

SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	White City 14 Federal Com 10					
Company:	Cimarex					
Section, Township and Range	Unit	Sec 14	T25S	R26E		
Lease Number:	(API#) NM 19423					
County:	Eddy County					
GPS:	32.13640° N			104.26983° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of US 62/180 (National Parks Hwy) and Hwy 396 (Black River Road) travel east for approx. 7 miles. Turn south on CR 748 and travel south for approx. 3.8 miles. Turn west on the lease road and travel south for approx. 4 miles. Turn east for approx. 1 mile and the location will be on the right.					

Release Data:

Date Released:	8/6/2012
Type Release:	Produced Fluids
Source of Contamination:	Frac Tank
Fluid Released:	10 bbls
Fluids Recovered:	0 bbls

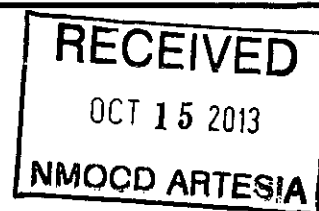
Official Communication:

Name:	Terry D. Ainsworth	Tom Elliott
Company:	Cimarex	Tetra Tech
Address:	600 N Marienfeld Suite 600	1910 N. Big Spring
City:	Midland, Texas 79701	Midland, Texas
Phone number:	575-628-3447	(432) 682-4559
Fax:	575-628-3566	
Email:	tainsworth@cimarex.com	tom.elliott@tetrattech.com

Ranking Criteria:

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	10
>100 ft.	0	0
Wellhead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score:	0	

Acceptable Soil RRAL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	5,000

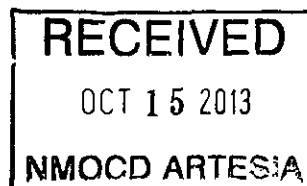




TETRA TECH

September 30, 2013

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210



Re: Closure Report for the Cimarex Energy, White City 14 Fed Com #10, Section 14, Township 25 South, Range 26 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by Cimarex Energy (Cimarex) to assess a spill from the White City Federal Com #10, located in Section 14, Township 25 South, Range 26 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.13640°, W 104.26983°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on August 6, 2012, and released approximately ten (10) barrels of acid from a frac tank. None of the release was recovered. The spill affected an area of approximately 75' x 135' in the pasture. The initial C-141 form is enclosed in Appendix A.

Groundwater

The New Mexico State Engineer's Office database and USGS database did not show any wells in Section 14, however, the USGS database showed a well in Section 13 with a reported depth to water of 12 feet below ground surface (bgs) and a surface elevation of 3,240 feet. A water level measurement was also collected from a windmill located in Section 25, Township 25 South, Range 26 East and showed a depth to water of 18 feet bgs. The windmill had a surface elevation of 3,197 feet. In addition, a temporary monitor well (TMW) was drilled in Section 19, Township 25 South, Range 27 East to a total depth of 80 feet bgs and did not encounter groundwater. The TMW site has a surface elevation of 3,240 feet. The temporary well was installed by Highlander for another client to establish depth to

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com



groundwater on a reserve pit closure.

Based on the Site surface elevation of 3,350 feet, the projected water level at the Site should be greater than 100 feet bgs. In addition, it appears the majority of the shallow groundwater may be limited to the alluvial sand and gravel deposits in the vicinity of Cotton Wood Draw. A topographical map showing the surface elevations (Figure 5), The New Mexico State Engineer, and USGS water well reports are shown in Appendix B.

On May 22, 2013 Cimarex and Tetra Tech personnel met with the New Mexico Oil Conservation District (NMOCD) in Artesia, New Mexico to discuss the groundwater depth at the site. The groundwater data from the windmill, temporary well and USGS well were presented and based on the surface elevations of these wells and the Site, NMOCD personnel agreed that groundwater was greater than 100 feet bgs.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On September 20, 2013, Safety and Environmental Solutions, Inc. out of Hobbs, New Mexico personnel inspected and sampled the spill area. Two (2) bore holes (BH-1 & BH-2) were installed using a hollow stem auger drilling rig to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 418.1 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The bore hole locations are shown on Figure 3.

Referring to Table 1, bore hole samples were below the RRAL for BTEX. A TPH trace of 147 mg/kg was detected in BH-1 at 15' and 172 mg/kg in BH-2 at 5' below surface. The remaining TPH samples were below the reporting limit.

A chloride impact was detected in bore holes BH-1 and BH-2, which showed a maximum chloride concentration at the surface (0-1') of 30,800 mg/kg and 22,000 mg/kg, respectively. The chloride concentrations in BH-1 declined with depth showing 17,400 mg/kg at 10' and 256 mg/kg at 20' below surface. The chloride concentrations in BH-2 showed 5,860 mg/kg at 10' and 144 at 25' below surface.



TETRA TECH

Site Remediation and Conclusion

On August 12 through August 22, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. In order to remove the chloride impacts, the excavation depths were initially proposed to be 5.0' and 10.0' below grade. Dense rock was encountered at various depths throughout the excavation and the excavation varied from 3.0' to 10.0' below grade. In addition, Tetra Tech collected confirmation samples from the bottom and sidewalls of the excavation. The confirmation sample results are shown in Table 1. The excavated areas and final depths are highlighted in Table 1 and shown on Figure 4.

Once excavated, clean backfill material was used to bring the excavation to approximately 3.0' below grade. A 40 mil liner was installed to cap the remaining impact and the site was then backfilled with clean material to surface grade, ripped and seeded. Approximately 640 cubic yards³ of soil were removed and transported to R360 facility for proper disposal.

Based on the remediation activities performed at this location, Cimarex requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Tom Elliott
Project Manager

cc: Terry Ainsworth - Cimarex
Johnny Titsworth - Cimarex
Christine Alderman - Cimarex
Jim Amos - BLM

FIGURES

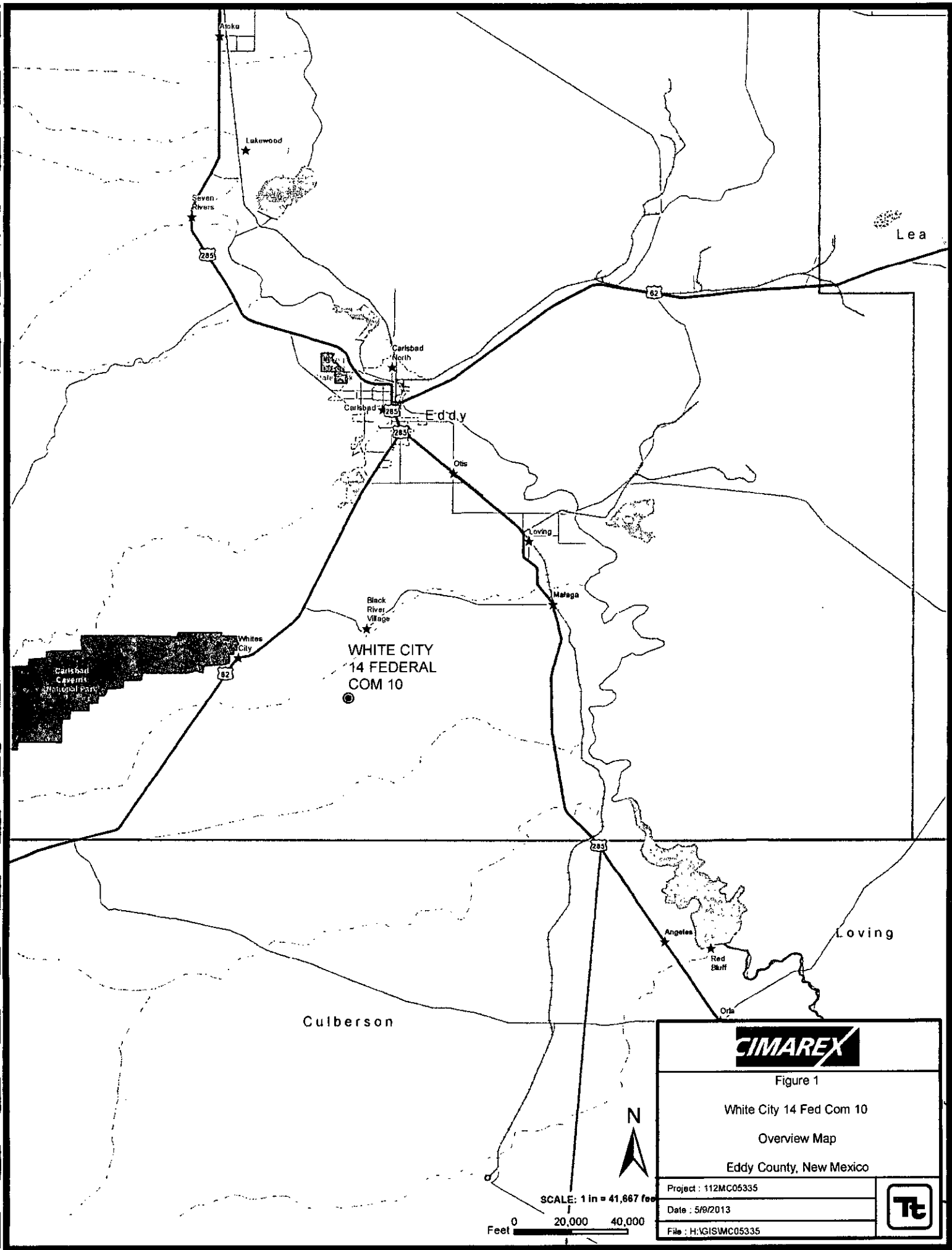


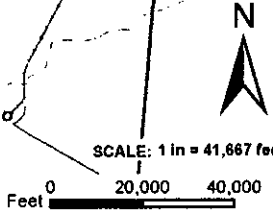
Figure 1

White City 14 Fed Com 10

Overview Map

Eddy County, New Mexico

Project : 112MC05335
Date : 5/9/2013
File : H:\GIS\MC05335



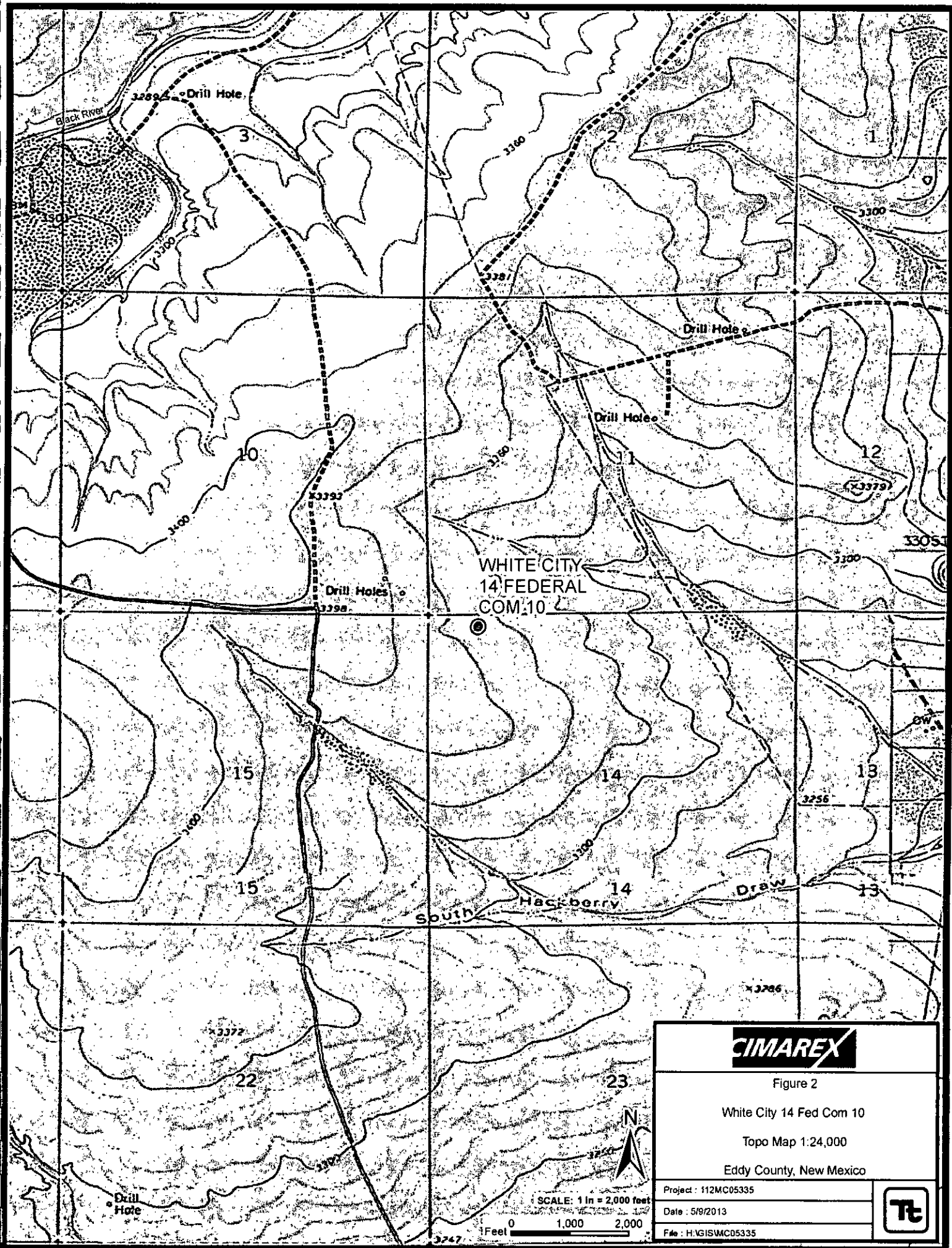


Figure 2

White City 14 Fed Com 10

Topo Map 1:24,000

Eddy County, New Mexico

Project : 112MC05335

Date : 5/9/2013

File : H:\GIS\WCD5335



PASTURE

BIERM

BIERM LEAK SOURCE

68'

BH-1

BH-2

135'

105'

43'

75'

22'

20'

PAD

LEASE ROAD

PASTURE

EXPLANATION

- BORE HOLE SAMPLE LOCATIONS
- ☆ LEAK SOURCE
- ▨ SPILL AREA

SCALE: 1 IN = 82 FEET

Feet 0 40 80



Figure 3

White City 14 Fed Com 10

Spill Assessment Map

Eddy County, New Mexico

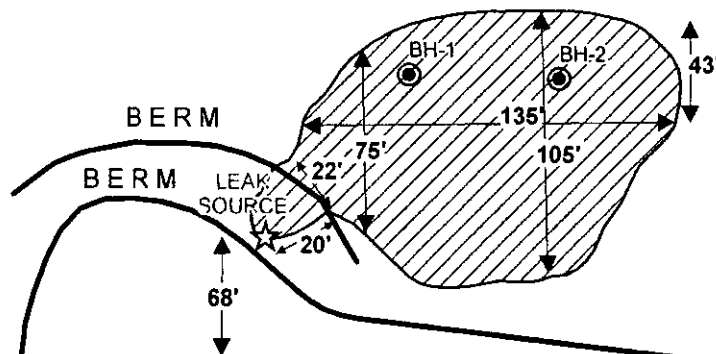
Project : 112MC05335

Date : 5/9/2013

File : H:\GIS\MC05335



PASTURE



PAD

LEASE ROAD

PASTURE

EXPLANATION

- BORE HOLE SAMPLE LOCATIONS
- ☆ LEAK SOURCE
- ▨ SPILL AREA



SCALE: 1 IN = 82 FEET
Feet 0 40 80

CIMAREX

Figure 3

White City 14 Fed Com 10

Spill Assessment Map

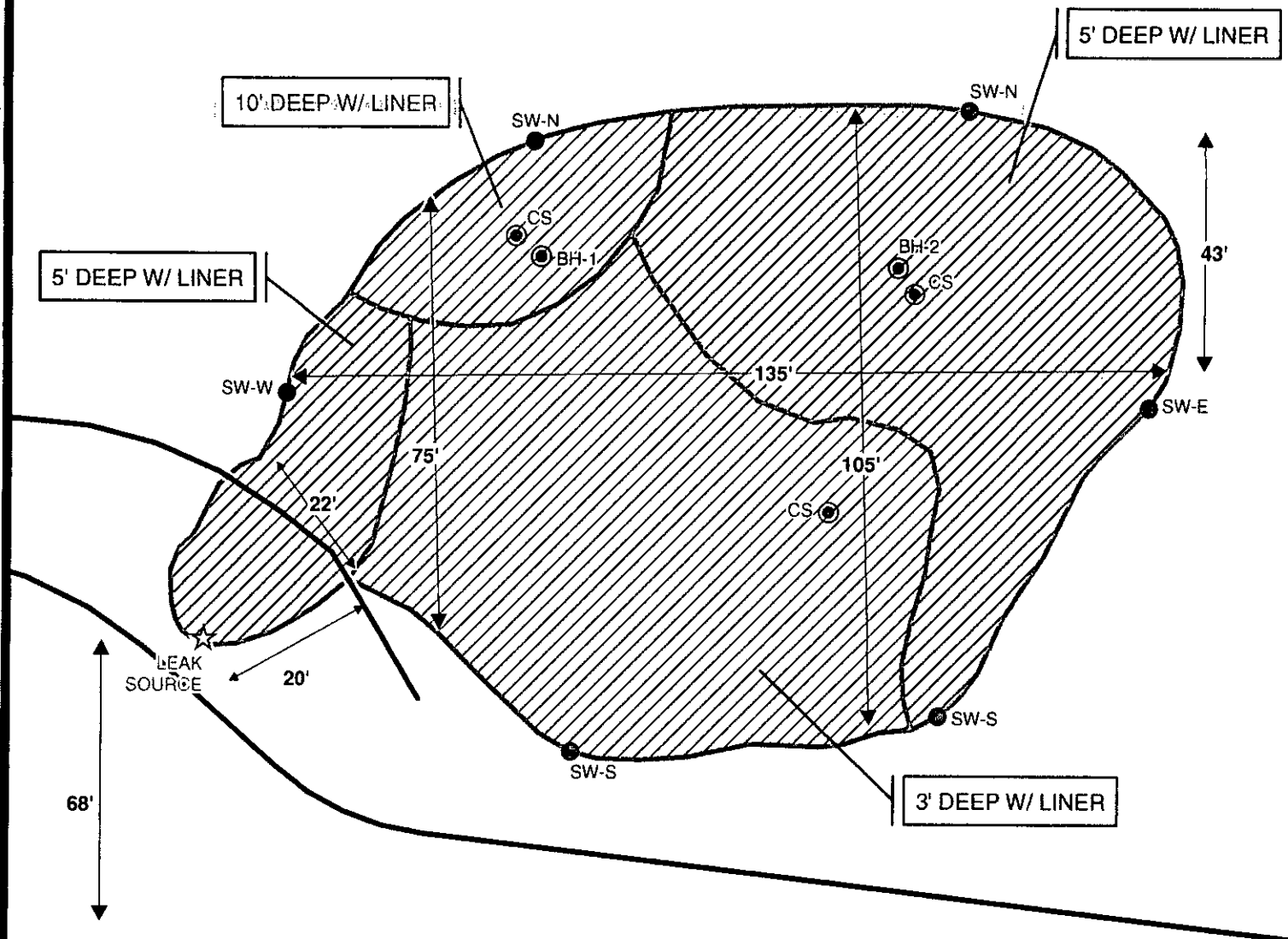
Eddy County, New Mexico

Project : 112MC05335

Date : 5/9/2013

File : H:\GIS\MC05335





EXPLANATION

- BORE HOLE SAMPLE LOCATIONS
- ⊙ CONFIRMATION SAMPLE LOCATIONS
- SIDE WALL SAMPLE LOCATIONS
- ☆ LEAK SOURCE
- LINER
- ▨ EXCAVATION AREA

SCALE: 1 IN = 30 FEET

Feet 0 15 30

Figure 4

White City 14 Fed Com 10

Excavation Area & Depth Map

Eddy County, New Mexico

Project : 112MC05335
Date : 9/24/2013
File : H:\GIS\WMC05335

TABLES

Table 1

Cimarex

**White City 14 Federal Commingle 10
Eddy County, New Mexico**

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		**TPH (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed							
*BH-1 3' liner	9/20/2012	Surface		X	<100	<0.050	<0.050	<0.050	<0.150	<0.150	30,800
	"	5		X	<100	<0.050	<0.050	<0.050	<0.150	<0.150	21,200
	"	10		X	<100	<0.050	<0.050	<0.050	<0.150	<0.150	17,400
	"	15	X		147	<0.050	<0.050	<0.050	<0.150	<0.150	464
	"	20	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	256
	"	25	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	480
Bottom Hole-5' Bottom Hole-10' SW-N3 SW-W3 SW-S	"	30	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	128
	8/15/2013	5	X		---	---	---	---	---	---	23,300
	8/15/2013	10	X		---	---	---	---	---	---	22,800
	8/15/2013	-	X		---	---	---	---	---	---	561
	8/15/2013	-	X		---	---	---	---	---	---	43.1
*BH-2 3' liner	8/15/2013	-	X		---	---	---	---	---	---	43.1
	9/20/2012	Surface	X	X	<100	<0.050	<0.050	<0.050	<0.150	<0.150	22,000
	"	5	X	X	172	<0.050	<0.050	<0.050	<0.150	<0.150	19,200
	"	10	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	5,860
	"	15	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	944
	"	20	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	992
Bottom Hole-3' Bottom Hole-5' SW-N3 SW-E SW-S2	"	25	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	144
	"	30	X		<100	<0.050	<0.050	<0.050	<0.150	<0.150	192
	8/15/2013	3	X		---	---	---	---	---	---	2,920
	8/15/2013	5	X		---	---	---	---	---	---	4,250
	8/15/2013	-	X		---	---	---	---	---	---	497
SW-E SW-S2	8/15/2013	-	X		---	---	---	---	---	---	392
	8/15/2013	-	X		---	---	---	---	---	---	83.4

(*) Sampled by Safety & Environmental Solutions, Inc. for Cimarex

(**) TPH Method 418.1

Excavation Depths

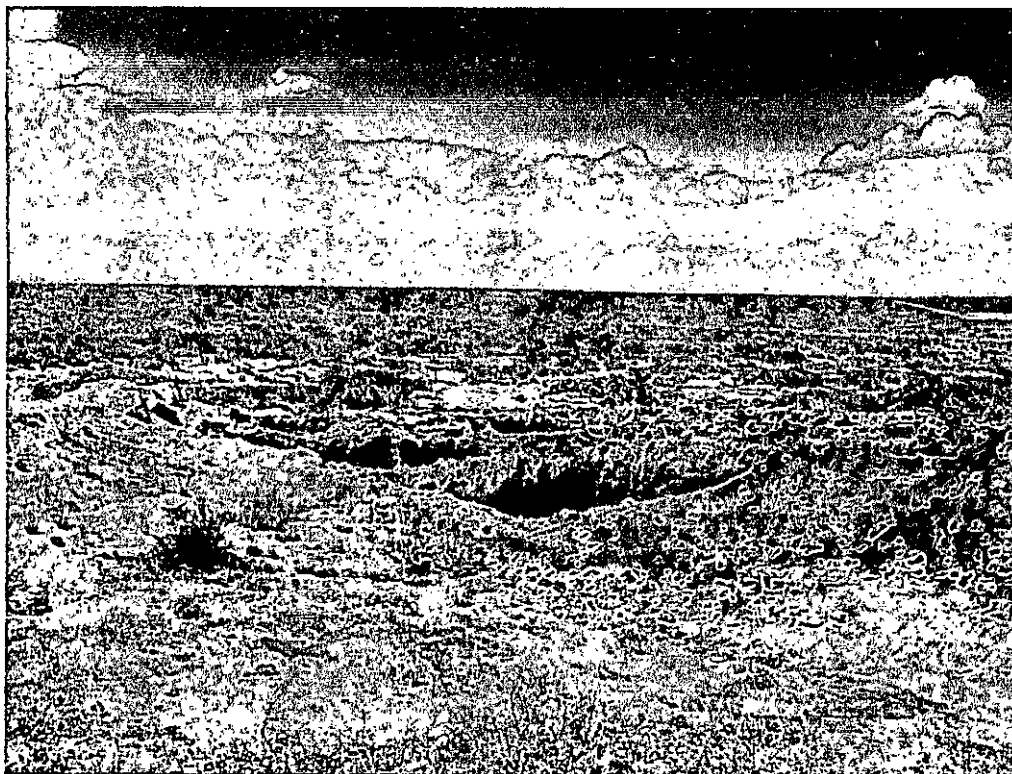
40 Mil Liner installed at 3' below surface.

PHOTOGRAPHS

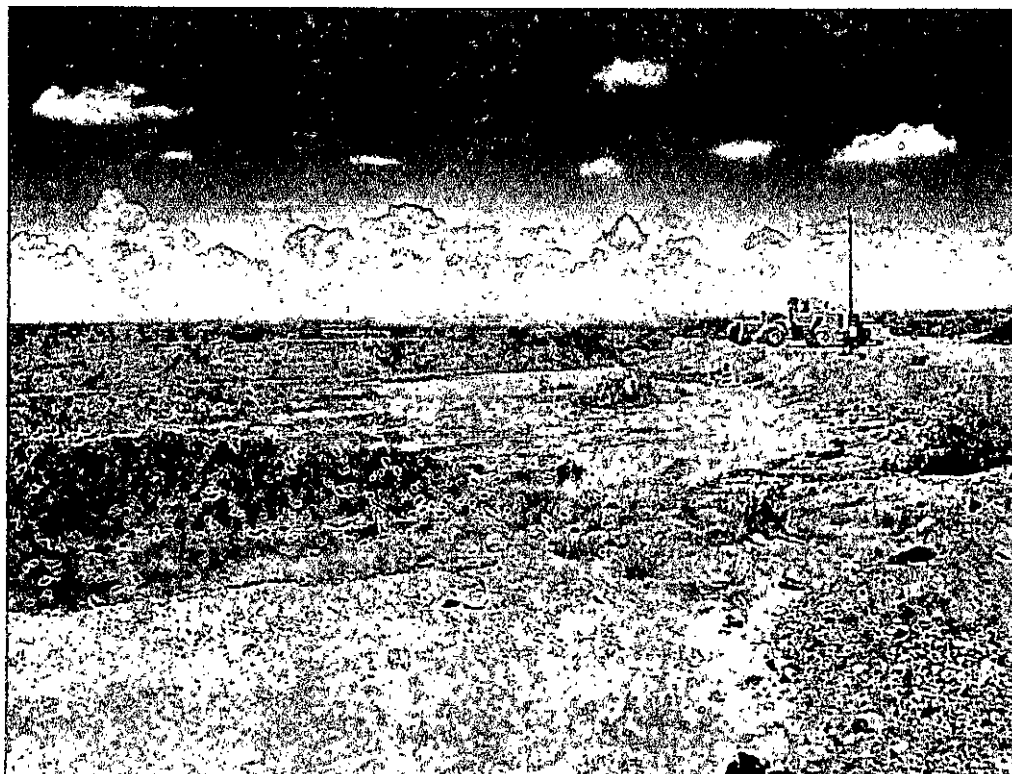
Cimarex Energy
White City 14 Fed Com #10
Eddy County, New Mexico



TETRA TECH



View North – Excavation of BH-1 in the pasture.



View East– Excavation of BH-2 in the pasture.

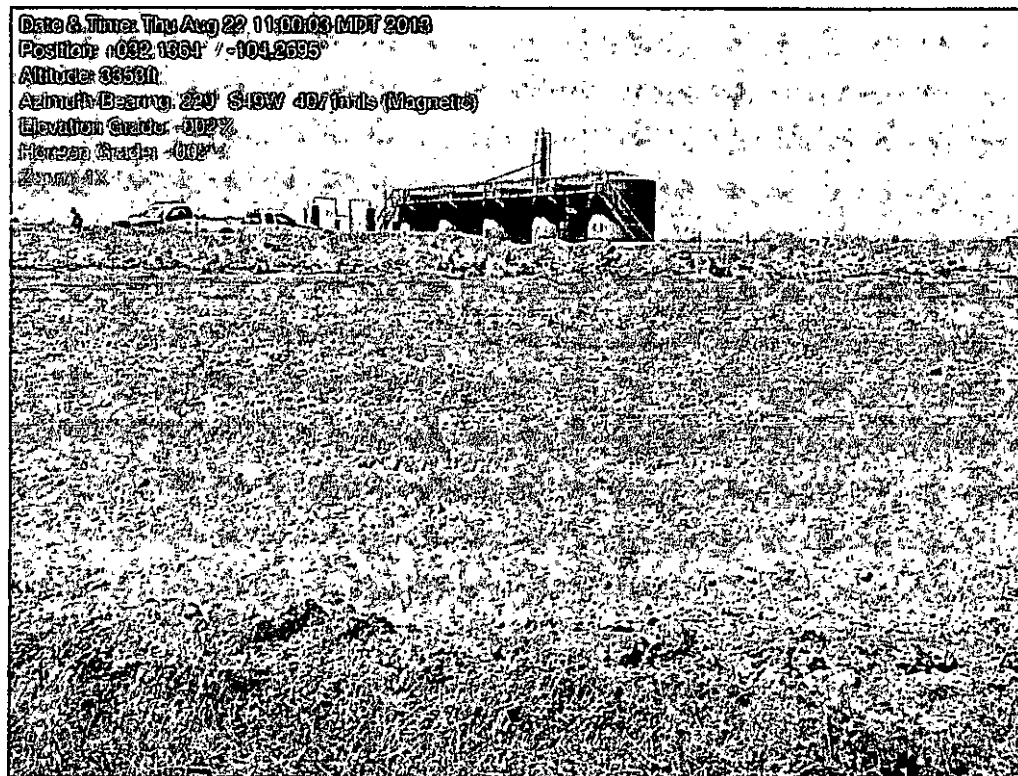
Cimarex Energy
White City 14 Fed Com #10
Eddy County, New Mexico



TETRA TECH



View North – Liner installation.



View South – Backfill.

APPENDIX A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, 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

RECEIVED

OCT 15 2013

NMOCD ARTESIA

Form C-141
Revised October 10, 2003

Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

☐ Initial Report

☒ Final Report

Name of Company	Cimarex Energy	Contact	Terry D. Ainsworth
Address	600 Marienfeld Midland, TX 79701	Telephone No.	(575) 390-1388
Facility Name	White City 14 Fed Com 10	Facility Type	Gas Well
Surface Owner	Mineral Owner	Lease No.	NM 19423

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	14	25S	26E	500	North	800	West	Eddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	some percentage of acid	Volume of Release + or - 10 bbls	Volume Recovered	0	
Source of Release	acid tanks	Date and Hour of Occurrence	?	Date and Hour of Discovery	8/6/2012
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

SESI will be out with an auger to see how deep the spill went and to catch samples to see if we can tell for sure what was spilled

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spills extent. Soil that exceeded the RRAL was removed and hauled away for proper disposal. The site was then lined and brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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.

OIL CONSERVATION DIVISION

Signature:

Printed Name: Ike Tavarez

Title: Senior Project Manager

E-mail Address: ike.tavarez@tetrattech.com

Date: Sept 30, 2013 Phone: 432-682-4559

Approved by District Supervisor:

Approval Date:

Expiration Date:

Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
White City 14 Fed Com #10
Eddy County, New Mexico

24 South				25 East		
6	5	14	4	440	3	2
						1
7	8	9			10	11
						12
18	17	16			15	14
						13
19	20	21			22	23
						24
30	29	28			27	26
						25
31	32	33			34	35
						36

24 South				26 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	25
30	29	28	27	26	25	
31	32	33	34	35	36	

24 South				27 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

25 South				26 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	









25 South				26 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

25 South				27 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

26 South				27 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

26 South				27 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

26 South				27 East		
6	5	4	3	2	1	
7	8	9	10	11	12	
18	17	16	15	14	13	
19	20	21	22	23	24	
30	29	28	27	26	25	
31	32	33	34	35	36	

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions in Southern Eddy, County, NM
-  NMOCD - Groundwater Data
-  Field water level
-  New Mexico Water and Infrastructure Data System
-  Measured Windmill 18'
-  TMW TD 80' DRY



[USGS Home](#)
[Contact USGS](#)
[Search USGS](#)

National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:
Groundwater

Geographic Area:
☐ United States

[News](#) - updated April 18,2013

Groundwater levels for the Nation

Search Results -- 1 sites found

Search Criteria

site_no list =

• 320738104140601

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

USGS 320738104140601 25S.26E.13.42444

Available data for this site

Groundwater: Field measurements

Eddy County, New Mexico
Hydrologic Unit Code --
Latitude 32°07'33.5", Longitude 104°14'19.1" NAD83
Land-surface elevation 3,207.70 feet above NGVD29
The depth of the well is 26 feet below land surface.
This well is completed in the Castile Gypsum (312CSTL)
local aquifer.

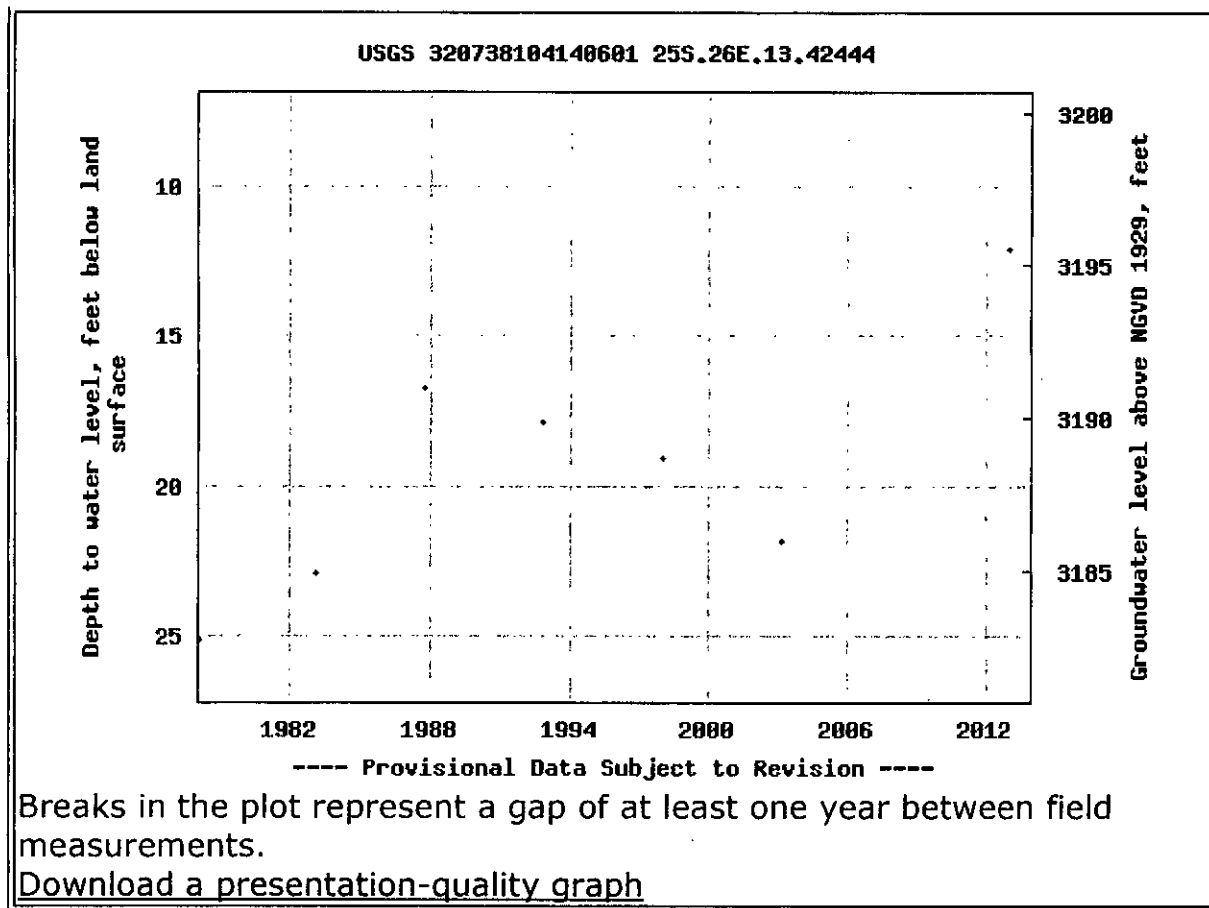
Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

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[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for USA: Water Levels

URL: <http://nwis.waterdata.usgs.gov/nwis/gwlevels?>



Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2013-05-02 17:08:49 EDT

0.34 0.32 nadww01



New Mexico Office of the State Engineer

Wells with Well Log Information

SS Search:

Section(s): 14

Township: 25S

Range: 26E

No wells found.

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

3/9/27 AM

Page 1 of 1

WELLS WITH WELL LOG INFORMATION

APPENDIX C

September 28, 2012

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CIM-12-017

Enclosed are the results of analyses for samples received by the laboratory on 09/21/12 7:55.

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/ga/lab_accred_certif.html.

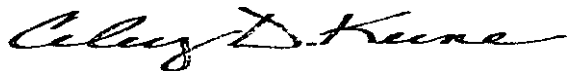
Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

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:	09/21/2012	Sampling Date:	09/20/2012
Reported:	09/28/2012	Sampling Type:	Soil
Project Name:	CIM-12-017	Sampling Condition:	Cool & Intact
Project Number:	WHITE CITY 14 FED. COM 10	Sample Received By:	Jodi Henson
Project Location:	CARLSBAD, NEW MEXICO		

Sample ID: BH #1 SURFACE (H202306-01)

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	09/25/2012	ND	2.14	107	2.00	12.1	
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4	
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1	
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7	

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	30800	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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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:	09/21/2012	Sampling Date:	09/20/2012
Reported:	09/28/2012	Sampling Type:	Soil
Project Name:	CIM-12-017	Sampling Condition:	Cool & Intact
Project Number:	WHITE CITY 14 FED. COM 10	Sample Received By:	Jodi Henson
Project Location:	CARLSBAD, NEW MEXICO		

Sample ID: BH #1 5' (H202306-02)

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	09/25/2012	ND	2.14	107	2.00	12.1	
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4	
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1	
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7	

Surrogate: 4-Bromofluorobenzene (P/E) 103 % 89.4-126

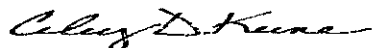
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	21200	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #1 10' (H202306-03)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 102 % 89.4-126

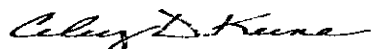
Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	17400	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #1 15' (H202306-04)

BTX 80218			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 99.5 % 89.4-126

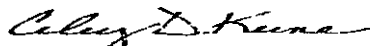
Chloride, SM4500Cl-B			mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	464	16.0	09/26/2012	ND	416	104	400	0.00		

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	147	100	09/27/2012	ND	2930	117	2500	2.04	

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #1 20' (H202306-05)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PH) 101 % 89.4-126

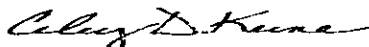
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	09/26/2012	ND	416	104	400	0.00		

TPH 418.1		mg/kg		Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04		

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #1 25' (H202306-06)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 99.2 % 89.4-126

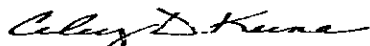
Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #1 30' (H202306-07)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 89.4-126

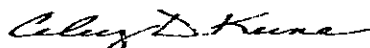
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04		

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 Fax To: (575) 393-4388

Received:	09/21/2012	Sampling Date:	09/20/2012
Reported:	09/28/2012	Sampling Type:	Soil
Project Name:	CIM-12-017	Sampling Condition:	Cool & Intact
Project Number:	WHITE CITY 14 FED. COM 10	Sample Received By:	Jodi Henson
Project Location:	CARLSBAD, NEW MEXICO		

Sample ID: BH #2 SURFACE (H202306-08)

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	09/25/2012	ND	2.14	107	2.00	12.1	
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4	
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1	
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7	

Surrogate: 4-Bromofluorobenzene (PIE) 99.3 % 89.4-126

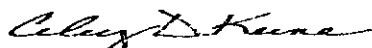
Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	22000	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 5' (H202306-09)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIE) 99.5 % 89.4-126

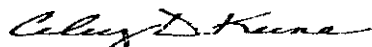
Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	19200	16.0	09/26/2012	ND	416	104	400	0.00		

TPH 418.1			mg/kg							
			Analyzed By: AM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	172	100	09/27/2012	ND	2930	117	2500	2.04		

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 Received: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 10' (H202306-10)

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	09/25/2012	ND	2.14	107	2.00	12.1			
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4			
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1			
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7			

Surrogate: 4-Bromofluorobenzene (P1): 99.9 % 89.4-126

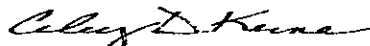
Chloride, SM4500Cl-B			mg/kg							Analyzed By: AP	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	5860	16.0	09/26/2012	ND	416	104	400	0.00			

TPH 418.1			mg/kg							Analyzed By: AM	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04			

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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: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 15' (H202306-11)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 89.4-126

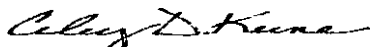
Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	944	16.0	09/26/2012	ND	416	104	400	0.00		

TPH 418.1			mg/kg							
			Analyzed By: AM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04		

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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: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 20' (H202306-12)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PIL) 99.2 % 89.4-126

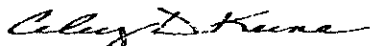
Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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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: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 25' (H202306-13)

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	09/25/2012	ND	2.14	107	2.00	12.1		
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4		
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1		
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7		

Surrogate: 4-Bromofluorobenzene (PHL) 102 % 89.4-126

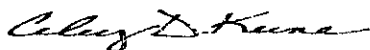
Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: AP							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	09/26/2012	ND	416	104	400	0.00		

TPH 418.1			mg/kg							
			Analyzed By: AM							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04		

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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: 09/21/2012
 Reported: 09/28/2012
 Project Name: CIM-12-017
 Project Number: WHITE CITY 14 FED. COM 10
 Project Location: CARLSBAD, NEW MEXICO

 Sampling Date: 09/20/2012
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: BH #2 30' (H202306-14)

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	09/25/2012	ND	2.14	107	2.00	12.1	
Toluene*	<0.050	0.050	09/25/2012	ND	2.39	119	2.00	13.4	
Ethylbenzene*	<0.050	0.050	09/25/2012	ND	2.37	119	2.00	14.1	
Total Xylenes*	<0.150	0.150	09/25/2012	ND	7.18	120	6.00	13.7	

Surrogate: 4-Bromofluorobenzene (PHE) 98.8 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	09/26/2012	ND	416	104	400	0.00	

TPH 418.1		mg/kg		Analyzed By: AM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TPH 418.1	<100	100	09/27/2012	ND	2930	117	2500	2.04	

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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

Safety & Environmental Solutions





Page 1 of 1

ANALYSIS REQUEST

Company Name:	Safety & Environmental Solutions, Inc.				BILL TO P.O. #: Company: Same Attn: Address: City: State: Zip: Phone #: Fax #:
Project Manager:	Bob Allen				
Address:	703 East Clinton		State: NM	Zip: 88240	
City:	Hobbs				
Phone #:	575-397-0510	Fax #:	575-393-4388		
Project #:	C/M 12-017		Project Owner: C/MAREX		
Project Name:	White Clay 14 FED con 10				
Project Location:	Carrizosa NM				
Sampler Name:	Serrano Contreras				

FOR LAB USE ONLY	Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		DATE	TIME	OTHER:	ACID/BASE:	ICE / COOL	OTHER:			
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE														
	H202306	BH #1 Surface	G	1			X						9-7-12	1045				X			C/b/c/r/a	RSTX	TPH 418
1		BH #1 5'	G	1			X							1050				X					
2		BH #1 10'	G	1			X							1055				X					
3		BH #1 15'	G	1			X							1110				X					
4		BH #1 20'	G	1			X							1130				X					
5		BH #1 25'	G	1			X							1200				X					
6		BH #1 30'	G	1			X							1230				X					
7		BH #2 Surface	G	1			X							1300				X					
8		BH #2 5'	G	1			X							1320				X					
9		BH #2 10'	G	1			X							1350				X					
10		BH #2 15'	G	1			X											X					

[illegible]

Sample Relinquished: 		Relinquished By: 		Received By: 		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Temp: 52		Date: 4/22/12		Time: 7:55		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Temp: 52		Sample Condition: Cool/Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Checked By: 		REMARKS:	

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

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

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

Page 2 of 2

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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1298 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

Tom Elliott
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: September 12, 2013

Work Order: 13091225



Project Location: Eddy Co., NM
Project Name: Cimarex/White City 14 Fed. #10
Project Number: 112MC05335

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
341732	BH-2 (SW-N3)	soil	2013-08-15	00:00	2013-09-12

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 9 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

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Analytical Report	4
Sample 341732 (BH-2 (SW-N3))	4
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QC Batch 105012 - Method Blank (1)	5
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QC Batch 105012 - LCS (1)	6
QC Batch 105012 - MS (1)	6
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Case Narrative

Samples for project Cimarex/White City 14 Fed. #10 were received by TraceAnalysis, Inc. on 2013-09-12 and assigned to work order 13091225. Samples for work order 13091225 were received intact at a temperature of 22.8 C. Sample was not on ice when received. Sample received on last day of hold.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	88964	2013-09-12 at 12:52	105012	2013-09-12 at 15:28

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 13091225 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.

Report Date: September 12, 2013
112MC05335

Work Order: 13091225
Cimarex/White City 14 Fed. #10

Page Number: 4 of 9
Eddy Co., NM

Analytical Report

Sample: 341732 - BH-2 (SW-N3)

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 105012

Prep Batch: 88964

Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-09-12

Sample Preparation: 2013-09-12

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			497	mg/Kg	5	4.00

Report Date: September 12, 2013
112MC05335

Work Order: 13091225
Cimarex/White City 14 Fed. #10

Page Number: 5 of 9
Eddy Co., NM

Method Blanks

Method Blank (1) QC Batch: 105012

QC Batch: 105012
Prep Batch: 88964

Date Analyzed: 2013-09-12
QC Preparation: 2013-09-12

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: September 12, 2013
112MC05335

Work Order: 13091225
Cimarex/White City 14 Fed. #10

Page Number: 6 of 9
Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 105012
Prep Batch: 88964

Date Analyzed: 2013-09-12
QC Preparation: 2013-09-12

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2370	mg/Kg	1	2500	<3.85	95	89.7 - 115.9

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

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2520	mg/Kg	1	2500	<3.85	101	89.7 - 115.9	6	20

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

Matrix Spike (MS-1) Spiked Sample: 341732

QC Batch: 105012
Prep Batch: 88964

Date Analyzed: 2013-09-12
QC Preparation: 2013-09-12

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2800	mg/Kg	5	2500	497	92	78.9 - 121

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
Chloride			2920	mg/Kg	5	2500	497	97	78.9 - 121	4	20

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

Report Date: September 12, 2013
112MC05335

Work Order: 13091225
Cimarex/White City 14 Fed. #10

Page Number: 7 of 9
Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 105012

Date Analyzed: 2013-09-12

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	103	103	85 - 115	2013-09-12

Standard (CCV-2)

QC Batch: 105012

Date Analyzed: 2013-09-12

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	97.2	97	85 - 115	2013-09-12

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
SQL	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

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 SQL. Sample contains less than 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

Report Date: September 12, 2013
112MC05335

Work Order: 13091225
Cinarcx/White City 14 Fed. #10

Page Number: 9 of 9
Eddy Co., NM

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

Analysis Request of Chain of Custody Record

OF:

ANALYSIS REQUEST
(Circle or Specify Method No.)

TETRA TECH

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME:	Cimarex	SITE MANAGER:	Tom Elliott
PROJECT NO.:	112 M605335	PROJECT NAME:	Cimarex- White City ¹⁴ Fed #10

LAB I.D. NUMBER	DATE	TIME	TRIX	AP	AB	SAMPLE IDENTIFICATION
						2004, NM

NUMBER	DATE	MAT	CON	GRA
34732	2013 8-15	S		
				BH-2 (SW-N3)

[illegible]

RELINQUISHED BY: (Signature) _____	Date: _____	Time: _____	RECEIVED BY: (Signature) _____
RELINQUISHED BY: (Signature) _____	Date: _____	Time: _____	RECEIVED BY: (Signature) _____
RELINQUISHED BY: (Signature) _____	Date: _____	Time: _____	RECEIVED BY: (Signature) _____
RELINQUISHED BY: (Signature) _____	Date: _____	Time: _____	RECEIVED BY: (Signature) _____

NAME: Mr. & Mrs. J. H. Smith ADDRESS: 123 Main St. CITY: Springfield STATE: TX ZIP: 75401
PHONE: 555-1234 DATE: 10/26/78
CONTACT: _____

2880	SAMPLE CONDITION WHEN RECEIVED:	REMARKS:
		3 Jan 77 - 9/17 - Chest

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra

PRESERVATIVE METHOD	

NUMBER OF
ENTERED ON

NON	2	
ICE		
HND		
HCL		
FILT		
NON	1	

2/2/11

Date: _____	Time: _____
Date: _____	Time: _____
Date: _____	Time: _____

TIME: _____

wants she

Tech - Project Manager
1013082323

8
5 MOD. TX1000
Wt Ag As Ba Ca
Wt Ag As Ba Ca
Vollies
8240/6260/624
ml. Vol. 8270/625
08
ec.
(Air)
(stos)
ms/Cations, pH, T

X 80211 I 8014
 RA Metata
 P Metata
 P Volata
 P Semil
 MS Vol
 MS Sen
 3's 8080
 T. 808/6
 (orde
 nma Sp
 na Beta
 A (Asbe
 or Anho

BTE
TFH
PAH
RCP
TCL
TCL
TCL
RCI
GC
GC
PCE
Pes
China
Gara
Alpa
PLN
Maj

[illegible]

SAMPLED BY: (Print & Initial) <i>Andrews</i>		Date: <i>8-13-2013</i>	
SAMPLE SHIPPED BY: (Circle) <i>FEDEX</i>		AIRBILL #: _____	
HAND DELIVERED _____		OTHER: _____	
TETRA TECH CONTACT PERSON: _____		Results by: _____	

Tom Enloe	RUSH Charges Authorized: <input checked="" type="radio"/> Yes <input type="radio"/> No
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i sample added to report

retains Pink copy - Accounting receives Gold copy.
7 - last day of hold!



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

Tom Elliott
Tetra Tech
1910 N. Big Spring Street
Midland, TX, 79705

Report Date: September 11, 2013

Work Order: 13082337



Project Location: Eddy Co., NM
Project Name: Cimarex/White City 14 Fed. #10
Project Number: 112MC05335

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
339888	BH-1 (BH-10')	soil	2013-08-15	00:00	2013-08-23
339889	BH-1 (BH-5')	soil	2013-08-15	00:00	2013-08-23
339890	BH-1 (SW-N3)	soil	2013-08-15	00:00	2013-08-23
339891	BH-1 (SW-W3)	soil	2013-08-15	00:00	2013-08-23
339892	BH-1 (SW-S)	soil	2013-08-15	00:00	2013-08-23
339893	BH-2 (BH-3')	soil	2013-08-15	00:00	2013-08-23
339894	BH-2 (BH-5')	soil	2013-08-15	00:00	2013-08-23
339895	BH-2 (SW-N2)	soil	2013-08-15	00:00	2013-08-23
339896	BH-2 (SW-E)	soil	2013-08-15	00:00	2013-08-23
339897	BH-2 (SW-S2)	soil	2013-08-15	00:00	2013-08-23

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 13 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

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Case Narrative

Samples for project Cimarex/White City 14 Fed. #10 were received by TraceAnalysis, Inc. on 2013-08-23 and assigned to work order 13082337. Samples for work order 13082337 were received intact at a temperature of 23.5 C. Samples were not on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	88563	2013-08-29 at 08:18	104555	2013-08-29 at 13:45
Chloride (Titration)	SM 4500-Cl B	88563	2013-08-29 at 08:18	104558	2013-08-29 at 13:54

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 13082337 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.

Report Date: September 11, 2013
112MC05335

Work Order: 13082337
Cimarex/White City 14 Fed. #10

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Analytical Report

Sample: 339888 - BH-1 (BH-10')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			22800	mg/Kg	10	4.00

Sample: 339889 - BH-1 (BH-5')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			23300	mg/Kg	10	4.00

Sample: 339890 - BH-1 (SW-N3)

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			561	mg/Kg	5	4.00

Report Date: September 11, 2013
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Cimarex/White City 14 Fed. #10

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Eddy Co., NM

Sample: 339891 - BH-1 (SW-W3)

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			43.1	mg/Kg	5	4.00

Sample: 339892 - BH-1 (SW-S)

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			43.1	mg/Kg	5	4.00

Sample: 339893 - BH-2 (BH-3')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104555	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2920	mg/Kg	10	4.00

Sample: 339894 - BH-2 (BH-5')

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2013-08-29	Analyzed By:	AR
QC Batch:	104558	Sample Preparation:	2013-08-29	Prepared By:	AR
Prep Batch:	88563				

Report Date: September 11, 2013
112MC05335

Work Order: 13082337
Cimarex/White City 14 Fed. #10

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Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4250	mg/Kg	10	4.00

Sample: 339895 - BH-2 (SW-N2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	104558	Date Analyzed:	2013-08-29	Analyzed By:	AR
Prep Batch:	88563	Sample Preparation:	2013-08-29	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			9880	mg/Kg	10	4.00

Sample: 339896 - BH-2 (SW-E)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	104558	Date Analyzed:	2013-08-29	Analyzed By:	AR
Prep Batch:	88563	Sample Preparation:	2013-08-29	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			392	mg/Kg	5	4.00

Sample: 339897 - BH-2 (SW-S2)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	104558	Date Analyzed:	2013-08-29	Analyzed By:	AR
Prep Batch:	88563	Sample Preparation:	2013-08-29	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			83.4	mg/Kg	5	4.00

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112MC05335

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Cimarex/White City 14 Fed. #10

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Method Blanks

Method Blank (1) QC Batch: 104555

QC Batch: 104555
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 104558

QC Batch: 104558
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: September 11, 2013
112MC05335

Work Order: 13082337
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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 104555
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2600	mg/Kg	1	2500	<3.85	104	89.7 - 115.9

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
Chloride			2560	mg/Kg	1	2500	<3.85	102	89.7 - 115.9	2	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 104558
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2570	mg/Kg	1	2500	<3.85	103	89.7 - 115.9

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
Chloride			2690	mg/Kg	1	2500	<3.85	108	89.7 - 115.9	5	20

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

Matrix Spike (MS-1) Spiked Sample: 339893

QC Batch: 104555
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Report Date: September 11, 2013
112MC05335

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Cinmarex/White City 14 Fed. #10

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Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			5170	mg/Kg	10	2500	2920	90	78.9 - 121

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
Chloride			5560	mg/Kg	10	2500	2920	106	78.9 - 121	7	20

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

Matrix Spike (MS-1) Spiked Sample: 339897

QC Batch: 104558
Prep Batch: 88563

Date Analyzed: 2013-08-29
QC Preparation: 2013-08-29

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2630	mg/Kg	5	2500	83.4	102	78.9 - 121

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
Chloride			2550	mg/Kg	5	2500	83.4	99	78.9 - 121	3	20

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

Report Date: September 11, 2013
112MC05335

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Calibration Standards

Standard (CCV-1)

QC Batch: 104555

Date Analyzed: 2013-08-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-08-29

Standard (CCV-2)

QC Batch: 104555

Date Analyzed: 2013-08-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	99	85 - 115	2013-08-29

Standard (CCV-1)

QC Batch: 104558

Date Analyzed: 2013-08-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-08-29

Standard (CCV-2)

QC Batch: 104558

Date Analyzed: 2013-08-29

Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.1	99	85 - 115	2013-08-29

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

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 than 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

Report Date: September 11, 2013
112MC05335

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

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 4

OF:

4

ANALYSIS REQUEST
(Circle or Specify Method No.)

TETRA TECH

**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-4560**

(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: Cinaray						SITE MANAGER: Tom Elliott													
PROJECT NO.: 112MC0533S						PROJECT NAME: Cinaray - White City 14 Feb #10 EDDY, NH													
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION													
8988	8-15	-	S	X		BH-1 (BH-10')	1			HCL									
889	8-15	-	S	X		BH-1 (BH-5')	1			ICE									
890	8-15	-	S	X		BH-1 (SW-N3)	1			HNO3									
891	8-15	-	S	X		BH-1 (SW-W3)	1			FILTERED (Y/N)									
892	8-15	-	S	X		BH-1 (SW-S)	1												
893	8-15	-	S	X		BH-2 (BH-3')	1												
894	8-15	-	S	X		BH-2 (BH-5')	1												
895	8-15	-	S	X		BH-2 (SW-N2)	1												
896	8-15	-	S	X		BH-2 (SW-E)	1												
897	8-5	-	S	X		BH-2 (SW-S2)	1												

RELINQUISHED BY: (Signature) _____ Date: 8-28-11 Time: 14:53

RECEIVED BY: (Signature) _____ Date: 8-28-11 Time: 14:53

RELINQUISHED BY: (Signature) _____ Date: _____ Time: _____

RECEIVED BY: (Signature) _____ Date: _____ Time: _____

RELINQUISHED BY: (Signature) _____ Date: _____ Time: _____

RECEIVED BY: (Signature) _____ Date: _____ Time: _____

RECEIVING LABORATORY: _____ ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____ PHONE: _____ DATE: _____ TIME: _____

SAMPLED BY: (Print & Initial) <i>Angela Long</i>	Date: <i>8-15-91</i>
FEDEX BUS UPS	Time: _____
MAILED DELIVERED	AIRBILL #: _____
TETRA TECH CONTRACT PERSON: <i>Tom Elliott</i>	OTHER: _____
	Results by: _____
	RUSH CHARGES Authorized: _____
	Yes _____ No _____

REMARKS: middle-aged

SAMPLE CONDITION WHEN RECEIVED:

Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.