:29 am, Jun 01, 2015

1. Ensure BLM concurrence.

Mr. Zane Kurtz
Sr. Safety and Environmental Representative
5509 Champions Dr
Midland, TX 79706
VIA E-Mail: zane_kurtz@eogresources.com

Dear Mr. Kurtz

Re: Remediation Summary Report
Caballo 23 Fed 2H (API #30-025-40051)
1RP-3578-0
EOG Resources
Site Location: Sec. 23, T 25-S, R 33-E
(Lat 32.1229°, Long -103.5433°)
Lea County, New Mexico

Remediation activities were performed at the Caballo 23 Fed 2H site on March 11, 2015 and from March 31 to April 2, 2015. The Caballo 23 Fed 2H site (hereafter referred to as the "Site"), is located within Section 23, Township 10 North, Range 5 West, in Lea County, New Mexico (see **Figure 1**).

The Site consists of an EOG Resources (EOG) tank battery and associated equipment. According to EOG, an estimated 20 barrel release of produced water and oil occurred at the Site due to a hole in the fire tube of a heater treater. Due to local rain events, the produced water and oil migrated across the access road and into an area occupied by EOG and Plains Pipeline oilfield equipment (see **Figure 2**). A C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD) and remediation permit (RP) number 1RP-3578-0 was assigned.

1.0 Introduction

The remediation activities performed at the Site consisted of an initial soil sampling event using a hand auger and a subsequent excavation event accompanied by soil sample analysis. Excavation activities were performed by Watson Construction of Hobbs, New Mexico and observed by Conestoga-Rovers and Associates (CRA), of Albuquerque, New Mexico. Soil samples were collected by CRA and analyzed by Xenco Laboratories (Xenco) of Odessa, Texas.

Based on information available from the Petroleum Recovery Research Center Pit Rule Mapping Portal, the depth to groundwater at the Site is indicated to be approximately 185 feet below ground surface (bgs). Additionally, the distance to the nearest surface water is greater than 1,000 feet and the nearest private domestic water and public/municipal water sources are greater than 200 feet and 1,000 feet, respectively, from the release Site. Therefore, the preliminary total ranking score is 0 (see table below).

Based on this score, the Site-specific Recommended Remediation Action Limits (RRALs) to be applied by the NMOCD are 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), 5,000 mg/kg for total petroleum hydrocarbons (TPH), and 500 mg/kg for chlorides.

New Mexico Oil Conservation Division Site Assessment	
Ranking Criteria	Score
Depth to Ground Water (> 100 feet bgs)	0
Wellhead Protection Area (< 1000 feet from water source, < 200 feet from domestic source)	0
Distance to Surface Body Water (200 feet - 1000 feet)	0
Ranking Criteria Total Score	**0***
*Because the ranking criteria total score is 0, NMOCD established RRALs are 10 ppm for benzene, 50 ppm for total BTEX, 5,000 ppm for TPH, and 500 ppm for chlorides[1].	

[1] NMOCD Guidelines for Remediation of Leaks, Spills and Releases, August 13, 1993

2.0 Remediation Activities

CRA conducted an initial soil sampling event on March 11, 2015 to assess for the presence of hydrocarbon and produced water impacts at the Site. Four soil samples were collected from the area of concern using a hand auger. These samples were field screened for chloride and submitted to Xenco for laboratory analysis. The soil samples were analyzed for BTEX by EPA Method 8021B, TPH gasoline range organics (TPH-GRO) and diesel range organics (TPH-DRO) by EPA Modified Method SW8015B, and chloride by EPA Method 300.

Laboratory results from this event indicated BTEX and TPH concentrations below laboratory detection limits. The soil samples returned analytical results for chloride ranging from 78.8 mg/kg to 1,010 mg/kg (see **Appendix A**). Based on the laboratory and field screening results from the initial soil sampling event, excavation of impacted soils was performed.

The excavation event occurred from March 31 to April 2, 2015. Field screening of soils for chloride, TPH, and organic vapors were performed to guide excavation activities. Once field screening indicated soil concentrations were below the RRALs, soil samples were collected and submitted to Xenco for laboratory analysis. The soil samples were analyzed for BTEX, TPH-GRO, TPH-DRO, and chloride by the methods listed above.

Laboratory results from the excavation event indicate that BTEX, TPH, and chloride concentrations in the remaining soil within the excavation are below RRALs, with one exception being soil sample S-088210-040215-CK-12 (see **Table 1**). This soil sample was taken from beneath the access road at a depth of approximately one foot bgs and returned an analytical result of 579 mg/kg for chloride, which slightly exceeds the NMOCD RRAL of 500 mg/kg. However, since the depth to groundwater is approximately 185 feet bgs, CRA believes that the potential to impact groundwater is highly unlikely to reach the groundwater table.

A total of approximately 100 to 150 cubic yards of impacted soil were removed and stockpiled on Site. Pending NMOCD approval, the soil will be transported to Sundance Services, Inc. of Eunice, New Mexico, for disposal and the excavation will be backfilled with clean soil. The dimensions of the final excavation, along with the soil sample locations, are presented in **Figure 2**.

3.0 Summary and Recommendations

Impacted soils at the Caballo 23 Fed 2H site were excavated to depths ranging from one to four feet bgs. Confirmatory soil samples were collected from 13 locations throughout the excavation (see **Figure 2**) for laboratory analysis. All samples were below NMOCD RRALs for BTEX, TPH, and chloride, with one exception as discussed above.

CONESTOGA-ROVERS
& ASSOCIATES

May 27, 2015 Reference No. 088210-12

On behalf of EOG Resources, CRA requests permission to backfill and that no further action status be granted for the Site. Should you have any questions, or require additional information regarding this submittal, please feel free to contact myself or Bernie Bockisch at (505) 884-0672 or bbockisch@craworld.com.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

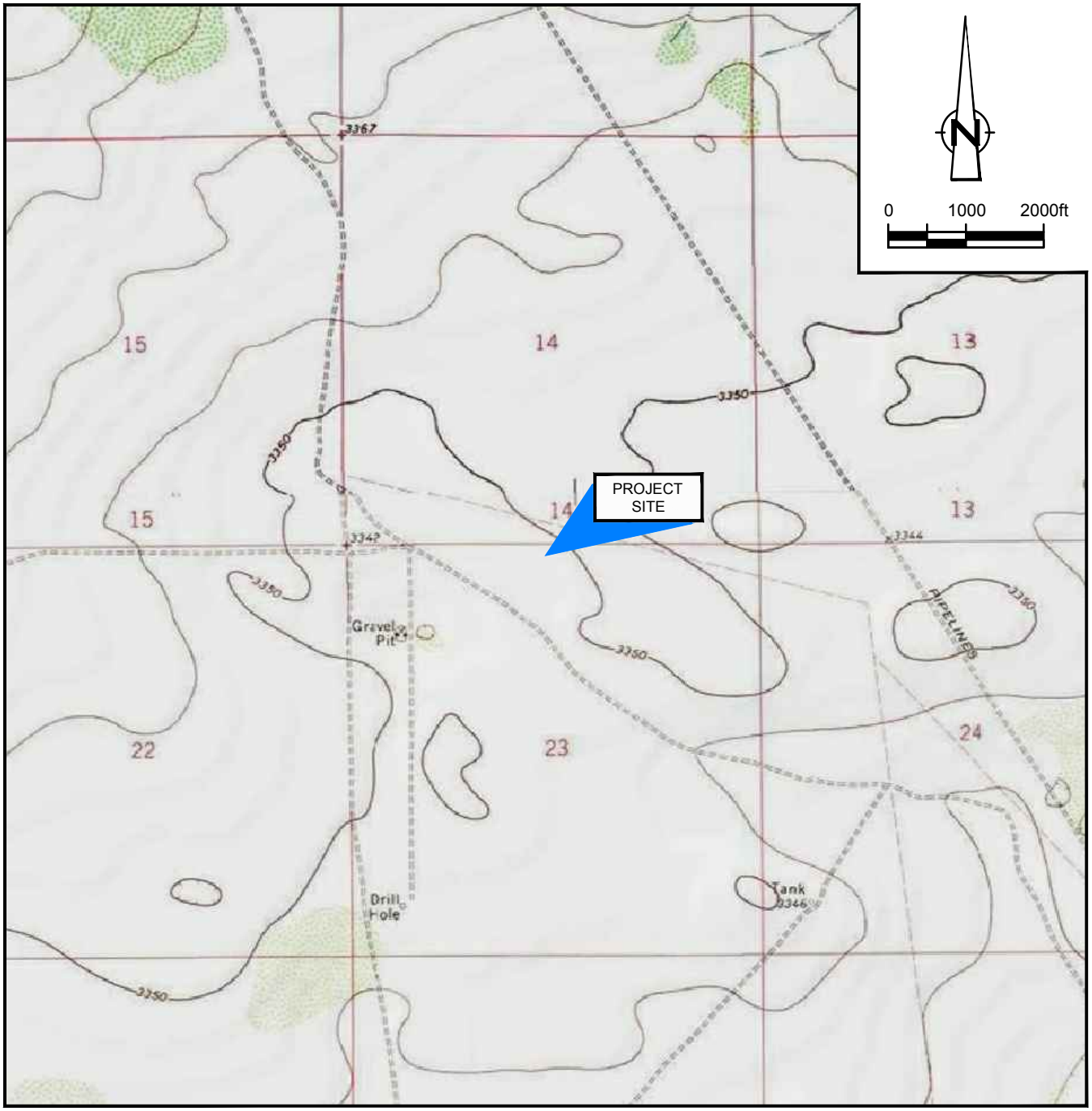
Cale Kanack
Staff Scientist

Bernard Bockisch
Senior Project Manager

CK/mc/02
Encl. (4)

Figure 1 – Site Location Map
Figure 2 – Site Detail Map
Table 1 – Soil Analytical Results Summary
Appendix A – Laboratory Analytical Reports

Figures



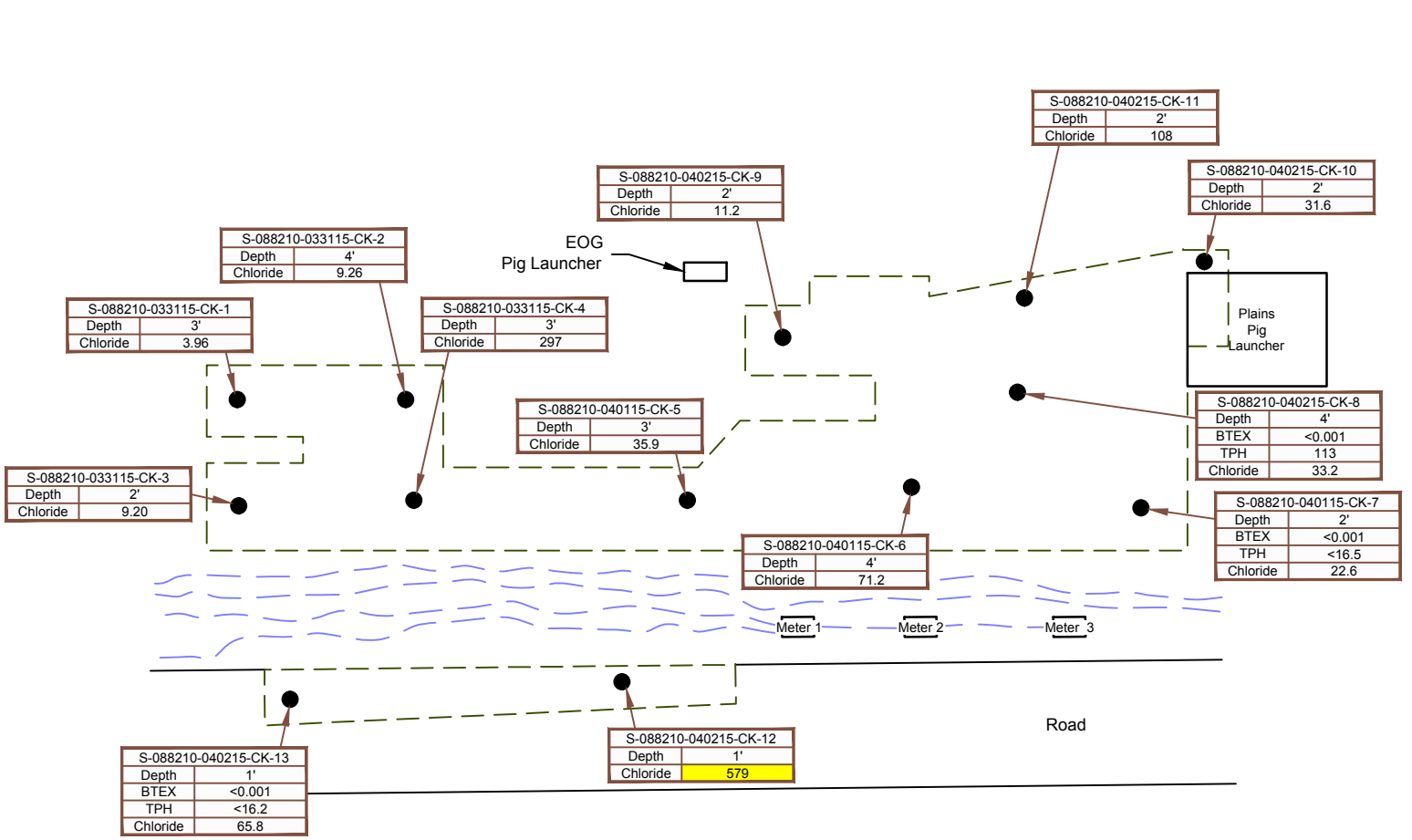
SOURCE: USGS 7.5 MINUTE QUAD
"PADUCA BREAKS EAST AND BELL LAKE, NEW MEXICO"

LAT/LONG: 32.1229° NORTH, 103.5433° WEST
COORDINATE: NAD83 DATUM, U.S. FOOT
STATE PLANE ZONE - NEW MEXICO EAST

Figure 1

SITE LOCATION MAP
CABALLO 23 FED 2H CTB
LEA COUNTY, NEW MEXICO
EOG Resources

088210-12(000)GN-DL001 APR 28/2015



LEGEND

- Surface Sample Location
- Excavation Boundary
- Above Ground Flow Line
- BTEX — Benzene, Toluene, Ethylbenzene and Xylenes Concentration (ppm)
- TPH — Total Petroleum Hydrocarbons Concentration (mg/kg)

NOTE:

1. Highlighted cell indicates exceedance.

Figure 2

SITE DETAIL MAP
CABALLO 23 FED 2H CTB
LEA COUNTY, NEW MEXICO
EOG Resources

088210-12(000)GN-DL001 APR 29/2015

Tables

Table 1
Soil Analytical Data Summary
Caballo 23 Fed 2H
Lea County, New Mexico

Sample ID	Depth (feet bgs)	Sample Date	OVM-PID	TPH (Field Screening)	Chloride (Field Screening)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH			Chlorides (mg/kg)
											GRO (mg/kg)	DRO (mg/kg)	Total TPH (mg/kg)	
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 0)						***10***	***---***	***---***	***---***	***50***	***---***	***---***	***5000***	***500***
S-088210-033115-CK-1	3.0	3/31/15	17.4	0	< 128	--	--	--	--	--	--	--	--	3.96
S-088210-033115-CK-2	4.0	3/31/15	32.8	--	< 128	--	--	--	--	--	--	--	--	9.26
S-088210-033115-CK-3	2.0	3/31/15	11.3	--	< 128	--	--	--	--	--	--	--	--	9.20
S-088210-033115-CK-4	3.0	4/1/15	5.9	--	128	--	--	--	--	--	--	--	--	297
S-088210-040115-CK-5	3.0	4/1/15	0	--	< 128	--	--	--	--	--	--	--	--	35.9
S-088210-040115-CK-6	4.0	4/1/15	0.4	--	< 128	--	--	--	--	--	--	--	--	71.2
S-088210-040115-CK-7	2.0	4/1/15	132	109	< 128	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 16.5	< 16.5	< 16.5	22.6
S-088210-040215-CK-8	4.0	4/2/15	6.1	--	< 128	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 17.7	< 17.7	113	33.2
S-088210-040215-CK-9	2.0	4/2/15	3.6	--	< 128	--	--	--	--	--	--	--	--	11.2
S-088210-040215-CK-10	2.0	4/2/15	2.6	--	< 128	--	--	--	--	--	--	--	--	31.6
S-088210-040215-CK-11	2.0	4/2/15	25.6	--	< 128	--	--	--	--	--	--	--	--	108
S-088210-040215-CK-12	1.0	4/2/15	0	--	184	--	--	--	--	--	--	--	--	**579**
S-088210-040215-CK-13	1.0	4/2/15	0	--	< 128	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 16.2	< 16.2	< 16.2	65.8

Appendix A

Laboratory Analytical Reports

Analytical Report 503920

for

Conestoga-Rovers & Associates-Albuquerque, NM

Project Manager: Bernie Bockisch

Caballo 23 Fed 2H

088210

19-MAR-15

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)

19-MAR-15

Project Manager: **Bernie Bockisch**
Conestoga-Rovers & Associates-Albuquerque, NM
6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): **503920**
Caballo 23 Fed 2H
Project Address: Jal,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) 503920. 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. 503920 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 503920

Conestoga-Rovers & Associates-Albuquerque, NM, Albuqu

Caballo 23 Fed 2H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SO-088210-031115-SP-01	S	03-11-15 15:00		503920-001
SO-088210-031115-SP-02	S	03-11-15 15:36		503920-002
SO-088210-031115-SP-03	S	03-11-15 16:45		503920-003
SO-088210-031115-SP-04	S	03-11-15 16:57		503920-004

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 503920

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Caballo 23 Fed 2H

Project Id: 088210
Contact: Bernie Bockisch
Project Location: Jal,NM

Date Received in Lab: Fri Mar-13-15 11:35 am
Report Date: 19-MAR-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	503920-001		503920-002		503920-003		503920-004					
	Field Id:	SO-088210-031115-SP-01		SO-088210-031115-SP-02		SO-088210-031115-SP-03		SO-088210-031115-SP-04					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-11-15 15:00		Mar-11-15 15:36		Mar-11-15 16:45		Mar-11-15 16:57					
BTEX by EPA 8021B	*Extracted:*	Mar-16-15 16:00		Mar-16-15 16:00		Mar-16-15 16:00		Mar-16-15 16:00					
	Analyzed:	Mar-17-15 04:36		Mar-17-15 04:52		Mar-17-15 05:09		Mar-17-15 05:25					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		ND	0.00114	ND	0.00110	ND	0.00112	ND	0.00124				
Toluene		ND	0.00228	ND	0.00220	ND	0.00224	ND	0.00249				
Ethylbenzene		ND	0.00114	ND	0.00110	ND	0.00112	ND	0.00124				
m,p-Xylenes		ND	0.00228	ND	0.00220	ND	0.00224	ND	0.00249				
o-Xylene		ND	0.00114	ND	0.00110	ND	0.00112	ND	0.00124				
Total Xylenes		ND	0.00114	ND	0.00110	ND	0.00112	ND	0.00124				
Total BTEX		ND	0.00114	ND	0.00110	ND	0.00112	ND	0.00124				
Inorganic Anions by EPA 300/300.1	*Extracted:*	Mar-18-15 15:00		Mar-18-15 15:00		Mar-18-15 15:00		Mar-18-15 15:00					
	Analyzed:	Mar-18-15 17:56		Mar-18-15 18:41		Mar-18-15 19:04		Mar-18-15 19:27					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		219	23.0	1010	110	78.8	11.2	144	12.5				
Percent Moisture	*Extracted:*												
	Analyzed:	Mar-13-15 17:15		Mar-13-15 17:15		Mar-13-15 17:15		Mar-13-15 17:15					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		12.9	1.00	9.23	1.00	11.0	1.00	20.1	1.00				
TPH By SW8015B Mod	*Extracted:*	Mar-13-15 18:00		Mar-13-15 18:00		Mar-13-15 18:00		Mar-13-15 18:00					
	Analyzed:	Mar-14-15 22:45		Mar-14-15 23:53		Mar-15-15 00:16		Mar-15-15 00:38					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		ND	17.2	ND	16.5	ND	16.8	ND	18.7				
C12-C28 Diesel Range Hydrocarbons		ND	17.2	ND	16.5	ND	16.8	ND	18.7				
Total TPH		ND	17.2	ND	16.5	ND	16.8	ND	18.7				

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: Caballo 23 Fed 2H

Work Orders : 503920, **Project ID:** 088210

Lab Batch #: 963779 **Sample:** 503920-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/15 22:45

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.4	99.7	94	70-135	
o-Terphenyl	46.1	49.9	92	70-135	

Lab Batch #: 963779 **Sample:** 503920-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/15 23:53

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	53.5	49.9	107	70-135	

Lab Batch #: 963779 **Sample:** 503920-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/15 00:16

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	99.8	102	70-135	
o-Terphenyl	51.1	49.9	102	70-135	

Lab Batch #: 963779 **Sample:** 503920-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/15 00:38

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	93.8	99.7	94	70-135	
o-Terphenyl	47.0	49.9	94	70-135	

Lab Batch #: 963893 **Sample:** 503920-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 04:36

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	0.0342	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.

Form 2 - Surrogate Recoveries

Project Name: Caballo 23 Fed 2H

Work Orders : 503920, **Project ID:** 088210

Lab Batch #: 963893 **Sample:** 503920-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 04:52

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	0.0339	0.0300	113	80-120	

Lab Batch #: 963893 **Sample:** 503920-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 05:09

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0313	0.0300	104	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Lab Batch #: 963893 **Sample:** 503920-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 05:25

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	0.0358	0.0300	119	80-120	

Lab Batch #: 963779 **Sample:** 689781-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/15 21:38

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	100	100	70-135	
o-Terphenyl	49.5	50.0	99	70-135	

Lab Batch #: 963893 **Sample:** 689854-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/17/15 02:24

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0303	0.0300	101	80-120	
4-Bromofluorobenzene	0.0315	0.0300	105	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: Caballo 23 Fed 2H

Work Orders : 503920, **Project ID:** 088210

Lab Batch #: 963779 **Sample:** 689781-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/15 22:01

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	37.0	50.0	74	70-135	

Lab Batch #: 963893 **Sample:** 689854-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/17/15 02:41

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0355	0.0300	118	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 963779 **Sample:** 689781-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/14/15 22:24

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	59.4	50.0	119	70-135	

Lab Batch #: 963893 **Sample:** 689854-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/17/15 02:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0353	0.0300	118	80-120	
4-Bromofluorobenzene	0.0307	0.0300	102	80-120	

Lab Batch #: 963779 **Sample:** 503920-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/15 23:08

SURROGATE RECOVERY STUDY

TPH By SW8015B 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	55.0	49.9	110	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: Caballo 23 Fed 2H

Work Orders : 503920,

Project ID: 088210

Lab Batch #: 963893 **Sample:** 504055-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 03:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Lab Batch #: 963779 **Sample:** 503920-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/14/15 23:31

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.9	108	70-135	
o-Terphenyl	55.9	50.0	112	70-135	

Lab Batch #: 963893 **Sample:** 504055-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/17/15 03:30

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	0.0345	0.0300	115	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: Caballo 23 Fed 2H

Work Order #: 503920 **Project ID:** 088210

Analyst: ARM **Date Prepared:** 03/16/2015 **Date Analyzed:** 03/17/2015

Lab Batch ID: 963893 **Sample:** 689854-1-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	0.0975	98	0.100	0.102	102	5	70-130	35	
Toluene	<0.00200	0.100	0.0984	98	0.100	0.102	102	4	70-130	35	
Ethylbenzene	<0.00100	0.100	0.105	105	0.100	0.107	107	2	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.206	103	0.200	0.209	105	1	70-135	35	
o-Xylene	<0.00100	0.100	0.104	104	0.100	0.105	105	1	71-133	35	

Analyst: JUM **Date Prepared:** 03/18/2015 **Date Analyzed:** 03/18/2015

Lab Batch ID: 964074 **Sample:** 689947-1-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	50.0	100	50.0	49.7	99	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: Caballo 23 Fed 2H

Work Order #: 503920 **Project ID:** 088210

Analyst: ARM **Date Prepared:** 03/13/2015 **Date Analyzed:** 03/14/2015

Lab Batch ID: 963779 **Sample:** 689781-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B 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-C10 Gasoline Range Hydrocarbons	<15.0	1000	1010	101	1000	893	89	12	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1180	118	1000	1070	107	10	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: Caballo 23 Fed 2H

Work Order #: 503920

Lab Batch #: 964074 **Project ID:** 088210

Date Analyzed: 03/18/2015 **Date Prepared:** 03/18/2015 **Analyst:** JUM

QC- Sample ID: 503920-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	219	574	849	110	80-120	

Lab Batch #: 964074

Date Analyzed: 03/18/2015 **Date Prepared:** 03/18/2015 **Analyst:** JUM

QC- Sample ID: 504112-003 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	158	579	723	98	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: Caballo 23 Fed 2H

Work Order # : 503920 **Project ID:** 088210

Lab Batch ID: 963893 **QC- Sample ID:** 504055-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/17/2015 **Date Prepared:** 03/16/2015 **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	<0.000994	0.0994	0.0903	91	0.0996	0.0910	91	1	70-130	35	
Toluene	<0.00199	0.0994	0.0774	78	0.0996	0.0775	78	0	70-130	35	
Ethylbenzene	<0.000994	0.0994	0.0647	65	0.0996	0.0651	65	1	71-129	35	X
m,p-Xylenes	<0.00199	0.199	0.118	59	0.199	0.119	60	1	70-135	35	X
o-Xylene	<0.000994	0.0994	0.0654	66	0.0996	0.0655	66	0	71-133	35	X

Lab Batch ID: 963779 **QC- Sample ID:** 503920-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/14/2015 **Date Prepared:** 03/13/2015 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B 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-C10 Gasoline Range Hydrocarbons	<17.2	1150	975	85	1150	974	85	0	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<17.2	1150	1150	100	1150	1180	103	3	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: Caballo 23 Fed 2H

Work Order #: 503920

Lab Batch #: 963774 **Project ID:** 088210

Date Analyzed: 03/13/2015 17:15 **Date Prepared:** 03/13/2015 **Analyst:** WRU

QC- Sample ID: 503918-016 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	12.6	12.7	1	20	

Lab Batch #: 963774

Date Analyzed: 03/13/2015 17:15 **Date Prepared:** 03/13/2015 **Analyst:** WRU

QC- Sample ID: 503948-002 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	17.2	9.24	60	20	F

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

Page 1 Of 1

XENCO LABORATORIES

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Stafford,Texas (281-240-4200) | Odessa, Texas (432-563-1800) | Lakeland, Florida (863-646-8526)

Dallas, Texas (214-902-0300) | Norcross, Georgia (770-449-8800) | Tampa, Florida (813-620-2000)

Service Center - San Antonio, Texas (210-509-3334) | www.xenco.com

Xenco Quote # | Xenco Job # 5039120

Client / Reporting Information

Company Name / Branch: Conestoga Rovers + Assoc

Company Address: 6121 Indian School Rd Ste 200

Email: bbocklisch@craworld.com Phone No: 505 280-0572

Project Contact: Bernie Bocklisch

Samplers's Name: Steve Perez

Project Information

Project Name/Number: Caballo 23 Fed 2H / 088210

Project Location: Near Jal, NM

Invoice To:

PO Number:

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	8021 BTEX	300.0 Chloride	8015B TPH GRO/DRO	Field Comments
1	SO-088210-031115-SP-01		3/11/15	1500	SO	1									X	X	X	
2	SO-088210-031115-SP-02			1536		1												
3	SO-088210-031115-SP-03			1645		1												
4	SO-088210-031115-SP-04			1657		1												
5																		
6																		
7																		
8																		
9																		
10																		

Matrix Codes

A= Air
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
WW= Waste Water
W = Wipe
O = Oil

WW= Waste Water

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [x] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

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

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date/Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Steven Perez	3/12/15 2:20		2		2
3	Relinquished by:	Date Time:	Received By: 3/13/15 11:35	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

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 negiotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga-Rovers & Associates-Albuqu

Date/ Time Received: 03/13/2015 11:35:00 AM

Work Order #: 503920

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 *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: 03/13/2015

Checklist reviewed by: Kelsey Brooks Date: 03/13/2015

Analytical Report 505408

for

Conestoga-Rovers & Associates-Albuquerque, NM

Project Manager: Chris Knight

Caballo 23 Fed 2H

088210/12

13-APR-15

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)

13-APR-15

Project Manager: **Chris Knight**
Conestoga-Rovers & Associates-Albuquerque, NM
6121 Indian School Rd. NE Suite 200

Albuquerque, NM 87110

Reference: XENCO Report No(s): **505408**
Caballo 23 Fed 2H
Project Address: Jal,NM

Chris Knight:

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) 505408. 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. 505408 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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Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

Sample Cross Reference 505408

Conestoga-Rovers & Associates-Albuquerque, NM, Albuqu

Caballo 23 Fed 2H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
S-088210-033115-CK-1	S	03-31-15 12:45		505408-001
S-088210-033115-CK-2	S	03-31-15 13:15		505408-002
S-088210-033115-CK-3	S	03-31-15 13:45		505408-003
S-088210-033115-CK-4	S	03-31-15 14:05		505408-004
S-088210-040115-CK-5	S	04-01-15 08:15		505408-005
S-088210-040115-CK-5	S	04-01-15 10:30		505408-006
S-088210-040115-CK-7	S	04-01-15 15:30		505408-007
S-088210-040215-CK-8	S	04-02-15 10:45		505408-008
S-088210-040215-CK-9	S	04-02-15 11:20		505408-009
S-088210-040215-CK-10	S	04-02-15 14:00		505408-010
S-088210-040215-CK-11	S	04-02-15 14:30		505408-011
S-088210-040215-CK-12	S	04-02-15 16:00		505408-012
S-088210-040215-CK-13	S	04-02-15 16:20		505408-013

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 505408

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Caballo 23 Fed 2H

Project Id: 088210/12
Contact: Chris Knight
Project Location: Jal,NM

Date Received in Lab: Mon Apr-06-15 09:50 am
Report Date: 13-APR-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	505408-001		505408-002		505408-003		505408-004		505408-005		505408-006	
	Field Id:	S-088210-033115-CK-1		S-088210-033115-CK-2		S-088210-033115-CK-3		S-088210-033115-CK-4		S-088210-040115-CK-5		S-088210-040115-CK-5	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-31-15 12:45		Mar-31-15 13:15		Mar-31-15 13:45		Mar-31-15 14:05		Apr-01-15 08:15		Apr-01-15 10:30	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30	
	Analyzed:	Apr-09-15 19:22		Apr-09-15 19:44		Apr-09-15 20:07		Apr-09-15 20:30		Apr-09-15 21:38		Apr-09-15 22:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		3.96	2.21	9.26	2.32	9.20	2.19	297	22.2	35.9	10.9	71.2	10.8
Percent Moisture	***Extracted:***												
	Analyzed:	Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.45	1.00	13.8	1.00	8.67	1.00	9.84	1.00	8.47	1.00	7.20	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 505408

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Caballo 23 Fed 2H

Project Id: 088210/12
Contact: Chris Knight
Project Location: Jal,NM

Date Received in Lab: Mon Apr-06-15 09:50 am
Report Date: 13-APR-15
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	505408-007		505408-008		505408-009		505408-010		505408-011		505408-012	
	Field Id:	S-088210-040115-CK-7		S-088210-040215-CK-8		S-088210-040215-CK-9		S-088210-040215-CK-10		S-088210-040215-CK-11		S-088210-040215-CK-12	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Apr-01-15 15:30		Apr-02-15 10:45		Apr-02-15 11:20		Apr-02-15 14:00		Apr-02-15 14:30		Apr-02-15 16:00	
BTEX by EPA 8021B	*Extracted:*	Apr-07-15 13:00		Apr-07-15 13:00									
	Analyzed:	Apr-07-15 17:22		Apr-07-15 17:38									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		ND	0.00110	ND	0.00118								
Toluene		ND	0.00220	ND	0.00235								
Ethylbenzene		ND	0.00110	ND	0.00118								
m,p-Xylenes		ND	0.00220	ND	0.00235								
o-Xylene		ND	0.00110	ND	0.00118								
Total Xylenes		ND	0.00110	ND	0.00118								
Total BTEX		ND	0.00110	ND	0.00118								
Inorganic Anions by EPA 300/300.1	*Extracted:*	Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30		Apr-09-15 14:30	
	Analyzed:	Apr-09-15 22:23		Apr-09-15 22:46		Apr-09-15 23:09		Apr-09-15 23:54		Apr-10-15 00:17		Apr-10-15 00:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		22.6	2.21	33.2	11.8	11.2	2.22	31.6	10.9	108	10.9	579	43.4
Percent Moisture	*Extracted:*												
	Analyzed:	Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00		Apr-06-15 17:00	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.52	1.00	15.3	1.00	9.76	1.00	8.13	1.00	8.36	1.00	7.90	1.00
TPH By SW8015B Mod	*Extracted:*	Apr-06-15 11:00		Apr-06-15 11:00									
	Analyzed:	Apr-07-15 09:11		Apr-07-15 10:18									
	Units/RL:	mg/kg	RL	mg/kg	RL								
C6-C10 Gasoline Range Hydrocarbons		ND	16.5	ND	17.7								
C12-C28 Diesel Range Hydrocarbons		ND	16.5	ND	17.7								
Total TPH		ND	16.5	113	17.7								

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 505408

Conestoga-Rovers & Associates-Albuquerque, NM, Albuquerque, NM

Project Name: Caballo 23 Fed 2H

Project Id: 088210/12
Contact: Chris Knight
Project Location: Jal,NM

Date Received in Lab: Mon Apr-06-15 09:50 am
Report Date: 13-APR-15
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	505408-013					
	Field Id:	S-088210-040215-CK-13					
	Depth:						
	Matrix:	SOIL					
	Sampled:	Apr-02-15 16:20					
BTEX by EPA 8021B	***Extracted:***	Apr-07-15 13:00					
	Analyzed:	Apr-07-15 17:55					
	Units/RL:	mg/kg	RL				
Benzene		ND	0.00108				
Toluene		ND	0.00216				
Ethylbenzene		ND	0.00108				
m,p-Xylenes		ND	0.00216				
o-Xylene		ND	0.00108				
Total Xylenes		ND	0.00108				
Total BTEX		ND	0.00108				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Apr-09-15 14:30					
	Analyzed:	Apr-10-15 01:02					
	Units/RL:	mg/kg	RL				
Chloride		65.8	10.8				
Percent Moisture	***Extracted:***						
	Analyzed:	Apr-06-15 17:00					
	Units/RL:	%	RL				
Percent Moisture		7.78	1.00				
TPH By SW8015B Mod	***Extracted:***	Apr-06-15 11:00					
	Analyzed:	Apr-07-15 10:39					
	Units/RL:	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		ND	16.2				
C12-C28 Diesel Range Hydrocarbons		ND	16.2				
Total TPH		ND	16.2				

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: Caballo 23 Fed 2H

Work Orders : 505408,

Project ID: 088210/12

Lab Batch #: 965418 **Sample:** 505408-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 09:11

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.7	109	70-135	
o-Terphenyl	57.3	49.9	115	70-135	

Lab Batch #: 965418 **Sample:** 505408-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 10:18

SURROGATE RECOVERY STUDY

TPH By SW8015B 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	59.1	50.0	118	70-135	

Lab Batch #: 965418 **Sample:** 505408-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 10:39

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.7	105	70-135	
o-Terphenyl	55.1	49.9	110	70-135	

Lab Batch #: 965526 **Sample:** 505408-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 17:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0310	0.0300	103	80-120	
4-Bromofluorobenzene	0.0320	0.0300	107	80-120	

Lab Batch #: 965526 **Sample:** 505408-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 17:38

SURROGATE RECOVERY STUDY

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

Form 2 - Surrogate Recoveries

Project Name: Caballo 23 Fed 2H

Work Orders : 505408, **Project ID:** 088210/12

Lab Batch #: 965526 **Sample:** 505408-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 17:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0317	0.0300	106	80-120	
4-Bromofluorobenzene	0.0337	0.0300	112	80-120	

Lab Batch #: 965418 **Sample:** 690830-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 08:05

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	62.2	50.0	124	70-135	

Lab Batch #: 965526 **Sample:** 690935-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 14:55

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0320	0.0300	107	80-120	
4-Bromofluorobenzene	0.0336	0.0300	112	80-120	

Lab Batch #: 965418 **Sample:** 690830-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 08:27

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	100	115	70-135	
o-Terphenyl	64.4	50.0	129	70-135	

Lab Batch #: 965526 **Sample:** 690935-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 15:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0346	0.0300	115	80-120	
4-Bromofluorobenzene	0.0305	0.0300	102	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: Caballo 23 Fed 2H

Work Orders : 505408, **Project ID:** 088210/12

Lab Batch #: 965418 **Sample:** 690830-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 08:49

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	100	118	70-135	
o-Terphenyl	64.5	50.0	129	70-135	

Lab Batch #: 965526 **Sample:** 690935-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/07/15 15:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0354	0.0300	118	80-120	
4-Bromofluorobenzene	0.0316	0.0300	105	80-120	

Lab Batch #: 965418 **Sample:** 505408-007 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 09:33

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.8	125	70-135	
o-Terphenyl	40.2	49.9	81	70-135	

Lab Batch #: 965526 **Sample:** 505311-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 15:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0358	0.0300	119	80-120	
4-Bromofluorobenzene	0.0338	0.0300	113	80-120	

Lab Batch #: 965418 **Sample:** 505408-007 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 09:55

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	125	99.8	125	70-135	
o-Terphenyl	40.2	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: Caballo 23 Fed 2H

Work Orders : 505408, **Project ID:** 088210/12

Lab Batch #: 965526 **Sample:** 505311-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/07/15 16:02

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0357	0.0300	119	80-120	
4-Bromofluorobenzene	0.0319	0.0300	106	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: Caballo 23 Fed 2H

Work Order #: 505408 **Project ID:** 088210/12

Analyst: ARM **Date Prepared:** 04/07/2015 **Date Analyzed:** 04/07/2015

Lab Batch ID: 965526 **Sample:** 690935-1-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	0.104	104	0.100	0.107	107	3	70-130	35	
Toluene	<0.00200	0.100	0.106	106	0.100	0.110	110	4	70-130	35	
Ethylbenzene	<0.00100	0.100	0.113	113	0.100	0.118	118	4	71-129	35	
m,p-Xylenes	<0.00200	0.200	0.221	111	0.200	0.230	115	4	70-135	35	
o-Xylene	<0.00100	0.100	0.109	109	0.100	0.115	115	5	71-133	35	

Analyst: JUM **Date Prepared:** 04/09/2015 **Date Analyzed:** 04/09/2015

Lab Batch ID: 965773 **Sample:** 691029-1-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	51.9	104	50.0	51.7	103	0	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: Caballo 23 Fed 2H

Work Order #: 505408 **Project ID:** 088210/12

Analyst: ARM **Date Prepared:** 04/06/2015 **Date Analyzed:** 04/07/2015

Lab Batch ID: 965418 **Sample:** 690830-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B 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-C10 Gasoline Range Hydrocarbons	<15.0	1000	1130	113	1000	1110	111	2	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	1110	111	1000	1090	109	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 Recoveries

Project Name: Caballo 23 Fed 2H

Work Order #: 505408

Lab Batch #: 965773 **Project ID:** 088210/12

Date Analyzed: 04/09/2015 **Date Prepared:** 04/09/2015 **Analyst:** JUM

QC- Sample ID: 505209-006 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	6.64	65.7	77.7	108	80-120	

Lab Batch #: 965773

Date Analyzed: 04/09/2015 **Date Prepared:** 04/09/2015 **Analyst:** JUM

QC- Sample ID: 505408-009 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	11.2	55.4	66.4	100	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: Caballo 23 Fed 2H

Work Order # : 505408 **Project ID:** 088210/12

Lab Batch ID: 965526 **QC- Sample ID:** 505311-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/07/2015 **Date Prepared:** 04/07/2015 **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	<0.00110	0.110	0.114	104	0.110	0.111	101	3	70-130	35	
Toluene	<0.00221	0.110	0.115	105	0.110	0.107	97	7	70-130	35	
Ethylbenzene	<0.00110	0.110	0.122	111	0.110	0.117	106	4	71-129	35	
m,p-Xylenes	<0.00221	0.221	0.239	108	0.221	0.227	103	5	70-135	35	
o-Xylene	<0.00110	0.110	0.120	109	0.110	0.114	104	5	71-133	35	

Lab Batch ID: 965418 **QC- Sample ID:** 505408-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/07/2015 **Date Prepared:** 04/06/2015 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B 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-C10 Gasoline Range Hydrocarbons	<16.5	1100	1360	124	1100	1350	123	1	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<16.5	1100	1340	122	1100	1350	123	1	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: Caballo 23 Fed 2H

Work Order #: 505408

Lab Batch #: 965428 **Project ID:** 088210/12

Date Analyzed: 04/06/2015 17:00 **Date Prepared:** 04/06/2015 **Analyst:** WRU

QC- Sample ID: 505290-001 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	4.67	4.20	11	20	

Lab Batch #: 965428

Date Analyzed: 04/06/2015 17:00 **Date Prepared:** 04/06/2015 **Analyst:** WRU

QC- Sample ID: 505408-007 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	9.52	9.45	1	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

505408

CHAIN OF CUSTODY RECORD

COC NO.: 32795

PAGE 1 OF 1

(See Reverse Side for Instructions)

CONESTOGA-ROVERS & ASSOCIATES

Address: 6121 INDIAN SCHOOL RD, STE 200, ABQ, NM 87110

Phone: 505-274-8982 Fax:

Project No/ Phase/Task Code: 088210/12	Laboratory Name: XENCO	Lab Location: ODESSA, TX	SSOW ID: SEE COMMENTS
Project Name: CABALLO 23 FED 2H	Lab Contact: KELSEY BROOKS	Lab Quote No:	Cooler No:
Project Location: JAL, NM			Carrier:
Chemistry Contact: CHRIS KNIGHT			Airbill No:
Sampler(s): CALE KANACK			Date Shipped: 4/3/15

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: 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:	Total Containers/Sample	Analysis Requested: BTEX 8021	GRO/DRO 8015	CHLORIDE 300.0	MS/MSD Request	Comments/ Special Instructions:
1	S-088210-033115-CK-1	3/31/15	1245	SO	G	X											X		DIRECT BILL
2	S-088210-033115-CK-2	3/31/15	1315														X		TO EOG,
3	S-088210-033115-CK-3	3/31/15	1345														X		NO SSOW
4	S-088210-033115-CK-4	3/31/15	1405														X		PROVIDED
5	S-088210-040115-CK-5	4/1/15	0815														X		
6	S-088210-040115-CK-6	4/1/15	1030														X		
7	S-088210-040115-CK-7	4/1/15	1530												X	X	X		
8	S-088210-040215-CK-8	4/2/15	1045												X	X	X		
9	S-088210-040215-CK-9	4/2/15	1120														X		
10	S-088210-040215-CK-10	4/2/15	1400														X		
11	S-088210-040215-CK-11	4/2/15	1430														X		
12	S-088210-040215-CK-12	4/2/15	1600														X		
13	S-088210-040215-CK-13	4/2/15	1620												X	X	X		
14																			
15																			

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☒ Other: STD

Total Number of Containers: 13

All Samples in Cooler must be on COC

Notes/ Special Requirements: 1°

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Cale Kanack	CRA	4/3/15	0835	1. Misty Lemons	Mail Services	4/3/15	8:35
2.				2. [signature]	XENCO	4/6/15	950
3.				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)

Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Conestoga-Rovers & Associates-Albuqu

Date/ Time Received: 04/06/2015 09:50:00 AM

Work Order #: 505408

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?	**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: 04/06/2015

Checklist reviewed by: Kelsey Brooks Date: 04/06/2015