



# Cottonwood Draw 22 Fed 2H

## WORK PLAN

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Release Date: 7/9/2015

UL/I Sec 22, T25 south, R26 east, Eddy County NM

API # 30-015-36757

December 4, 2015

**Prepared by:**

Lance Crenshaw, Project Manager  
Environmental Department  
Diversified Field Service, Inc.  
206 West Snyder  
Hobbs, NM 88240  
Phone: (575)964-8394  
Fax: (575)393-8396

Mike Bratcher  
Environmental Specialist  
NM Oil Conservation District-Division 2  
Artesia, NM 88210

**RE: Cimarex, Cottonwood Draw 22 Fed 2H – Remediation Work Plan**  
UL/I, Section 22, T25S, R26E  
API No. 30-015-36757

Mr. Bratcher,

Cimarex has retained Diversified Field Service, Inc. (DFSI) to address environmental issues for the site detailed herein.

The site is located east of White's City, in Eddy County. The leak occurred on 07/09/2015. The leak site resulted from a failed regulator. The regulator was installed incorrectly, getting fluids instead of getting gas. Approximately 12 bbls of oil and 8 bbls of produced water were released. Four bbls of oil and 6 bbls of produced water were recovered using a vacuum truck. The spill affected the location pad and ran down a cow path into the pasture area. A C-141 was drafted.

### **Site Assessment and Delineation**

On November 24, 2015 DFSI personnel delineated 6 sample points of the leak area. Each sample was tested for chlorides levels as well as BTEX. The BTEX samples were performed using a Mini Rae Photoionization Detector (PID). The results are attached. Clean samples were taken to a commercial laboratory for confirmation.

DFSI personnel also drilled two bore holes at the location, due to auger refusal on sample points. One bore hole was drilled on the pad, and the other was drilled in the pasture. Clean samples from the drilling were also taken to a commercial lab for confirmation. Those results are attached as well.

DFSI has conducted a groundwater study of the area and has determined that according to the New Mexico Office of the State Engineer the average depth to groundwater for this area is 118 foot below ground surface. Therefore, no eminent danger of groundwater impact or threat to life is anticipated.

## Conclusion

After careful review DFSI on behalf of Cimarex would like to propose the following:

Remove 6" BGS of contaminated soil on the pad, then backfill with fresh caliche. In the pasture area, remove 4' BGS and install either impervious river rock or a 20 mil liner and backfill with native topsoil. The pasture area will also be seeded with a BLM approved seed mixture. All contaminated material will be hauled to an approved NM state disposal.

Following the approval of the above plan, DFSI will submit all proper closure documentation to the NMOCD and BLM in accordance to the State and Federal Guidelines set forth.

Please feel free to contact me with any questions concerning this remediation plan request.

Sincerely,



Michael Burton  
Environmental Operations Director  
Diversified Field Service, Inc.  
206 West Snyder  
Hobbs, NM 88240  
Office: (575)964-8394  
Mobile: (575)390-5454  
Fax: (575)964-8396  
Email: Mburton@diversifiedfsi.com

cc Shelly Tucker

Attachments: Initial Form C-141  
Site/Sample Map  
Sample Data  
Lab Data  
Photo Page

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

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised August 8, 2011

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

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company	Cimarex Energy	Contact	Christine Alderman
Address	600 N Marienfeld Ste 600 Midland TX	Telephone No.	432-853-7059
Facility Name	Cottonwood Draw 22 Fed 2H	Facility Type	production

Surface Owner	BLM	Mineral Owner		API No.	30-015-36757
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	22	25S	26E	2310	S	380	E	Eddy

Latitude 32.11436 Longitude -104.272

**NATURE OF RELEASE**

Type of Release	oil/produced water	Volume of Release	12 bbls oil 8 bbls PW	Volume Recovered	4 bbls oil 6 bbls PW
Source of Release	gas regulator	Date and Hour of Occurrence	07/09/15	Date and Hour of Discovery	07/09/15
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Bratcher/Randy Pair		
By Whom?	Gloria Garza	Date and Hour	07/09/15 10:30 pm		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

The gas regulator on the safety system of the well was installed incorrectly and rather than having a supply of gas it was getting fluids. The regulator failed which failed to shut in the well. This has been corrected.

Describe Area Affected and Cleanup Action Taken.\*

Location pad and slightly down a cow path into the pasture area. An environmental company will delineate and develop work plan.

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: <i>Christine Alderman</i>	<b>OIL CONSERVATION DIVISION</b>		
Printed Name: Christine Alderman	Approved by Environmental Specialist:		
Title: ESH Supervisor	Approval Date:	Expiration Date:	
E-mail Address: calderman@cimarex.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date:	Phone: 432-853-7059		

\* Attach Additional Sheets If Necessary



# Cimarex Energy Co.

## Form: Cimarex Incident Report

Carlsbad  
7101 Norris Road  
Carlsbad NM  
88220

v3.0

Phone: +1 (575) 628-3447  
Fax:  
Client No.: Carlsbad

Completed by: Pfaff, Max  
Completed on: 2015-07-10 15:44  
Number: XEC01629

<b>INCIDENT TIMING</b>	
Today's Date	2015-07-10
Date of Incident	2015-07-09
Time of Incident	12:26
<b>DEPARTMENT</b>	
Select Department	Production
<b>REPORTING</b>	
<b>REPORTED BY</b>	
First Name	Lonnie
Last Name	Hernandez
Phone Number	575-499-6789
<b>REPORTED TO</b>	
First Name	Max
Last Name	Pfaff
Phone Number	575-725-7675
Was ES&H notified immediately?	Yes
<b>INCIDENT DETAILS</b>	
Operation At Time Of Incident?	Normal
<b>LOCATION OF INCIDENT</b>	
Where Did Incident Occur?	Lease
Lease Name	Cottonwood Draw 22 Fed Com 2H
State	NM - New Mexico
City	
County	Eddy
<b>Section-Block-Lat-Long</b>	
Section	22
Township (NM, OK, KS, LA, KY, MI)	T-25-S
Range	R-26-E
Block (TX Only)	
<b>GPS Location</b>	
Apple Device	
<b>TYPE OF INCIDENT</b>	
Type of Incident?	Spill / Release
Date Spill/Release Discovered	2015-07-09
Time Spill/Release Discovered	12:15
<b>TYPE OF MATERIAL SPILLED/RELEASED (1)</b>	
Type of Material Spilled / Released?	Produced Water
Quantity Spilled	12
Quantity Recovered	6
Unit of Measure	Barrels (bbls)
<b>TYPE OF MATERIAL SPILLED/RELEASED (2)</b>	
Type of Material Spilled / Released?	Crude Oil
Quantity Spilled	8
Quantity Recovered	4
Unit of Measure	Barrels (bbls)

<b>CAUSE OF SPILL/RELEASE</b>	
Cause of Spill/Release (State the facts only)	Mechanical failure of a Fisher low pressure gas regulator. This regulator operates a Kimray motor valve which shuts in the flow line of the well if the H2S alarm goes off. The regulator was connected to the tubing of the well which caused fluid to enter it and cause a diaphragm to blow out. This regulator was hooked up in the wrong place. It should have been attached to the casing of the well for a gas supply.
Was Spill/Release Contained?	No
Any Waterway Nearby?	No
<b>AFFECTED AREA INFORMATION (1)</b>	
What Type of Area Was Affected? In Feet, Specify Area Affected (length, width, & depth)	Location Pad 250' x 60' x 2" 20' x 20' x 2" 50' x 8' x 2"
<b>AFFECTED AREA INFORMATION (2)</b>	
What Type of Area Was Affected? In Feet, Specify Area Affected (length, width, & depth)	Grazed Land 30' x 2' x 2"
<b>NOTIFICATIONS</b>	
Has Landowner been Informed?	No
Has the State Oil & Gas Commission Been Notified?	Yes
What is the Job or Report #? Name of Oil & Gas Commission? Date Notified? Time Notified? Contact Name	NMOCD 2015-07-09 21:29 Mike Bratcher Heather Patterson
Has the BLM/BIA been notified, if applicable?	Yes
Date Notified? Time Notified? Contact Name	2015-07-09 21:29 Randal Pair
<b>Witnesses to the Incident</b>	
Were there Witnesses to the Incident?	No
<b>WEATHER CONDITIONS - If Known</b>	
Outside Air Temperature (deg F) Weather Conditions	
<b>Wind - If Known</b>	
Speed (MPH) Direction	
<b>INCIDENT DESCRIPTION</b>	
Describe the Incident (State the Facts Only)	Lonnie Hernandez arrived on location and discovered there had been a release on location. He found the point of origin and immediately isolated it and shut down the pumping unit. It was discovered that the leak was coming from a gas regulator on the safety system of the well. This regulator was supplied with pressure from the tubing of the well which has mostly fluid in it. The regulator was incorrectly installed. It should have been supplied with gas pressure from the casing of the well. This has been corrected. A vacuum truck was ordered from Roger M Trucking to pick up fluids from the release. A hydrovac was ordered from Elkhorn to pick up oil stained, muddy soils from the location pad. A Crown Oilfield Services roustabout crew was on location to scrape up mud into piles for the hydrovac to pick up. Further clean up is yet to be determined.
<b>CONTRACTORS INVOLVED</b>	
What Contractors were Involved?	Roger M Trucking Crown Oilfield Services Elkhorn
<b>COMMENTS</b>	
Enter any additional comments (facts only)	
<b>PICTURE (1)</b>	
Attach Pictures Picture Comment	



# Site Diagram

**Cimarex, Cottonwood Draw 22 Fed 2H**  
**UL/I, Sec. 22 T25S R26E**  
**Eddy County, NM**  
**Drafted By: Lance Crenshaw, 8-6-15**

0 0.0050.01 0.02 Miles

## Legend

### Misc\_points

#### Types

- Electrical Box
- Power Pole
- Headers
- Injection
- Pumpjacks
- Tanks
- Valves
- Other
- Soil Bores
- sample\_pts
- Source

### Pipeline

#### Type

- Above Ground Line
- Buried Line

### Spill

- <all other values>

### Spill\_Media

- Oil and Produced H2O
- Oil
- Other
- Produced Water

**Spill Area:**  
**22,619 sq. ft.**

Source: Esri, DigitalGlobe, GeoEye, i-cubed, US  
 swisstopo, and the GIS User Community

Lance Crenshaw  
 GIS Technician

Soil Remediation and Ground Water Remediation  
 Environmental Assessments  
 Regulatory Compliance



Environmental **DFS** Services

Office: 575-964-8394  
 Fax: 575-964-8396

Cell: 575-441-2359  
 Email: lcrenshaw@diversifiedfsi.com



# Cottonwood Draw 22 Fed 2H

## PHOTO PAGE

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Spill area on pad





Spill area on pad



Spill area in pasture



Collecting soil samples on pad





Drilling for samples on pad

## Diversified Environmental Services

**Company Name:** Cimarex  
**Location Name:** Cottonwood Draw 22 Fed 2H

SP Date: 11/24/2015  
Rel Date:

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

## Diversified Environmental Services

[illegible]

	Lab Confirmation Sample
	Field Sampling
	Needs Delineation and confirmation samples

December 02, 2015

CHRISTINE ALDERMAN

CIMAREX

2020 W. BENDER

HOBBS, NM 88240

RE: COTTONWOOD DRAW 22 FED 2H

Enclosed are the results of analyses for samples received by the laboratory on 11/25/15 9:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

CIMAREX  
CHRISTINE ALDERMAN  
2020 W. BENDER  
HOBBS NM, 88240  
Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SAMPLE POINT 1 @ 2' (H503117-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2015	ND	2.00	100	2.00	2.96	
Toluene*	<0.050	0.050	12/01/2015	ND	2.00	99.8	2.00	3.24	
Ethylbenzene*	<0.050	0.050	12/01/2015	ND	2.06	103	2.00	9.79	
Total Xylenes*	<0.150	0.150	12/01/2015	ND	6.11	102	6.00	2.96	
Total BTEX	<0.300	0.300	12/01/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	12/01/2015	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/30/2015	ND	189	94.7	200	0.468	
DRO >C10-C28	<10.0	10.0	11/30/2015	ND	188	94.0	200	3.34	

Surrogate: 1-Chlorooctane 106 % 35-147

Surrogate: 1-Chlorooctadecane 115 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

CIMAREX  
CHRISTINE ALDERMAN  
2020 W. BENDER  
HOBBS NM, 88240  
Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SAMPLE POINT 3 @ 2' (H503117-02)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/01/2015	ND	2.00	100	2.00	2.96	
Toluene*	<0.050	0.050	12/01/2015	ND	2.00	99.8	2.00	3.24	
Ethylbenzene*	<0.050	0.050	12/01/2015	ND	2.06	103	2.00	9.79	
Total Xylenes*	<0.150	0.150	12/01/2015	ND	6.11	102	6.00	2.96	
Total BTEx	<0.300	0.300	12/01/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	208	16.0	12/01/2015	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	11/30/2015	ND	189	94.7	200	0.468	
DRO >C10-C28	<10.0	10.0	11/30/2015	ND	188	94.0	200	3.34	

Surrogate: 1-Chlorooctane 104 % 35-147

Surrogate: 1-Chlorooctadecane 115 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

CIMAREX  
CHRISTINE ALDERMAN  
2020 W. BENDER  
HOBBS NM, 88240  
Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SAMPLE POINT 4 @ 2' (H503117-03)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/01/2015	ND	2.00	100	2.00	2.96		
Toluene*	<0.050	0.050	12/01/2015	ND	2.00	99.8	2.00	3.24		
Ethylbenzene*	<0.050	0.050	12/01/2015	ND	2.06	103	2.00	9.79		
Total Xylenes*	<0.150	0.150	12/01/2015	ND	6.11	102	6.00	2.96		
Total BTEx	<0.300	0.300	12/01/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	12/01/2015	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2015	ND	194	97.2	200	0.907	
DRO >C10-C28	<10.0	10.0	12/01/2015	ND	193	96.6	200	2.84	

Surrogate: 1-Chlorooctane 88.6 % 35-147

Surrogate: 1-Chlorooctadecane 94.4 % 28-171

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 CIMAREX  
 CHRISTINE ALDERMAN  
 2020 W. BENDER  
 HOBBS NM, 88240  
 Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SAMPLE POINT 5 @ 2' (H503117-04)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	12/02/2015	ND	2.00	100	2.00	2.96		
Toluene*	<0.050	0.050	12/02/2015	ND	2.00	99.8	2.00	3.24		
Ethylbenzene*	<0.050	0.050	12/02/2015	ND	2.06	103	2.00	9.79		
Total Xylenes*	<0.150	0.150	12/02/2015	ND	6.11	102	6.00	2.96		
Total BTEx	<0.300	0.300	12/02/2015	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	12/01/2015	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2015	ND	194	97.2	200	0.907	
DRO >C10-C28	<10.0	10.0	12/01/2015	ND	193	96.6	200	2.84	

Surrogate: 1-Chlorooctane 89.0 % 35-147

Surrogate: 1-Chlorooctadecane 93.6 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

CIMAREX  
CHRISTINE ALDERMAN  
2020 W. BENDER  
HOBBS NM, 88240  
Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SOIL BORE 1 @ 2' (H503117-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2015	ND	2.00	100	2.00	2.96	
Toluene*	<0.050	0.050	12/02/2015	ND	2.00	99.8	2.00	3.24	
Ethylbenzene*	<0.050	0.050	12/02/2015	ND	2.06	103	2.00	9.79	
Total Xylenes*	<0.150	0.150	12/02/2015	ND	6.11	102	6.00	2.96	
Total BTX	<0.300	0.300	12/02/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	12/01/2015	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2015	ND	194	97.2	200	0.907	
DRO >C10-C28	<10.0	10.0	12/01/2015	ND	193	96.6	200	2.84	

Surrogate: 1-Chlorooctane 99.8 % 35-147

Surrogate: 1-Chlorooctadecane 104 % 28-171

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

CIMAREX  
CHRISTINE ALDERMAN  
2020 W. BENDER  
HOBBS NM, 88240  
Fax To: ?

Received:	11/25/2015	Sampling Date:	11/24/2015
Reported:	12/02/2015	Sampling Type:	Soil
Project Name:	COTTONWOOD DRAW 22 FED 2H	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	CIMAREX		

**Sample ID: SOIL BORE 2 @ 10' (H503117-06)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/02/2015	ND	2.00	100	2.00	2.96	
Toluene*	<0.050	0.050	12/02/2015	ND	2.00	99.8	2.00	3.24	
Ethylbenzene*	<0.050	0.050	12/02/2015	ND	2.06	103	2.00	9.79	
Total Xylenes*	<0.150	0.150	12/02/2015	ND	6.11	102	6.00	2.96	
Total BTEx	<0.300	0.300	12/02/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	12/01/2015	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	12/01/2015	ND	194	97.2	200	0.907	
DRO >C10-C28	16.8	10.0	12/01/2015	ND	193	96.6	200	2.84	

Surrogate: 1-Chlorooctane 99.9 % 35-147

Surrogate: 1-Chlorooctadecane 106 % 28-171

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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





CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2926



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

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

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

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
<a href="#">C 01368</a>	C		ED	1	1	22	25S	26E		567261	3554059*	143	118	25
<a href="#">C 03655 POD1</a>	CUB		ED			4	22	25S	26E	550692	3561324			
<a href="#">C 03655 POD2</a>	CUB		ED			4	22	25S	26E	550732	3561337			
<a href="#">C 03655 POD3</a>	CUB		ED	1	4	4	22	25S	26E	568458	3553019			
<a href="#">C 03655 POD4</a>	CUB		ED			4	22	25S	26E	550684	3561362			

Average Depth to Water: **118 feet**

Minimum Depth: **118 feet**

Maximum Depth: **118 feet**

Record Count: 5

### PLSS Search:

**Section(s):** 22, 21, 23, 15, 27 **Township:** 25S **Range:** 26E

\*UTM location was derived from PLSS - see Help

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