



DELINEATION WORKPLAN

COG – BLUE JAY FEDERAL #001H (Leak Date: 7/1/17)

RP # 1RP-4758
API # 30-025-42338

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4758.

The following information includes:

1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
2. GPS information for sample points and sample methodology
3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
4. Laboratory analysis results summary table and original laboratory analysis reports
5. A copy of the initial C-141
6. Potentially other pertinent information as necessary for site specific purposes.

Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

COG will excavate the spill area as depicted on the following site diagram. The leak area near SP1 (yellow shade on diagram) will be excavated to a depth of 4 feet. The leak area near SP2 (blue shade on diagram) will be excavated to a depth of 1 foot.

The entire site will then be backfilled with clean soil and revegetated (if warranted) to the standards of the appropriate regulatory agency or private surface owner.

All excavated materials will be disposed of at an NMOCD-approved disposal facility.

APPROVED






By Olivia Yu at 12:02 pm, Jul 17, 2018

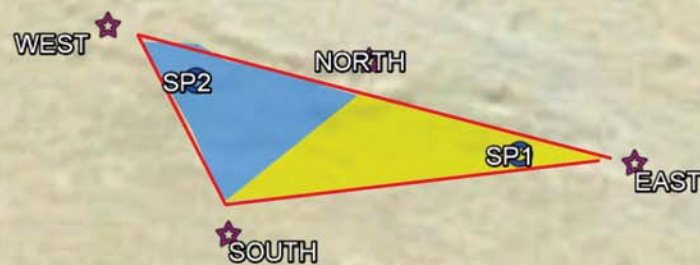
NMOCD approves of the delineation completed for 1RP-4758 and proposed remediation with these conditions: 1) Bottom (SP2 area) and sidewall samples are required, including at least 1 at the border between different depths of excavation. 2) Dated photo documentation. 3) Scaled map with confirmation sample locations.

COG, Blue Jay Federal #001H

Leak date: 07/11/2017
Lea County, NM
API# 30-025-42338
1RP-4758

Legend

-  1 ft Excavation
-  4 ft Excavation with liner
-  Cardinal sample points
-  Leak Area
-  Sample points



Google Earth

© 2018 Google

50 ft

COG, Blue Jay Federal #001H

Sample points

SP1, N 32.56628 W-103.49562

SP2, N 32.56631 W-103.49573

NORTH, N 32.56631 W-103.49567

SOUTH, N 32.56626 W-103.49571

EAST, N 32.56628 W-103.49558

WEST, N 32.56633 W-103.49576

COG, Blue Jay Federal #001H
U/L O, Section 18, T20S, R35E
Groundwater: <50'





New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 641332

Northing (Y): 3604358

Radius: 1700

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

4/13/18 4:33 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Public Land Survey System (PLSS)

☒ Q64: Q16: SW Q4: SE Sec: 18 Tws: 20S Rng: 35E

State Plane Coordinate System - NAD27

☐ X: 0 ft Y: 0 ft Zone:

State Plane Coordinate System - NAD83

☐ X: 0 ft Y: 0 ft Zone:

Degrees/Minutes/Seconds

☐ Longitude (X): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

Latitude (Y): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "

UTM - NAD27

☐ Easting (X): 0 mtrs Northing (Y): 0 mtrs Zone:

SUBMIT**All Conversion Results are displayed as NAD 1983 UTM Zone 13**Easting (X): 641332.0 mtrsNorthing (Y): 3604358.0 mtrs**~~ Please keep screen open to copy UTM values for Reports. ~~**

Laboratory Analytical Results Summary
Blue Jay Federal #001H

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'	SP1 @ 10'	SP1 @ 11'	SP1 @ 16'
Analyte	Method	Date	4/30/18	4/30/18	4/30/18	4/30/18	4/30/18	4/30/18	4/30/18	5/18/18	5/18/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		640	1870	3200	5200	2640	1060	992	304	384
Chloride	EPA300.0		n/a	n/a	n/a	n/a	n/a	n/a	n/a	374	399
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		70.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		46.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 6'
Analyte	Method	Date	4/30/18	4/30/18	4/30/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a
Chloride	SM4500Cl-B		3040	128	192
GRO	TPH 8015M		<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a

Cardinal		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	4/30/18	4/30/18	4/30/18	4/30/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		128	240	320	128
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0

May 08, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: BLUE JAY FERDERAL #001H

Enclosed are the results of analyses for samples received by the laboratory on 05/01/18 15:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: SP 1 @ SURFACE (H801205-01)

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	05/03/2018	ND	1.77	88.3	2.00	3.22	
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67	
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98	
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13	
Total BTEX	<0.300	0.300	05/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	05/03/2018	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	70.2	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	46.3	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 93.6 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: SP 1 @ 1 (H801205-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1870	16.0	05/03/2018	ND	432	108	400	3.77		

Sample ID: SP 1 @ 2 (H801205-03)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	05/03/2018	ND	432	108	400	3.77	

Sample ID: SP 1 @ 3 (H801205-04)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5200	16.0	05/03/2018	ND	432	108	400	3.77	

Sample ID: SP 1 @ 4 (H801205-05)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2640	16.0	05/03/2018	ND	432	108	400	3.77	

Sample ID: SP 1 @ 5 (H801205-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1060	16.0	05/03/2018	ND	432	108	400	3.77	

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Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: SP 1 @ 10 (H801205-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	992	16.0	05/03/2018	ND	432	108	400	3.77		

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Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: SP 2 @ SURFACE (H801205-08)

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	05/03/2018	ND	1.77	88.3	2.00	3.22		
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67		
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98		
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13		
Total BTEX	<0.300	0.300	05/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3040	16.0	05/03/2018	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	<10.0	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	<10.0	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: SP 2 @ 1 (H801205-09)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	128	16.0	05/03/2018	ND	448	112	400	0.00		

Sample ID: SP 2 @ 6 (H801205-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	05/03/2018	ND	448	112	400	0.00	

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Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: N @ SURFACE (H801205-11)

BTX 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	05/03/2018	ND	1.77	88.3	2.00	3.22		
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67		
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98		
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13		
Total BTX	<0.300	0.300	05/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/03/2018	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	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	<10.0	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	<10.0	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 97.3 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: E @ SURFACE (H801205-12)

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	05/03/2018	ND	1.77	88.3	2.00	3.22		
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67		
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98		
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13		
Total BTEx	<0.300	0.300	05/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	05/03/2018	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	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	<10.0	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	<10.0	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 80.9 % 41-142

Surrogate: 1-Chlorooctadecane 81.4 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: W @ SURFACE (H801205-13)

BTX 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	05/03/2018	ND	1.77	88.3	2.00	3.22		
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67		
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98		
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13		
Total BTX	<0.300	0.300	05/03/2018	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.8 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	05/03/2018	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	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	<10.0	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	<10.0	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 85.3 % 41-142

Surrogate: 1-Chlorooctadecane 87.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

BBC International, Inc.
Cliff Brunson
P.O. Box 805
Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	05/01/2018	Sampling Date:	04/30/2018
Reported:	05/08/2018	Sampling Type:	Soil
Project Name:	BLUE JAY FERDERAL #001H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	COG - LEA CO NM		

Sample ID: S @ SURFACE (H801205-14)

BTX 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	05/03/2018	ND	1.77	88.3	2.00	3.22	
Toluene*	<0.050	0.050	05/03/2018	ND	1.90	94.8	2.00	1.67	
Ethylbenzene*	<0.050	0.050	05/03/2018	ND	1.91	95.4	2.00	1.98	
Total Xylenes*	<0.150	0.150	05/03/2018	ND	5.87	97.8	6.00	2.13	
Total BTX	<0.300	0.300	05/03/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.9 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/03/2018	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	05/02/2018	ND	206	103	200	0.922	
DRO >C10-C28*	<10.0	10.0	05/02/2018	ND	206	103	200	3.25	
EXT DRO >C28-C36	<10.0	10.0	05/02/2018	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 114 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

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

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Celey D. Keene, Lab Director/Quality Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(505) 393-2326 FAX (505) 393-2476

[illegible]

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Relinquished By: <i>Jeff Omelas</i>		Date: <i>9/30/18</i>		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #:	
		Time: <i>5:00p</i>		<i>Huhie Samery</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #:	
Relinquished By:		Date: <i>5-1-18</i>		Received By:		REMARKS:	
<i>Huhie Samery</i>		Time: <i>3:20</i>		<i>Jodi Henson</i>			
Delivered By: (Circle One) <i>#75</i>		Sample Condition		CHECKED BY:			
<i>-4.3c / -4.35c</i>		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		<i>[Signature]</i>			
Sampler - UPS - Bus - Other:		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
		<input type="checkbox"/> No <input type="checkbox"/> No					

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(505) 393-2326 FAX (505) 393-2476

[illegible]

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: <i>VE Hoffman</i>		Date: <i>7/30/8</i>		Received By: <i>John Henry</i>		Time: <i>5:00p</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished By:		Date: <i>5-1-18</i>		Received By: <i>Jodi Henson</i>		Time: <i>3:20</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Delivered By: (Circle One) <i>#75</i>		Sample Condition		CHECKED BY:		REMARKS:					
Sampler - UPS - Bus - Other: <i>-4.30/-4.35</i>		Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No <input type="checkbox"/> Yes		<i>[Signature]</i>							

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

May 29, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: BLUE JAY FERDERAL #001H

Enclosed are the results of analyses for samples received by the laboratory on 05/22/18 11:20.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

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

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

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

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

BBC International, Inc.
P.O. Box 805
Hobbs NM, 88241

Project: BLUE JAY FERDERAL #001H
Project Number: NONE GIVEN
Project Manager: Cliff Brunson
Fax To: (575) 397-0397

Reported:
29-May-18 15:10

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP 1 @ 11'	H801406-01	Soil	18-May-18 10:44	22-May-18 11:20
SP 1 @ 16'	H801406-02	Soil	18-May-18 12:59	22-May-18 11:20

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:BBC International, Inc.
P.O. Box 805
Hobbs NM, 88241Project: BLUE JAY FERDERAL #001H
Project Number: NONE GIVEN
Project Manager: Cliff Brunson
Fax To: (575) 397-0397Reported:
29-May-18 15:10**SP 1 @ 11'**
H801406-01 (Soil)

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

Chloride	304		16.0	mg/kg	4	8052206	AC	22-May-18	4500-Cl-B	
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Green Analytical Laboratories**Soluble (DI Water Extraction)**

Chloride	374		10.0	mg/kg wet	10	B805183	JDA	24-May-18	EPA300.0	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:BBC International, Inc.
P.O. Box 805
Hobbs NM, 88241Project: BLUE JAY FERDERAL #001H
Project Number: NONE GIVEN
Project Manager: Cliff Brunson
Fax To: (575) 397-0397Reported:
29-May-18 15:10**SP 1 @ 16'**
H801406-02 (Soil)

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

Cardinal Laboratories**Inorganic Compounds**

Chloride	384		16.0	mg/kg	4	8052206	AC	22-May-18	4500-Cl-B	
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Green Analytical Laboratories**Soluble (DI Water Extraction)**

Chloride	399		10.0	mg/kg wet	10	B805183	JDA	24-May-18	EPA300.0	
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Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:BBC International, Inc.
P.O. Box 805
Hobbs NM, 88241Project: BLUE JAY FERDERAL #001H
Project Number: NONE GIVEN
Project Manager: Cliff Brunson
Fax To: (575) 397-0397Reported:
29-May-18 15:10**Inorganic Compounds - Quality Control****Cardinal Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 8052206 - 1:4 DI Water										
Blank (8052206-BLK1)				Prepared & Analyzed: 22-May-18						
Chloride	ND	16.0	mg/kg							
LCS (8052206-BS1)				Prepared & Analyzed: 22-May-18						
Chloride	432	16.0	mg/kg	400	108	80-120				
LCS Dup (8052206-BSD1)				Prepared & Analyzed: 22-May-18						
Chloride	432	16.0	mg/kg	400	108	80-120	0.00	20		

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:BBC International, Inc.
P.O. Box 805
Hobbs NM, 88241Project: BLUE JAY FERDERAL #001H
Project Number: NONE GIVEN
Project Manager: Cliff Brunson
Fax To: (575) 397-0397Reported:
29-May-18 15:10**Soluble (DI Water Extraction) - Quality Control****Green Analytical Laboratories**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B805183 - General Prep - Wet Chem**Blank (B805183-BLK1)**

Prepared: 24-May-18 Analyzed: 25-May-18

Chloride ND 10.0 mg/kg wet

LCS (B805183-BS1)

Prepared & Analyzed: 24-May-18

Chloride 240 10.0 mg/kg wet 250 96.1 85-115

LCS Dup (B805183-BSD1)

Prepared & Analyzed: 24-May-18

Chloride 234 10.0 mg/kg wet 250 93.5 85-115 2.74 20

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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:	Produced Water	Volume of Release:	8 bbls	Volume Recovered:	6 bbls
Source of Release:	Vacuum Truck	Date and Hour of Occurrence:	July 11, 2017 5:00 PM	Date and Hour of Discovery:	July 11, 2017 5:00 PM
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Date and Hour:				
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

RECEIVED

By Olivia Yu at 1:10 pm, Jul 21, 2017



Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a 3rd party contractor. While using a hydrovac truck to empty a tank, a gasket in the trucks system failed resulting in the release of produced water on the well pad. The hydrovac was shut off and replaced with different unit.

Describe Area Affected and Cleanup Action Taken.*

The release remained on location. 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: 		OIL CONSERVATION DIVISION	
Printed Name: Dakota Neel		Approved by Environmental Specialist: 	
Title: HSE Coordinator	Approval Date: 7/21/2017	Expiration Date:	
E-mail Address: dneel2@concho.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>	
Date: July 16, 2017 Phone: 575-746-2010			

* Attach Additional Sheets If Necessary

1RP-4758

nOY1720247725

pOY1720248056

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/16/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4758 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 1 office in Hobbs on or before 8/21/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

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