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 X Final Report

Name of Company: Cimarex Energy Company	Contact: Johnny Titsworth
Address: 600 N. Marienfield, Suite 600, Midland, TX 79701	Telephone No.: (432)250-2059
Facility Name: Quail State 11 #1 TB	Facility Type: Tank Battery

Surface Owner: State	Mineral Owner:	API No.: 30-025-40841

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	11	19S	34E	210	FSL	660	FEL	Lea

Latitude: 32.66821 **Longitude:** -103.58040

NATURE OF RELEASE

Type of Release: Crude/produced water	Volume of Release: 220/50	Volume Recovered: 210/45
Source of Release: Heater Treater	Date and Hour of Occurrence 1/22/14	Date and Hour of Discovery 1/22/14
Was Immediate Notice Given? X Yes ☐ No ☐ Not Required	If YES, To Whom? Johnny Titsworth	
By Whom? Mark Bishop	Date and Hour 1/22/14	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
during the night, the man way cover gasket failed and 220 barrels of crude and 50 barrels of produced water were released from the heater treater. The majority of the spill was contained inside the lined containment. There was some pooling on the pad as well as some overspray on the pad. There was also some overspray in the pasture area.

Describe Area Affected and Cleanup Action Taken.*
The crude and produced water were picked up from the containment, and the overspray area on the pad was back-dragged. Talon/LPE personnel collected analytical samples from the impacted overspray and pooling area of the pasture and pad. Confirmation soil samples confirmed samples were below NMOCD thresholds.

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: Melissa Decker	OIL CONSERVATION DIVISION	
Printed Name: Melissa Decker on behalf of Cimarex Energy	Approved by Environmental Specialist:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: mdecker@talonlpe.com	Conditions of Approval:	Attached ☐
Date: 08/1/2014 Phone: (831)345-2422		

* Attach Additional Sheets If Necessary

Cimarex Energy

Soil Closure Report

Eagle Draw 11#3 Tank Battery

Prepared for:

Johnny Titsworth
Cimarex Energy
600 N. Marienfield Street, Suite 600
Midland, Texas 79701

Prepared by:

Melissa Decker
Talon/LPE
2901 Highway 349
Midland, Texas 79706

SOIL CLOSURE REPORT

CIMAREX ENERGY
QUAIL STATE 11 #1 TANK BATTERY

CIMAREX ENERGY
600 N. MARIENFIELD SUITE 600
MIDLAND, TEXAS 79701

TALON/LPE PROJECT NO. 701162.054.01

Prepared by:

Melissa Decker
Environmental Scientist

Chris Spore
District Manager

Shane Currie, PG
Professional Geologist

Talon/LPE
2901 State Highway 349
Midland, Texas 79706

May 20, 2014

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 Objectives and Site Background

Talon/LPE (Talon) was retained by Cimarex Energy (Cimarex) to provide environmental consulting services at the Quail State 11 #1 Tank Battery crude oil release site in Lea County, New Mexico. The purpose of this report is to document remediation and site restoration activities undertaken regarding the release of crude oil at the subject site.

The site is located approximately 23 miles west of Hobbs, New Mexico. The GPS coordinates for the site are 32.66821° north latitude and 103.52462° west longitude. The release occurred from a failed man-way cover gasket of the heater treater. The land surrounding the site is a mixture of native vegetation utilized as ranchland and oil and gas operations. A Topographic Map is provided as Figure 1. An Aerial Photograph is provided in Figure 2. Site Details, including sample locations, is provided as Figure 3.

A crude oil release occurred at the site on January 22, 2014. Cimarex personnel estimated that 220 barrels (bbl) of crude oil were released and 210 bbl were recovered, resulting in a net loss of 10 bbl of crude oil. The majority of the release was confined to the containment with minimal overspray. The release was verbally reported to the New Mexico Oil Conservation Division (NMOCD) on January 22, 2013, and a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD on January 22, 2014. The surface expression of the release measured approximately 40 feet wide by 150 feet in length. The vertical impacts of the release were less than one (1) inch below ground surface (bgs).

1.2 NMOCD Site Classification

The NMOCD has regulatory jurisdiction over oil and gas production operations including crude oil spills in the State of New Mexico. A search of the New Mexico Water Rights (NMWRRS) database maintained by the New Mexico Office of the State Engineer (NMOSE), provided information for Section 11 Township 19S Range 34E, indicating that groundwater should be encountered at approximately 120 feet below ground surface (bgs). A search of the NMWRRS database indicated there are no water wells within 1000 feet of the release. There are no surface water bodies within 5000 feet of the release. Based on depth to groundwater and proximity to surface water, guidelines for this release site is listed below:

Compound	NMOCD Cleanup Standard (mg/Kg)
TPH	1,000
BTEX	50
Benzene	10

2.0 INITIAL SITE ACTIVITIES

On January 27, 2014, Cimarex contracted Talon to respond to and initiate remediation activities and provide environmental oversight. On February 6, 2014, Talon personnel observed the source to be a failed man-way gasket cover from a heater treater. The impacted pad area was back-dragged and all free liquids within the containment had been recovered prior to arrival of Talon personnel. Based on olfactory and visual observations, surface impacts included an area of overspray measuring 40 feet wide by 150 feet in length. The vertical impacts of the release were less than one (1) inch below ground surface (bgs). Cimarex personnel delayed initial remediation activities which allowed for a period of natural attenuation.

3.0 SITE VISIT ACTIVITIES

Following a period of natural attenuation, Talon personnel attempted to conduct site remediation on April 9, 2014. During the site visit, Talon personnel observed new vegetation growth in the overspray area of the flowpath and minimal visual and olfactory evidence of soil impacts. In order to preserve native vegetation, no excavation activities were conducted for this site. Soil samples were collected from the impacted pad and overspray areas, described in Section 4.0, to ensure NMOCD remediation thresholds were reached through natural attenuation. Photographic documentation of the release is presented in Appendix C.

4.0 SOIL SAMPLING ACTIVITIES

4.1 Confirmation Soil Sampling

4.1.1 Sample Collection

On April 9, 2014, two (2) confirmation soil samples were collected to ensure NMOCD remediation levels had been reached through natural attenuation. The samples were designated as Pad and Overspray. On April 30, 2014, one (1) additional sample was collected and designated as Pad-B. All soil samples were collected by Talon using industry accepted standard operating procedures. These procedures include wearing new, clean nitrile gloves, and collecting laboratory samples using decontaminated or disposable hand tools (when applicable) to prevent cross-contamination. Confirmation soil sampling locations are depicted on Figures 3.

Confirmation soil samples were collected in laboratory provided sample containers, immediately placed on ice, and transported to TraceAnalysis in Midland, Texas for Total Petroleum Hydrocarbons (TPH) analysis using DRO/GRO Method 8015 and benzene, toluene, ethyl-benzene, and total xylenes concentration (BTEX) using method BTEX 8021 . Analytical testing was performed on a standard turn around basis.

4.1.2 Analytical Results

Confirmation laboratory analytical results indicated that the TPH concentration of the sample designated as Overspray did not exceed the NMOCD soil remediation level of 1,000mg/kg. The laboratory analytical results indicated a TPH concentration of 139 mg/Kg. Laboratory analysis for the sample designated as Pad, collected on April 9, 2014, indicated a TPH concentration of 1,180 mg/Kg. The sample designated as Pad-B, collected on April 30, 2014, indicated a TPH concentration of 212 mg/Kg, which is below the remediation threshold.

Laboratory analysis for the three (3) samples collected at the site indicated BTEX concentrations below laboratory limits of 0.0200 mg/Kg. Copies of the laboratory analytical results and proper chain of custody documentation are presented in Appendix D. A summary of the confirmation soil sample analytical results is presented on Table I.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

- A crude oil release was reported by Cimarex at the Quail 11 #1 Tank Battery on January 22, 2014, as a result of a failed man-way gasket cover. Cimarex personnel estimated that 220 bbl of crude oil were released and 210 bbl were recovered, resulting in a net loss of 10 bbl of crude oil overspray.

- Following a site visit on April 9, 2014, Talon personnel determined excavation not necessary in order to preserve the native vegetation. Visual and olfactory indicators indicated NMOCD remediation levels had been reached through natural attenuation.

- Confirmation soil samples were collected on April 9, 2014, and April 30, 2014, and submitted for laboratory analysis at TraceAnalysis in Midland, Texas. Final confirmation samples did not exceed the applicable NMOCD Soil Remediation Limits.

5.2 Recommendations

Based on laboratory analytical results of soil samples collected from the excavation limits, the horizontal and vertical extent of the release area is delineated so that TPH and BTEX concentrations are below the NMOCD soil cleanup level. This report will be the final documentation regarding the release and based on the remediation activities and data presented in this report, no further action is proposed for this site.

APPENDIX A

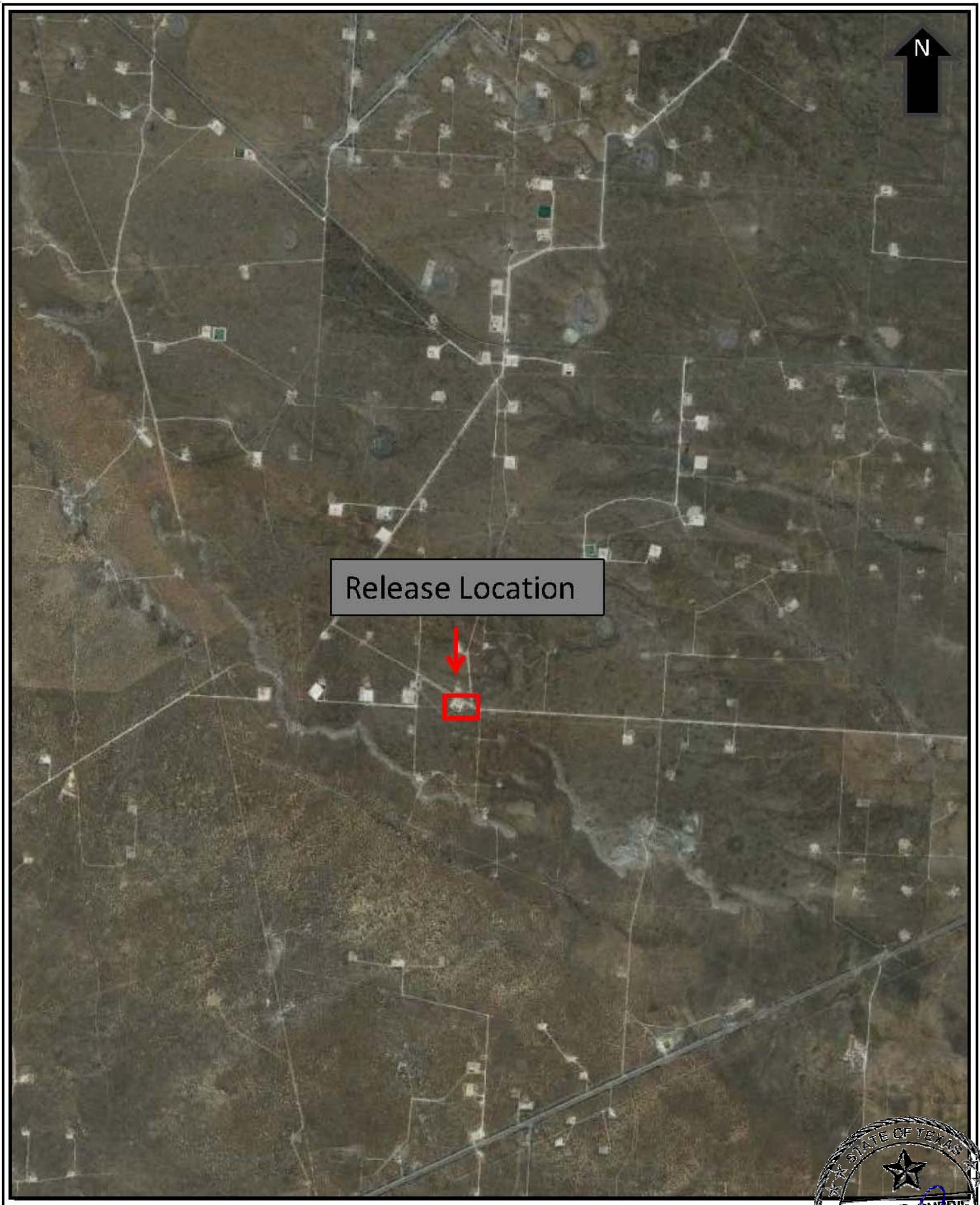
FIGURES

TALON LPE

Date:	05/16/2014
Scale:	1:24,000
Drawn By:	MMD

FIGURE 1
TOPOGRAPHIC MAP
Quail 11 State #1
23 miles West of Hobbs, New Mexico
Prepared for: Cimarex

STATE OF TEXAS
SHANE B. CURRIE
GEOLOGY
1801
LICENSED
PROFESSIONAL GEOSCIENTIST



TALON LPE

Date:	04/16/14
Scale:	Not to Scale
Drawn By:	MMD

FIGURE 2
AERIAL MAP
Quail 11 State #1
23 miles West of Hobbs, New Mexico
Prepared for: Cimarex

STATE OF TEXAS
SHANE B. CURRIE
GEOLOGY
1801
LICENSED
PROFESSIONAL GEOSCIENTIST

TALON LPE

Date:	04/16/14
Scale:	Not to Scale
Drawn By:	MMD

FIGURE 3
SITE DETAILS
Quail 11 State #1
23 miles West of Hobbs, New Mexico
Prepared for: Cimarex

STATE OF TEXAS
SHANE B. CURRIE
GEOLOGY
1801
LICENSED
PROFESSIONAL GEOSCIENTIST

APPENDIX B

TABLE

TABLE 1

CONCENTRATIONS OF TPH & BTEX IN SOIL

QUIAL 11 STATE #1 TANK BATTERY
CIMAREX OPERATING
23.0 MILES WEST OF HOBBS, NEW MEXICO
LEA COUNTY, NEW MEXICO

TALON/LPE PROJECT NUMBER: 701162.054.01

SAMPLE LOCATION	SAMPLE DATE	METHOD: 8015M			METHOD: 8021			
		DRO (mg/Kg)	GRO (mg/Kg)	TOTAL TPH (mg/Kg)	Benzene (mg/Kg)	Toulene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)
OVERSPRAY	4/9/2014	139	<4.0	143	<0.0200	<0.0200	<0.0200	<0.0200
PAD	4/9/2014	1,180	<4.0	**1,184**	<0.0200	<0.0200	<0.0200	<0.0200
PAD-B	4/30/2014	212	<4.0	216	<0.0200	<0.0200	<0.0200	<0.0200
NMOCD Remedial Threshold				**1,000**	**10**			

* **Bolded** values are in excess of the NMOCD Remediation Thresholds

APPENDIX C

PHOTOGRAPHIC DOCUMENTATION

Photograph No. 1

Direction:
Southeast

Description:
All free-standing liquids were removed from within the containment by Cimarex personnel.

Photograph No. 2

Direction:
Southwest

Description:
Areas of the pad were impacted by the release.

Photograph No. 3

Direction:
Southeast

Description:
The overspray area was initially back-dragged by Cimarex personnel.

Photograph No. 4

Direction:
Southeast

Description:
View of the vegetation impacted by overspray.

Photograph No. 5

Direction:
East

Description:
Following natural attenuation, the surface impacts were minimal.

Photograph No. 6

Direction:
North

Description:
View of impacted pad area following a period of natural attenuation.

Photograph No. 7

Direction:
Southeast

Description:
The overspray area displayed new growth. In order to protect native vegetation, Talon personnel did not scrape or back-drag this area.

Photograph No. 8

Direction:
Southeast

Description:
In order to protect native vegetation, Talon personnel did not scrape or back-drag this area.

APPENDIX D

LABORATORY ANALYTICAL DATA REPORTS AND CHAIN OF CUSTODY DOCUMENTATION

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Melissa Decker
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: April 16, 2014

Work Order: 14041122

Project Location: Hobbs,NM
Project Name: Cimarex/Quail 11
Project Number: 701162.054.01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
360217	Overspray	soil	2014-04-09	13:48	2014-04-11
360218	Pad	soil	2014-04-09	13:58	2014-04-11

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Cimarex/Quail 11 were received by TraceAnalysis, Inc. on 2014-04-11 and assigned to work order 14041122. Samples for work order 14041122 were received intact at a temperature of 3.7 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	93954	2014-04-14 at 11:00	111164	2014-04-15 at 08:29
TPH DRO - NEW	S 8015 D	93963	2014-04-14 at 11:00	111142	2014-04-14 at 14:17
TPH GRO	S 8015 D	93954	2014-04-14 at 11:00	111165	2014-04-15 at 08:35

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14041122 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 360217 - Overspray

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	111164	Date Analyzed:	2014-04-15	Analyzed By:	AK
Prep Batch:	93954	Sample Preparation:	2014-04-14	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1	<0.0200	mg/Kg	1	0.0200
Xylene	Qr,Qs,U	1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Sample: 360217 - Overspray

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	111142	Date Analyzed:	2014-04-14	Analyzed By:	RG
Prep Batch:	93963	Sample Preparation:	2014-04-14	Prepared By:	RG

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO	Qs	1	**139**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			125	mg/Kg	1	100	125	70 - 130

Sample: 360217 - Overspray

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	111165	Date Analyzed:	2014-04-15	Analyzed By:	AK
Prep Batch:	93954	Sample Preparation:	2014-04-14	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			1.78	mg/Kg	1	2.00	89	70 - 130

Sample: 360218 - Pad

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	111164	Date Analyzed:	2014-04-15	Analyzed By:	AK
Prep Batch:	93954	Sample Preparation:	2014-04-14	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1	<0.0200	mg/Kg	1	0.0200
Xylene	Qr,Qs,U	1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.31	mg/Kg	1	2.00	116	70 - 130
4-Bromofluorobenzene (4-BFB)			1.74	mg/Kg	1	2.00	87	70 - 130

Sample: 360218 - Pad

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	111142	Date Analyzed:	2014-04-14	Analyzed By:	RG
Prep Batch:	93963	Sample Preparation:	2014-04-14	Prepared By:	RG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	**1180**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane Qsr	Qsr		176	mg/Kg	1	100	176	70 - 130

Sample: 360218 - Pad

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	111165	Date Analyzed:	2014-04-15	Analyzed By:	AK
Prep Batch:	93954	Sample Preparation:	2014-04-14	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO	U	1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.12	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			2.01	mg/Kg	1	2.00	100	70 - 130

Method Blanks

Method Blank (1) QC Batch: 111142

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG
Prep Batch: 93963 | QC Preparation: 2014-04-14 | Prepared By: RG

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<7.41	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			97.3	mg/Kg	1	100	97	70 - 130

Method Blank (1) QC Batch: 111164

QC Batch: 111164 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00533	mg/Kg	0.02
Toluene		1	<0.00645	mg/Kg	0.02
Ethylbenzene		1	<0.0116	mg/Kg	0.02
Xylene		1	<0.00874	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.20	mg/Kg	1	2.00	110	70 - 130
4-Bromofluorobenzene (4-BFB)			1.80	mg/Kg	1	2.00	90	70 - 130

Method Blank (1) QC Batch: 111165

QC Batch: 111165 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	1	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			1.76	mg/Kg	1	2.00	88	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG
Prep Batch: 93963 | QC Preparation: 2014-04-14 | Prepared By: RG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	200	mg/Kg	1	250	<7.41	80	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	207	mg/Kg	1	250	<7.41	83	70 - 130	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	110	114	mg/Kg	1	100	110	114	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 111164 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.54	mg/Kg	1	2.00	<0.00533	77	70 - 130
Toluene		1	1.55	mg/Kg	1	2.00	<0.00645	78	70 - 130
Ethylbenzene		1	1.64	mg/Kg	1	2.00	<0.0116	82	70 - 130
Xylene		1	4.96	mg/Kg	1	6.00	<0.00874	83	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.63	mg/Kg	1	2.00	<0.00533	82	70 - 130	6	20
Toluene		1	1.66	mg/Kg	1	2.00	<0.00645	83	70 - 130	7	20
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.0116	88	70 - 130	6	20
Xylene		1	5.26	mg/Kg	1	6.00	<0.00874	88	70 - 130	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.89	2.02	mg/Kg	1	2.00	94	101	70 - 130
4-Bromofluorobenzene (4-BFB)	1.60	1.63	mg/Kg	1	2.00	80	82	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 111165 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	16.2	mg/Kg	1	20.0	<2.32	81	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.9	mg/Kg	1	20.0	<2.32	84	70 - 130	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.97	2.02	mg/Kg	1	2.00	98	101	70 - 130
4-Bromofluorobenzene (4-BFB)	1.91	1.87	mg/Kg	1	2.00	96	93	70 - 130

Matrix Spike (MS-1) Spiked Sample: 360217

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG
Prep Batch: 93963 | QC Preparation: 2014-04-14 | Prepared By: RG

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	Qs	Qs	1	312	mg/Kg	1	250	139	69	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param		F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	Qs	Qs	1	273	mg/Kg	1	250	139	54	70 - 130	13	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	122	110	mg/Kg	1	100	122	110	70 - 130

Matrix Spike (MS-1) Spiked Sample: 360217

QC Batch: 111164 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.63	mg/Kg	1	2.00	<0.00533	82	70 - 130
Toluene		1	1.69	mg/Kg	1	2.00	<0.00645	84	70 - 130
Ethylbenzene		1	1.80	mg/Kg	1	2.00	<0.0116	90	70 - 130
Xylene		1	5.41	mg/Kg	1	6.00	<0.00874	90	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.71	mg/Kg	1	2.00	<0.00533	86	70 - 130	5	20
Toluene		1	1.75	mg/Kg	1	2.00	<0.00645	88	70 - 130	4	20
Ethylbenzene		1	1.88	mg/Kg	1	2.00	<0.0116	94	70 - 130	4	20
Xylene	Qr,Qs	Qr,Qs 1	4.04	mg/Kg	1	6.00	<0.00874	67	70 - 130	29	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.02	2.06	mg/Kg	1	2	101	103	70 - 130
4-Bromofluorobenzene (4-BFB)	1.70	1.76	mg/Kg	1	2	85	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 360217

QC Batch: 111165 | Date Analyzed: 2014-04-15 | Analyzed By: AK
Prep Batch: 93954 | QC Preparation: 2014-04-14 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.2	mg/Kg	1	20.0	<2.32	91	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		[1]	18.3	mg/Kg	1	20.0	<2.32	92	70 - 130	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.91	1.88	mg/Kg	1	2	96	94	70 - 130
4-Bromofluorobenzene (4-BFB)	1.97	1.86	mg/Kg	1	2	98	93	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	200	80	80 - 120	2014-04-14

Standard (CCV-2)

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	201	80	80 - 120	2014-04-14

Standard (CCV-3)

QC Batch: 111142 | Date Analyzed: 2014-04-14 | Analyzed By: RG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	209	84	80 - 120	2014-04-14

Standard (CCV-1)

QC Batch: 111164 | Date Analyzed: 2014-04-15 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0910	91	80 - 120	2014-04-15
Toluene		1	mg/kg	0.100	0.0912	91	80 - 120	2014-04-15

continued ...

standard continued . . .

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		1	mg/kg	0.100	0.0928	93	80 - 120	2014-04-15
Xylene		1	mg/kg	0.300	0.278	93	80 - 120	2014-04-15

Standard (CCV-2)

QC Batch: 111164 Date Analyzed: 2014-04-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0940	94	80 - 120	2014-04-15
Toluene		1	mg/kg	0.100	0.0941	94	80 - 120	2014-04-15
Ethylbenzene		1	mg/kg	0.100	0.0949	95	80 - 120	2014-04-15
Xylene		1	mg/kg	0.300	0.282	94	80 - 120	2014-04-15

Standard (CCV-3)

QC Batch: 111164 Date Analyzed: 2014-04-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0898	90	80 - 120	2014-04-15
Toluene		1	mg/kg	0.100	0.0893	89	80 - 120	2014-04-15
Ethylbenzene		1	mg/kg	0.100	0.0899	90	80 - 120	2014-04-15
Xylene		1	mg/kg	0.300	0.268	89	80 - 120	2014-04-15

Standard (CCV-1)

QC Batch: 111165 Date Analyzed: 2014-04-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.995	100	80 - 120	2014-04-15

Standard (CCV-2)

QC Batch: 111165 Date Analyzed: 2014-04-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.904	90	80 - 120	2014-04-15

Standard (CCV-3)

QC Batch: 111165 Date Analyzed: 2014-04-15 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.901	90	80 - 120	2014-04-15

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-13-7	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 14041122

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

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200 East Sunset Rd., Suite E
El Paso, Texas 79922
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BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: Talon/LPE

Phone #: 806-742-0742

Address: (Street, City, Zip) 2901 Hwy 349, Midland 79707

Fax #:

Contact Person: Melissa Decker / Chris Spore

E-mail: mdecker@talonlpe.com

Invoice to: (If different from above) Johnny Titsworth Cimarex

cspore@talonlpe.com

Project #: 701162.054.01

Project Name: Audit

Project Location (including state): Hobbs, NM

Sampler Signature: Melissa Decker

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
360277	Overspray	1	40z		X							X		4/9	1346
218	Pad	↓	↓		↓							↓		4/9	1358

ANALYSIS REQUEST	Turn Around Time if different from standard	Hold
MTBE 8021 / 602 / 8260 / 624		
BTEX (802) / 602 / 8260 / 624	X	
TPH 418.1 / TX1005 / TX1005 Ext(C35)		
TPH 8015 GRO / DRO / TVHC	X	
PAH 8270 / 625		
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7		
TCLP Metals Ag As Ba Cd Cr Pb Se Hg		
TCLP Volatiles		
TCLP Semi Volatiles		
TCLP Pesticides		
RCI		
GC/MS Vol. 8260 / 624		
GC/MS Semi. Vol. 8270 / 625		
PCB's 8082 / 608		
Pesticides 8081 / 608		
BOD, TSS, pH		
Moisture Content		
Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity		
Na, Ca, Mg, K, TDS, EC		

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
MDecker	Talon LPE	4/11/14	1313	Allison Johnson	TA	4/11/14	13:18	INST 1R OBS 3.7 °C COR 3.7 °C
								INST ____ OBS ____ °C COR ____ °C
								INST ____ OBS ____ °C COR ____ °C

LAB USE ONLY

Intact (Y) N

Headspace Y / N / (NA)

Log-in-Review ____

REMARKS: Midland alp

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

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Carrier # carry-in

TRACEANALYSIS, INC.

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Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Melissa Decker
Talon LPE-Midland
2901 State Highway 349
Midland, TX, 79706

Report Date: May 6, 2014

Work Order: 14050131

Project Location: Hobbs,NM
Project Name: Cimarex/Quail 11
Project Number: 701162.054.01

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
361947	Pad-B	soil	2014-04-30	10:51	2014-05-01

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director
Dr. Michael Abel, Project Manager

Report Contents

Case Narrative

Samples for project Cimarex/Quail 11 were received by TraceAnalysis, Inc. on 2014-05-01 and assigned to work order 14050131. Samples for work order 14050131 were received intact at a temperature of 5.4 C.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	94417	2014-05-02 at 07:37	111678	2014-05-04 at 07:38
TPH DRO - NEW	S 8015 D	94450	2014-05-05 at 11:30	111675	2014-05-04 at 12:30
TPH GRO	S 8015 D	94442	2014-05-05 at 09:15	111714	2014-05-05 at 15:30

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 14050131 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 361947 - Pad-B

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	111678	Date Analyzed:	2014-05-04	Analyzed By:	AK
Prep Batch:	94417	Sample Preparation:	2014-05-02	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	1	<0.0200	mg/Kg	1	0.0200
Xylene	U	1	<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.08	mg/Kg	1	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)			1.89	mg/Kg	1	2.00	94	70 - 130

Sample: 361947 - Pad-B

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	111675	Date Analyzed:	2014-05-04	Analyzed By:	RG
Prep Batch:	94450	Sample Preparation:	2014-05-05	Prepared By:	RG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	Qs	1	**212**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	135	mg/Kg	1	100	135	70 - 130

Sample: 361947 - Pad-B

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	111714	Date Analyzed:	2014-05-05	Analyzed By:	AK
Prep Batch:	94442	Sample Preparation:	2014-05-05	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	<4.00	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.35	mg/Kg	1	2.00	118	70 - 130
4-Bromofluorobenzene (4-BFB)			1.98	mg/Kg	1	2.00	99	70 - 130

Method Blanks

Method Blank (1) QC Batch: 111675

QC Batch: 111675 | Date Analyzed: 2014-05-04 | Analyzed By: RG
Prep Batch: 94450 | QC Preparation: 2014-05-05 | Prepared By: RG

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	15.1	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			110	mg/Kg	1	100	110	70 - 130

Method Blank (1) QC Batch: 111678

QC Batch: 111678 | Date Analyzed: 2014-05-04 | Analyzed By: AK
Prep Batch: 94417 | QC Preparation: 2014-05-02 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00354	mg/Kg	0.02
Toluene		1	<0.00966	mg/Kg	0.02
Ethylbenzene		1	<0.00790	mg/Kg	0.02
Xylene		1	<0.00667	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.10	mg/Kg	1	2.00	105	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	70 - 130

Method Blank (1) QC Batch: 111714

QC Batch: 111714 | Date Analyzed: 2014-05-05 | Analyzed By: AK
Prep Batch: 94442 | QC Preparation: 2014-05-05 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 111675 | Date Analyzed: 2014-05-04 | Analyzed By: RG
Prep Batch: 94450 | QC Preparation: 2014-05-05 | Prepared By: RG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	227	mg/Kg	1	250	15.1	85	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	216	mg/Kg	1	250	15.1	80	70 - 130	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	119	114	mg/Kg	1	100	119	114	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 111678 | Date Analyzed: 2014-05-04 | Analyzed By: AK
Prep Batch: 94417 | QC Preparation: 2014-05-02 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.94	mg/Kg	1	2.00	<0.00354	97	70 - 130
Toluene		1	2.00	mg/Kg	1	2.00	<0.00966	100	70 - 130
Ethylbenzene		1	1.97	mg/Kg	1	2.00	<0.00790	98	70 - 130
Xylene		1	6.03	mg/Kg	1	6.00	<0.00667	100	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.88	mg/Kg	1	2.00	<0.00354	94	70 - 130	3	20
Toluene		1	1.95	mg/Kg	1	2.00	<0.00966	98	70 - 130	2	20
Ethylbenzene		1	1.92	mg/Kg	1	2.00	<0.00790	96	70 - 130	3	20
Xylene		1	5.89	mg/Kg	1	6.00	<0.00667	98	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.04	2.09	mg/Kg	1	2.00	102	104	70 - 130
4-Bromofluorobenzene (4-BFB)	1.92	1.96	mg/Kg	1	2.00	96	98	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 111714 | Date Analyzed: 2014-05-05 | Analyzed By: AK
Prep Batch: 94442 | QC Preparation: 2014-05-05 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.5	mg/Kg	1	20.0	<2.32	92	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.4	mg/Kg	1	20.0	<2.32	92	70 - 130	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.25	2.22	mg/Kg	1	2.00	112	111	70 - 130
4-Bromofluorobenzene (4-BFB)	2.22	2.24	mg/Kg	1	2.00	111	112	70 - 130

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 361947

QC Batch: 111675 | Date Analyzed: 2014-05-04 | Analyzed By: RG
Prep Batch: 94450 | QC Preparation: 2014-05-05 | Prepared By: RG

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	Qs	Qs	1	352	mg/Kg	1	250	212	56	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	402	mg/Kg	1	250	212	76	70 - 130	13	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	122	136	mg/Kg	1	100	122	136	70 - 130

Matrix Spike (MS-1) Spiked Sample: 361587

QC Batch: 111678 | Date Analyzed: 2014-05-04 | Analyzed By: AK
Prep Batch: 94417 | QC Preparation: 2014-05-02 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.85	mg/Kg	1	2.00	<0.00354	92	70 - 130
Toluene		1	1.91	mg/Kg	1	2.00	<0.00966	96	70 - 130
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00790	96	70 - 130
Xylene		1	5.78	mg/Kg	1	6.00	<0.00667	96	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	1.95	mg/Kg	1	2.00	<0.00354	98	70 - 130	5	20
Toluene		1	2.01	mg/Kg	1	2.00	<0.00966	100	70 - 130	5	20
Ethylbenzene		1	2.02	mg/Kg	1	2.00	<0.00790	101	70 - 130	6	20
Xylene		1	6.16	mg/Kg	1	6.00	<0.00667	103	70 - 130	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.05	2.03	mg/Kg	1	2	102	102	70 - 130
4-Bromofluorobenzene (4-BFB)	1.92	1.92	mg/Kg	1	2	96	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 361947

QC Batch:	111714	Date Analyzed:	2014-05-05	Analyzed By:	AK
Prep Batch:	94442	QC Preparation:	2014-05-05	Prepared By:	AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		[1]	17.7	mg/Kg	1	20.0	2.33	77	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		[1]	20.4	mg/Kg	1	20.0	2.33	90	70 - 130	14	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.19	2.22	mg/Kg	1	2	110	111	70 - 130
4-Bromofluorobenzene (4-BFB)	2.22	2.30	mg/Kg	1	2	111	115	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 111675 Date Analyzed: 2014-05-04 Analyzed By: RG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	228	91	80 - 120	2014-05-04

Standard (CCV-2)

QC Batch: 111675 Date Analyzed: 2014-05-04 Analyzed By: RG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	207	83	80 - 120	2014-05-04

Standard (CCV-1)

QC Batch: 111678 Date Analyzed: 2014-05-04 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.103	103	80 - 120	2014-05-04
Toluene		1	mg/kg	0.100	0.102	102	80 - 120	2014-05-04
Ethylbenzene		1	mg/kg	0.100	0.0935	94	80 - 120	2014-05-04
Xylene		1	mg/kg	0.300	0.285	95	80 - 120	2014-05-04

Standard (CCV-2)

QC Batch: 111678 Date Analyzed: 2014-05-04 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0833	83	80 - 120	2014-05-04
Toluene		1	mg/kg	0.100	0.100	100	80 - 120	2014-05-04
Ethylbenzene		1	mg/kg	0.100	0.0989	99	80 - 120	2014-05-04
Xylene		1	mg/kg	0.300	0.300	100	80 - 120	2014-05-04

Standard (CCV-1)

QC Batch: 111714 Date Analyzed: 2014-05-05 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.12	112	80 - 120	2014-05-05

Standard (CCV-2)

QC Batch: 111714 Date Analyzed: 2014-05-05 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.958	96	80 - 120	2014-05-05

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-13-7	Midland

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

LAB Order ID # 140501B1

Page 1 of 1

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: Talon/LPE
Phone #: 866-742-0742
Address: (Street, City, Zip) 2901 Hwy 349
Fax #:
Contact Person: Melissa Decker
E-mail: mdecker@talonlpe.com
Invoice to: (If different from above) Johnny Titsworth-Cimarex
Project #: 701102.054.01
Project Name: Quail 11
Project Location (including state): Hobbs, NM
Sampler Signature: Melissa Decker

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC					Turn Around Time if different from standard	Hold
361947	Pad-B	1	4oz		X							X		4/30	1051		X		X																					

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
MDecker	TALON/LPE	5/1	1603	[signature]	TA	5/1/14	16:03	INST 5.4 °C OBS 5.4 °C COR 5.4 °C
								INST ____ °C OBS ____ °C COR ____ °C
								INST ____ °C OBS ____ °C COR ____ °C

LAB USE ONLY
Intact Y / N
Headspace Y / N / NA
Log-in-Review

REMARKS: Midland ALL

- [x] Dry Weight Basis Required
- [ ] TRRP Report Required
- [ ] Check If Special Reporting Limits Are Needed

Carrier # Carry

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

APPENDIX E

NMOCD RELEASE NOTIFICATION AND CORRECTIVE ACTION

(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

X Initial Report ☐ Final Report

Name of Company: Cimarex Energy Company	Contact: Johnny Titsworth
Address: 600 N. Marienfield, Suite 600, Midland, TX 79701	Telephone No. (432)250-2059
Facility Name: Quail State 11 #1 TB	Facility Type:

Surface Owner: State	Mineral Owner:	API No. 30-025-40841

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	11	19S	34E	210	FSL	660	FEL	Lea

Latitude: 32.66821 **Longitude:** -103.52462

NATURE OF RELEASE

Type of Release: crude / produced water	Volume of Release: 220 / 50	Volume Recovered: 210 / 45
Source of Release: Heater Treater	Date & Hour of Occurrence: 1/22/14	Date & Hour of Discovery: 1/22/14
Was Immediate Notice Given? X Yes ☐ No ☐ Not Required	If YES, To Whom? Mark Martino	
By Whom? Mark Bishop	Date and Hour: 1/22/14	
Was a Watercourse Reached? ☐ Yes X No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
During the night, the man-way cover gasket failed and 220 barrels of crude and 50 barrels of produced water were released from the heater treater. The majority of the spill was contained inside the lined containment. There was some pooling on the pad as well as some overspray on the pad. There was also some overspray in the pasture area.

Describe Area Affected and Cleanup Action Taken.*
The crude and produced water were picked up from within the containment, and the overspray area on the pad was back-dragged. The pooling area on the pad will be assessed, as well as the overspray area in the pasture. A work plan with the analytical will be submitted for approval.

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: Johnny Titsworth	Approved by Environmental Specialist:	
Title: Environmental Compliance Coordinator	Approval Date:	Expiration Date:
E-mail Address: jtitsworth@cimarex.com	Conditions of Approval:	Attached ☐
Date: 1/23/14 Phone: (432)-250-2059		

* Attach Additional Sheets If Necessary