APPROVED
By Olivia Yu at 10:14 am, Jun 15, 2018

NMOCD approves
1RP-4610 for closure.

REMEDIATION SUMMARY AND

SOIL CLOSURE REQUEST

COG Operating, LLC
Blue Jay Federal #001H Battery
Lea County, New Mexico
Unit Letter "O", Section 18, Township 20 South, Range 35 East
Latitude 32.56643° North, Longitude 103.49557° West
NMOCD Reference No. 1RP-4610

Prepared For:

COG Operating, LLC
600 W Illinois Avenue
Midland, Texas 79701

Prepared By:

TRC Environmental Corporation
10 Desta Drive, Suite 150E
Midland, Texas 79705

June 2018

Joel Lowry
Senior Project Manager

Curt Stanley
Senior Project Manager

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

INTRODUCTION

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Soil Closure Request* for the Site known as Blue Jay Federal #001H Battery**.** The legal description of the Release Site is Unit Letter "O", Section 18, Township 20 South, Range 35 East, in Lea County, New Mexico. The subject property is administered by the United States Bureau of Land Management (BLM). The GPS coordinates for the site are N 32.56643° W 103.49557°. A "Site Location Map" and "Site & Sample Location Map" are provided as Figure 1 and Figure 2, respectively.

On January 25, 2017, COG discovered a crude oil release had occurred due to fluid running through the flare causing a fire. The release affected an area on the caliche pad with an additional area lightly misted in the pasture measuring approximately 49,809 square feet. On January 25, 2017, a COG representative notified the New Mexico Oil Conservation Division (NMOCD) and BLM of the release. A Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD the same day. During initial response activities, a vacuum truck was dispatched to remove all freestanding fluids. Approximately ten (10) barrels of fluid was released, with approximately nine (9) barrels recovered. A copy of the NMOCD Form C-141 is provided as Appendix C. General photographs of the site are provided as Appendix B.

NMOCD SITE CLASSIFICATION

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 18, Township 20 South, Range 35 East. A reference map utilized by the NMOCD Hobbs District Office indicates groundwater should be encountered at approximately fifty (50) feet below ground surface (bgs). Based on the NMOCD site classification system, twenty (20) points will be assigned to the subject area ranking as a result of this criterion.

No water wells were observed within one-thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one-thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

The NMOCD guidelines indicate the Blue Jay Federal #001H Battery Release Site has a ranking score of twenty (20). The Recommended Remediation Action Levels (RRAL) for a site with a ranking score of twenty (20) points are as follows:

- Benzene – 10 mg/kg (ppm)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 100 mg/kg (ppm)
- Chloride – 250 mg/kg (ppm)

INITIAL INVESTIGATION AND PROPOSED REMEDIATION WORKPLAN

On February 7, 2017, a COG Representative collected twelve (12) delineation soil samples (T1-Surface, T1-1', T1-2', T1-3', T2-Surface, T2-1', T2-2', T2-3', T3-Surface, T3-1', T3-2' and T3-3') from the impacted area. The collected soil samples were submitted to Cardinal Laboratories in Hobbs, New Mexico for analysis of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method SM 4500 Cl-B. Laboratory analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory Method Detection Limit (MDL) and NMOCD RRAL in each of the submitted soil samples. Analytical results indicated TPH concentrations were less than the applicable laboratory MDL and NMOCD RRAL in each of the submitted soil samples, with the exception of soil samples T2-Surface (4,396.9 mg/kg), T2-1' (178 mg/kg), and T3-Surface (2,240 mg/kg), which were above NMOCD regulatory guidelines. Chloride concentrations ranged from 16 mg/kg for soil samples T1-Surface, T2-1' and T3-1' to 80 mg/kg for soil samples T3-Surface, A review of laboratory analytical results indicated chloride concentrations were below NMOCD RRAL in each of the submitted samples. Laboratory analytical results are summarized on Table 1 – Concentrations of Benzene, BTEX, TPH and Chloride in Soil. Laboratory analytical reports are provided in Appendix A.

On September 8, 2017, a TRC Representative collected six (6) soil samples (T1a 0-3", T2a 0-3", T2a 1.5', T3a 0-6", OS-1 0-6", and OS-2 0-6") from the affected area as requested by the BLM and/or NMOCD. The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M Ext. and/or chloride using Method E 300. Laboratory analytical results indicated benzene and BTEX concentrations were less than the applicable laboratory MDL in each of the submitted soil samples, with the exception of soil samples T2a 0-3" and T3a 0-6", which exhibited BTEX concentrations of 0.0896 mg/kg and 0.05347 mg/kg, respectively. Review of laboratory analytical results indicated BTEX concentrations were below NMOCD RRAL in each of the submitted soil samples. Analytical results indicated TPH concentrations ranged from less than applicable laboratory MDL for soil samples T3a 0-6", OS-1 0-6", and OS-2 0-6" to 8,010 mg/kg for soil sample T2a 0-3". Review of laboratory analytical results indicated TPH concentrations were below NMOCD RRAL for soil samples T3a 0-6" and OS-1 0-6". Laboratory analytical results indicated soil samples OS-1 0-6" and OS-2 0-6" exhibited chloride concentrations of less than the laboratory MDL and 6.50 mg/kg, respectively. In addition, two (2) composite soil samples (Composite-1 and Composite-2) were collected from the affected portion of the soil stockpile adjacent to caliche pad and submitted to the laboratory for analysis of BTEX and TPH concentrations. Laboratory analytical results indicated BTEX concentrations were less than applicable laboratory MDL in each of the submitted soil samples. Soil samples Composite-1 and Composite-2 exhibited TPH concentrations of 7,110 mg/kg and 2,455 mg/kg, respectively.

On December 4, 2017, TRC submitted an *Amended Soil Investigation Summary and Proposed Remediation Workplan (Workplan)*, to the NMOCD and BLM on behalf of COG, designed to advance the site toward an approved closure. The *Workplan* proposed excavating affected areas represented by test trenches T1 and T1a to a depth of three (3) to six (6) inches bgs, affected areas represented by test trenches T2 and T2a would be excavated to approximately two (2) feet bgs, and no excavation activities would be performed in the area on the caliche pad or vegetated area represented by test trenches T3 and T3a. Affected portions of the soil stockpile adjacent to the caliche pad characterized by soil samples Composite-1 and Composite-2 would be excavated to approximately six (6) to eight (8) inches bgs. Excavated soil would then be temporarily stockpiled

on a plastic liner adjacent to the excavation, pending transportation to a NMOCD-approved disposal facility. Following remediation activities, an appropriate number of excavation floor soil samples, spaced at approximately every fifty (50) feet, would be collected and submitted to the laboratory for determination of concentrations of BTEX, TPH, and chloride. In addition, a minimum of four (4) soil samples would be collected from the sidewalls of the excavated area to confirm horizontal delineation of the impacted soil. Upon receipt of favorable laboratory analytical results from confirmation soil samples, the excavation would be backfilled with locally-sourced, non-impacted "like" material and the excavated impacted soil would be transported under manifest to an NMOCD-approved disposal facility. The *Workplan* was subsequently approved by the NMOCD and BLM.

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On February 19, 2018, remediation activities commenced at the Release Site. As per the approved *Workplan,* affected areas represented by test trenches T1 and T1a were excavated to a depth of approximately three (3) to six (6) inches (in.) bgs. Affected areas represented by test trenches T2 and T2a were excavated to approximately two (2) feet (ft.) bgs. Impacted soil on the top soil stockpile adjacent to the caliche pad was excavated to approximately six (6) to eight (8) in. bgs.

On February 21, 2018, TRC collected thirteen (13) excavation confirmation soil samples (T-1 FL @ 6", T-1 NSW, T-1 WSW, T-1 SSW, T-2 FL @ 2', T-2 NSW, T-2 ESW, T-2 SSW, T-2 WSW, Pt. 1, Pt. 2, Pt. 3 and Pt. 4) from the floor and sidewalls of the excavated area and submitted them to the laboratory for analysis of BTEX, TPH, and chloride. Laboratory analytical results indicated BTEX and chloride concentrations were below the laboratory MDL in each of the submitted soil samples. Analytical results indicated TPH concentrations were below NMOCD RRAL in each of the submitted soil samples, with the exception of soil samples T-1 WSW (368 mg/kg), T-2 ESW (186 mg/kg), and Pt. 4 (313 mg/kg). The excavation was advanced in the areas characterized by soil samples T-1 WSW, T-2 ESW and Pt. 4.

On February 27, 2018, TRC collected two (2) excavation confirmation soil samples (T-1 WSWb and T-2 ESWb) from the sidewalls of the excavated area and submitted them to the laboratory for analysis of TPH concentrations. Laboratory analytical results indicated TPH concentrations were below the laboratory MDL in each of the submitted soil samples.

On March 2, 20108, TRC collected three (3) additional soil samples (Pt. 4b, OS-1b and OS-2b) and submitted them to the laboratory for analysis of TPH. Laboratory analytical result indicated TPH concentrations range from 30.4 mg/kg for soil sample OS-2b to 280.3 mg/kg for soil sample OS-1b. Soil samples OS-1b and OS-2b were also analyzed for concentrations of BTEX and chloride, which were determined to be less than the applicable laboratory MDL. Review of laboratory analytical results indicated TPH, BTEX and chloride concentrations were below the NMOCD RRAL in each of the analyzed soil samples, with the exception of the TPH concentrations in soil samples Pt. 4b (133.6 mg/kg) and OS-1b (280.3 mg/kg).

On April 4, 2018, areas represented by soil samples Pt. 4b and OS-1b were resampled in accordance with the NMOCD request. Two (2) soil samples (OS-1C and Pt.4C) were collected and submitted to the laboratory for analysis of TPH concentrations, which were determined to be below the laboratory MDL.

Upon receiving laboratory analytical results from confirmation soil samples, the excavation was backfilled with locally-source, non-impacted "like" material. Excavation backfill was graded to meet the needs of the facility and contoured to match the surrounding areas. Prior to backfilling the final dimensions of the excavation were one hundred thirty-five (135) ft. in length, twenty (20) to eighty (80) ft. in width and six (6) in. to two (2) ft. in depth.

Between February 20 and 22, 2017, approximately one hundred and thirty-two (132) cubic yards (cy) of impacted soil was transported to an NMOCD-permitted disposal facility.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD- and BLM-approved *Workplan* and/or associated correspondence. Based on laboratory analytical results from confirmation soil samples and field activities conducted to date, TRC recommends COG provide copies of this *Remediation Summary and Soil Closure Request* to the NMOCD and BLM and request closure status to the Blue Jay Federal #001H Battery.

LIMITATIONS

TRC has prepared this *Remediation Summary and Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

DISTRIBUTION

Copy 1: Olivia Yu
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 1
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Hobbs, NM 88240

Copy 2: Henryetta Price
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220

Copy 3: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701

Copy 4: TRC Environmental Corporation
2057 Commerce Street
Midland, Texas 79703

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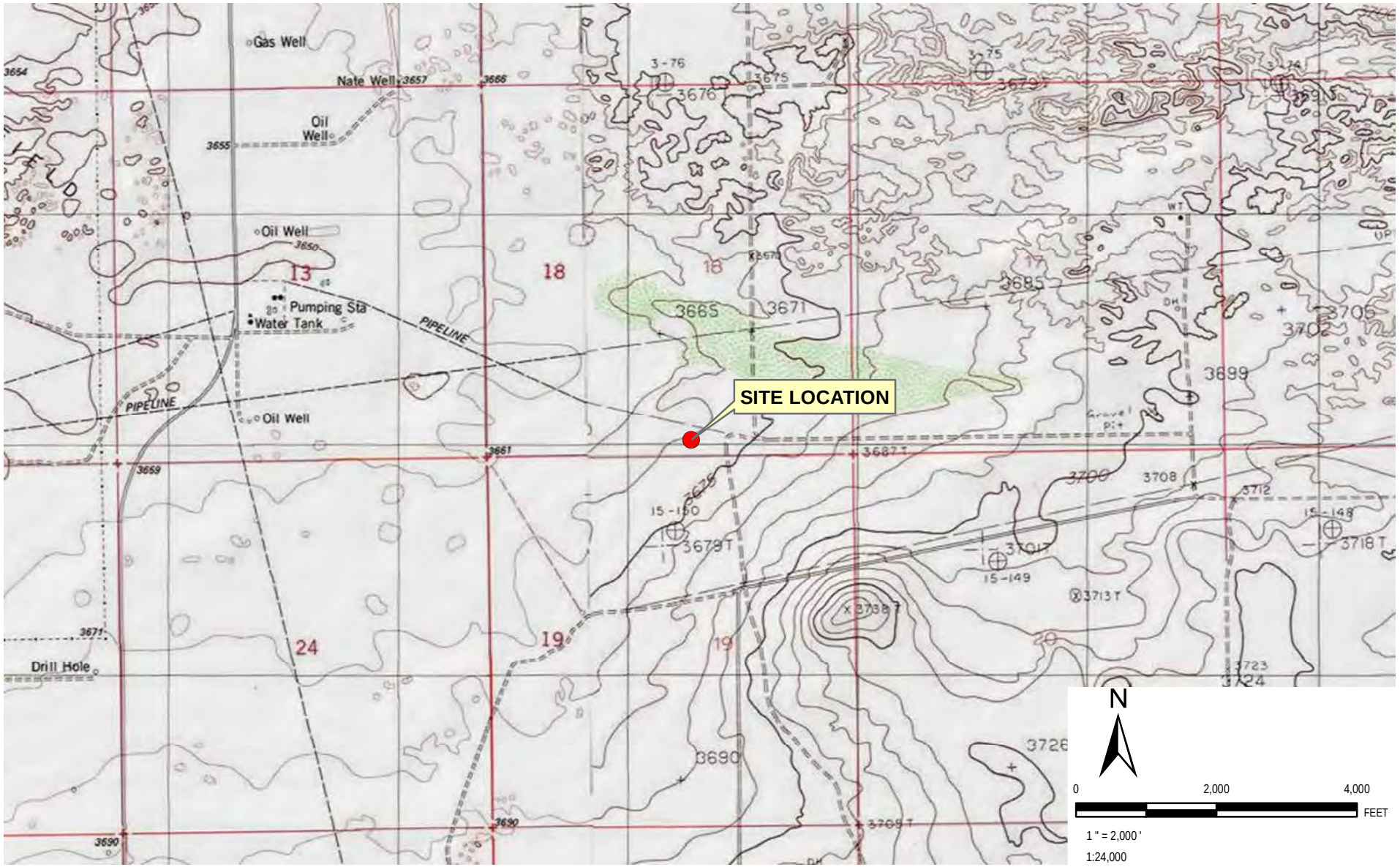


TRC

2075 Commerce Drive
Midland, TX 79703
Phone: 432.520.770

TRC - GIS

TITLE:

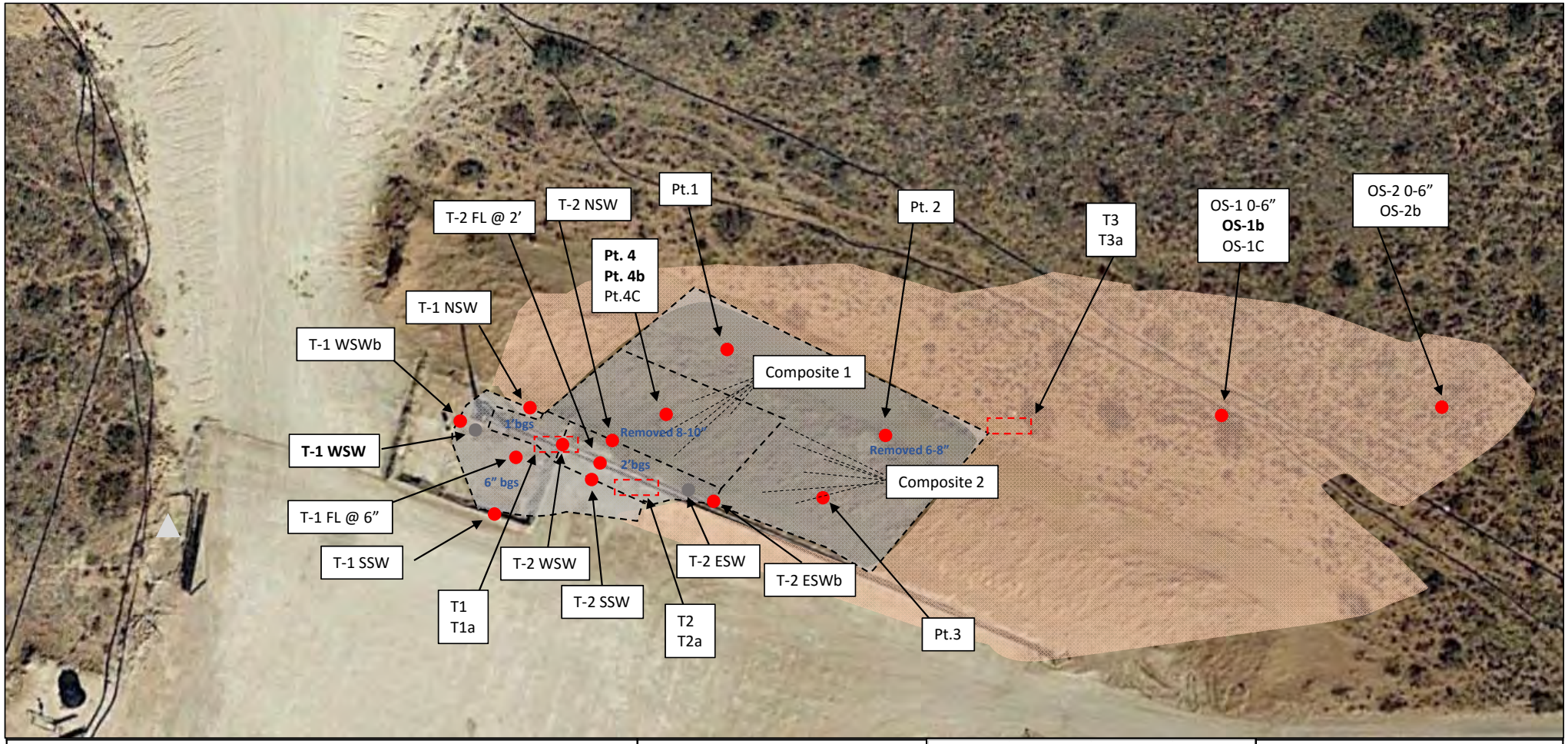
FIGURE 1
SITE LOCATION MAP

PROJECT:

BLUE JAY FEDERAL #001H
LEA COUNTY, NEW MEXICO
COG OPERATING, LLC

DRAWN BY:	MLOVELACE
CHECKED BY:	NGREEN
APPROVED BY:	NGREEN
DATE:	JULY 2017
PROJ. NO.:	279776
GPS:	LAT. N 32.5664367° , LONG. W 103.4955712°

SW1/4 SW1/4 SEC 18 T20S R35E



LEGEND:

- Confirmation Sample Location
- Excavated Sample Location
- Excavated Area
- Test Trench
- Overspray Area

Figure 2

Site & Sample Location Map

COG Operating, LLC

Bluejay Federal #001H Battery

Lea County, New Mexico

Scale 1" = ~50'	
Drafted by: ZC	Checked by: JL
Draft: May 15, 2018	
Lat. N 32.56643 Long. W 103.49557	
UL "O", Sec. 18, T20S, R35E	
TRC Proj. No.: 279776	

TRC
Results you can rely on

2057 Commerce Drive
Midland, Texas 79703
432.520.7720

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG Operating LLC
BLUE JAY FEDERAL #001H BATTERY (1RP-4610)
LEA COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b					METHOD: SW 8015M					E 300.1	SM4500Cl-B
			BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	TPH GRO C_6-C_{10}	TPH DRO C_{10}-C_{28}	TPH ORO C_{28}-C_{35}	TOTAL TPH C_6-C_{28}	TOTAL TPH C_6-C_{35}	CHLORIDE	CHLORIDE
T1-Surface	02/07/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	16.0
T1-1'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	32.0
T1-2'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	64.0
T1-3'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	64.0
T2-Surface	02/07/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.300	16.9	4,380	-	**4,396.9**	-	-	64.0
T2-1'	02/07/17	Excavated	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	178	-	**178**	-	-	16.0
T2-2'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	32.0
T2-3'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	64.0
T3-Surface	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	2,240	-	**2,240**	-	-	80.0
T3-1'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	16.0
T3-2'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	48.0
T3-3'	02/07/17	In-Situ	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	-	<10.0	-	-	32.0
T1a 0-3"	09/08/17	Excavated	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	179	47.3	-	**226.3**	-	-
T2a 0-3"	09/08/17	Excavated	<0.00787	0.0441	0.0103	0.0352	0.0896	<15.0	6,630	1,380	-	**8,010**	-	-
T2a 1.5'	09/08/17	Excavated	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	169	20.4	-	**189.4**	-	-
T3a 0-6"	09/08/17	In-Situ	<0.00398	0.0259	0.00657	0.021	0.05347	<15.0	<15.0	<15.0	-	<15.0	-	-
OS-1 0-6"	09/08/17	In-Situ	<0.00375	<0.00375	<0.00375	<0.00375	<0.00375	<15.0	<15.0	<15.0	-	<15.0	-	<5.00
OS-2 0-6"	09/08/17	In-Situ	<0.00369	<0.00369	<0.00369	<0.00369	<0.00369	<14.9	19.4	<14.9	-	19.4	-	6.50
Composite-1	09/08/17	Excavated	<0.00386	<0.00386	<0.00386	<0.00386	<0.00386	<14.9	5,260	1,850	-	**7,110**	-	-
Composite-2	09/08/17	Excavated	<0.00380	<0.00380	<0.00380	<0.00380	<0.00380	<15.0	1,870	585	-	**2,455**	-	-
T-1 FL @ 6"	02/21/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<15.0	29.5	<15.0	-	29.5	<5.00	-
T-1 NSW	02/21/18	In-Situ	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	29.6	<15.0	-	29.6	<5.00	-
T-1 WSW	02/21/18	Excavated	<0.00338	<0.00338	<0.00338	<0.00338	<0.00338	<15.0	368	<15.0	-	**368**	<4.97	-
T-1 SSW	02/21/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<15.0	72.6	<15.0	-	72.6	<4.91	-
T-2 FL @ 2'	02/21/18	In-Situ	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<14.9	36.2	<14.9	-	36.2	<4.90	-
T-2 NSW	02/21/18	In-Situ	<0.00339	<0.00339	<0.00339	<0.00339	<0.00339	<15.0	<15.0	<15.0	-	<15	<4.90	-
T-2 ESW	02/21/18	Excavated	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	186	<14.9	-	**186**	<5.00	-
T-2 SSW	02/21/18	In-Situ	<0.00200	<0.00200	<0.00200	<0.00200	<0.002	<15.0	<15.0	<15.0	-	<15	<4.92	
T-2 WSW	02/21/18	In-Situ	<0.00339	<0.00339	<0.00339	<0.00339	<0.00339	<15.0	<15.0	<15.0	-	<15	<5.00	-
Pt. 1	02/21/18	In-Situ	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<15.0	<15.0	<15.0	-	<15	<5.00	-
Pt. 2	02/21/18	In-Situ	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	-	<15	<5.00	-
Pt. 3	02/21/18	In-Situ	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	24.3	<15.0	-	24.3	<5.00	-
Pt. 4	02/21/18	Excavated	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	313	<15.0	-	**313**	<5.00	-
T-1 WSWb	2/27/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	-	**<15**	-	-
T-2 ESWb	2/27/2018	In-Situ	-	-	-	-	-	<15.0	<15.0	<15.0	-	**<15**	-	-
Pt. 4b	03/02/18	Resampled	-	-	-	-	-	<15.0	109	24.6	-	**133.6**	-	-
OS-1b	03/02/18	Resampled	<0.00341	<0.00341	<0.00341	<0.00341	<0.00341	<15.0	226	54.3	-	**280.3**	<5.00	-
OS-2b	03/02/18	In-Situ	<0.00332	<0.00332	<0.00332	<0.00332	<0.00332	<15.0	30.4	<15.0	-	30.4	<4.95	-
OS-1C	04/04/18	In-Situ	-	-	-	-	-	<3.68	<24.9	<24.9	-	<24.9	-	-
Pt.-4C	04/04/18	In-Situ	-	-	-	-	-	<3.86	<25.1	<25.1	-	<25.1	-	-
NMOCD Site Classification Criteria	**-**	**-**	**10**	**-**	**-**	**-**	**50**	**-**	**-**	**-**	**100**	**100**	**600**	**600**

CARDINAL Laboratories

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

February 22, 2017

AARON LIEB

COG OPERATING

P. O. BOX 1630

ARTESIA, NM 88210

RE: BLUE JAY FEDERAL #001H

Enclosed are the results of analyses for samples received by the laboratory on 02/15/17 12:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 1 - SURFACE (H700396-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/16/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *78.6 %* *35-147*

Surrogate: 1-Chlorooctadecane *90.6 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 1 - 1' (H700396-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/16/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *87.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *92.9 %* *28-171*

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 1 - 2' (H700396-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/16/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *79.1 %* *35-147*

Surrogate: 1-Chlorooctadecane *88.9 %* *28-171*

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 1 - 3' (H700396-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/16/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/16/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *82.2 %* *35-147*

Surrogate: 1-Chlorooctadecane *90.2 %* *28-171*

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 2 - SURFACE (H700396-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**16.9**	10.0	02/16/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	**4380**	10.0	02/16/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *84.7 %* *35-147*

Surrogate: 1-Chlorooctadecane *155 %* *28-171*

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 2 - 1' (H700396-06)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	**178**	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *90.9 %* *35-147*

Surrogate: 1-Chlorooctadecane *94.6 %* *28-171*

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 2 - 2' (H700396-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.3 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *76.6 %* *35-147*

Surrogate: 1-Chlorooctadecane *88.2 %* *28-171*

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CARDINAL Laboratories

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T2 - 3' (H700396-08)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *81.5 %* *35-147*

Surrogate: 1-Chlorooctadecane *91.3 %* *28-171*

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CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T 3 - SURFACE (H700396-09)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	**2240**	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *92.2 %* *35-147*

Surrogate: 1-Chlorooctadecane *142 %* *28-171*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T3 - 1' (H700396-10)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *86.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *99.4 %* *28-171*

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T3 - 2' (H700396-11)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.8 %* *73.6-140*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *79.9 %* *35-147*

Surrogate: 1-Chlorooctadecane *96.9 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

COG OPERATING
AARON LIEB
P. O. BOX 1630
ARTESIA NM, 88210
Fax To: NONE

Received:	02/15/2017	Sampling Date:	02/07/2017
Reported:	02/22/2017	Sampling Type:	Soil
Project Name:	BLUE JAY FEDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: T3 - 3' (H700396-12)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/19/2017	ND	2.02	101	2.00	7.72	
Toluene*	<0.050	0.050	02/19/2017	ND	1.88	94.2	2.00	9.17	
Ethylbenzene*	<0.050	0.050	02/19/2017	ND	1.84	92.0	2.00	12.1	
Total Xylenes*	<0.150	0.150	02/19/2017	ND	5.25	87.4	6.00	12.0	
Total BTEX	<0.300	0.300	02/19/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.9 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	02/20/2017	ND	448	112	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/17/2017	ND	187	93.3	200	0.843	
DRO >C10-C28	<10.0	10.0	02/17/2017	ND	201	100	200	0.331	

Surrogate: 1-Chlorooctane *83.0 %* *35-147*

Surrogate: 1-Chlorooctadecane *96.7 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	COG Operating LLC
Project Manager:	Aaron Lieb
Address:	2407 Pecos Avenue
City:	Artesia
State:	NM
Zip	88210
Phone #:	575-748-1553
Fax #:	
Project #:	
Project Owner:	
Project Name:	Blue Jay Federal #001H
Project Location:	
Sampler Name:	Aaron Lieb

BILL TO

P.O. #:	
Company:	COG Operating LLC
Attn:	Robert McNeill
Address:	600 W Illinois
City:	Midland
State:	TX
Zip:	79701
Phone #:	(432) 221-0388
Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	TPH	Chloride
H700396-1	T1-Surface	G	1			X					X		2/7/17	1:00PM	X	X	X
-2	T1-1'					X					X		2/7/17	1:00PM	X	X	X
-3	T1-2'					X					X		2/7/17	1:00PM	X	X	X
-4	T1-3'					X					X		2/7/17	1:00PM	X	X	X
-5	T2-Surface					X					X		2/7/17	1:00PM	X	X	X
-6	T2-1'					X					X		2/7/17	1:00PM	X	X	X
-7	T2-2'					X					X		2/7/17	1:30 PM	X	X	X
-8	T2-3'					X					X		2/7/17	1:30 PM	X	X	X
														~~1:30 PM~~			
														~~1:30 PM~~			

Relinquished By:	Date: 2-15-17	Received By: Jodi Henson	
	Time: 12:00		
Relinquished By:	Date:	Received By:	
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: #75 2.5°C

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

CHECKED BY: (Initials)

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

REMARKS:
dneel2@concho.com
alieb@concho.com
rgrubbs@concho.com
rhaskell@concho.com

FORM-006 R 2.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	COG Operating LLC	**BILL TO**	
Project Manager:	Aaron Lieb	**P.O. #:**	
Address:	2407 Pecos Avenue	**Company:**	COG Operating LLC
City:	Artesia **State:** NM **Zip** 88210	**Attn:**	Robert McNeill
Phone #:	575-748-1553 **Fax #:**	**Address:**	600 W Illinois
Project #:	**Project Owner:**	**City:**	Midland
Project Name:	Blue Jay Federal #001H	**State:** TX **Zip:** 79701	
Project Location:		**Phone #:**	(432) 221-0388
Sampler Name:	Aaron Lieb	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	TPH	Chloride
H700396																	
9	T3-Surface					X					X		2/7/17	2:00PM	X	X	X
10	T3-1'					X					X		2/7/17	2:00PM	X	X	X
11	T3-2'					X					X		2/7/17	2:00PM	X	X	X
12	T3-3'					X					X		2/7/17	2:00PM	X	X	X

Relinquished By:	**Date:** 2-15-17	**Received By:** Jodi Henson	
	Time: 12:00		
Relinquished By:	**Date:**	**Received By:**	
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other: #75 2.5°C

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

CHECKED BY: (Initials) JH

FORM-006 R 2.0

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

REMARKS:
dneel2@concho.com
alieb@concho.com
rgrubbs@concho.com
rhaskell@concho.com

Certificate of Analysis Summary 562479

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H (1/25/17)

Project Id:
Contact: Nikki Green
Project Location: Lea County NM

Date Received in Lab: Mon Sep-11-17 03:03 pm
Report Date: 19-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	562479-001		562479-002		562479-003		562479-004		562479-005		562479-006	
	Field Id:	T1a 0-3"		T2a 0-3"		T2a 1.5"		T3a 0-6"		OS-1 0-6"		OS-2 0-6"	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-17 11:05		Sep-08-17 10:55		Sep-08-17 10:40		Sep-08-17 11:00		Sep-08-17 10:45		Sep-08-17 10:50	
BTEX by EPA 8021B	***Extracted:***	Sep-13-17 08:00		Sep-14-17 08:37		Sep-13-17 13:00		Sep-14-17 16:00		Sep-14-17 08:37		Sep-14-17 08:37	
	Analyzed:	Sep-13-17 10:01		Sep-14-17 17:26		Sep-13-17 22:47		Sep-15-17 09:52		Sep-14-17 11:47		Sep-14-17 12:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00787	0.00787	<0.00199	0.00199	<0.00398	0.00398	<0.00375	0.00375	<0.00369	0.00369
Toluene		<0.00201	0.00201	0.0441	0.00787	<0.00199	0.00199	0.0259	0.00398	<0.00375	0.00375	<0.00369	0.00369
Ethylbenzene		<0.00201	0.00201	0.0103	0.00787	<0.00199	0.00199	0.00657	0.00398	<0.00375	0.00375	<0.00369	0.00369
Xylenes, Total		<0.00201	0.00201	0.0352	0.00787	<0.00199	0.00199	0.021	0.00398	<0.00375	0.00375	<0.00369	0.00369
Total BTEX		<0.00201	0.00201	0.0896	0.00787	<0.00199	0.00199	0.05347	0.00398	<0.00375	0.00375	<0.00369	0.00369
Chloride by EPA 300	***Extracted:***									Sep-15-17 13:15		Sep-15-17 13:15	
	Analyzed:									Sep-15-17 18:07		Sep-15-17 18:15	
	Units/RL:									mg/kg	RL	mg/kg	RL
Chloride										<5.00	5.00	6.50	4.97
TPH by SW8015 Mod	***Extracted:***	Sep-12-17 16:00		Sep-12-17 16:00		Sep-12-17 16:00		Sep-12-17 16:00		Sep-12-17 16:00		Sep-12-17 16:00	
	Analyzed:	Sep-13-17 03:22		Sep-13-17 07:15		Sep-13-17 04:48		Sep-13-17 05:09		Sep-13-17 05:29		Sep-13-17 05:50	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Diesel Range Organics (DRO)		179	15.0	6630	15.0	169	15.0	<15.0	15.0	<15.0	15.0	19.4	14.9
Oil Range Hydrocarbons (ORO)		47.3	15.0	1380	15.0	20.4	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9
Total TPH		226.3	15	8010	15	189.4	15	<15	15	<15	15	19.4	14.9

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 562479

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H (1/25/17)

Project Id:
Contact: Nikki Green
Project Location: Lea County NM

Date Received in Lab: Mon Sep-11-17 03:03 pm
Report Date: 19-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	562479-007		562479-008					
	Field Id:	Composite-1		Composite-2					
	Depth:								
	Matrix:	SOIL		SOIL					
	Sampled:	Sep-08-17 10:30		Sep-08-17 10:35					
BTEX by EPA 8021B	***Extracted:***	Sep-14-17 08:37		Sep-14-17 08:37					
	Analyzed:	Sep-14-17 12:24		Sep-14-17 12:43					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00386	0.00386	<0.00380	0.00380				
Toluene		<0.00386	0.00386	<0.00380	0.00380				
Ethylbenzene		<0.00386	0.00386	<0.00380	0.00380				
Xylenes, Total		<0.00386	0.00386	<0.0038	0.0038				
Total BTEX		<0.00386	0.00386	<0.0038	0.0038				
TPH by SW8015 Mod	***Extracted:***	Sep-12-17 16:00		Sep-12-17 16:00					
	Analyzed:	Sep-13-17 07:34		Sep-13-17 06:34					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		5260	14.9	1870	15.0				
Oil Range Hydrocarbons (ORO)		1850	14.9	585	15.0				
Total TPH		7110	14.9	2455	15				

Kelsey Brooks
Project Manager

Analytical Report 562479

for

TRC Solutions, Inc

Project Manager: Nikki Green

Blue Jay Federal #001H (1/25/17)

19-SEP-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

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

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

19-SEP-17

Project Manager: **Nikki Green**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **562479**
Blue Jay Federal #001H (1/25/17)
Project Address: Lea County NM

Nikki Green:

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) 562479. 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. 562479 will be filed for 45 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

Sample Cross Reference 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1a 0-3"	S	09-08-17 11:05		562479-001
T2a 0-3"	S	09-08-17 10:55		562479-002
T2a 1.5"	S	09-08-17 10:40		562479-003
T3a 0-6"	S	09-08-17 11:00		562479-004
OS-1 0-6"	S	09-08-17 10:45		562479-005
OS-2 0-6"	S	09-08-17 10:50		562479-006
Composite-1	S	09-08-17 10:30		562479-007
Composite-2	S	09-08-17 10:35		562479-008

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3027465 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3027595 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3027682 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 562479-004.

Batch: LBA-3027739 BTEX by EPA 8021B
Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 562479-005,562479-002,562479-007,562479-006.
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**T1a 0-3"**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-001	Date Collected:	09.08.17 11.05		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 03.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	**179**	15.0	mg/kg	09.13.17 03.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**47.3**	15.0	mg/kg	09.13.17 03.22		1
Total TPH	PHC635	**226.3**	15	mg/kg	09.13.17 03.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.13.17 03.22	
o-Terphenyl	84-15-1	90	%	70-135	09.13.17 03.22	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.13.17 08.00	Basis:	Wet Weight
Seq Number:	3027465				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.13.17 10.01	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.13.17 10.01	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.13.17 10.01	U	1
Xylenes, Total	1330-20-7	<0.00201	0.00201	mg/kg	09.13.17 10.01	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.13.17 10.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.13.17 10.01	
1,4-Difluorobenzene	540-36-3	99	%	80-120	09.13.17 10.01	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**T2a 0-3"**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-002	Date Collected:	09.08.17 10.55		
Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 07.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	**6630**	15.0	mg/kg	09.13.17 07.15		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**1380**	15.0	mg/kg	09.13.17 07.15		1
Total TPH	PHC635	**8010**	15	mg/kg	09.13.17 07.15		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	09.13.17 07.15	
o-Terphenyl	84-15-1	123	%	70-135	09.13.17 07.15	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.14.17 08.37	Basis:	Wet Weight
Seq Number:	3027739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00787	0.00787	mg/kg	09.14.17 17.26	U	2
Toluene	108-88-3	**0.0441**	0.00787	mg/kg	09.14.17 17.26		2
Ethylbenzene	100-41-4	**0.0103**	0.00787	mg/kg	09.14.17 17.26		2
Xylenes, Total	1330-20-7	**0.0352**	0.00787	mg/kg	09.14.17 17.26		2
Total BTEX		**0.0896**	0.00787	mg/kg	09.14.17 17.26		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	70	%	80-120	09.14.17 17.26	***
1,4-Difluorobenzene	540-36-3	99	%	80-120	09.14.17 17.26	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**T2a 1.5"**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-003	Date Collected:	09.08.17 10.40		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 04.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	**169**	15.0	mg/kg	09.13.17 04.48		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**20.4**	15.0	mg/kg	09.13.17 04.48		1
Total TPH	PHC635	**189.4**	15	mg/kg	09.13.17 04.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	09.13.17 04.48	
o-Terphenyl	84-15-1	90	%	70-135	09.13.17 04.48	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.13.17 13.00	Basis:	Wet Weight
Seq Number:	3027595				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.13.17 22.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.13.17 22.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.13.17 22.47	U	1
Xylenes, Total	1330-20-7	<0.00199	0.00199	mg/kg	09.13.17 22.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.13.17 22.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	80-120	09.13.17 22.47	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.13.17 22.47	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**T3a 0-6"**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-004	Date Collected:	09.08.17 11.00		
Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 05.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.13.17 05.09	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.13.17 05.09	U	1
Total TPH	PHC635	<15	15	mg/kg	09.13.17 05.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.13.17 05.09	
o-Terphenyl	84-15-1	90	%	70-135	09.13.17 05.09	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.14.17 16.00	Basis:	Wet Weight
Seq Number:	3027682				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00398	0.00398	mg/kg	09.15.17 09.52	U	2
Toluene	108-88-3	**0.0259**	0.00398	mg/kg	09.15.17 09.52		2
Ethylbenzene	100-41-4	**0.00657**	0.00398	mg/kg	09.15.17 09.52		2
Xylenes, Total	1330-20-7	**0.021**	0.00398	mg/kg	09.15.17 09.52		2
Total BTEX		**0.05347**	0.00398	mg/kg	09.15.17 09.52		2

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	75	%	80-120	09.15.17 09.52	***
1,4-Difluorobenzene	540-36-3	98	%	80-120	09.15.17 09.52	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**OS-1 0-6"**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-005	Date Collected:	09.08.17 10.45		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.15.17 13.15	Basis:	Wet Weight
Seq Number:	3027941				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	09.15.17 18.07	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 05.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.13.17 05.29	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.13.17 05.29	U	1
Total TPH	PHC635	<15	15	mg/kg	09.13.17 05.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	09.13.17 05.29	
o-Terphenyl	84-15-1	96	%	70-135	09.13.17 05.29	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.14.17 08.37	Basis:	Wet Weight
Seq Number:	3027739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00375	0.00375	mg/kg	09.14.17 11.47	U	1
Toluene	108-88-3	<0.00375	0.00375	mg/kg	09.14.17 11.47	U	1
Ethylbenzene	100-41-4	<0.00375	0.00375	mg/kg	09.14.17 11.47	U	1
Xylenes, Total	1330-20-7	<0.00375	0.00375	mg/kg	09.14.17 11.47	U	1
Total BTEX		<0.00375	0.00375	mg/kg	09.14.17 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	80-120	09.14.17 11.47	
4-Bromofluorobenzene	460-00-4	21	%	80-120	09.14.17 11.47	**

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id: **OS-2 0-6"** Matrix: Soil Date Received:09.11.17 15.03

Lab Sample Id: 562479-006 Date Collected: 09.08.17 10.50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MNV % Moisture:

Analyst: MNV Date Prep: 09.15.17 13.15 Basis: Wet Weight

Seq Number: 3027941

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.50**	4.97	mg/kg	09.15.17 18.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P

Tech: ARM % Moisture:

Analyst: ARM Date Prep: 09.12.17 16.00 Basis: Wet Weight

Seq Number: 3027473

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.13.17 05.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	**19.4**	14.9	mg/kg	09.13.17 05.50		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.13.17 05.50	U	1
Total TPH	PHC635	**19.4**	14.9	mg/kg	09.13.17 05.50		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.13.17 05.50	
o-Terphenyl	84-15-1	88	%	70-135	09.13.17 05.50	

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ % Moisture:

Analyst: ALJ Date Prep: 09.14.17 08.37 Basis: Wet Weight

Seq Number: 3027739

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00369	0.00369	mg/kg	09.14.17 12.06	U	1
Toluene	108-88-3	<0.00369	0.00369	mg/kg	09.14.17 12.06	U	1
Ethylbenzene	100-41-4	<0.00369	0.00369	mg/kg	09.14.17 12.06	U	1
Xylenes, Total	1330-20-7	<0.00369	0.00369	mg/kg	09.14.17 12.06	U	1
Total BTEX		<0.00369	0.00369	mg/kg	09.14.17 12.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	29	%	80-120	09.14.17 12.06	**
1,4-Difluorobenzene	540-36-3	101	%	80-120	09.14.17 12.06	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**Composite-1**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-007	Date Collected:	09.08.17 10.30		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.13.17 07.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**5260**	14.9	mg/kg	09.13.17 07.34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**1850**	14.9	mg/kg	09.13.17 07.34		1
Total TPH	PHC635	**7110**	14.9	mg/kg	09.13.17 07.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	09.13.17 07.34	
o-Terphenyl	84-15-1	83	%	70-135	09.13.17 07.34	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.14.17 08.37	Basis:	Wet Weight
Seq Number:	3027739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00386	0.00386	mg/kg	09.14.17 12.24	U	1
Toluene	108-88-3	<0.00386	0.00386	mg/kg	09.14.17 12.24	U	1
Ethylbenzene	100-41-4	<0.00386	0.00386	mg/kg	09.14.17 12.24	U	1
Xylenes, Total	1330-20-7	<0.00386	0.00386	mg/kg	09.14.17 12.24	U	1
Total BTEX		<0.00386	0.00386	mg/kg	09.14.17 12.24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	44	%	80-120	09.14.17 12.24	**
1,4-Difluorobenzene	540-36-3	117	%	80-120	09.14.17 12.24	

Certificate of Analytical Results 562479

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H (1/25/17)

Sample Id:	**Composite-2**	Matrix:	Soil	Date Received:	09.11.17 15.03
Lab Sample Id:	562479-008	Date Collected:	09.08.17 10.35		

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	09.12.17 16.00	Basis:	Wet Weight
Seq Number:	3027473				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.13.17 06.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	**1870**	15.0	mg/kg	09.13.17 06.34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	**585**	15.0	mg/kg	09.13.17 06.34		1
Total TPH	PHC635	**2455**	15	mg/kg	09.13.17 06.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.13.17 06.34	
o-Terphenyl	84-15-1	85	%	70-135	09.13.17 06.34	

Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	09.14.17 08.37	Basis:	Wet Weight
Seq Number:	3027739				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00380	0.00380	mg/kg	09.14.17 12.43	U	1
Toluene	108-88-3	<0.00380	0.00380	mg/kg	09.14.17 12.43	U	1
Ethylbenzene	100-41-4	<0.00380	0.00380	mg/kg	09.14.17 12.43	U	1
Xylenes, Total	1330-20-7	<0.0038	0.0038	mg/kg	09.14.17 12.43	U	1
Total BTEX		<0.0038	0.0038	mg/kg	09.14.17 12.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	80-120	09.14.17 12.43	
4-Bromofluorobenzene	460-00-4	82	%	80-120	09.14.17 12.43	

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

QC Summary 562479

TRC Solutions, Inc

Blue Jay Federal #001H (1/25/17)

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3027941 Matrix: Solid Date Prep: 09.15.17
MB Sample Id: 731046-1-BLK LCS Sample Id: 731046-1-BKS LCSD Sample Id: 731046-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	257	103	90-110	0	20	mg/kg	09.15.17 14:20	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3027941 Matrix: Soil Date Prep: 09.15.17
Parent Sample Id: 562388-013 MS Sample Id: 562388-013 S MSD Sample Id: 562388-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	464	249	692	92	702	96	90-110	1	20	mg/kg	09.15.17 14:45	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3027941 Matrix: Soil Date Prep: 09.15.17
Parent Sample Id: 562407-004 MS Sample Id: 562407-004 S MSD Sample Id: 562407-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5690	249	5690	0	5760	28	90-110	1	20	mg/kg	09.15.17 17:50	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3027473 Matrix: Solid Date Prep: 09.12.17
MB Sample Id: 730846-1-BLK LCS Sample Id: 730846-1-BKS LCSD Sample Id: 730846-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1090	109	1070	107	70-135	2	35	mg/kg	09.12.17 22:48	
Diesel Range Organics (DRO)	<15.0	1000	1100	110	1100	110	70-135	0	35	mg/kg	09.12.17 22:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		108		104		70-135	%	09.12.17 22:48
o-Terphenyl	110		101		102		70-135	%	09.12.17 22:48

QC Summary 562479

TRC Solutions, Inc

Blue Jay Federal #001H (1/25/17)

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3027473 Matrix: Soil Date Prep: 09.12.17
Parent Sample Id: 562388-001 MS Sample Id: 562388-001 S MSD Sample Id: 562388-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1040	104	977	98	70-135	6	35	mg/kg	09.12.17 23:50	
Diesel Range Organics (DRO)	43.0	999	1100	106	1060	102	70-135	4	35	mg/kg	09.12.17 23:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		100		70-135	%	09.12.17 23:50
o-Terphenyl	97		95		70-135	%	09.12.17 23:50

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027465 Matrix: Solid Date Prep: 09.13.17
MB Sample Id: 730828-1-BLK LCS Sample Id: 730828-1-BKS LCSD Sample Id: 730828-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.106	106	0.106	106	70-130	0	35	mg/kg	09.13.17 07:46	
Toluene	<0.00199	0.0996	0.0996	100	0.0991	99	70-130	1	35	mg/kg	09.13.17 07:46	
Ethylbenzene	<0.00199	0.0996	0.0972	98	0.0972	97	71-129	0	35	mg/kg	09.13.17 07:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		96		97		80-120	%	09.13.17 07:46
4-Bromofluorobenzene	81		89		90		80-120	%	09.13.17 07:46

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027595 Matrix: Solid Date Prep: 09.13.17
MB Sample Id: 730911-1-BLK LCS Sample Id: 730911-1-BKS LCSD Sample Id: 730911-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.104	103	0.100	100	70-130	4	35	mg/kg	09.13.17 19:40	
Toluene	<0.00202	0.101	0.0996	99	0.0952	95	70-130	5	35	mg/kg	09.13.17 19:40	
Ethylbenzene	<0.00202	0.101	0.0994	98	0.0948	95	71-129	5	35	mg/kg	09.13.17 19:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		90		92		80-120	%	09.13.17 19:40
4-Bromofluorobenzene	82		86		86		80-120	%	09.13.17 19:40

QC Summary 562479

TRC Solutions, Inc

Blue Jay Federal #001H (1/25/17)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027739 Matrix: Solid Date Prep: 09.14.17
MB Sample Id: 730960-1-BLK LCS Sample Id: 730960-1-BKS LCSD Sample Id: 730960-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.103	103	0.102	103	70-130	1	35	mg/kg	09.14.17 08:56	
Toluene	<0.00200	0.0998	0.0975	98	0.0965	97	70-130	1	35	mg/kg	09.14.17 08:56	
Ethylbenzene	<0.00200	0.0998	0.0963	96	0.0961	97	71-129	0	35	mg/kg	09.14.17 08:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		99		97		80-120	%	09.14.17 08:56
4-Bromofluorobenzene	81		90		90		80-120	%	09.14.17 08:56

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027682 Matrix: Solid Date Prep: 09.14.17
MB Sample Id: 730962-1-BLK LCS Sample Id: 730962-1-BKS LCSD Sample Id: 730962-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0991	99	0.0987	99	70-130	0	35	mg/kg	09.14.17 18:04	
Toluene	<0.00200	0.0998	0.0976	98	0.0976	98	70-130	0	35	mg/kg	09.14.17 18:04	
Ethylbenzene	<0.00200	0.0998	0.0958	96	0.0958	96	71-129	0	35	mg/kg	09.14.17 18:04	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		96		96		80-120	%	09.14.17 18:04
4-Bromofluorobenzene	94		93		92		80-120	%	09.14.17 18:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027465 Matrix: Soil Date Prep: 09.13.17
Parent Sample Id: 562479-001 MS Sample Id: 562479-001 S MSD Sample Id: 562479-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.124	123	0.107	107	70-130	15	35	mg/kg	09.13.17 08:24	
Toluene	<0.00202	0.101	0.0959	95	0.0983	98	70-130	2	35	mg/kg	09.13.17 08:24	
Ethylbenzene	<0.00202	0.101	0.0771	76	0.0910	91	71-129	17	35	mg/kg	09.13.17 08:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	116		100		80-120	%	09.13.17 08:24
4-Bromofluorobenzene	84		92		80-120	%	09.13.17 08:24

QC Summary 562479

TRC Solutions, Inc

Blue Jay Federal #001H (1/25/17)

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027595 Matrix: Soil Date Prep: 09.13.17
Parent Sample Id: 562531-004 MS Sample Id: 562531-004 S MSD Sample Id: 562531-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0756	76	0.0806	81	70-130	6	35	mg/kg	09.13.17 20:16	
Toluene	<0.00201	0.100	0.0705	71	0.0675	68	70-130	4	35	mg/kg	09.13.17 20:16	X
Ethylbenzene	<0.00201	0.100	0.0680	68	0.0617	62	71-129	10	35	mg/kg	09.13.17 20:16	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		103		80-120	%	09.13.17 20:16
4-Bromofluorobenzene	89		85		80-120	%	09.13.17 20:16

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027739 Matrix: Soil Date Prep: 09.14.17
Parent Sample Id: 562530-002 MS Sample Id: 562530-002 S MSD Sample Id: 562530-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0891	88	0.0853	85	70-130	4	35	mg/kg	09.14.17 09:34	
Toluene	<0.00202	0.101	0.0828	82	0.0786	79	70-130	5	35	mg/kg	09.14.17 09:34	
Ethylbenzene	<0.00202	0.101	0.0805	80	0.0745	75	71-129	8	35	mg/kg	09.14.17 09:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		105		80-120	%	09.14.17 09:34
4-Bromofluorobenzene	95		96		80-120	%	09.14.17 09:34

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3027682 Matrix: Soil Date Prep: 09.14.17
Parent Sample Id: 562531-003 MS Sample Id: 562531-003 S MSD Sample Id: 562531-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0909	90	0.0848	85	70-130	7	35	mg/kg	09.14.17 18:42	
Toluene	<0.00202	0.101	0.0882	87	0.0823	82	70-130	7	35	mg/kg	09.14.17 18:42	
Ethylbenzene	<0.00202	0.101	0.0859	85	0.0805	81	71-129	6	35	mg/kg	09.14.17 18:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		101		80-120	%	09.14.17 18:42
4-Bromofluorobenzene	97		100		80-120	%	09.14.17 18:42

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Quote #

Xenco Job # 562479

Client / Reporting Information

Company Name / Branch: TRC
Company Address: 2057 Commerce Drive, Midland, Texas 79703
Email: ngreen@trcsolutions.com
Phone No: 432-664-6699
Project Contact: Nikki Green
Samplers's Name: Nikki Green

Project Information

Project Name/Number: Blue Jay Federal #001H (1/25/17)
Project Location: Lea County, NM
Invoice To: Rebecca Haskell with COG Operating LLC rhaskell@concho.com
600 W Illinois Avenue | Midland, TX 79701
Direct: 432-818-2372 | Main: 432.683.7443
PO Number:

Matrix Codes

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

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	Analytical Information: TPH 8015M EXT 36	BTEX 8021B	Chloride E300.0	Field Comments
1	T1a 0-3"		8-Sep	1105	S	1								x	x	x		
2	T2a 0-3"		8-Sep	1055	S	1								x	x	x		
3	T2a 1.5'		8-Sep	1040	S	1								x	x	x		
4	T3a 0-6"		8-Sep	1100	S	1								x	x	x		
5	OS-1 0-6"		8-Sep	1045	S	1								x	x	x	x	
6	OS-2 0-6"		8-Sep	1050	S	1								x	x	x	x	
7	Composite-1		8-Sep	1030	S	1								x	x	x		
8	Composite-2		8-Sep	1035	S	1								x	x	x		
9																		
10																		

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [X] 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

Note: Temp: 3.3 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 3.1

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	Nikki Green	9/11/17 1503		2		2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 09/11/2017 03:03:00 PM

Work Order #: 562479

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#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 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer — Date: 09/11/2017

Jessica Kramer

Checklist reviewed by: Kelsey Brooks — Date: 09/11/2017

Kelsey Brooks

Analytical Report 577388

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Blue Jay Federal #001H

01-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-17-23), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-15), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-17-13)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta: Louisiana (04176)
Xenco-Tampa: Florida (E87429), North Carolina (483), DoD (LI0-135), Kentucky (123066)
Xenco-Lakeland: Florida (E84098)

01-MAR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **577388**
Blue Jay Federal #001H
Project Address: Lea Co, NM

Joel Lowry:

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) 577388. 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. 577388 will be filed for 45 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

Sample Cross Reference 577388

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 FL @6"	S	02-21-18 15:00	66 In	577388-001
T-1 NSW	S	02-21-18 15:05	3 In	577388-002
T-1 WSW	S	02-21-18 15:10	3 In	577388-003
T-1 SSW	S	02-21-18 15:15	3 In	577388-004
T-2 FL @ 2'	S	02-21-18 15:20	2 In	577388-005
T-2 NSW	S	02-21-18 15:25	1 In	577388-006
T-2 ESW	S	02-21-18 15:30	1 In	577388-007
T-2SSW	S	02-21-18 15:35	1 In	577388-008
T-2 WSW	S	02-21-18 15:40	1 In	577388-009
Pt. 1	S	02-21-18 15:45	6 - 8 In	577388-010
Pt. 2	S	02-21-18 15:50	6 - 8 In	577388-011
Pt. 3	S	02-21-18 15:55	6 - 8 In	577388-012
Pt. 4	S	02-21-18 16:00	6 - 8 In	577388-013

Client Name: TRC Solutions, Inc
Project Name: Blue Jay Federal #001H

Project ID:
Work Order Number(s): *577388*

Report Date: *01-MAR-18*
Date Received: *02/23/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042157 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042198 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042214 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042388 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 577388

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-23-18 02:30 pm
Report Date: 01-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	577388-001		577388-002		577388-003		577388-004		577388-005		577388-006	
	Field Id:	T-1 FL @6"		T-1 NSW		T-1 WSW		T-1 SSW		T-2 FL @ 2'		T-2 NSW	
	Depth:	66- In		3- In		3- In		3- In		2- In		1- In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-21-18 15:00		Feb-21-18 15:05		Feb-21-18 15:10		Feb-21-18 15:15		Feb-21-18 15:20		Feb-21-18 15:25	
BTEX by EPA 8021B	***Extracted:***	Feb-24-18 10:30		Feb-24-18 10:30		Feb-26-18 10:00		Feb-24-18 13:00		Feb-24-18 13:00		Feb-26-18 10:00	
	Analyzed:	Feb-25-18 15:52		Feb-25-18 16:11		Feb-26-18 14:23		Feb-25-18 15:04		Feb-25-18 15:23		Feb-26-18 14:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00198	0.00198	<0.00338	0.00338	<0.00200	0.00200	<0.0200	0.0200	<0.00339	0.00339
Toluene		<0.00200	0.00200	<0.00198	0.00198	<0.00338	0.00338	<0.00200	0.00200	<0.0200	0.0200	<0.00339	0.00339
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198	<0.00338	0.00338	<0.00200	0.00200	<0.0200	0.0200	<0.00339	0.00339
m,p-Xylenes		<0.00399	0.00399	<0.00397	0.00397	<0.00676	0.00676	<0.00399	0.00399	<0.0401	0.0401	<0.00678	0.00678
o-Xylene		<0.00200	0.00200	<0.00198	0.00198	<0.00338	0.00338	<0.00200	0.00200	<0.0200	0.0200	<0.00339	0.00339
Total Xylenes		<0.002	0.002	<0.00198	0.00198	<0.00338	0.00338	<0.002	0.002	<0.02	0.02	<0.00339	0.00339
Total BTEX		<0.002	0.002	<0.00198	0.00198	<0.00338	0.00338	<0.002	0.002	<0.02	0.02	<0.00339	0.00339
Chloride by EPA 300	***Extracted:***	Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00	
	Analyzed:	Feb-27-18 20:33		Feb-27-18 20:38		Feb-27-18 20:44		Feb-27-18 20:49		Feb-27-18 21:05		Feb-27-18 21:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	<5.00	5.00	<4.97	4.97	<4.91	4.91	<4.90	4.90	<4.90	4.90
TPH by SW8015 Mod	***Extracted:***	Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00	
	Analyzed:	Feb-24-18 01:06		Feb-24-18 02:25		Feb-24-18 02:53		Feb-24-18 03:19		Feb-24-18 03:45		Feb-24-18 04:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)		29.5	15.0	29.6	15.0	368	15.0	72.6	15.0	36.2	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Total TPH		29.5	15	29.6	15	368	15	72.6	15	36.2	14.9	<15	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 577388

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-23-18 02:30 pm
Report Date: 01-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	577388-007		577388-008		577388-009		577388-010		577388-011		577388-012	
	Field Id:	T-2 ESW		T-2SSW		T-2 WSW		Pt. 1		Pt. 2		Pt. 3	
	Depth:	1- In		1- In		1- In		6-8 In		6-8 In		6-8 In	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-21-18 15:30		Feb-21-18 15:35		Feb-21-18 15:40		Feb-21-18 15:45		Feb-21-18 15:50		Feb-21-18 15:55	
BTEX by EPA 8021B	***Extracted:***	Feb-24-18 13:00		Feb-26-18 17:15		Feb-26-18 17:15		Feb-26-18 17:15		Feb-26-18 17:15		Feb-26-18 17:15	
	Analyzed:	Feb-25-18 14:46		Feb-28-18 05:54		Feb-28-18 12:07		Feb-28-18 12:26		Feb-28-18 09:33		Feb-28-18 09:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00200	0.00200	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
Toluene		<0.00199	0.00199	<0.00200	0.00200	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
m,p-Xylenes		<0.00398	0.00398	<0.00399	0.00399	<0.00678	0.00678	<0.00664	0.00664	<0.00398	0.00398	<0.00402	0.00402
o-Xylene		<0.00199	0.00199	<0.00200	0.00200	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
Total Xylenes		<0.00199	0.00199	<0.002	0.002	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
Total BTEX		<0.00199	0.00199	<0.002	0.002	<0.00339	0.00339	<0.00332	0.00332	<0.00199	0.00199	<0.00201	0.00201
Chloride by EPA 300	***Extracted:***	Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00		Feb-27-18 17:00	
	Analyzed:	Feb-27-18 21:16		Feb-27-18 21:21		Feb-27-18 21:26		Feb-27-18 21:31		Feb-27-18 21:47		Feb-27-18 21:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.00	5.00	<4.92	4.92	<5.00	5.00	<5.00	5.00	<5.00	5.00	<5.00	5.00
TPH by SW8015 Mod	***Extracted:***	Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00		Feb-23-18 16:00	
	Analyzed:	Feb-24-18 04:39		Feb-24-18 05:06		Feb-24-18 05:34		Feb-24-18 06:00		Feb-24-18 07:19		Feb-24-18 07:48	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		186	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	24.3	15.0
Oil Range Hydrocarbons (ORO)		<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		186	14.9	<15	15	<15	15	<15	15	<15	15	24.3	15

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 577388

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H

Project Id:
Contact: Joel Lowry
Project Location: Lea Co, NM

Date Received in Lab: Fri Feb-23-18 02:30 pm
Report Date: 01-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	577388-013					
	Field Id:	Pt. 4					
	Depth:	6-8 In					
	Matrix:	SOIL					
	Sampled:	Feb-21-18 16:00					
BTEX by EPA 8021B	***Extracted:***	Feb-26-18 17:15					
	Analyzed:	Feb-28-18 10:12					
	Units/RL:	mg/kg	RL				
Benzene		<0.00202	0.00202				
Toluene		<0.00202	0.00202				
Ethylbenzene		<0.00202	0.00202				
m,p-Xylenes		<0.00403	0.00403				
o-Xylene		<0.00202	0.00202				
Total Xylenes		<0.00202	0.00202				
Total BTEX		<0.00202	0.00202				
Chloride by EPA 300	***Extracted:***	Feb-27-18 17:00					
	Analyzed:	Feb-27-18 22:09					
	Units/RL:	mg/kg	RL				
Chloride		<5.00	5.00				
TPH by SW8015 Mod	***Extracted:***	Feb-23-18 16:00					
	Analyzed:	Feb-24-18 08:13					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0				
Diesel Range Organics (DRO)		313	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0				
Total TPH		313	15				

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

Form 2 - Surrogate Recoveries

Project Name: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042063 **Sample:** 577388-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 01:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 3042063 **Sample:** 577388-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 02:25

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.9	109	70-135	
o-Terphenyl	53.2	50.0	106	70-135	

Lab Batch #: 3042063 **Sample:** 577388-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 02:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	56.4	49.9	113	70-135	

Lab Batch #: 3042063 **Sample:** 577388-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 03:19

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.8	111	70-135	
o-Terphenyl	55.8	49.9	112	70-135	

Lab Batch #: 3042063 **Sample:** 577388-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 03:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.3	99.6	98	70-135	
o-Terphenyl	49.8	49.8	100	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042063 **Sample:** 577388-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 04:13

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	99.7	116	70-135	
o-Terphenyl	56.6	49.9	113	70-135	

Lab Batch #: 3042063 **Sample:** 577388-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 04:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.6	111	70-135	
o-Terphenyl	55.2	49.8	111	70-135	

Lab Batch #: 3042063 **Sample:** 577388-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 05:06

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.9	111	70-135	
o-Terphenyl	54.6	50.0	109	70-135	

Lab Batch #: 3042063 **Sample:** 577388-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 05:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.3	99.7	97	70-135	
o-Terphenyl	48.1	49.9	96	70-135	

Lab Batch #: 3042063 **Sample:** 577388-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 06:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.8	111	70-135	
o-Terphenyl	53.8	49.9	108	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042063 **Sample:** 577388-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 07:19

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	53.0	50.0	106	70-135	

Lab Batch #: 3042063 **Sample:** 577388-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 07:48

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.9	110	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 3042063 **Sample:** 577388-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 08:13

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	99.7	111	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 3042214 **Sample:** 577388-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 14:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0356	0.0300	119	80-120	

Lab Batch #: 3042214 **Sample:** 577388-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 15:04

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	80-120	
4-Bromofluorobenzene	0.0327	0.0300	109	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042214 **Sample:** 577388-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 15:23

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	0.0325	0.0300	108	80-120	

Lab Batch #: 3042198 **Sample:** 577388-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 15:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0343	0.0300	114	80-120	

Lab Batch #: 3042198 **Sample:** 577388-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 16:11

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0249	0.0300	83	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 3042157 **Sample:** 577388-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/26/18 14:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	70-130	
4-Bromofluorobenzene	0.0354	0.0300	118	70-130	

Lab Batch #: 3042157 **Sample:** 577388-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/26/18 14:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0341	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 577388-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 05:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0237	0.0300	79	70-130	
4-Bromofluorobenzene	0.0328	0.0300	109	70-130	

Lab Batch #: 3042388 **Sample:** 577388-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 09:33

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0233	0.0300	78	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3042388 **Sample:** 577388-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 09:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0234	0.0300	78	70-130	
4-Bromofluorobenzene	0.0272	0.0300	91	70-130	

Lab Batch #: 3042388 **Sample:** 577388-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 10:12

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0233	0.0300	78	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

Lab Batch #: 3042388 **Sample:** 577388-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 12:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	70-130	
4-Bromofluorobenzene	0.0326	0.0300	109	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 577388-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 12:26

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	70-130	
4-Bromofluorobenzene	0.0320	0.0300	107	70-130	

Lab Batch #: 3042063 **Sample:** 7639738-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/23/18 23:45

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	54.8	50.0	110	70-135	

Lab Batch #: 3042214 **Sample:** 7639819-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 10:23

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0250	0.0300	83	80-120	
4-Bromofluorobenzene	0.0333	0.0300	111	80-120	

Lab Batch #: 3042198 **Sample:** 7639790-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 10:49

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 3042157 **Sample:** 7639793-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/26/18 11:53

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0245	0.0300	82	80-120	
4-Bromofluorobenzene	0.0330	0.0300	110	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 7639915-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/28/18 05:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0239	0.0300	80	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

Lab Batch #: 3042063 **Sample:** 7639738-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/24/18 00:11

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	127	100	127	70-135	
o-Terphenyl	61.8	50.0	124	70-135	

Lab Batch #: 3042214 **Sample:** 7639819-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 08:51

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	80-120	

Lab Batch #: 3042198 **Sample:** 7639790-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 08:54

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	80-120	
4-Bromofluorobenzene	0.0355	0.0300	118	80-120	

Lab Batch #: 3042157 **Sample:** 7639793-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/26/18 09:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0359	0.0300	120	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 7639915-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/28/18 03:42

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0262	0.0300	87	70-130	
4-Bromofluorobenzene	0.0338	0.0300	113	70-130	

Lab Batch #: 3042063 **Sample:** 7639738-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/24/18 00:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	63.6	50.0	127	70-135	

Lab Batch #: 3042214 **Sample:** 7639819-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 09:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0360	0.0300	120	80-120	

Lab Batch #: 3042198 **Sample:** 7639790-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/25/18 09:13

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0269	0.0300	90	80-120	
4-Bromofluorobenzene	0.0336	0.0300	112	80-120	

Lab Batch #: 3042157 **Sample:** 7639793-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/26/18 10:17

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	80-120	
4-Bromofluorobenzene	0.0348	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 7639915-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 02/28/18 04:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	70-130	
4-Bromofluorobenzene	0.0349	0.0300	116	70-130	

Lab Batch #: 3042063 **Sample:** 577388-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 01:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	99.7	103	70-135	
o-Terphenyl	50.7	49.9	102	70-135	

Lab Batch #: 3042214 **Sample:** 577310-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 09:28

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	80-120	
4-Bromofluorobenzene	0.0332	0.0300	111	80-120	

Lab Batch #: 3042198 **Sample:** 577385-009 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 09:32

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 3042157 **Sample:** 577421-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/26/18 10:36

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 577388-008 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 04:21

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0347	0.0300	116	70-130	

Lab Batch #: 3042063 **Sample:** 577388-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/24/18 01:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	55.7	50.0	111	70-135	

Lab Batch #: 3042214 **Sample:** 577310-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 09:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0242	0.0300	81	80-120	
4-Bromofluorobenzene	0.0331	0.0300	110	80-120	

Lab Batch #: 3042198 **Sample:** 577385-009 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/25/18 09:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0272	0.0300	91	80-120	
4-Bromofluorobenzene	0.0358	0.0300	119	80-120	

Lab Batch #: 3042157 **Sample:** 577421-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/26/18 10:56

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0246	0.0300	82	80-120	
4-Bromofluorobenzene	0.0351	0.0300	117	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: Blue Jay Federal #001H

Work Orders : 577388,

Project ID:

Lab Batch #: 3042388 **Sample:** 577388-008 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 02/28/18 04:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	70-130	
4-Bromofluorobenzene	0.0337	0.0300	112	70-130	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

BS / BSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order #: 577388 **Project ID:**

Analyst: ALJ **Date Prepared:** 02/24/2018 **Date Analyzed:** 02/25/2018

Lab Batch ID: 3042198 **Sample:** 7639790-1-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	<0.00199	0.0994	0.0760	76	0.0998	0.0709	71	7	70-130	35	
Toluene	<0.00199	0.0994	0.0804	81	0.0998	0.0760	76	6	70-130	35	
Ethylbenzene	<0.00199	0.0994	0.0944	95	0.0998	0.0881	88	7	71-129	35	
m,p-Xylenes	<0.00398	0.199	0.186	93	0.200	0.173	87	7	70-135	35	
o-Xylene	<0.00199	0.0994	0.0957	96	0.0998	0.0890	89	7	71-133	35	

Analyst: ALJ **Date Prepared:** 02/26/2018 **Date Analyzed:** 02/26/2018

Lab Batch ID: 3042157 **Sample:** 7639793-1-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	<0.00199	0.0996	0.0931	93	0.100	0.0925	93	1	70-130	35	
Toluene	<0.00199	0.0996	0.0994	100	0.100	0.0979	98	2	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.115	115	0.100	0.113	113	2	71-129	35	
m,p-Xylenes	<0.00398	0.199	0.230	116	0.200	0.226	113	2	70-135	35	
o-Xylene	<0.00199	0.0996	0.112	112	0.100	0.110	110	2	71-133	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order #: 577388 **Project ID:**

Analyst: ALJ **Date Prepared:** 02/24/2018 **Date Analyzed:** 02/25/2018

Lab Batch ID: 3042214 **Sample:** 7639819-1-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	<0.00202	0.101	0.0846	84	0.100	0.0712	71	17	70-130	35	
Toluene	<0.00202	0.101	0.0847	84	0.100	0.0705	71	18	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0907	90	0.100	0.0736	74	21	71-129	35	
m,p-Xylenes	<0.00403	0.202	0.175	87	0.200	0.144	72	19	70-135	35	
o-Xylene	<0.00202	0.101	0.0899	89	0.100	0.0762	76	16	71-133	35	

Analyst: ALJ **Date Prepared:** 02/26/2018 **Date Analyzed:** 02/28/2018

Lab Batch ID: 3042388 **Sample:** 7639915-1-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	<0.00202	0.101	0.0833	82	0.100	0.0797	80	4	70-130	35	
Toluene	<0.00202	0.101	0.0877	87	0.100	0.0857	86	2	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0994	98	0.100	0.0970	97	2	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.196	97	0.200	0.192	96	2	70-130	35	
o-Xylene	<0.00202	0.101	0.0981	97	0.100	0.0976	98	1	70-130	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order #: 577388 **Project ID:**

Analyst: OJS **Date Prepared:** 02/27/2018 **Date Analyzed:** 02/27/2018

Lab Batch ID: 3042453 **Sample:** 7639873-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<5.00	250	274	110	250	274	110	0	90-110	20	

Analyst: ARM **Date Prepared:** 02/23/2018 **Date Analyzed:** 02/24/2018

Lab Batch ID: 3042063 **Sample:** 7639738-1-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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	1000	1050	105	1	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1080	108	1000	1090	109	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 / MSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order # : 577388 **Project ID:**

Lab Batch ID: 3042157 **QC- Sample ID:** 577421-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/26/2018 **Date Prepared:** 02/26/2018 **Analyst:** ALJ

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	<0.00200	0.100	0.0638	64	0.0998	0.0720	72	12	70-130	35	X
Toluene	<0.00200	0.100	0.0679	68	0.0998	0.0750	75	10	70-130	35	X
Ethylbenzene	<0.00200	0.100	0.0787	79	0.0998	0.0845	85	7	71-129	35	
m,p-Xylenes	0.00414	0.200	0.155	75	0.200	0.170	83	9	70-135	35	
o-Xylene	<0.00200	0.100	0.0745	75	0.0998	0.0856	86	14	71-133	35	

Lab Batch ID: 3042198 **QC- Sample ID:** 577385-009 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/25/2018 **Date Prepared:** 02/24/2018 **Analyst:** ALJ

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	<0.00200	0.0998	0.0517	52	0.100	0.0364	36	35	70-130	35	X
Toluene	<0.00200	0.0998	0.0571	57	0.100	0.0410	41	33	70-130	35	X
Ethylbenzene	<0.00200	0.0998	0.0652	65	0.100	0.0495	50	27	71-129	35	X
m,p-Xylenes	<0.00399	0.200	0.128	64	0.200	0.0952	48	29	70-135	35	X
o-Xylene	<0.00200	0.0998	0.0672	67	0.100	0.0532	53	23	71-133	35	X

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order # : 577388 **Project ID:**

Lab Batch ID: 3042214 **QC- Sample ID:** 577310-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/25/2018 **Date Prepared:** 02/24/2018 **Analyst:** ALJ

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	<0.00199	0.0996	0.0528	53	0.100	0.0624	62	17	70-130	35	X
Toluene	<0.00199	0.0996	0.0443	44	0.100	0.0578	58	26	70-130	35	X
Ethylbenzene	<0.00199	0.0996	0.0461	46	0.100	0.0583	58	23	71-129	35	X
m,p-Xylenes	<0.00398	0.199	0.0891	45	0.200	0.110	55	21	70-135	35	X
o-Xylene	<0.00199	0.0996	0.0476	48	0.100	0.0588	59	21	71-133	35	X

Lab Batch ID: 3042388 **QC- Sample ID:** 577388-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/28/2018 **Date Prepared:** 02/26/2018 **Analyst:** ALJ

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	<0.00199	0.0996	0.0794	80	0.0994	0.0699	70	13	70-130	35	
Toluene	<0.00199	0.0996	0.0844	85	0.0994	0.0739	74	13	70-130	35	
Ethylbenzene	<0.00199	0.0996	0.0929	93	0.0994	0.0819	82	13	70-130	35	
m,p-Xylenes	<0.00398	0.199	0.183	92	0.199	0.161	81	13	70-130	35	
o-Xylene	<0.00199	0.0996	0.0913	92	0.0994	0.0793	80	14	70-130	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.

Form 3 - MS / MSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order # : 577388 **Project ID:**

Lab Batch ID: 3042453 **QC- Sample ID:** 577383-022 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/27/2018 **Date Prepared:** 02/27/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	54.6	250	303	99	250	311	103	3	90-110	20	

Lab Batch ID: 3042453 **QC- Sample ID:** 577388-010 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/27/2018 **Date Prepared:** 02/27/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<5.00	250	268	107	250	262	105	2	90-110	20	

Lab Batch ID: 3042063 **QC- Sample ID:** 577388-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 02/24/2018 **Date Prepared:** 02/23/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	879	88	999	987	99	12	70-135	35	
Diesel Range Organics (DRO)	29.5	997	982	96	999	1080	105	10	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.

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Midland, Texas (432-704-5251)

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Phoenix, Arizona (480-355-0900)

Xenco Job # 577388

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation

Company Address:

Email: jlowry@trcsolutions.com

Phone No: 432-466-4450

Project Contact: Joel Lowry

Samplers's Name Zach Conder

Project Information

Project Name/Number: Blue Jay Federal #001H Battery

Project Location: Lea Co, NM

Invoice To: COG Operating C/O Becky Haskell

Invoice:

Matrix Codes

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

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	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	T-1 FL @ 6"	6"	2/21/2018	3:00	S	1									X	X	X		
2	T-1 NSW	3"	2/21/2018	3:05	S	1									X	X	X		
3	T-1 WSW	3"	2/21/2018	3:10	S	1									X	X	X		
4	T-1 SSW	3"	2/21/2018	3:15	S	1									X	X	X		
5	T-2 FL @ 2'	2'	2/21/2018	3:20	S	1									X	X	X		
6	T-2 NSW	1'	2/21/2018	3:25	S	1									X	X	X		
7	T-2 ESW	1'	2/21/2018	3:30	S	1									X	X	X		
8	T-2 SSW	1'	2/21/2018	3:35	S	1									X	X	X		
9	T-2 WSW	1'	2/21/2018	3:40	S	1									X	X	X		
10	Pt. 1	6-8"	2/21/2018	3:45	S	1									X	X	X		
11	Pt. 2	6-8"	2/21/2018	3:50	S	1									X	X	X		
12	Pt. 3	6-8"	2/21/2018	3:55	S	1									X	X	X		
13	Pt. 4	6-8"	2/21/2018	4:00	S	1									X	X	X		

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 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:

jlowry@trcsolutions.com zconder@trcsolutions.com

rhaskell@concho.com

kblackburn@trcsolutions.com

dneel2@concho.com

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 Becky Haskell	2-22 4:17	1	2 UPS	2/23/18 1430	2
Relinquished by:	Date Time:			Date Time:	Received By:
3					4
Relinquished by:	Date Time:			Preserved where applicable	On Ice: X — Cooler Temp: 2-1 — Thermo. Corr. Factor
5					

Temp: 4.8 IR ID:R-8

CF:(0-6: -0.2°C)

(6-23: +0.2°C)

Corrected Temp: 4.6

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated under a fully executed client contract.

Final 1.000

Page 26 of 27

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 02/23/2018 02:30:00 PM

Work Order #: 577388

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.6
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 02/23/2018

Checklist reviewed by: Kelsey Brooks Date: 02/27/2018

Analytical Report 577772

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Blue Jay Federal #001H

07-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

07-MAR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **577772**
Blue Jay Federal #001H
Project Address: Lea Co. NM

Joel Lowry:

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) 577772. 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. 577772 will be filed for 45 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

Sample Cross Reference 577772

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 WSWb	S	02-27-18 14:05	3 In	577772-001
T-2 ESWb	S	02-27-18 14:10	1 ft	577772-002

Client Name: TRC Solutions, Inc

Project Name: Blue Jay Federal #001H

Project ID:
Work Order Number(s): *577772*

Report Date: *07-MAR-18*
Date Received: *02/28/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 577772

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H

Project Id:

Contact: Joel Lowry

Project Location: Lea Co. NM

Date Received in Lab: Wed Feb-28-18 02:30 pm

Report Date: 07-MAR-18

Project Manager: Kelsey Brooks

Analysis Requested								
	Lab Id:	577772-001		577772-002				
	Field Id:	T-1 WSWb		T-2 ESWb				
	Depth:	3- In		1- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	Feb-27-18 14:05		Feb-27-18 14:10				
TPH by SW8015 Mod	***Extracted:***	Mar-01-18 12:00		Mar-01-18 12:00				
	Analyzed:	Mar-01-18 23:34		Mar-02-18 00:00				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0			
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0			
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0			
Total TPH		<15	15	<15	15			

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: Blue Jay Federal #001H

Work Orders : 577772,

Project ID:

Lab Batch #: 3042633 **Sample:** 577772-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 23:34

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.3	99.9	92	70-135	
o-Terphenyl	44.5	50.0	89	70-135	

Lab Batch #: 3042633 **Sample:** 577772-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 00:00

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.7	97	70-135	
o-Terphenyl	47.8	49.9	96	70-135	

Lab Batch #: 3042633 **Sample:** 7640031-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 13:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 3042633 **Sample:** 7640031-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 13:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	58.0	50.0	116	70-135	

Lab Batch #: 3042633 **Sample:** 7640031-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 14:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	60.1	50.0	120	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: Blue Jay Federal #001H

Work Orders : 577772,

Project ID:

Lab Batch #: 3042633 **Sample:** 577756-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 14:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.7	118	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 3042633 **Sample:** 577756-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 15:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.7	107	70-135	
o-Terphenyl	52.2	49.9	105	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order #: 577772 **Project ID:**

Analyst: ARM **Date Prepared:** 03/01/2018 **Date Analyzed:** 03/01/2018

Lab Batch ID: 3042633 **Sample:** 7640031-1-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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	974	97	1000	1080	108	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1000	100	1000	1110	111	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 / MSD Recoveries

Project Name: Blue Jay Federal #001H

Work Order # : 577772 **Project ID:**

Lab Batch ID: 3042633 **QC- Sample ID:** 577756-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/01/2018 **Date Prepared:** 03/01/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	1060	106	997	957	96	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	997	1100	110	997	1010	101	9	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.

CHAIN OF CUSTODY

Some samples had water in them when dropped off

XENCO LABORATORIES
Setting the Standard since 1990
Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)
www.xenco.com

Xenco Job # 577772

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: Blue Jay Federal #001H
Project Location: Lea Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Analytical Information

Matrix Codes

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

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	T-1 WSWb	3"	2/27/2018	2:05	S	1									X				
2	T-2 ESWb	1'	2/27/2018	2:10	S	1									X				
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 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:

jlowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

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

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1	[signature]	2/27 4:40	1 Brittany Cox	2 Brittany Cox	2/27 4:40	2 [signature] 14:30
3			3	4		
5			6	Custody Seal #	Preserved where ap	

Temp: 4.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.2

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 02/28/2018 02:30:00 PM

Work Order #: 577772

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4.2	
#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 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**No**	TPH received in bulk jars
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 02/28/2018

Checklist reviewed by: Kelsey Brooks Date: 03/02/2018

Analytical Report 578297

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Blue Jay Federal #001H Battery

15-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

15-MAR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **578297**
Blue Jay Federal #001H Battery
Project Address: Lea Co, NM

Joel Lowry:

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) 578297. 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. 578297 will be filed for 45 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

Sample Cross Reference 578297

TRC Solutions, Inc, Midland, TX

Blue Jay Federal #001H Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Pt. 4b	S	03-02-18 15:00	6 - 8 In	578297-001
OS-1b	S	03-02-18 15:05	0 - 6 In	578297-002
OS-2b	S	03-02-18 15:10	0 - 6 In	578297-003

Client Name: TRC Solutions, Inc

Project Name: Blue Jay Federal #001H Battery

Project ID:
Work Order Number(s): *578297*

Report Date: *15-MAR-18*
Date Received: *03/06/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043357 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 578297

TRC Solutions, Inc, Midland, TX

Project Name: Blue Jay Federal #001H Battery

Project Id:
Contact: Joel Lowry
Project Location: Lea Co, NM

Date Received in Lab: Tue Mar-06-18 11:00 am
Report Date: 15-MAR-18
Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	578297-001		578297-002		578297-003					
	Field Id:	Pt. 4b		OS-1b		OS-2b					
	Depth:	6-8 In		0-6 In		0-6 In					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Mar-02-18 15:00		Mar-02-18 15:05		Mar-02-18 15:10					
BTEX by EPA 8021B	***Extracted:***			Mar-10-18 12:15		Mar-10-18 12:15					
	Analyzed:			Mar-11-18 10:40		Mar-11-18 10:59					
	Units/RL:			mg/kg	RL	mg/kg	RL				
Benzene				<0.00341	0.00341	<0.00332	0.00332				
Toluene				<0.00341	0.00341	<0.00332	0.00332				
Ethylbenzene				<0.00341	0.00341	<0.00332	0.00332				
m,p-Xylenes				<0.00683	0.00683	<0.00664	0.00664				
o-Xylene				<0.00341	0.00341	<0.00332	0.00332				
Total Xylenes				<0.00341	0.00341	<0.00332	0.00332				
Total BTEX				<0.00341	0.00341	<0.00332	0.00332				
Chloride by EPA 300	***Extracted:***			Mar-12-18 11:40		Mar-12-18 11:40					
	Analyzed:			Mar-13-18 05:04		Mar-13-18 05:31					
	Units/RL:			mg/kg	RL	mg/kg	RL				
Chloride				<5.00	5.00	<4.95	4.95				
TPH by SW8015 Mod	***Extracted:***	Mar-14-18 07:00		Mar-14-18 07:00		Mar-08-18 16:00					
	Analyzed:	Mar-15-18 13:21		Mar-15-18 13:47		Mar-10-18 00:24					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		109	15.0	226	14.9	30.4	15.0				
Oil Range Hydrocarbons (ORO)		24.6	15.0	54.3	14.9	<15.0	15.0				
Total TPH		133.6	15	280.3	14.9	30.4	15				

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.

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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

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ 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: Blue Jay Federal #001H Battery

Work Orders : 578297, 578297 **Project ID:**

Lab Batch #: 3043401 **Sample:** 578297-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/10/18 00:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	99.9	92	70-135	
o-Terphenyl	41.9	50.0	84	70-135	

Lab Batch #: 3043357 **Sample:** 578297-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/11/18 10:40

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

Lab Batch #: 3043357 **Sample:** 578297-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/11/18 10:59

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0266	0.0300	89	70-130	
4-Bromofluorobenzene	0.0338	0.0300	113	70-130	

Lab Batch #: 3043812 **Sample:** 578297-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/18 13:21

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	99.7	105	70-135	
o-Terphenyl	50.9	49.9	102	70-135	

Lab Batch #: 3043812 **Sample:** 578297-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/18 13:47

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	99.6	98	70-135	
o-Terphenyl	48.1	49.8	97	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: Blue Jay Federal #001H Battery

Work Orders : 578297, 578297 **Project ID:**

Lab Batch #: 3043401 **Sample:** 7640492-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/09/18 03:43

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.0	100	97	70-135	
o-Terphenyl	49.3	50.0	99	70-135	

Lab Batch #: 3043357 **Sample:** 7640559-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/11/18 00:01

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0254	0.0300	85	70-130	
4-Bromofluorobenzene	0.0293	0.0300	98	70-130	

Lab Batch #: 3043812 **Sample:** 7640872-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/18 07:14

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

Lab Batch #: 3043401 **Sample:** 7640492-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/09/18 04:08

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	55.1	50.0	110	70-135	

Lab Batch #: 3043357 **Sample:** 7640559-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/10/18 22:25

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0265	0.0300	88	70-130	
4-Bromofluorobenzene	0.0341	0.0300	114	70-130	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Blue Jay Federal #001H Battery

Work Orders : 578297, 578297 **Project ID:**

Lab Batch #: 3043812 **Sample:** 7640872-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/18 07:39

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	55.6	50.0	111	70-135	

Lab Batch #: 3043401 **Sample:** 7640492-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/09/18 04:35

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	111	100	111	70-135	
o-Terphenyl	54.5	50.0	109	70-135	

Lab Batch #: 3043357 **Sample:** 7640559-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/10/18 22:44

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0271	0.0300	90	70-130	
4-Bromofluorobenzene	0.0333	0.0300	111	70-130	

Lab Batch #: 3043812 **Sample:** 7640872-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/15/18 09:26

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	126	100	126	70-135	
o-Terphenyl	63.8	50.0	128	70-135	

Lab Batch #: 3043401 **Sample:** 578049-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/09/18 05:27

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	99.8	124	70-135	
o-Terphenyl	61.2	49.9	123	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: Blue Jay Federal #001H Battery

Work Orders : 578297, 578297 **Project ID:**

Lab Batch #: 3043357 **Sample:** 578592-004 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/10/18 23:03

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0258	0.0300	86	70-130	
4-Bromofluorobenzene	0.0310	0.0300	103	70-130	

Lab Batch #: 3043812 **Sample:** 578897-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/18 10:18

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	117	99.8	117	70-135	
o-Terphenyl	57.2	49.9	115	70-135	

Lab Batch #: 3043401 **Sample:** 578049-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/09/18 05:53

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	99.6	122	70-135	
o-Terphenyl	58.6	49.8	118	70-135	

Lab Batch #: 3043357 **Sample:** 578592-004 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/10/18 23:22

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0277	0.0300	92	70-130	
4-Bromofluorobenzene	0.0319	0.0300	106	70-130	

Lab Batch #: 3043812 **Sample:** 578897-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/15/18 10:45

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	53.1	50.0	106	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Blue Jay Federal #001H Battery

Work Order #: 578297, 578297 **Project ID:**

Analyst: ALJ **Date Prepared:** 03/10/2018 **Date Analyzed:** 03/10/2018

Lab Batch ID: 3043357 **Sample:** 7640559-1-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	<0.00202	0.101	0.0790	78	0.100	0.0735	74	7	70-130	35	
Toluene	<0.00202	0.101	0.0845	84	0.100	0.0783	78	8	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0942	93	0.100	0.0897	90	5	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.185	92	0.200	0.178	89	4	70-130	35	
o-Xylene	<0.00202	0.101	0.0937	93	0.100	0.0910	91	3	70-130	35	

Analyst: OJS **Date Prepared:** 03/12/2018 **Date Analyzed:** 03/12/2018

Lab Batch ID: 3043530 **Sample:** 7640599-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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	<5.00	250	271	108	250	267	107	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: Blue Jay Federal #001H Battery

Work Order #: 578297, 578297 **Project ID:**

Analyst: ARM **Date Prepared:** 03/08/2018 **Date Analyzed:** 03/09/2018

Lab Batch ID: 3043401 **Sample:** 7640492-1-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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1000	100	1000	997	100	0	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1000	1030	103	1	70-135	35	

Analyst: ARM **Date Prepared:** 03/14/2018 **Date Analyzed:** 03/15/2018

Lab Batch ID: 3043812 **Sample:** 7640872-1-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
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	997	100	1000	1190	119	18	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1030	103	1000	1180	118	14	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: Blue Jay Federal #001H Battery

Work Order # : 578297 **Project ID:**

Lab Batch ID: 3043357 **QC- Sample ID:** 578592-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/10/2018 **Date Prepared:** 03/10/2018 **Analyst:** ALJ

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	<0.00200	0.100	0.0663	66	0.100	0.0629	63	5	70-130	35	X
Toluene	<0.00200	0.100	0.0526	53	0.100	0.0525	53	0	70-130	35	X
Ethylbenzene	<0.00200	0.100	0.0272	27	0.100	0.0384	38	34	70-130	35	X
m,p-Xylenes	<0.00401	0.200	0.0530	27	0.201	0.0707	35	29	70-130	35	X
o-Xylene	<0.00200	0.100	0.0283	28	0.100	0.0372	37	27	70-130	35	X

Lab Batch ID: 3043530 **QC- Sample ID:** 578121-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/12/2018 **Date Prepared:** 03/12/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	998	248	1180	73	248	1260	106	7	90-110	20	X

Lab Batch ID: 3043530 **QC- Sample ID:** 578297-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/13/2018 **Date Prepared:** 03/12/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 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
Chloride	<5.00	250	242	97	250	257	103	6	90-110	20	

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

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

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

Form 3 - MS / MSD Recoveries

Project Name: Blue Jay Federal #001H Battery

Work Order # : 578297 **Project ID:**

Lab Batch ID: 3043401 **QC- Sample ID:** 578049-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/09/2018 **Date Prepared:** 03/08/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1110	111	996	1070	107	4	70-135	35	
Diesel Range Organics (DRO)	<15.0	998	1160	116	996	1110	111	4	70-135	35	

Lab Batch ID: 3043812 **QC- Sample ID:** 578897-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/15/2018 **Date Prepared:** 03/14/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	1140	114	1000	969	97	16	70-135	35	
Diesel Range Organics (DRO)	<15.0	998	1140	114	1000	988	99	14	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.

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Xenco Job # 578297

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com, zconder@trcsolutions.com
Phone No: 432-466-4450
Project Contact: Joel Lowry
Samplers's Name: Zach Conder

Project Information

Project Name/Number: Blue Jay Federal #001H Battery
Project Location: Lea Co, NM
Invoice To: COG Operating C/O Becky Haskell
Invoice:

Matrix Codes

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

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	Analytical Information: TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Hold	Field Comments
1	Pt. 4b	6-8"	3/2/2015	3:00	S	1									X				
2	OS-1b	0-6"	3/2/2015	3:05	S	1									X	X	X		
3	OS-2b	0-6"	3/2/2015	3:10	S	1									X	X	X		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Temp: 2.7 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.5

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

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

Notes:

ilowry@trcsolutions.com zconder@trcsolutions.com
rhaskell@concho.com
kblackburn@trcsolutions.com
dneel2@concho.com
FED-EX / UPS: Tracking #

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

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1		3-5-15 1137		2		2
3				4	3/6 11:00	4
5				Custody Seal #	Preserved where applicable	On Ice: X; Cooler Temp: 6.4; Thermo. Corr. Factor

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 03/06/2018 11:00:00 AM

Work Order #: 578297

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

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.5	
#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 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**No**	TPH received in bulk jars
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 03/06/2018

Checklist reviewed by: Kelsey Brooks Date: 03/07/2018

Analytical Report 581745

for

TRC Solutions, Inc

Project Manager: Joel Lowry

Blu Jay Fed #001H Battery

13-APR-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

13-APR-18

Project Manager: **Joel Lowry**
TRC Solutions, Inc
2057 Commerce
Midland, TX 79703

Reference: XENCO Report No(s): **581745**
Blu Jay Fed #001H Battery
Project Address: Eddy Co. NM

Joel Lowry:

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) 581745. 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. 581745 will be filed for 45 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

Sample Cross Reference 581745

TRC Solutions, Inc, Midland, TX

Blu Jay Fed #001H Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
OS-1C	S	04-04-18 09:00		581745-001
Pt-4C	S	04-04-18 09:10		581745-002

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3046275 DRO-ORO By SW8015B

Surrogate Tricosane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7642346-1-BKS,7642346-1-BSD.

Certificate of Analysis Summary 581745

TRC Solutions, Inc, Midland, TX

Project Name: Blu Jay Fed #001H Battery

Project Id:

Contact: Joel Lowry

Project Location: Eddy Co. NM

Date Received in Lab: Fri Apr-06-18 04:40 pm

Report Date: 13-APR-18

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	581745-001				581745-002							
	Field Id:	OS-1C				Pt-4C							
	Depth:												
	Matrix:	SOIL				SOIL							
	Sampled:	Apr-04-18 09:00				Apr-04-18 09:10							
DRO-ORO By SW8015B	***Extracted:***	Apr-10-18 11:35				Apr-10-18 11:35							
	Analyzed:	Apr-10-18 19:16				Apr-10-18 19:51							
	Units/RL:	mg/kg		RL		mg/kg		RL					
Diesel Range Organics (DRO)		<24.9		24.9		<25.1		25.1					
Oil Range Hydrocarbons (ORO)		<24.9		24.9		<25.1		25.1					
TPH GRO by EPA 8015 Mod.	***Extracted:***	Apr-09-18 12:00				Apr-09-18 12:00							
	Analyzed:	Apr-11-18 02:07				Apr-11-18 02:33							
	Units/RL:	mg/kg		RL		mg/kg		RL					
TPH-GRO		<3.68		3.68		<3.86		3.86					

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

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ 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: Blu Jay Fed #001H Battery

Work Orders : 581745,

Project ID:

Lab Batch #: 3046275 **Sample:** 581745-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 19:16

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.8	9.94	119	65-144	
n-Triacontane	8.27	9.94	83	46-152	

Lab Batch #: 3046275 **Sample:** 581745-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 19:51

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	11.6	10.0	116	65-144	
n-Triacontane	10.1	10.0	101	46-152	

Lab Batch #: 3046330 **Sample:** 581745-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/11/18 02:07

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.58	1.84	86	69-120	

Lab Batch #: 3046330 **Sample:** 581745-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/11/18 02:33

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.101	0.100	101	76-123	
a,a,a-Trifluorotoluene	1.79	1.93	93	69-120	

Lab Batch #: 3046275 **Sample:** 7642346-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 13:24

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	10.5	10.0	105	65-144	
n-Triacontane	12.8	10.0	128	46-152	

* Surrogate outside of Laboratory QC limits

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

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

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

Form 2 - Surrogate Recoveries

Project Name: Blu Jay Fed #001H Battery

Work Orders : 581745,

Project ID:

Lab Batch #: 3046330 **Sample:** 7642259-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 21:10

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0933	0.100	93	76-123	
a,a,a-Trifluorotoluene	2.24	2.00	112	69-120	

Lab Batch #: 3046275 **Sample:** 7642346-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 14:00

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	16.7	10.0	167	65-144	**
n-Triacontane	11.6	10.0	116	46-152	

Lab Batch #: 3046330 **Sample:** 7642259-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 19:22

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0971	0.100	97	76-123	
a,a,a-Trifluorotoluene	1.98	2.00	99	69-120	

Lab Batch #: 3046275 **Sample:** 7642346-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 14:35

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	15.7	10.0	157	65-144	**
n-Triacontane	11.8	10.0	118	46-152	

Lab Batch #: 3046330 **Sample:** 7642259-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 04/10/18 19:49

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod.

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.0995	0.100	100	76-123	
a,a,a-Trifluorotoluene	1.57	2.00	79	69-120	

* 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: Blu Jay Fed #001H Battery

Work Orders : 581745,

Project ID:

Lab Batch #: 3046275 **Sample:** 581742-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 15:45

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	12.6	10.1	125	65-144	
n-Triacontane	7.71	10.1	76	46-152	

Lab Batch #: 3046330 **Sample:** 581742-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 22:57

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.104	0.100	104	76-123	
a,a,a-Trifluorotoluene	1.60	1.98	81	69-120	

Lab Batch #: 3046275 **Sample:** 581742-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 16:21

SURROGATE RECOVERY STUDY

DRO-ORO By SW8015B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Tricosane	12.3	10.0	123	65-144	
n-Triacontane	8.97	10.0	90	46-152	

Lab Batch #: 3046330 **Sample:** 581742-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 04/10/18 23:25

SURROGATE RECOVERY STUDY

TPH GRO by EPA 8015 Mod. Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	0.105	0.100	105	76-123	
a,a,a-Trifluorotoluene	1.43	1.91	75	69-120	

* 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: Blu Jay Fed #001H Battery

Work Order #: 581745 **Project ID:**

Analyst: PGM **Date Prepared:** 04/10/2018 **Date Analyzed:** 04/10/2018

Lab Batch ID: 3046275 **Sample:** 7642346-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B 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
Diesel Range Organics (DRO)	<25.0	100	119	119	100	114	114	4	63-139	20	

Analyst: MIT **Date Prepared:** 04/09/2018 **Date Analyzed:** 04/10/2018

Lab Batch ID: 3046330 **Sample:** 7642259-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 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
TPH-GRO	<4.00	20.0	19.2	96	20.0	20.7	104	8	35-129	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

Form 3 - MS / MSD Recoveries

Project Name: Blu Jay Fed #001H Battery

Work Order # : 581745 **Project ID:**

Lab Batch ID: 3046275 **QC- Sample ID:** 581742-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/10/2018 **Date Prepared:** 04/10/2018 **Analyst:** PGM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

DRO-ORO By SW8015B 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
Diesel Range Organics (DRO)	<25.1	101	86.4	86	100	85.9	86	1	63-139	20	

Lab Batch ID: 3046330 **QC- Sample ID:** 581742-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 04/10/2018 **Date Prepared:** 04/09/2018 **Analyst:** MIT

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH GRO by EPA 8015 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
TPH-GRO	<3.95	19.8	15.6	79	19.1	14.9	78	5	35-129	20	

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.

581745

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
Phoenix, Arizona (480-355-0900)

www.xenco.com

CHAIN OF CUSTODY

Page 1 Of 1

Xenco Job # 581745

Client / Reporting Information

Company Name / Branch: TRC Environmental Corporation
Company Address: 2057 Commerce Drive, Midland, TX 79703
Email: jlowry@trcsolutions.com
Phone No: 432-468-4460
Project Contact: Joel Lowry
Samplers's Name Becky Griffin

Project Information

Project Name/Number: Blu Jay Fed #001H Battery
Number: 299912
Project Location: Eddy Co, NM
Invoice To: COG Operating, LLC C/O Becky Haskell
Invoice:

Analytical Information

Matrix Codes

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

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	TPH 8015 M Ext	Chloride E 300	BTEX 8021B	Field Comments
1	OS-1C		4/4/2018	9:00	S	1									X			
2	Pt.4C		4/4/2018	9:10	S	1									X			
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

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

TAT Starts Day received by Lab, if received by 5:00 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:

jlowry@trcsolutions.com
rhaskell@concho.com
zconder@trcsolution.com

FED-EX / UPS: Tracking #

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

Relinquished by Sampler: 1 Becky Griffin	Date Time:	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time: 4/6/18 4:40 pm	Received By: Brenda Ward	Custody Seal #	Preserved where applicable	On Ice: Y Cooler Temp. 4.5 Thermo. Corr. Factor -0.3

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: TRC Solutions, Inc

Date/ Time Received: 04/06/2018 04:40:00 PM

Work Order #: 581745

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4.5
#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 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brenda Ward Date: 04/06/2018
Brenda Ward

Checklist reviewed by: Kelsey Brooks Date: 04/11/2018
Kelsey Brooks

Photographic Log

Client: COG Operating, LLC
Project Name: Blue Jay Federal #001H Battery

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 1 **Description:** **View of surface staining from the initial release.** **Direction:** **East**	
Photograph No. 2 **Description:** **View of surface staining from the initial release.** **Direction:** **West**	

Photographic Log

Client: COG Operating, LLC
Project Name: Blue Jay Federal #001H Battery

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 3 **Description:** **View of surface staining from the initial release.** **Direction:** **East**	
Photograph No. 4 **Description:** **View of portion of the excavated area.** **Direction:** **Northeast**	

Photographic Log

Client: COG Operating, LLC
Project Name: Blue Jay Federal #001H Battery

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 5 **Description:** **View of portion of the excavated area.** **Direction:** **West**	
Photograph No. 6 **Description:** **View of the release site after remediation activities.** **Direction:** **Northwest**	

Photographic Log

Client: COG Operating, LLC
Project Name: Blue Jay Federal #001H Battery

Prepared by: TRC Environmental Corp.
Location: Lea County, NM

Photograph No. 7 **Description:** **View of the release site after remediation activities.** **Direction:** **North**	
Photograph No. 8 **Description:** **View of the release site after remediation activities.** **Direction:** **Northeast**	

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company:	COG Operating LLC	Contact:	Robert McNeill
Address:	600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443
Facility Name:	Blue Jay Federal #001H	Facility Type:	Tank Battery

Surface Owner: Federal	Mineral Owner:	API No. 30-025-42338

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	18	20S	35E	190	South	2310	East	Lea

Latitude 32.5664367366954 **Longitude** -103.495571226436

NATURE OF RELEASE

Type of Release: Oil (Fire)	Volume of Release: 10 bbls	Volume Recovered: 9 bbls
Source of Release: Flare	Date and Hour of Occurrence: January 25, 2017 7:00 am	Date and Hour of Discovery: January 25, 2017 7:00 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Ms. Yu – NMOCD / Shelly Tucker BLM	
By Whom? Rebecca Haskell	Date and Hour: January 25, 2017 Time per this email	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 3:14 pm, Feb 15, 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by fluid going through the flare causing a fire. The fire quickly extinguished itself due to the limited amount of fluid that escaped the flare.

Describe Area Affected and Cleanup Action Taken.*

The release was on location and adjacent pasture area. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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

Signature: Rebecca Haskell	OIL CONSERVATION DIVISION
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: JJ
Title: Senior HSE Coordinator	Approval Date: 2/15/2017 Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval: see attached directive Attached ☑
Date: January 25, 2017 Phone: 432-683-7443	

* Attach Additional Sheets If Necessary

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