



DELINEATION WORKPLAN

OXY – STERLING SILVER 3 FEDERAL #6 CTB (Leak Date: 6/15/17)

**RP # 2RP-4261
API # 30-015-27638**

This delineation workplan and remediation proposal addresses the release associated with RP # 2RP-4261.

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:

OXY will excavate the spill area as depicted on the following site diagram. The leak area near SP1 – SP5 (pink shade on diagram) will be excavated to a depth of 1 foot. The leak area near SP6 and SP7 (green shade on diagram) will be excavated to a depth of 3 feet. The leak area near SP8 – SP10 (yellow shade on diagram) will be excavated to a depth of 4 feet with an impermeable liner installed in the excavation.

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.

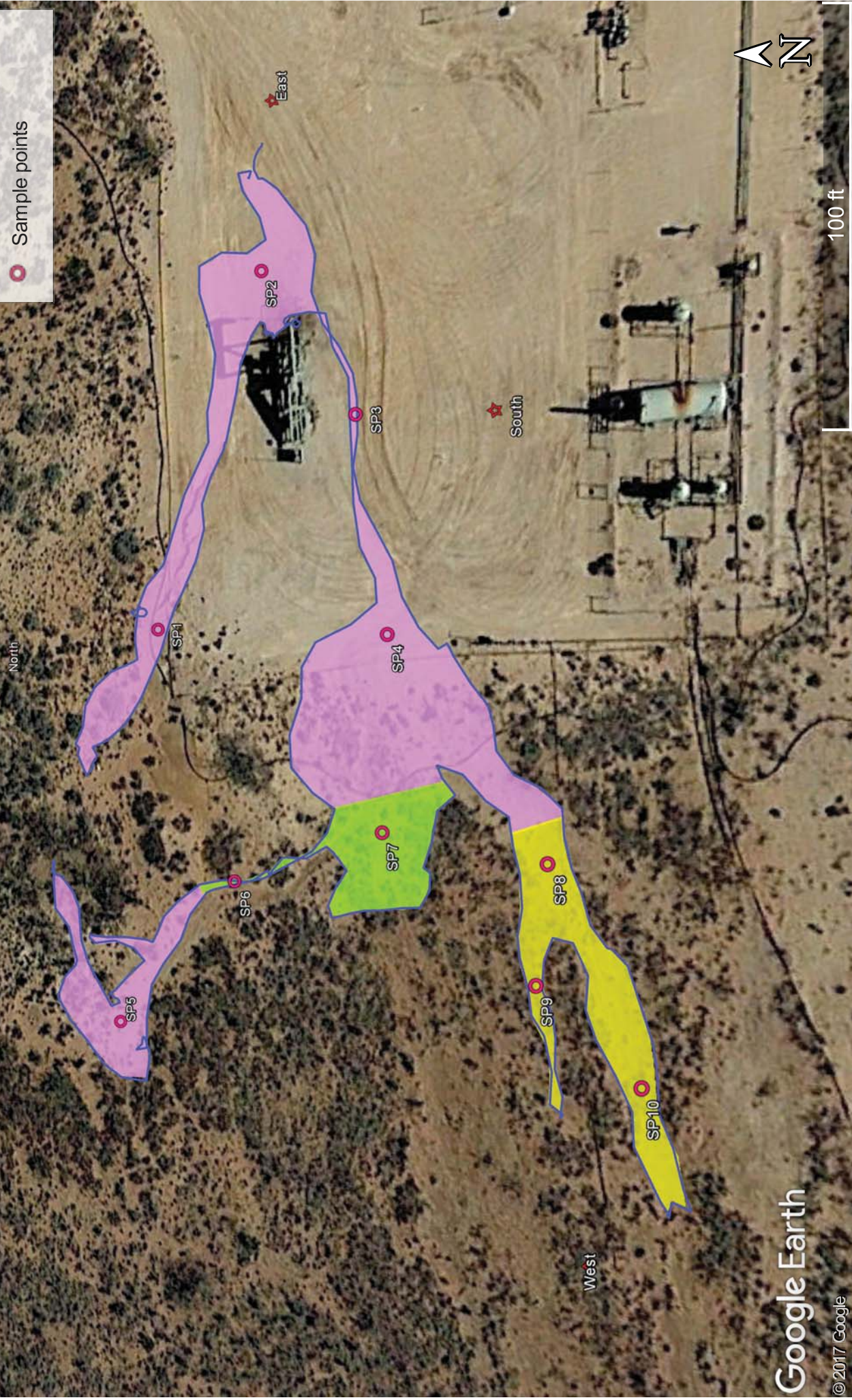
All excavated materials will be disposed of at an NMOCD-approved disposal facility.

Oxy, Sterling Silver 3 Federal #6 CTB

Leak date: 06/15/2017
Eddy County, NM
API# 30-015-27638
2RP-4261

Legend

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



Oxy, Sterling Silver 3 Federal #6 CTB

Sample points, hand auger

SP1, N 32.24835 W-103.76704

SP2, N 32.24824 W-103.76670

SP3, N 32.24816 W-103.76685

SP4, N 32.24813 W-103.76705

SP5, N 32.24840 W-103.76743

SP6, N 32.24828 W-103.76728

SP7, N 32.24814 W-103.76723

SP8, N 32.24800 W-103.76725

SP9, N 32.24800 W-103.76735

SP10, N 32.24793 W-103.76742

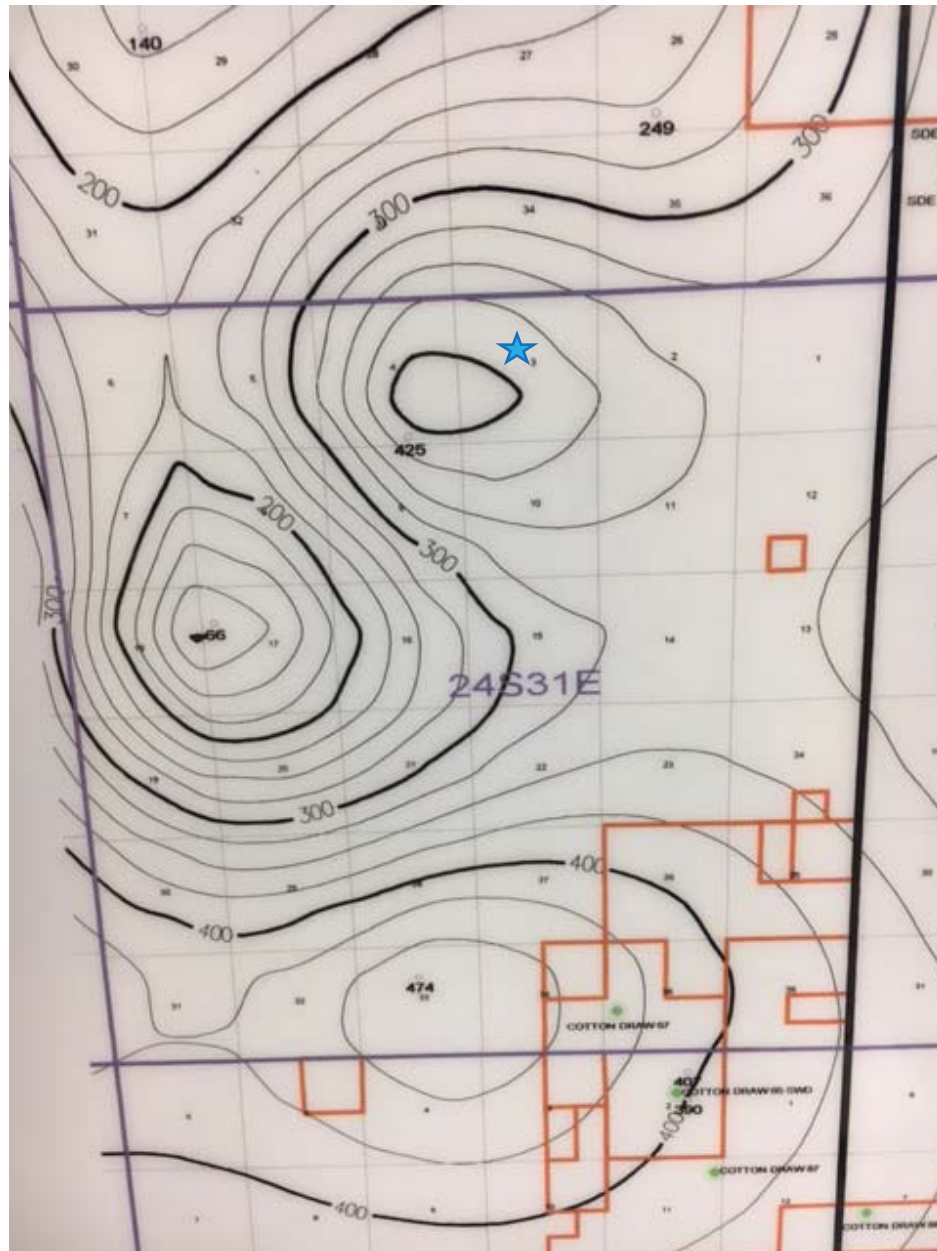
NORTH, N 32.24853 W-103.76706

SOUTH, N 32.24804 W-103.76686

EAST, N 32.24824 W-103.76654

WEST, N 32.24797 W-103.76758

Oxy, Sterling Silver 3 Federal #6 CTB
U/L F, Section 3, T24S, R31E
Groundwater: 375'





New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced,
O=orphaned,
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
C_02464		C	ED	3	4	1	02	24S	31E	617589	3568530*	<input type="text"/>	1510	320	205 115
C_02460		C	ED			3	02	24S	31E	617496	3568022*	<input type="text"/>	1532	320	
C_02460 POD2		C	ED			3	02	24S	31E	617496	3568022*	<input type="text"/>	1532	320	
C_02405		C	ED	4	1	02	24S	31E	617690	3568631*	<input type="text"/>	1609	275	160 115	
Average Depth to Water:														182 feet	
Minimum Depth:														160 feet	
Maximum Depth:														205 feet	

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 616081

Northing (Y): 3568610

Radius: 1700

*UTM location was derived from PLSS - see Help

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.

6/26/17 9:17 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Public Land Survey System (PLSS)

Q64:

Q16:

SE

Q4:

NW

Sec:

03

Tws:

24S

Rng:

31E

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):

616081.0

mtrs

Northing (Y):

3568610.0

mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~

Laboratory Analytical Results Summary
Sterling Silver 3 Federal #6 CTB (6/15/17)

Analyte	Method	Sample	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 6'	SP1 @ 11'
			mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17
Benzene	BTEX 8021B		n/a	<0.050	n/a	n/a
Toluene	BTEX 8021B		n/a	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		n/a	<0.300	n/a	n/a
Chloride	SM4500Cl-B		48	704	176	368
GRO	TPH 8015M		n/a	<10.0	n/a	n/a
DRO	TPH 8015M		n/a	<10.0	n/a	n/a
EXT DRO	TPH 8015M		n/a	<10.0	n/a	n/a

Analyte	Method	Sample	SP2 @ 1'	SP2 @ 2'	SP2 @ 7'	SP2 @ 12'
			mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17
Chloride	SM4500Cl-B		656	288	112	480

Analyte	Method	Sample	SP3 @ 1'	SP3 @ 2'	SP3 @ 7'	SP3 @ 12'
			mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a
Chloride	SM4500Cl-B		656	208	160	384
GRO	TPH 8015M		<10.0	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	n/a

Analyte	Method	Sample	SP4 @ 1'	SP4 @ 2'	SP4 @ 7'	SP4 @ 12'
			mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17
Chloride	SM4500Cl-B		608	288	160	256

Analyte	Method	Sample	SP5 @ 1'	SP5 @ 6'	SP5 @ 11'
			mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17
Benzene	BTEX 8021B		<0.050	n/a	n/a
Toluene	BTEX 8021B		0.097	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		80	96	304
GRO	TPH 8015M		<50.0	n/a	n/a
DRO	TPH 8015M		1310	n/a	n/a
EXT DRO	TPH 8015M		528	n/a	n/a

Analyte	Method	Sample	SP6 @ 1'	SP6 @ 3'	SP6 @ 7'	SP6 @ 15'
			mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17
Chloride	SM4500Cl-B		336	2680	160	128

Analyte	Method	Sample	SP7 @ 1'	SP7 @ 3'	SP7 @ 7'	SP7 @ 12'	SP7 @ 15'
			mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17	mg/Kg 8/23/17
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		592	3040	176	240	96
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a

Analyte	Method	Sample	SP8 @ 1'	SP8 @ 8'	SP8 @ 12'	SP8 @ 15'
			mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17
Chloride	SM4500Cl-B		288	8530	64	48

Analyte	Method	Sample	SP9 @ 1'	SP9 @ 7'	SP9 @ 10'	SP9 @ 11'	SP9 @ 12'	SP9 @ 15'
			mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17
Chloride	SM4500Cl-B		288	12900	2000	80	64	48

Analyte	Method	Sample	SP10 @ 1'	SP10 @ 6'	SP10 @ 8'	SP10 @ 12'	SP10 @ 15'
			mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17	mg/Kg 8/24/17
Benzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		304	17200	10500	48	64
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a

Analyte	Method	Sample	NORTH @ SURFACE	WEST @ SURFACE	EAST @ SURFACE	SOUTH @ SURFACE
			mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17	mg/Kg 8/22/17
Chloride	SM4500Cl-B		208	192	256	160

September 05, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: STERLING SILVER 3 FEDERAL #6 CTB

Enclosed are the results of analyses for samples received by the laboratory on 08/25/17 16:52.

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 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:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 1 @ SURFACE (H702265-01)

Chloride, SM4500CI-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	08/30/2017	ND	416	104	400	3.77	

Sample ID: SP 1 @ 1' (H702265-02)

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	08/31/2017	ND	1.70	85.1	2.00	5.19	
Toluene*	<0.050	0.050	08/31/2017	ND	1.65	82.7	2.00	4.53	
Ethylbenzene*	<0.050	0.050	08/31/2017	ND	1.74	86.8	2.00	3.56	
Total Xylenes*	<0.150	0.150	08/31/2017	ND	5.39	89.8	6.00	3.91	
Total BTX	<0.300	0.300	08/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	08/30/2017	ND	416	104	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	08/29/2017	ND	198	99.0	200	4.24	
DRO >C10-C28	<10.0	10.0	08/29/2017	ND	192	96.0	200	6.51	
EXT DRO >C28-C36	<10.0	10.0	08/29/2017	ND					

Surrogate: 1-Chlorooctane 113 % 28.3-164

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:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 1 @ 1' (H702265-02)

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Surrogate: 1-Chlorooctadecane	120 %	34.7-157							

Sample ID: SP 1 @ 6' (H702265-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	08/30/2017	ND	416	104	400	3.77	

Sample ID: SP 1 @ 11' (H702265-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	08/30/2017	ND	416	104	400	3.77	

Sample ID: SP 2 @ 1' (H702265-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/30/2017	ND	416	104	400	3.77	

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Fax To: (575) 397-0397

Received:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 2 @ 2' (H702265-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 2 @ 7' (H702265-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/30/2017	ND	416	104	400	3.77	

Sample ID: SP 2 @ 12' (H702265-08)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	08/30/2017	ND	416	104	400	3.77	

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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: 08/25/2017
Reported: 09/05/2017
Project Name: STERLING SILVER 3 FEDERAL #6 CTB
Project Number: (6/15/17 LEAK)
Project Location: EDDY COUNTY, NM

Sampling Date: 08/22/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SP 3 @ 1' (H702265-09)

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	08/31/2017	ND	1.70	85.1	2.00	5.19	
Toluene*	<0.050	0.050	08/31/2017	ND	1.65	82.7	2.00	4.53	
Ethylbenzene*	<0.050	0.050	08/31/2017	ND	1.74	86.8	2.00	3.56	
Total Xylenes*	<0.150	0.150	08/31/2017	ND	5.39	89.8	6.00	3.91	
Total BTX	<0.300	0.300	08/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/30/2017	ND	416	104	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	08/29/2017	ND	198	99.0	200	4.24	
DRO >C10-C28	<10.0	10.0	08/29/2017	ND	192	96.0	200	6.51	
EXT DRO >C28-C36	<10.0	10.0	08/29/2017	ND					

Surrogate: 1-Chlorooctane 107 % 28.3-164

Surrogate: 1-Chlorooctadecane 109 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager

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Received:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 3 @ 2' (H702265-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 3 @ 7' (H702265-11)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 3 @ 12' (H702265-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 4 @ 1' (H702265-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 4 @ 2' (H702265-14)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	08/30/2017	ND	416	104	400	3.77		

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Analytical Results For:

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

Received:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 4 @ 7' (H702265-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: SP 4 @ 12' (H702265-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	08/30/2017	ND	416	104	400	3.77		

Sample ID: NORTH @ SURFACE (H702265-17)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	08/30/2017	ND	416	104	400	3.77	

Sample ID: WEST @ SURFACE (H702265-18)

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	08/30/2017	ND	416	104	400	3.77		

Sample ID: EAST @ SURFACE (H702265-19)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	08/30/2017	ND	416	104	400	3.77		

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Received:	08/25/2017	Sampling Date:	08/22/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SOUTH @ SURFACE (H702265-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	08/30/2017	ND	416	104	400	0.00		

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Received:	08/25/2017	Sampling Date:	08/23/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 5 @ 1' (H702265-21)

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	08/31/2017	ND	1.70	85.1	2.00	5.19		
Toluene*	0.097	0.050	08/31/2017	ND	1.65	82.7	2.00	4.53		
Ethylbenzene*	<0.050	0.050	08/31/2017	ND	1.74	86.8	2.00	3.56		
Total Xylenes*	<0.150	0.150	08/31/2017	ND	5.39	89.8	6.00	3.91		
Total BTEx	<0.300	0.300	08/31/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 72-148

Chloride, SM4500CI-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	08/30/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS				S-06	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/29/2017	ND	198	99.0	200	4.24	
DRO >C10-C28	1310	50.0	08/29/2017	ND	192	96.0	200	6.51	
EXT DRO >C28-C36	528	50.0	08/29/2017	ND					

Surrogate: 1-Chlorooctane 99.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 190 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/25/2017
Reported: 09/05/2017
Project Name: STERLING SILVER 3 FEDERAL #6 CTB
Project Number: (6/15/17 LEAK)
Project Location: EDDY COUNTY, NM

Sampling Date: 08/23/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SP 5 @ 6' (H702265-22)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 5 @ 11' (H702265-23)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 6 @ 1' (H702265-24)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	336	16.0	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 6 @ 3' (H702265-25)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2680	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 6 @ 7' (H702265-26)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/30/2017	ND	416	104	400	0.00	

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Received:	08/25/2017	Sampling Date:	08/23/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 6 @ 12' (H702265-27)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 6 @ 15' (H702265-28)

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	08/30/2017	ND	416	104	400	0.00		

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Received:	08/25/2017	Sampling Date:	08/23/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 7 @ 1' (H702265-29)

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	08/31/2017	ND	1.70	85.1	2.00	5.19		
Toluene*	<0.050	0.050	08/31/2017	ND	1.65	82.7	2.00	4.53		
Ethylbenzene*	<0.050	0.050	08/31/2017	ND	1.74	86.8	2.00	3.56		
Total Xylenes*	<0.150	0.150	08/31/2017	ND	5.39	89.8	6.00	3.91		
Total BTX	<0.300	0.300	08/31/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	08/30/2017	ND	416	104	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	08/29/2017	ND	198	99.0	200	4.24	
DRO >C10-C28	<10.0	10.0	08/29/2017	ND	192	96.0	200	6.51	
EXT DRO >C28-C36	<10.0	10.0	08/29/2017	ND					

Surrogate: 1-Chlorooctane 113 % 28.3-164

Surrogate: 1-Chlorooctadecane 120 % 34.7-157

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Received:	08/25/2017	Sampling Date:	08/23/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 7 @ 3' (H702265-30)

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	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 7 @ 7' (H702265-31)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 7 @ 12' (H702265-32)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 7 @ 15' (H702265-33)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 8 @ 1' (H702265-34)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/30/2017	ND	416	104	400	0.00	

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Received:	08/25/2017	Sampling Date:	08/24/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 8 @ 8' (H702265-35)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	8530	16.0	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 8 @ 12' (H702265-36)

Chloride, SM4500CI-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	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 8 @ 15' (H702265-37)

Chloride, SM4500CI-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	08/30/2017	ND	416	104	400	0.00		

Sample ID: SP 9 @ 1' (H702265-38)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	08/30/2017	ND	416	104	400	0.00	

Sample ID: SP 9 @ 7' (H702265-39)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12900	16.0	08/30/2017	ND	416	104	400	0.00	

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Received:	08/25/2017	Sampling Date:	08/24/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 9 @ 10' (H702265-40)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2000	16.0	08/30/2017	ND	432	108	400	3.64	QM-07	

Sample ID: SP 9 @ 11' (H702265-41)

Chloride, SM4500CI-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	08/30/2017	ND	432	108	400	3.64		

Sample ID: SP 9 @ 12' (H702265-42)

Chloride, SM4500CI-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	08/30/2017	ND	432	108	400	3.64	

Sample ID: SP 9 @ 15' (H702265-43)

Chloride, SM4500CI-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	08/30/2017	ND	432	108	400	3.64		

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Received: 08/25/2017
Reported: 09/05/2017
Project Name: STERLING SILVER 3 FEDERAL #6 CTB
Project Number: (6/15/17 LEAK)
Project Location: EDDY COUNTY, NM

Sampling Date: 08/24/2017
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Tamara Oldaker

Sample ID: SP 10 @ 1' (H702265-44)

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	08/31/2017	ND	1.70	85.1	2.00	5.19	
Toluene*	<0.050	0.050	08/31/2017	ND	1.65	82.7	2.00	4.53	
Ethylbenzene*	<0.050	0.050	08/31/2017	ND	1.74	86.8	2.00	3.56	
Total Xylenes*	<0.150	0.150	08/31/2017	ND	5.39	89.8	6.00	3.91	
Total BTX	<0.300	0.300	08/31/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	304	16.0	08/30/2017	ND	432	108	400	3.64	

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	08/29/2017	ND	198	99.0	200	4.24	
DRO >C10-C28	<10.0	10.0	08/29/2017	ND	192	96.0	200	6.51	
EXT DRO >C28-C36	<10.0	10.0	08/29/2017	ND					

Surrogate: 1-Chlorooctane 107 % 28.3-164

Surrogate: 1-Chlorooctadecane 113 % 34.7-157

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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:	08/25/2017	Sampling Date:	08/24/2017
Reported:	09/05/2017	Sampling Type:	Soil
Project Name:	STERLING SILVER 3 FEDERAL #6 CTB	Sampling Condition:	** (See Notes)
Project Number:	(6/15/17 LEAK)	Sample Received By:	Tamara Oldaker
Project Location:	EDDY COUNTY, NM		

Sample ID: SP 10 @ 6' (H702265-45)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	17200	16.0	08/30/2017	ND	432	108	400	3.64		

Sample ID: SP 10 @ 8' (H702265-46)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10500	16.0	08/30/2017	ND	432	108	400	3.64	

Sample ID: SP 10 @ 12' (H702265-47)

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	08/30/2017	ND	432	108	400	3.64	

Sample ID: SP 10 @ 15' (H702265-48)

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	08/30/2017	ND	432	108	400	3.64		

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240
(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2085

BILL TO

ANALYSIS REQUEST

2085

Company Name: BBC International, Inc.
Project Manager: Cliff Brunson
Address: P.O. Box 805
City: Hobbs
Phone #: 575-397-6388
Project #:
Project Name: Sterling Silver 3 Federal #6 CTB (6/15/17 leak)
Project Location: Eddy County, NM
Sampler Name: Roger Hernandez

P.O. #:
Company: *OK*
Attn: *Wade Strick*
Address:
City:
State: Zip:
Phone #:
Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :												
11	SP3 @ 7'	G	1							8/22/17	11:23 AM	✓									
12	SP3 @ 12'	G	1							8/22/17	11:37 AM	✓									
13	SP4 @ 1'	G	1							8/22/17	11:55 AM	✓									
14	SP4 @ 2'	G	1							8/22/17	12:08 PM	✓									
15	SP4 @ 7'	G	1							8/22/17	12:15 PM	✓									
14	SP4 @ 12'	G	1							8/22/17	12:27 PM	✓									
17	NORTH @ SURFACE	G	1							8/22/17	1:05 PM	✓									
18	WEST @ SURFACE	G	1							8/22/17	1:20 PM	✓									
19	EAST @ SURFACE	G	1							8/22/17	1:35 PM	✓									
20	SOUTH @ SURFACE	G	1							8/22/17	1:50 PM	✓									

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Relinquished By: *Wade Strick*
Date: *8/21/17*
Time: *5:30 PM*
Received By: *Wade Strick*
Date: *8/22/17*
Time: *4:52*

Relinquished By: *Wade Strick*
Date: *8/22/17*
Time: *4:52*
Received By: *Wade Strick*
Date: *8/22/17*
Time: *4:52*

Delivered By: (Circle One) *9:05C/88C*
Sampler - UPS - Bus - Other: *HC*

Sample Condition: *Intact*
Cool: ☒ Yes ☐ No
Intact: ☒ Yes ☐ No
Checked By: *HC*

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

REMARKS:

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

Corrected 4:25 C



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

325

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: Sterling Silver 3 Federal #6 CTB (6/15/17 leak)

Project Location: Eddy County, NM

Sampler Name: Roger Hernandez

BILL TO
P.O. #:
Company: *Oxy*
Attn: *Wade Hrich*
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :												
21	SP5 @ 1'		1							8/23/17	9:20 AM	✓									
22	SP5 @ 6'		1							8/23/17	9:29 AM	✓									
23	SP5 @ 11'		1							8/23/17	9:45 AM	✓									
24	SP6 @ 1'		1							8/23/17	10:08 AM	✓									
25	SP6 @ 3'		1							8/23/17	10:31 AM	✓									
26	SP6 @ 7'		1							8/23/17	10:59 AM	✓									
27	SP6 @ 12'		1							8/23/17	11:15 AM	✓									
28	SP6 @ 15'		1							8/23/17	11:45 AM	✓									
29	SP7 @ 1'		1							8/23/17	1:00 PM	✓									
30	SP7 @ 3'		1							8/23/17	1:30 PM	✓									

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Relinquished By:

Wade Hrich

Date: 8/24/17

Time: 3:30 PM

Received By:

Wade Hrich

Phone Result: ☐ Yes ☐ No

Adm'l Phone #:

Fax Result: ☐ Yes ☐ No

Adm'l Fax #:

REMARKS:

Relinquished By:

Wade Hrich

Date: 8/23/17

Time: 4:52

Received By:

Wade Hrich

Phone Result: ☐ Yes ☐ No

Adm'l Phone #:

Fax Result: ☐ Yes ☐ No

Adm'l Fax #:

REMARKS:

Delivered By: (Circle One)

9.05°C / 88.8°C

Sample Condition

Cool ☐ Intact ☒

Checked By: (Initials)

HC

REMARKS:

REMARKS:

REMARKS:

REMARKS:

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

Corrected +.25°C



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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4086

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: Sterling Silver 3 Federal #6 CTB (6/15/17 leak)

Project Location: Eddy County, NM

Sampler Name: Roger Hernandez

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: Oxy

Attn: Wade Stith

Address:

City:

State: Zip:

Phone #:

Fax #:

FOR LAB USE ONLY

Lab I.D. Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME										
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :												
31	SP7 @ 7'		1									8/23/17	2:31 PM	✓							
32	SP7 @ 12'		1									8/23/17	2:42 PM	✓							
33	SP7 @ 15'		1									8/23/17	3:08 PM	✓							
34	SP8 @ 1'		1									8/24/17	9:08 AM	✓							
35	SP8 @ 8'		1									8/24/17	9:31 AM	✓							
36	SP8 @ 12'		1									8/24/17	9:59 AM	✓							
37	SP8 @ 15'		1									8/24/17	10:25 AM	✓							
38	SP9 @ 1'		1									8/24/17	10:55 AM	✓							
39	SP9 @ 7'		1									8/24/17	11:26 AM	✓							
40	SP9 @ 10'		1									8/24/17	11:52 AM	✓							

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Relinquished By:

Received By:

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

REMARKS:

Relinquished By:

Received By:

Delivered By: (Circle One)

Sample Condition: ☐ Cool ☐ Intact ☐ Yes ☐ No

Sampler - UPS - Bus - Other:

CHECKED BY: (Initials)

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Corrected +.25°C

ORDINAL LABORATORIES

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

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corrected to 25°C

NM OIL CONSERVATION
ARTESIA DISTRICT

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

JUN 20 2017

Form C-141
Revised April 3, 2017

RECEIVED Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

DAB1717251561 **OPERATOR** ☒ Initial Report ☐ Final Report

Name of Company <i>OXY USA INC</i>	Contact CASEY L SUMMERS
Address PO BOX 4294; HOUSTON, TX 77210	Telephone No. 575-513-8289
Facility Name STERLING SILVER 3 FED 6 CTB	Facility Type BATTERY

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-27638
------------------------	------------------------	----------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	3	24S	31E					EDDY

Latitude _32.2481995_ Longitude _-103.7667236_ NAD83

NATURE OF RELEASE

Type of Release PRODUCED WATER	Volume of Release 25 bbls	Volume Recovered 0 bbls
Source of Release 3 inch poly line from water transfer pump	Date and Hour of Occurrence 6-15-2017	Date and Hour of Discovery 6-16-2017
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? MIKE BRATCHER-NMOCD; CRYSTAL WEAVER-NMOCD; SHELLY TUCKER-BLM	
By Whom? CASEY L SUMMERS	Date and Hour 6-16-2017 @ 12:47PM	
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.*



Describe Cause of Problem and Remedial Action Taken.*

Spill was caused by a failure in a 3 inch poly line from the water transfer pump. Total volume spill was 25 bbls, with no fluid recovered (sandy area). Line was repaired and returned to service.

Describe Area Affected and Cleanup Action Taken.*

The affected area from the spill is 40 by 40 ft (measurements are subject to change with future GPS track). Remediation will be completed in accordance with a remediation plan approved by the NMOCD and BLM.

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: CASEY L SUMMERS		Signed By:  Approved by Environmental Specialist	
Title: ENVIRONMENTAL ADVISOR		Approval Date: 6/21/17	Expiration Date: NIA
E-mail Address: casey_summers@oxy.com		Conditions of Approval:	
Date: 6-20-17 Phone: 575-513-8289		See attached <input type="checkbox"/> Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

2RP-4261

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 6/20/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4241 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 2 office in ARTESIA on or before 7/20/17. 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.

Jim Griswold

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

Bratcher, Mike, EMNRD

From: Casey_Summers@oxy.com
Sent: Tuesday, June 20, 2017 3:33 PM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; stucker@blm.gov
Cc: cbrunson@bbcinternational.com; kswinney@bbcinternational.com; kathy@bbcinternational.com; Jennifer_Smith@oxy.com; jgilkey@bbcinternational.com; Wade_Dittrich@oxy.com
Subject: RE: STERLING SILVER 3 FEDERAL 6 CTB
Attachments: STERLING SILVER 3 FED 6 CTB - INITIAL C-141.pdf

All,
Please find the initial C141 for the below release attached.

Let me know if you have any questions.

Casey Summers
O: (575)-628-4152
C: (575)-513-8289

From: Summers, Casey L
Sent: Friday, June 16, 2017 11:47 AM
To: 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; 'Weaver, Crystal, EMNRD' <Crystal.Weaver@state.nm.us>; 'Tucker, Shelly' <stucker@blm.gov>
Cc: 'Cliff Brunson' <cbrunson@bbcinternational.com>; 'Ken Swinney' <kswinney@bbcinternational.com>; 'Kathy Purvis' <kathy@bbcinternational.com>; Smith, Jennifer A <Jennifer_Smith@oxy.com>; Jennifer Gilkey <jgilkey@bbcinternational.com>; Dittrich, John W (Ervin Well Site Consultants) <Wade_Dittrich@oxy.com>
Subject: STERLING SILVER 3 FEDERAL 6 CTB

All,
This is to inform you that Oxy Permian had a recordable release in Eddy County at the STERLING SILVER 3 FEDERAL 6 CTB on 6/15/2017.

- **Release Location:** Legal F-03-24S-31E, API#30-015-27638
- **Release Volume:** 0 bbl of Oil and 25 bbls of Produced Water.
- **Recovered:** 0 bbls of total fluid recovered
- **Cause of Release:** 3 INCH POLY LINE FROM WATER TRANSFER PUMP
- **Approximate Area impacted by release:** SURFACE AREA 40x40 FT (measurements are subject to change with future GPS track)
- **GPS Coordinates and Driving Direction:** 32.2481995,-103.7667236, COMING FROM JAL NM TAKE HWY 128 TO MM17 TURN LEFT JUST AFTER MM17 AT THE PORTA JOHN GO STRAIGHT AND TURN RIGHT AT THE T THEN GO TO A 2 TRACK LEASE ROAD AND FOLLOW IT TO THE NEXT T AND GO LEFT CROSSING A CATTLE GUARD AND TURN LEFT THE LOCATION IS ON THE RIGHT