



DELINEATION WORKPLAN

OXY – LOST TANK 3 FEDERAL #18 (Leak Date: 4/27/17)

**RP # 2RP-4199
API # 30-015-37908**

This delineation workplan and remediation proposal addresses the release associated with RP # 2RP-4199.

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, SP2, SP3, SP6, and SP7 (shaded in pink) will require no remediation. The area near SP4 and SP5 (shaded in green) will be excavated to a depth of 1 foot. The area near SP8, SP9, and SP10 (shaded in blue) will be excavated to a depth of 2 feet.

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.

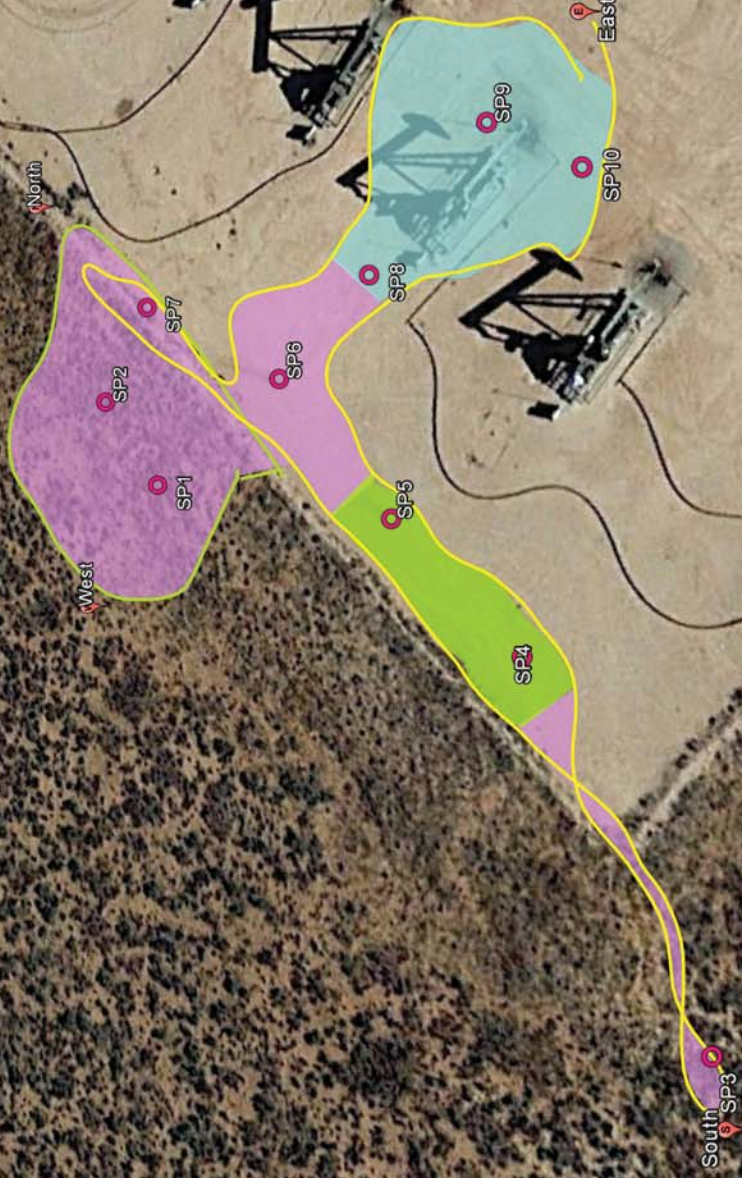
All excavated materials will be disposed of at an NMOCD-approved disposal facility.

Oxy, Lost Tank 3 Federal #18

Leak date: 04/27/2017
Eddy County, NM
API# 30-015-37908
2RP-4199

Legend

- 1' Excavation
- 2' Excavation
- East sample, hand auger
- Leak area
- Leak Area
- No remediation necessary
- North sample, hand auger
- Sample points, hand auger
- South sample, hand auger
- West sample, hand auger



Oxy, Lost Tank 3 Federal #18

Sample points, hand auger

SP1, N 32.41572 W-103.76367

SP2, N 32.41577 W-103.76360

SP3, N 32.41528 W-103.76407

SP4, N 32.41541 W-103.76378

SP5, N 32.41551 W-103.76368

SP6, N 32.41561 W-103.76357

SP7, N 32.41573 W-103.76352

SP8, N 32.41553 W-103.76349

SP9, N 32.41544 W-103.76337

SP10, N 32.41537 W-103.76340

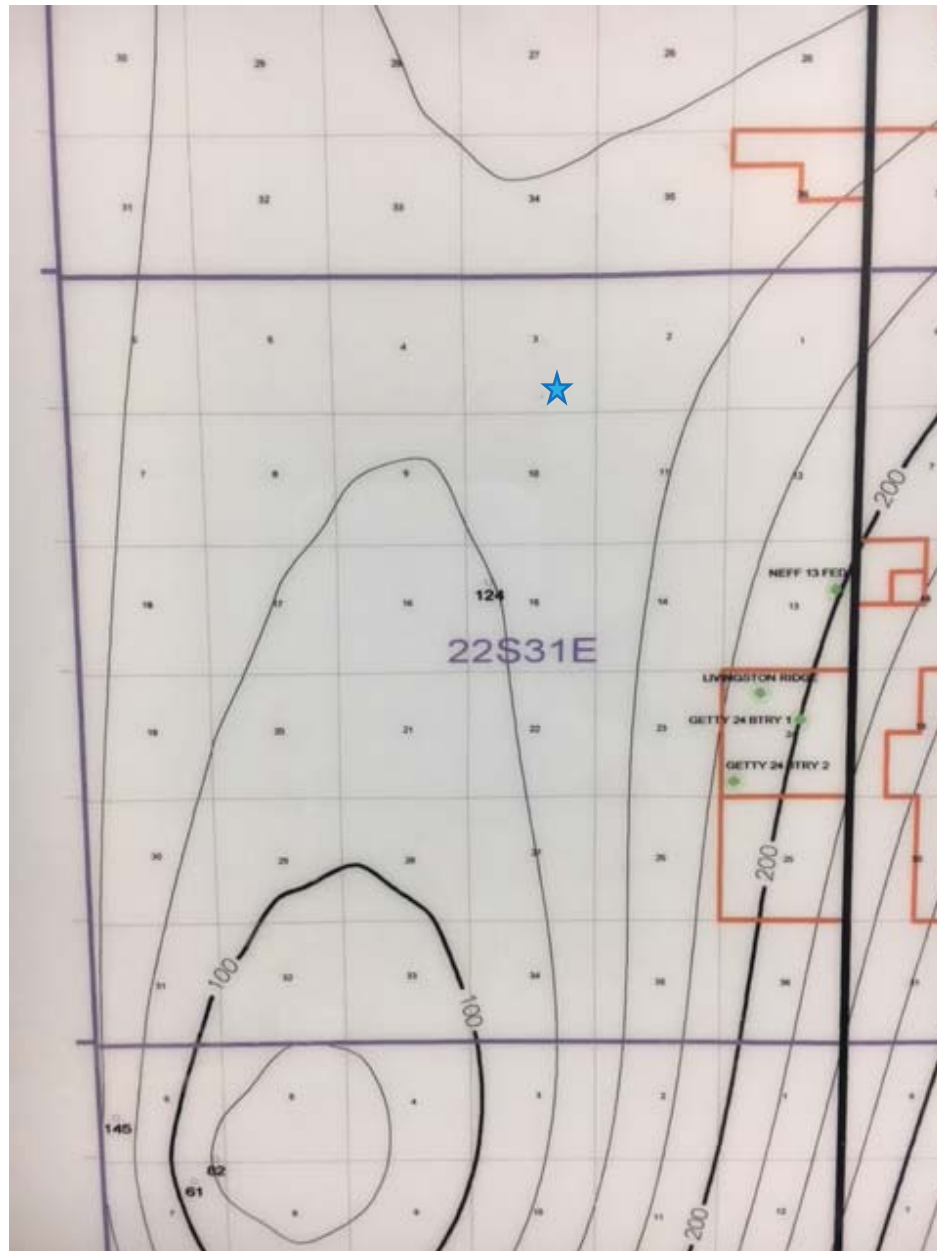
NORTH, N 32.41583 W-103.76343

SOUTH, N 32.41526 W-103.76412

EAST, N 32.41536 W-103.76328

WEST, N 32.41578 W-103.76378

Oxy, Lost Tank 3 Federal #18
U/L O, Section 3, T22S, R31E
Groundwater: 125'-150'



Laboratory Analytical Results Summary
Lost Tank 3 Federal #18

Analyte	Method	Sample	
		Date	SP1 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		80
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP2 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		80
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP3 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		16
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP4 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		1470
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP5 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		1490
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP6 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		32
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP7 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		48
DRO	TPH 8015M		<10.0

Analyte	Method	Sample	
		Date	SP8 @ 1' 5/4/17
Benzene	BTEX 8021B		mg/Kg
			n/a
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		n/a
Total Xylenes	BTEX 8021B		<0.050
Total BTEX	BTEX 8021B		<0.150
Chloride	SM4500Cl-B		n/a
GRO	TPH 8015M		112
DRO	TPH 8015M		<10.0

Laboratory Analytical Results Summary
Lost Tank 3 Federal #18

		Sample	SP8 @ 1'	SP8 @ 2'	SP8 @ 3'	SP8 @ 5'	SP8 @ 7'	SP8 @ 8'	SP8 @ 9'	SP8 @ 14'
Analyte	Method	Date	5/4/17	5/4/17	5/4/17	5/5/17	5/5/17	5/5/17	5/5/17	5/5/17
			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
Toluene	BTEX 8021B		<0.050	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
Total Xylenes	BTEX 8021B		<0.150	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
Chloride	SM4500Cl-B		1300	1840	1550	2400	16	272	32	16
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SP9 @ 1'	SP9 @ 3'	SP9 @ 5'	SP9 @ 7'	SP9 @ 8'	SP9 @ 13'
Analyte	Method	Date	5/5/17	5/5/17	5/5/17	5/5/17	5/5/17	5/5/17
			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
Toluene	BTEX 8021B		<0.050	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
Total Xylenes	BTEX 8021B		<0.150	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
Chloride	SM4500Cl-B		1280	1640	944	272	16	32
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	SP10 @ 1'	SP10 @ 3'	SP10 @ 5'	SP10 @ 7'	SP10 @ 8'	SP10 @ 13'
Analyte	Method	Date	5/5/17	5/5/17	5/5/17	5/5/17	5/5/17	5/5/17
			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
Toluene	BTEX 8021B		<0.050	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
Total Xylenes	BTEX 8021B		<0.150	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
Chloride	SM4500Cl-B		1150	2440	2680	288	32	<16
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a

		Sample	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	5/5/17	5/5/17	5/5/17	5/5/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		<16	<16	<16	16
GRO	TPH 8015M		n/a	n/a	n/a	n/a
DRO	TPH 8015M		n/a	n/a	n/a	n/a

May 15, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LOST TANK 3 FEDERAL #18

Enclosed are the results of analyses for samples received by the laboratory on 05/08/17 16:35.

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:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP1 @ 1 (H701232-01)

BTX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17	
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84	
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63	
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86	
Total BTX	<0.300	0.300	05/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	80.0	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 79.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.0 % 34.7-157

Sample ID: SP1 @ 6 (H701232-02)

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	05/11/2017	ND	432	108	400	3.64	

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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:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP2 @ 1 (H701232-03)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTEx	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 127 % 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	80.0	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 80.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.1 % 34.7-157

Sample ID: SP2 @ 6 (H701232-04)

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	05/11/2017	ND	416	104	400	0.00	

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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:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP3 @ 1 (H701232-05)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTEX	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 124 % 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	16.0	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	32.3	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 81.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.9 % 34.7-157

Sample ID: SP3 @ 2 (H701232-06)

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	05/11/2017	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP3 @ 3 (H701232-07)

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	05/11/2017	ND	416	104	400	0.00		

Sample ID: SP3 @ 8 (H701232-08)

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	05/11/2017	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

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Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP4 @ 1 (H701232-09)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTEx	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 128 % 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	1470	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 78.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 71.1 % 34.7-157

Sample ID: SP4 @ 2 (H701232-10)

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	05/11/2017	ND	416	104	400	0.00	

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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:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP4 @ 3 (H701232-11)

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	05/11/2017	ND	416	104	400	0.00		

Sample ID: SP4 @ 8 (H701232-12)

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	05/11/2017	ND	416	104	400	0.00		

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP5 @ 1 (H701232-13)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTEx	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 128 % 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	1490	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 75.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 72.8 % 34.7-157

Sample ID: SP5 @ 2 (H701232-14)

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	05/11/2017	ND	416	104	400	0.00	

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP5 @ 3 (H701232-15)

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	05/11/2017	ND	416	104	400	0.00		

Sample ID: SP5 @ 8 (H701232-16)

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	05/11/2017	ND	416	104	400	0.00		

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP6 @ 1 (H701232-17)

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTX	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 126 % 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	32.0	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76		
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844		

Surrogate: 1-Chlorooctane 85.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 82.6 % 34.7-157

Sample ID: SP6 @ 2 (H701232-18)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	05/11/2017	ND	416	104	400	0.00		

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP6 @ 7 (H701232-19)

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	05/11/2017	ND	416	104	400	0.00	

Sample ID: SP7 @ 1 (H701232-20)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17	
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84	
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63	
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86	
Total BTEX	<0.300	0.300	05/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 127 % 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	48.0	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 83.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.7 % 34.7-157

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP7 @ 2 (H701232-21)

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	05/11/2017	ND	416	104	400	0.00		

Sample ID: SP7 @ 7 (H701232-22)

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	05/11/2017	ND	416	104	400	0.00		

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP8 @ 1 (H701232-23)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.08	104	2.00	1.17		
Toluene*	<0.050	0.050	05/13/2017	ND	2.10	105	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.12	106	2.00	2.63		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	6.23	104	6.00	1.86		
Total BTEx	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 125 % 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	1300	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 73.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.1 % 34.7-157

Sample ID: SP8 @ 2 (H701232-24)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1840	16.0	05/11/2017	ND	416	104	400	3.77		

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

Received:	05/08/2017	Sampling Date:	05/04/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP8 @ 3 (H701232-25)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1550	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP8 @ 5 (H701232-26)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2400	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP8 @ 7 (H701232-27)

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	05/11/2017	ND	416	104	400	3.77	

Sample ID: SP8 @ 8 (H701232-28)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP8 @ 9 (H701232-29)

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	05/11/2017	ND	416	104	400	3.77		

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

Received:	05/08/2017	Sampling Date:	05/05/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP8 @ 14 (H701232-30)

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	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP9 @ 1 (H701232-31)

BTEX 8021B		mg/kg		Analyzed By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/13/2017	ND	2.40	120	2.00	0.806	
Toluene*	<0.050	0.050	05/13/2017	ND	2.41	121	2.00	1.84	
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.39	119	2.00	0.822	
Total Xylenes*	<0.150	0.150	05/13/2017	ND	7.19	120	6.00	0.808	
Total BTEX	<0.300	0.300	05/13/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 130 % 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	1280	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 81.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.2 % 34.7-157

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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:	05/08/2017	Sampling Date:	05/05/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP9 @ 3 (H701232-32)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1640	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP9 @ 5 (H701232-33)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	944	16.0	05/11/2017	ND	416	104	400	3.77	

Sample ID: SP9 @ 7 (H701232-34)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP9 @ 8 (H701232-35)

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	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP9 @ 13 (H701232-36)

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	05/11/2017	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:	05/08/2017	Sampling Date:	05/05/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP10 @ 1 (H701232-37)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/13/2017	ND	2.40	120	2.00	0.806		
Toluene*	<0.050	0.050	05/13/2017	ND	2.41	121	2.00	1.84		
Ethylbenzene*	<0.050	0.050	05/13/2017	ND	2.39	119	2.00	0.822		
Total Xylenes*	<0.150	0.150	05/13/2017	ND	7.19	120	6.00	0.808		
Total BTEx	<0.300	0.300	05/13/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 129 % 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	1150	16.0	05/11/2017	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	05/12/2017	ND	187	93.6	200	1.76	
DRO >C10-C28	<10.0	10.0	05/12/2017	ND	191	95.5	200	0.844	

Surrogate: 1-Chlorooctane 69.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 75.9 % 34.7-157

Sample ID: SP10 @ 3 (H701232-38)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2440	16.0	05/11/2017	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:	05/08/2017	Sampling Date:	05/05/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: SP10 @ 5 (H701232-39)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2680	16.0	05/11/2017	ND	416	104	400	3.77		

Sample ID: SP10 @ 7 (H701232-40)

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	05/11/2017	ND	416	104	400	3.77	

Sample ID: SP10 @ 8 (H701232-41)

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	05/11/2017	ND	416	104	400	3.77	

Sample ID: SP10 @ 13 (H701232-42)

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	05/11/2017	ND	416	104	400	3.77		

Sample ID: NORTH @ 1 (H701232-43)

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	05/11/2017	ND	432	108	400	3.64		

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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:	05/08/2017	Sampling Date:	05/05/2017
Reported:	05/15/2017	Sampling Type:	Soil
Project Name:	LOST TANK 3 FEDERAL #18	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	WIPP RD		

Sample ID: EAST @ 1 (H701232-44)

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	05/11/2017	ND	432	108	400	3.64		

Sample ID: WEST @ 1 (H701232-45)

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	05/11/2017	ND	432	108	400	3.64		

Sample ID: SOUTH @ 1 (H701232-46)

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	05/11/2017	ND	432	108	400	3.64	

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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

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Celey D. Keene, Lab Director/Quality Manager

ORDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: *lost Tank 3 Federal #10*

Project Location: *WIPP Rd*

Sample Name: *L20*

State: NM **Zip:** 88241

Fax #: 575-397-0397

Project Owner: *OXY*

City:

State: *10* **Zip:**

Phone #:

Fax #:

BILL TO

P.O. #:

Company: *Oxy*

Attn:

Address:

City:

State: *10* **Zip:**

Phone #:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							PRESERV	SAMPLING	DATE	TIME	ANALYSIS					
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					ICE / COOL	OTHER :	BTEX	TPH	CI-	
<i>#101332</i>	<i>SP106</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>5-4</i>	<i>859</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>2</i>	<i>SP206</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>911</i>	<i>911</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>3</i>	<i>SP206</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1001</i>	<i>1001</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>4</i>	<i>SP306</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1022</i>	<i>1022</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>5</i>	<i>SP306</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1105</i>	<i>1105</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>6</i>	<i>SP306</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1111</i>	<i>1111</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>7</i>	<i>SP306</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1125</i>	<i>1125</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>8</i>	<i>SP406</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1210</i>	<i>1210</i>	<i>X</i>	<i>X</i>	<i>X</i>				
<i>9</i>	<i>SP406</i>	<i>G-1</i>	<i>1</i>	<i>X</i>		<i>X</i>						<i>1250</i>	<i>1250</i>	<i>X</i>	<i>X</i>	<i>X</i>				

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Relinquished By: *WIP*

Date: *5-8-17*

Time: *4:35*

Received By: *Quiana*

Date: *5-8-17*

Time: *4:35*

REMARKS:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other: *L.O.C.*

Sample Condition

Cool Intact

Yes ☒ **No** ☐

Checked By: *WIP*

Phone Result: ☐ **Yes** ☐ **No** ☐

Add'l Phone #:

Add'l Fax #:



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2/5

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: *lost Tank 3 Federz / #18*

Project Location: *41pp Rd*

Sampler Name: *VC*

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H101232

11

12

13

14

15

16

17

18

19

20

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

MATRIX

PRESERV

SAMPLING

BILL TO

ANALYSIS REQUEST

P.O. #:

Company:

Attn:

Address:

City:

State:

Phone #:

Fax #:

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

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

Relinquished By: *VC*

Date: *8-2-17*
Time:

Received By:

Date: *8-8-17*
Time: *4:35*

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

600

Sample Condition
☒ Cool ☐ Intact
☒ Yes ☐ No

CHECKED BY: *VC*

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



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3/8

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: lost Tank 3 Federal # 10

Project Location: WPP Federal # 10

Sampler Name: V.O.

BILL TO

P.O. #:

Company: OXY

Attn:

Address:

City:

State:

Zip:

Fax #:

ANALYSIS REQUEST

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CI-
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
HPD1332	SP7022	G-1	1	X		X								
21	SP7027	G-1	1	X		X								
22	SP002	G-1	1	X		X								
23	3	G-1	1	X		X								
24	5700	G-1	1	X		X								
25	2	G-1	1	X		X								
26	3	G-1	1	X		X								
27	5700	G-1	1	X		X								
28	14	G-1	1	X		X								
29		G-1	1	X		X								
30		G-1	1	X		X								

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Relinquished By: [Signature]

Date: 8-17

Time:

Received By: [Signature]

Date: 8-17

Time:

Relinquished By: [Signature]

Date: 8-17

Time:

Received By: [Signature]

Date: 8-17

Time:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition

Cool / Intact

CHECKED BY: [Signature]

(Initials)

Phone Result: ☐ Yes ☐ No

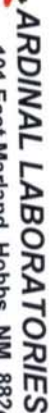
Fax Result: ☐ Yes ☐ No

Add'l Phone #: ☐ Yes ☐ No

Add'l Fax #: ☐ Yes ☐ No

REMARKS:

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

 $\frac{4}{5}$

RECORDS OF CORRECTIONS			
Phone Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Phone #:
Fax Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Fax #:
REMARKS:			



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

8/5

Company Name: BBC International, Inc.		BILL TO		ANALYSIS REQUEST									
Project Manager: Cliff Brunson		P.O. #:											
Address: P.O. Box 805		Company:		OXY									
City: Hobbs		Attn:											
State: NM Zip: 88241		Address:											
Phone #: 575-397-6388 Fax #: 575-397-0397		City:											
Project #:		State:		Zip:									
Project Name: Lost Tank 3 Federal Hwy		Phone #:											
Project Location: WHP & Federal Hwy		Fax #:											
Sampler Name: V.D.													
FOR LAB USE ONLY													
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		MATRIX		PRESERV.		SAMPLING	
								GROUNDWATER					
								WASTEWATER					
								SOIL					
								OIL					
								SLUDGE					
								OTHER :					
								ACID/BASE:					
								ICE / COOL					
								OTHER :					
								DATE					
								TIME					
H101033		SP1000		C-1		C-1		X		5-5		293	
41		13		C-1		C-1		X				245	
42		North 01		C-1		C-1		X				305	
43		East 01		C-1		C-1		X				310	
44		West 01		C-1		C-1		X				315	
45		South 01		C-1		C-1		X				320	
46													
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Relinquished By: V.D.		Date: 8-8-17		Received By: J. De		Date: 8-8-17		Time: 4:35		Sample Condition: Cool Intact		CHECKED BY: (Initials)	
Delivered By: (Circle One)		Date: 8-8-17		Time: 4:35		Sample Condition: Cool Intact		CHECKED BY: (Initials)					
Sampler - UPS - Bus - Other:		Date: 8-8-17		Time: 4:35		Sample Condition: Cool Intact		CHECKED BY: (Initials)					
REMARKS:													

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

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 Brzoz 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

MAY 04 2017

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

RECEIVED

Release Notification and Corrective Action

DAB1712953612 **OPERATOR** ☒ Initial Report ☐ Final Report

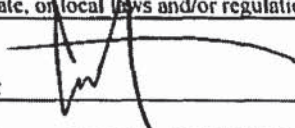
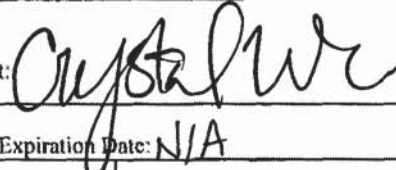
Name of Company	OXY USA INC <i>1106910</i>	Contact	CASEY L SUMMERS
Address	PO BOX 4294; HOUSTON, TX 77210	Telephone No.	575-513-8289
Facility Name	LOST TANK 3 FEDERAL #18	Facility Type	WELL
Surface Owner	FEDERAL	Mineral Owner	FEDERAL
		API No.	30-015-37908

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	3	22S	31E	770	SOUTH	1909	EAST	EDDY

Latitude 32.4154053 Longitude -103.7633514 NAD83

NATURE OF RELEASE

Type of Release	OIL & PRODUCED WATER	Volume of Release	3 bbls OIL & 20 bbls PW	Volume Recovered	12 bbls recovered
Source of Release	STUFFING BOX PACKING FAILURE	Date and Hour of Occurrence	04-27-2017	Date and Hour of Discovery	04-27-2017
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	4/27/2017 5:03 PM		
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.*					
Leak caused by a failure of the stuffing box packing on the wellhead. Recovery of the free fluids via vacuum truck and replaced well head packing.					
Describe Area Affected and Cleanup Action Taken.*					
The approximate area impacted by the release is 100x60 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		Approved by Environmental Specialist: 			
Title: ENVIRONMENTAL ADVISOR		Approval Date: 5/8/17		Expiration Date: N/A	
E-mail Address: casey.summers@oxy.com		Conditions of Approval: <i>see attached</i>		Attached <input checked="" type="checkbox"/>	
Date: 5-4-17 Phone: 575-513-8289					

* Attach Additional Sheets If Necessary

2RP-4199

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **5/4/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4199 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 II office in Artesia on or before 6/4/17. 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

Weaver, Crystal, EMNRD

From: Casey_Summers@oxy.com
Sent: Thursday, May 4, 2017 10:30 AM
To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; stucker@blm.gov; Jennifer_Hudgens@oxy.com
Cc: cbrunson@bbcinternational.com; kswinney@bbcinternational.com; kathy@bbcinternational.com; jgilkey@bbcinternational.com
Subject: RE: LOST TANK 3 FEDERAL 0018
Attachments: LOST TANK 3 FED 18 - INITIAL C141.pdf

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

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

From: Summers, Casey L
Sent: Thursday, April 27, 2017 3:57 PM
To: 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; 'Weaver, Crystal, EMNRD' <Crystal.Weaver@state.nm.us>; 'Tucker, Shelly' <stucker@blm.gov>; Hudgens, Jennifer A <Jennifer_Hudgens@oxy.com>
Cc: 'Cliff Brunson' <cbrunson@bbcinternational.com>; 'Ken Swinney' <kswinney@bbcinternational.com>; 'Kathy Purvis' <kathy@bbcinternational.com>; 'Jennifer Gilkey' <jgilkey@bbcinternational.com>
Subject: LOST TANK 3 FEDERAL 0018

All,
This is to inform you that Oxy Permian had a release in Eddy County at the LOST TANK 3 FEDERAL 0018 on 4/27/2017.

- **Release Location:** Legal O-03-22S-31E, API: 30-015-37908
- **Release Volume:** 0.3 bbls of Oil and 20 bbls of Produced Water
- **Recovered:** recover in process
- **Cause of Release:** STUFFING BOX PACKING ON WELLHEAD FAILED
- **Approximate Area impacted by release:** 100Lx60W FT (measurements are subject to change with future GPS track)
- **GPS Coordinates and Driving Direction:** 32.4154053,-103.7633514, FROM CARLSBAD NM ON HWY 128 E TO MM 10 TURN LEFT ON WHIPP ROAD TO DEAD END AND TURN LEFT GO TO MM 2 PASS THE ROAD CLOSED SIGNS TURN LEFT AND CROSS THE CATTLEGUARD FOLLOW TO DEAD END AND TURN RIGHT GO PASS THE POWER STATION TAKE THE CURVE TO THE LEFT PASS 4 PUMP JACKS ON LEFT AND TURN ON FIRST RIGHT LOCATION IS AT THE ROAD DEADEND

Please let me know if you have any questions.

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Cc: cbrunson@bbcinternational.com; kswinney@bbcinternational.com; kathy@bbcinternational.com; jgilkey@bbcinternational.com
Subject: RE: LOST TANK 3 FEDERAL 0018

See correction below on oil release.

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To: 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; 'Weaver, Crystal, EMNRD' <Crystal.Weaver@state.nm.us>; 'Tucker, Shelly' <stucker@blm.gov>; Hudgens, Jennifer A <Jennifer_Hudgens@oxy.com>
Cc: 'Cliff Brunson' <cbrunson@bbcinternational.com>; 'Ken Swinney' <kswinney@bbcinternational.com>; 'Kathy Purvis' <kathy@bbcinternational.com>; 'Jennifer Gilkey' <jgilkey@bbcinternational.com>
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