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Whitetail Well Testing

CIMAREX Hallertau 5 Federal #4
Section 5 of Township 26 South, Range 32 East
Lea County New Mexico

Delineation Report

April 6, 2012



Prepared for:

Whitetail Well Testing
P.O. Box 86
Carter, Oklahoma 73627

By:

Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510

1-RR-2801

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I. Company Contacts

Representative	Company	Telephone	E-mail
Glenn Price	Whitetail Well Testing		vglennprice@hotmail.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged by Cimarex Energy and Whitetail Well Testing to perform site assessment of an area impacted by a release of produced fluids from frac tanks at the Hallertau 5 Federal #4 located in Section 5 of Township 26 South, Range 32 East, Lea County, New Mexico. The release occurred on February 4, 2012 and was reported to the Ms. Cathy Haston with the BLM by telephone (Appendix C). Approximately 30 barrels of fluid was released, and approximately 10 barrels were recovered. The spill impacted approximately 15,050 square feet. (Figure 2)

On February 6, 2012 Mr. Sergio Contreras, SESI representative contacted Ms. Trish Badbear, Bureau of Land Management (BLM) representative, regarding the necessity of an archeology study for the spill area that migrated off the location pad. Mr. Contreras was referred to Mr. James Smith with the BLM Carlsbad office for the determination regarding the archeology study.

Mr. Contreras contacted Mr. Smith on February 8, 2012 to determine if the archeology study was necessary. Mr. Smith explained that Cimarex has a MOA (Permian Basin Memorandum of Agreement) regarding preservation or archeology sites and Whitetail Well Testing can work under, however, Whitetail Well Testing will have to pay a fee. Upon receipt of the fee, the BLM will clear the site if no problems exist and we should be able to commence work. SESI received BLM verbal clearance from Mr. Jim Amos of the BLM on March 28, 2012.

Mr. Eddie Herchman with Cimarex Energy received notification in an email on April 12, 2012 from Ms. Terry Gregston, BLM Environmental Protection Specialist, , that this release has been designated as Undesirable Event #NU12093TG on February 29, 2012 (Appendix D).

III. Surface and Ground Water

The nearest groundwater record is listed with the New Mexico State of Engineer is in Section 01 Range 31 East and Township 26 South, which is located 1.2 miles west of the site. The depth to groundwater was reported at 335 feet in December 1965.

IV. Characterization

The target cleanup levels are determined using the "Guidelines for Remediation of Leaks, Spills and Releases" (NMOCD August 13, 1993).

Application of the OCD's ranking criteria for contaminated soils indicates 5,000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH) is the target concentration, as presented in the following determination:

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	
	>100 feet	0 points	X
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			0

V. Work Performed

On February 22, 2012, SESI representative, arrived at the Hallertau 5 Federal #4 to gather GIS data and to photograph the subject site. All other work was postponed pending BLM archeology clearance.

On March 29, 2012, SESI representative was onsite with Bryan's Oilfield Services to determine vertical extent of contamination utilizing a backhoe. A test trench was installed, east of location pad, in the vegetated area where produced fluids ran off of location. The weather is 85 degrees with clear skies with a 5-10 mph winds.

Samples were retrieved at the surface, and each foot thereafter to a depth of 5 feet below ground surface (BGS). The samples were properly packaged and transported under chain of custody to Cardinal Laboratories in Hobbs, New Mexico to be analyzed for Chloride (EPA Method SM4500Cl-B), TPH (EPA Method 8015M), and Benzene, Toluene, Ethyl Benzene, Xylenes (BTEX, EPA Method 8021B).

There was no visible staining or odors at a depth of 3-5 feet in the test trench. The test trench was backfilled using the same soil that was excavated and packed down using the backhoe. At a depth of 2 ft below ground surface, a very hard caliche layer was encountered.

At the direction of Cimarex Energy, the operator of the well, no samples were retrieved from the surface of the location pad. The results of the analysis are as follows:

Sample ID	Cl- (mg/kg)	TPH 418.1 (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)
		GRO C ₆ -C ₁₀	DRO >C ₁₀ -C ₂₈	EXT DRO >C ₂₈ -C ₃₅				
Analysis Date:	03/30/12	04/02/12	04/02/12	04/02/12	04/03/12	04/03/12	04/03/12	04/03/12
TT-1 Surface	58400	70.9	10000	1690	<0.050	<0.050	<0.050	1.13
TT-1 1 ft.	9200	845	4360	592	<0.050	2.34	1.69	15.3
TT-1 2 ft.	2280	23.2	382	57.1	<0.050	<0.050	<0.050	0.188
TT-1 3 ft.	1630	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150
TT-1 4 ft.	1010	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150
TT-1 5 ft.	16.0	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150

Time	Test Trench-1	Observation
0947	Surface Sample	Heavy Odor and staining (soil)
0950	1 ft.	Heavy odor with some staining (caliche w/soil)
1002	2 ft.	Slight odor with staining (caliche w/soil, hard)
1030	3 ft.	No odor or staining (caliche)
1105	4 ft.	No odor or staining (caliche)
1150	5 ft.	No odor or staining (caliche)

VI. Action Plan

The results of the delineation investigation indicate the vertical extent of TPH and Chloride contamination in Test Trench #1 is less than 5 ft. BGS. The depth to groundwater in the area is in excess of 300' BGS according to the New Mexico State Engineer website. Whitetail Well Testing proposes that the top 2' of soil, which is the most highly contaminated, be excavated and transported to an NMOCD approved facility for disposal. Samples will be retrieved from the sides and bottom of the excavation as documentation of the levels of contamination, if any, that are being left in place. The excavation will be backfilled with like soil, contoured to natural grade and reseeded with the seed mix required by the BLM.

VII. Figures & Appendices

Figure 1 – Vicinity Map

Figure 2 – Site Plan

Appendix A – Analytical Results

Appendix B – Site Photographs

Appendix C – C-141

Appendix D – BLM Correspondence April 12, 2012

Figure 1
Vicinity Map

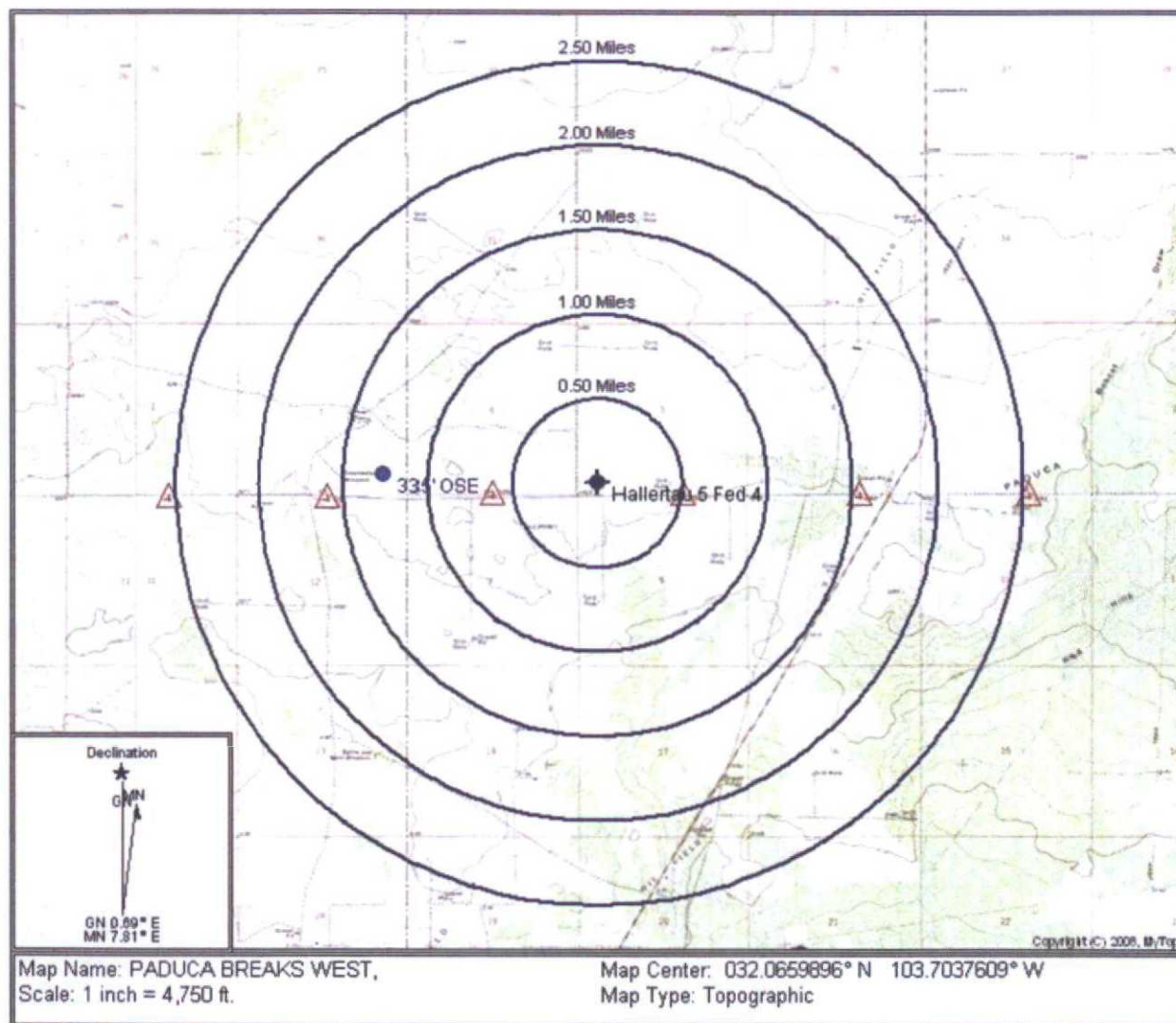


Figure 2
Site Plan



Appendix A

Analytical Results

Appendix B

Site Photographs

Site Photographs March 29, 2012



Injection well facing north



North end of location pad



East end of location pad



South end of location pad



West end of location pad



Spill area facing east



Spill area facing northeast



Staining east of location pad facing northeast



Staining east of location pad facing northeast



Staining near injection well facing northwest



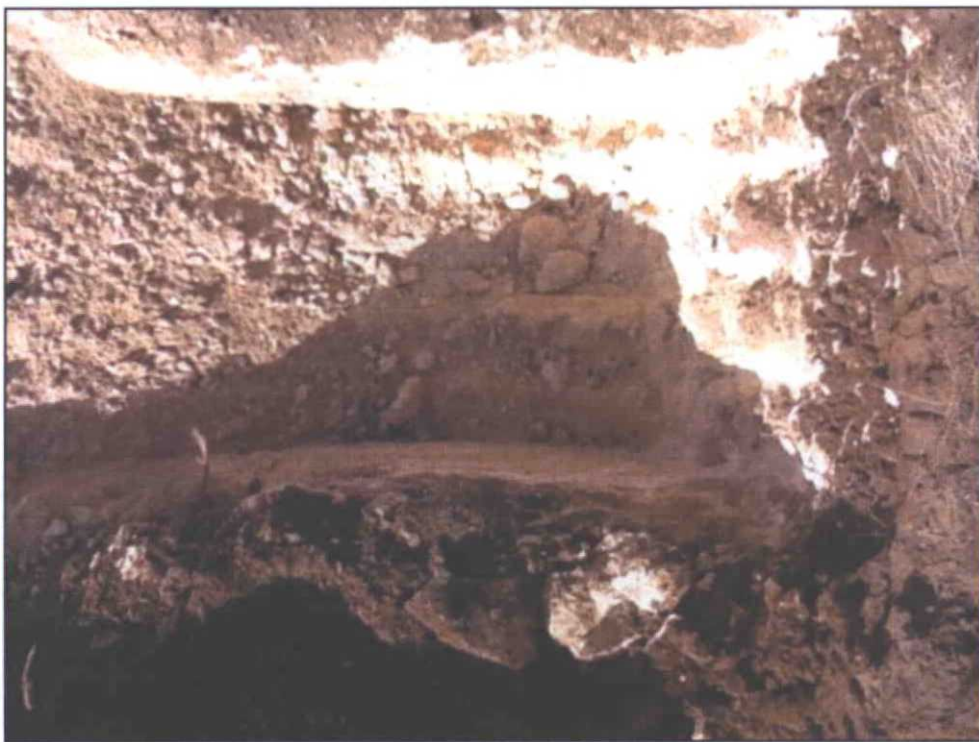
Test Trench #1-Surface



Test trench #1-1'



Test trench #1-2'



Test trench #1-3'



Test trench #1-4'



Test trench #1-5'

Appendix C

C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	Cimarex Energy	Contact	John Osborne
Address	2020 W. Bender Blvd. Hobbs, NM	Telephone No.	575-390-8978
Facility Name	Hallertau 5 Fed #4 H	Facility Type	Temporary tanks
Surface Owner	BLM	Mineral Owner	BLM
		API No.	30-025-40254

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	5	26 S	32 E	360'	FSL	660'	FWL	Lea

Latitude 32.078678 Longitude 103.703742

NATURE OF RELEASE

Type of Release	Produced water & oil	Volume of Release	30 BBLs	Volume Recovered	10 BBLs
Source of Release	Frac tanks	Date and Hour of Occurrence	3:00AM 2/4/12	Date and Hour of Discovery	4:00 AM 2/4/12
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cathy Haston / BLM			
By Whom?	John Osborne	Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

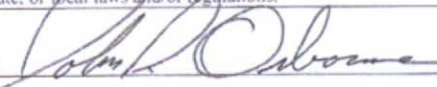
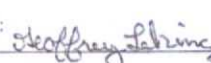
Describe Cause of Problem and Remedial Action Taken.*

Frac tanks ran over. Contacted Safety & Environmental Solutions, Inc. To supervise clean up and stay in contact with the BLM.

Describe Area Affected and Cleanup Action Taken.*

Fluid that made it of location is approximately 15' wide at the widest point, and 320' long. Have not started corrective action pending orders from the 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: John P. Osborne	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: 4/19/12	Expiration Date: 6/19/12
E-mail Address: josborne@cimarex.com	Conditions of Approval: SUBMIT FINAL C-141 BY 6/19/12.	Attached <input type="checkbox"/> 4-12-2801
Date: 2/6/12	Phone: 575-390-8978	

* Attach Additional Sheets If Necessary

Appendix D
BLM Correspondence April 12, 2012

April 04, 2012

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

HOBBS OCD

APR 23 2012

RECEIVED

RE: WWT-12-001

Enclosed are the results of analyses for samples received by the laboratory on 03/30/12 8:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SURFACE SAMPLE TT #1 (H200756-01)

BTEX 8021B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3		
Toluene*	<0.050	0.050	04/03/2012	ND	2.02	101	2.00	14.3		
Ethylbenzene*	<0.050	0.050	04/03/2012	ND	2.05	102	2.00	14.4		
Total Xylenes*	1.13	0.150	04/03/2012	ND	6.34	106	6.00	14.9		

Surrogate: 4-Bromofluorobenzene (PIL) 121 % 64.4-134

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	58400	16.0	03/30/2012	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	70.9	50.0	04/02/2012	ND	183	91.7	200	6.89	
DRO >C10-C28	10000	50.0	04/02/2012	ND	178	88.8	200	8.58	
EXT DRO >C28-C35	1690	50.0	04/02/2012	ND					

Surrogate: 1-Chlorooctane 120 % 55.5-154

Surrogate: 1-Chlorooctadecane 121 % 57.6-158

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT #1 1' (H200756-02)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3	
Toluene*	2.34	0.050	04/03/2012	ND	2.02	101	2.00	14.3	
Ethylbenzene*	1.69	0.050	04/03/2012	ND	2.05	102	2.00	14.4	
Total Xylenes*	15.3	0.150	04/03/2012	ND	6.34	106	6.00	14.9	

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9200	16.0	03/30/2012	ND	416	104	400	0.00	
TPH 8015M		mg/kg		Analyzed By: MS/					
									S-04

S-04

Surrogate: 1-Chlorooctane 172 % 55.5-154

Surrogate: 1-Chlorooctadecane 122 % 57.6-158

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT #1 2' (H200756-03)

BTX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3	
Toluene*	<0.050	0.050	04/03/2012	ND	2.02	101	2.00	14.3	
Ethylbenzene*	<0.050	0.050	04/03/2012	ND	2.05	102	2.00	14.4	
Total Xylenes*	0.188	0.150	04/03/2012	ND	6.34	106	6.00	14.9	

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2280	16.0	03/30/2012	ND	400	100	400	3.92		
TPH 8015M		mg/kg		Analyzed By: MS/						

TPH 8015M		mg/kg		Analyzed By: MS/					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	23.2	10.0	03/30/2012	ND	183	91.7	200	6.89	
DRO >C10-C28	382	10.0	03/30/2012	ND	178	88.8	200	8.58	
EXT DRO >C28-C35	57.1	10.0	03/30/2012	ND					

Surrogate: 1-Chlorooctane 120 % 55.5-154

Surrogate: 1-Chlorooctadecane 110 % 57.6-158

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT #1 3' (H200756-04)

BTX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3	
Toluene*	<0.050	0.050	04/03/2012	ND	2.02	101	2.00	14.3	
Ethylbenzene*	<0.050	0.050	04/03/2012	ND	2.05	102	2.00	14.4	
Total Xylenes*	<0.150	0.150	04/03/2012	ND	6.34	106	6.00	14.9	

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1630	16.0	03/30/2012	ND	400	100	400	3.92	

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	03/30/2012	ND	183	91.7	200	6.89	
DRO >C10-C28	<10.0	10.0	03/30/2012	ND	178	88.8	200	8.58	
EXT DRO >C28-C35	<10.0	10.0	03/30/2012	ND					

Surrogate: 1-Chlorooctane 130 % 55.5-154

Surrogate: 1-Chlorooctadecane 128 % 57.6-158

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT #1 4' (H200756-05)

BTEX 8021B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3		
Toluene*	<0.050	0.050	04/03/2012	ND	2.02	101	2.00	14.3		
Ethylbenzene*	<0.050	0.050	04/03/2012	ND	2.05	102	2.00	14.4		
Total Xylenes*	<0.150	0.150	04/03/2012	ND	6.34	106	6.00	14.9		

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1010	16.0	03/30/2012	ND	400	100	400	3.92	

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	03/30/2012	ND	183	91.7	200	6.89		
DRO >C10-C28	<10.0	10.0	03/30/2012	ND	178	88.8	200	8.58		
EXT DRO >C28-C35	<10.0	10.0	03/30/2012	ND						

Surrogate: 1-Chlorooctane 130 % 55.5-154

Surrogate: 1-Chlorooctadecane 130 % 57.6-158

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 03/30/2012
Reported: 04/04/2012
Project Name: WWT-12-001
Project Number: HALLERTAU 5 FED #4
Project Location: CR #1

Sampling Date: 03/29/2012
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT #1 5' (H200756-06)

BTEX 8021B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/03/2012	ND	1.86	93.1	2.00	14.3	
Toluene*	<0.050	0.050	04/03/2012	ND	2.02	101	2.00	14.3	
Ethylbenzene*	<0.050	0.050	04/03/2012	ND	2.05	102	2.00	14.4	
Total Xylenes*	<0.150	0.150	04/03/2012	ND	6.34	106	6.00	14.9	

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 64.4-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	03/30/2012	ND	400	100	400	3.92		

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	03/30/2012	ND	176	87.9	200	13.0	
DRO >C10-C28	<10.0	10.0	03/30/2012	ND	180	89.8	200	7.06	
EXT DRO >C28-C35	<10.0	10.0	03/30/2012	ND					

Surrogate: 1-Chlorooctane 111 % 55.5-154

Surrogate: 1-Chlorooctadecane 114 % 57.6-158

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- 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



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: Safety & Environmental Solutions, Inc.				BILL TO		ANALYSIS REQUEST																																					
Project Manager: Bob Allen				P.O. #:		<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Chlorides</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BTEX</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TPH 8015</div> </div>																																					
Address: 703 East Clinton				Company: Same																																							
City: Hobbs State: NM Zip: 88240				Attn:																																							
Phone #: 575-397-0510 Fax #: 575-393-4388				Address:																																							
Project #: WWT 12-001 Project Owner: Whitetail				City:																																							
Project Name: Hallertau 5 Fed # 4				State: Zip:																																							
Project Location: CR #1				Phone #:																																							
Sampler Name: Sergio Contreras				Fax #:																																							
FOR LAB USE ONLY																																											
Lab I.D.		Sample I.D.		(G/RAS OR C/COMP)		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		SLUDGE		OTHER:		ACID/BASE:		ICE / COOL		OTHER:		DATE		TIME																	
H200756																																											
1		Surface Sample #1		G		1						✓						✓						3-29-12		0947		✓		✓		✓											
2		++ #1 1'		G		1						✓						✓								0950		✓		✓		✓											
3		++ #1 2'		G		1						✓						✓								1002		✓		✓		✓											
4		++ #1 3'		G		1						✓						✓								1030		✓		✓		✓											
5		++ #1 4'		G		1						✓						✓								1105		✓		✓		✓											
6		++ #1 5'		G		1						✓						✓								1150		✓		✓		✓											

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Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:		Date:	Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Time:			Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		3/30/12		Received By:		REMARKS:		
Sergio Contreras		8:15		Jodi Benson				
Delivered By: (Circle One)								
Sampler - UPS - Bus - Other:		Temp:	Sample Condition		CHECKED BY:			
		50	Cool Intact		(initials)			
			<input type="checkbox"/> Yes <input type="checkbox"/> No		JH			

† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476.

#26

Susana Rodriguez

From: Sergio Contreras
Sent: Thursday, April 19, 2012 9:29 AM
To: Bob Allen; Susana Rodriguez
Subject: Fwd: Undesirable Event: NU12093TG, Hallertau 5 Federal 4, Spill Report Due Date: 3/15/2012

HOBBS OCD

APR 23 2012

Sent from my iPhone

Begin forwarded message:

RECEIVED

From: John Osborne <JOsborne@cimarex.com>
Date: April 19, 2012 8:47:33 AM MDT
To: "scontreras@sesi-nm.com" <scontreras@sesi-nm.com>
Subject: FW: Undesirable Event: NU12093TG, Hallertau 5 Federal 4, Spill Report Due Date: 3/15/2012

From: Eddie Herchman
Sent: Monday, April 16, 2012 8:19 AM
To: John Osborne
Subject: Fw: Undesirable Event: NU12093TG, Hallertau 5 Federal 4, Spill Report Due Date: 3/15/2012

From: Gregston, Terry G [<mailto:tgregsto@blm.gov>]
Sent: Thursday, April 12, 2012 05:27 PM
To: Eddie Herchman
Subject: RE: Undesirable Event: NU12093TG, Hallertau 5 Federal 4, Spill Report Due Date: 3/15/2012

Mr. Herschman,

Apparently, this was an unreported spill found on the location by Justin Frye, EPS BLM. His inspection notes are as follows:

3/1/12 - Conducted an on-site visit to inspect the spill that was reported at this location. There is heavy staining on the pad to the east of the wellhead, and even a small amount of standing fluid. However, there is not indicative evidence that the fluid necessarily came from the wellhead itself. It appears to start approximately 50' east of the wellhead. The fluid/staining appeared to have flowed east from this point to the eastern edge of the pad. Along the eastern pad edge it flowed both north and south. The topsoil for this location is stockpiled along the outside of the eastern edge in the northeast corner. There is an area where a small excavation has been taken out of this stockpile, which is also very close to where the contaminants appeared to have flowed. The fluid also breached the pad edge and flowed east/southeast into the pasture. The excavated material may have been used to build a berm where the contaminants flowed, to prevent more fluid from leaving the pad. The portion of the spill off the pad flowed mostly in a single "finger" towards a low area with abundant mesquite. It didn't appear to go into the middle of the low area, but looks like it ended in the southwest corner. The middle of the flow is very darkly stained, giving evidence that there was at least a skim of oil. The outer edges of the flow lack the dark staining, but have obvious crystals and evidence of chlorides at the surface. The flow ran

approximately 294' off of the edge of the pad, and was approximately 55' to 60' wide in the widest area. There are a few tracks from heavy equipment crossing over the spill path and some standing fluids in the track depressions. The spill area was GPSed with a slight buffer (2' to 4') because the outer fringes of the flow were difficult to determine. Justin Frye.

I have attached a spill map for your reference. All of this spill event falls within previously surveyed archeology space; there are no known archeological issues. The operator has archeological clearance to delineate and mitigate the undesirable event.

If you have any further questions, feel free to give me a call...

Thank you for your assistance with these matters,

Terry Gregston
Environmental Protection Specialist
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220
Office (575) 234-5958
Cell (575) 361-2635
Fax (575) 234-5927

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From: Gregston, Terry G
Sent: Thursday, April 12, 2012 5:02 PM
To: 'EHerschman@clmarex.com'
Subject: Undesirable Event: NU12093TG, Hallertau 5 Federal 4, Spill Report Due Date: 3/15/2012

Mr. Herschman,

This notification is in regard to the following location and undesirable event:

Event Number: NU12093TG
Event Date: 2/29/2012
Event Name: Hallertau 5 Federal 4
Legals: T26S/R32E, sec. 5, SWSW

NTL-3A requires that a written report be submitted within 15 days of the event date. The written report for the above location was due on 3/15/2012. Failure to submit the report by that date will result in the issuance of an Incidence of Noncompliance (INC).

The spill report for this event is now past due. Please submit a spill report as soon as possible.

Thank you for your attention to this matter,

Terry Gregston
Environmental Protection Specialist
Bureau of Land Management
620 E. Greene St.
Carlsbad, NM 88220
Office (575) 234-5958
Cell (575) 361-2635
Fax (575) 234-5927

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APR 23 2012

Form C-141
Revised August 8, 2011

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

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

RECEIVED

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Cimarex Energy	Contact John Osborne
Address 2020 W. Bender Blvd. Hobbs, NM	Telephone No. 575-390-8978
Facility Name Hallertau 5 Fed #4 H	Facility Type Temporary tanks
Surface Owner BLM	Mineral Owner BLM
API No. 30-025-40254	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	5	26 S	32 E	360'	FSL	660'	FWL	Lea

Latitude 32.078678 Longitude 103.703742

NATURE OF RELEASE

Type of Release Produced water & oil	Volume of Release 30 BBLs	Volume Recovered 10 BBLs
Source of Release Frac tanks	Date and Hour of Occurrence 3:00AM 2/4/12	Date and Hour of Discovery 4:00 AM 2/4/12
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cathy Haston / BLM	
By Whom? John Osborne	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

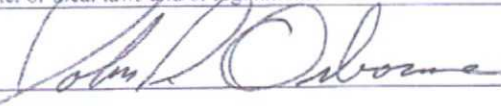
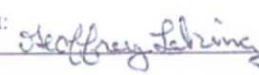
Describe Cause of Problem and Remedial Action Taken.*

Frac tanks ran over. Contacted Safety & Environmental Solutions, Inc. To supervise clean up and stay in contact with the BLM.

Describe Area Affected and Cleanup Action Taken.*

Fluid that made it of location is approximately 15' wide at the widest point, and 320' long. Have not started corrective action pending orders from the 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: John P. Osborne	Approved by Environmental Specialist: 	
Title: Production Foreman	Approval Date: 4/19/12	Expiration Date: 6/19/12
E-mail Address: josborne@cimarex.com	Conditions of Approval: SUBMIT FINAL C-141 BY 6/19/12.	Attached <input type="checkbox"/> 4-12-2801
Date: 2/6/12	Phone: 575-390-8978	

* Attach Additional Sheets If Necessary