

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

Form C-141  
Revised October 10, 2003

Submit 2 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 Company	Contact	Mike Fraley
Address	2020 W. Bender Hobbs, NM 88240	Telephone No.	575-390-9097
Facility Name	Chief 30 State 3H	Facility Type	Oil Well

Surface Owner	Pat Sims	Mineral Owner		Lease No.	162683
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LOCATION OF RELEASE API # 30-025-40872

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	30	20S	35E	1980	North	320	West	Lea

Latitude 32.545928 Longitude -103.504139

NATURE OF RELEASE

Type of Release Spill	OIL / FRAC FLUID	Volume of Release	55 bbl	Volume Recovered	45 bbl
Source of Release	Frac Tank Overflow	Date and Hour of Occurrence	03:30 3/19/2013	Date and Hour of Discovery	04:30 3/19/2013
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	GEOFF LEKING, NMOCD Mike Fraley (Cimarex Energy Company) 03/19/13		
By Whom?	Johnny Ables (Pace Oilfield Services)	Date and Hour	08:39 3/19/2013		
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.\*

DTW-60'

Describe Cause of Problem and Remedial Action Taken.\*

Frac Tank overflow. Vacuum Truck immediately picked up pooled oil from ground.

Describe Area Affected and Cleanup Action Taken.\*

SEE ATTACHED SHEET

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>Michael W. Fraley</i>	OIL CONSERVATION DIVISION	
Printed Name: MICHAEL W FRALEY	Approved by District Supervisor: <i>Geoff LeKing</i> Environmental Specialist	
Title: Field Supt.	Approval Date: 4/25/13	Expiration Date: —
E-mail Address: MFRALEY2@CIMAREX.COM	Conditions of Approval: —	Attached <input type="checkbox"/> IRP-04-13-2910
Date: 4/24/13 Phone: 575 390-9097		

\* Attach Additional Sheets If Necessary

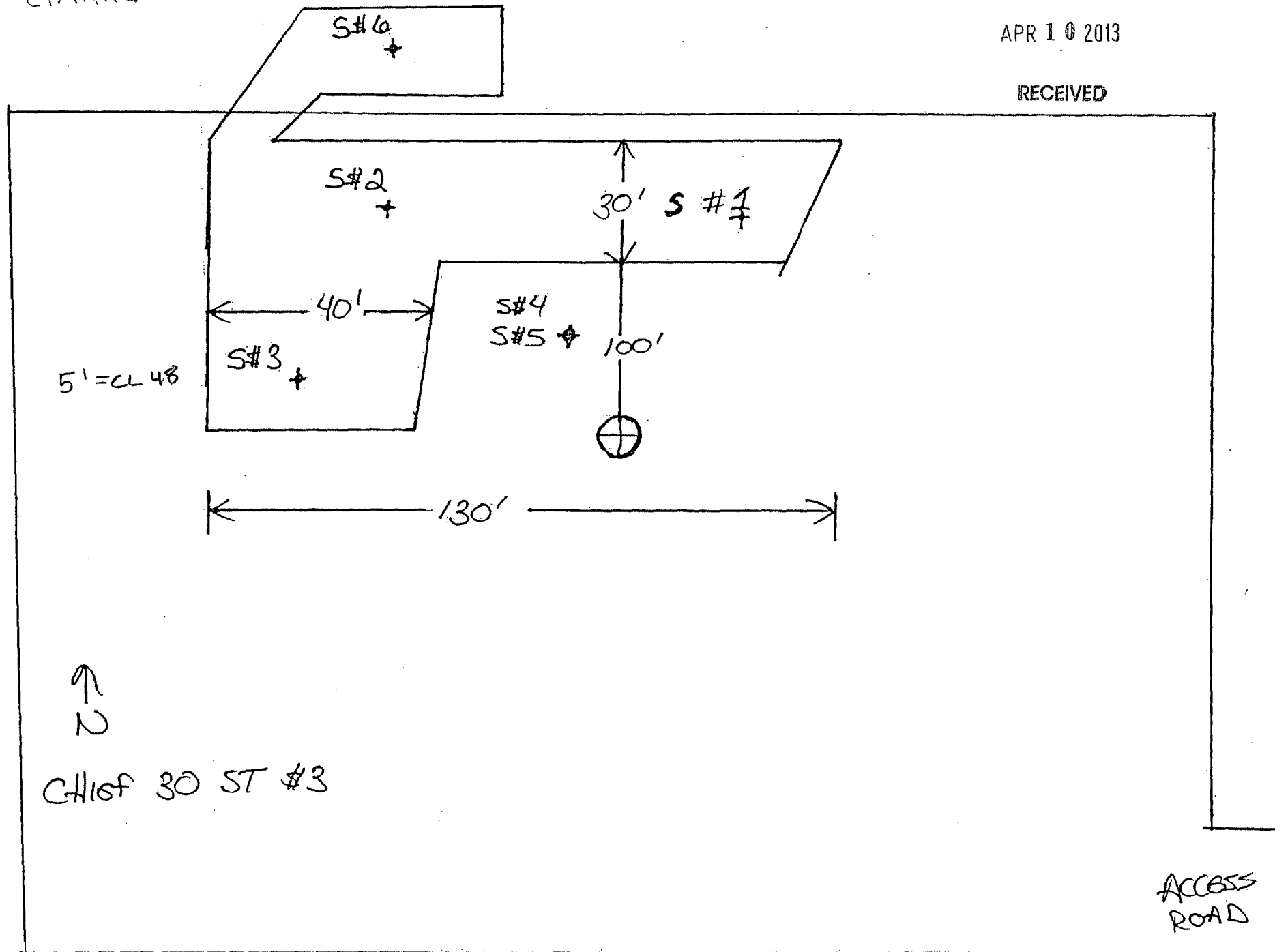
APR 30 2013

CIMAREX

HOBBS OCD

APR 10 2013

RECEIVED



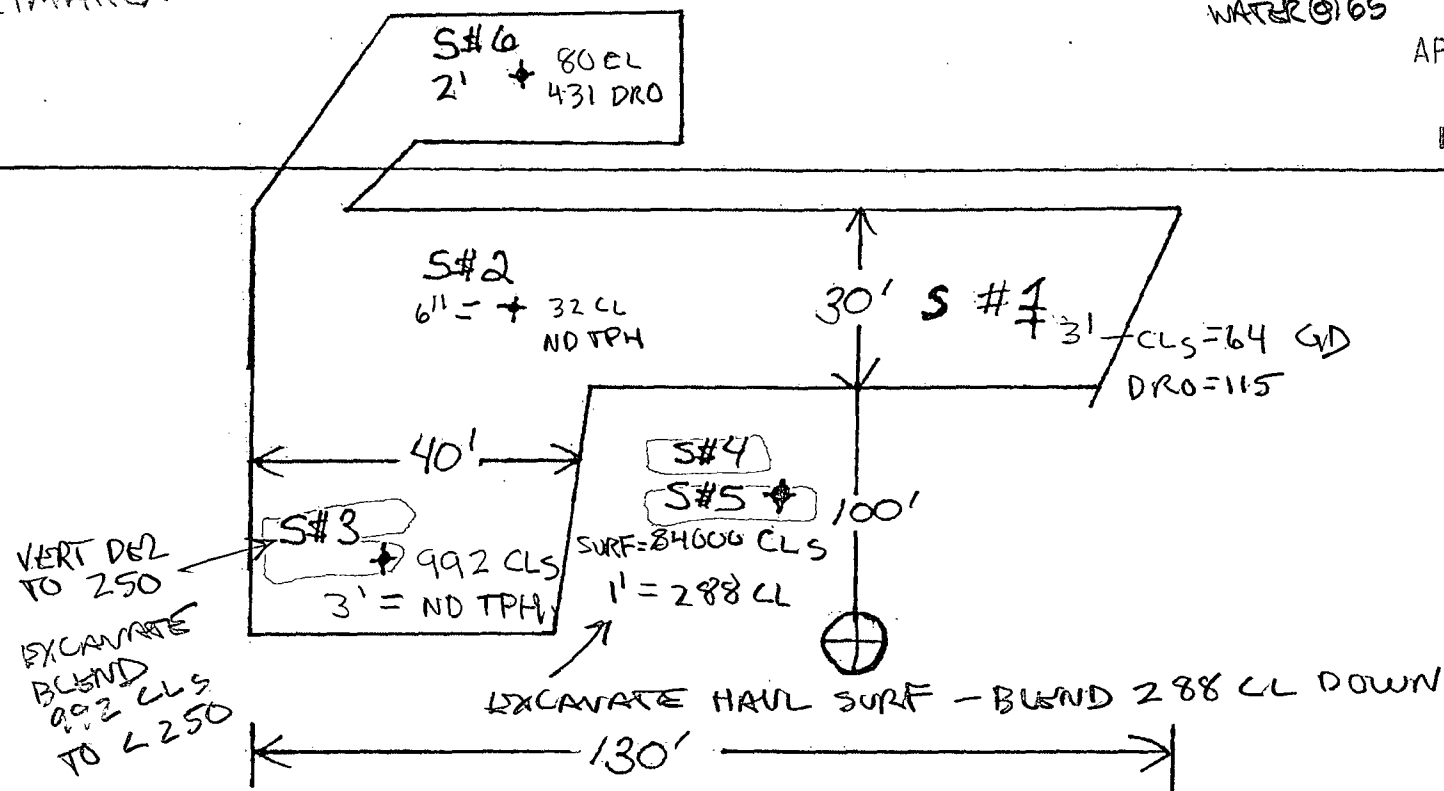
CIMAREX

COPY  
WATER @ 65'

HOBBS OCD

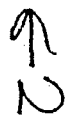
APR 10 2013

RECEIVED



RUN BOTTOM SAMPLES  
FOR REF 8015 & 8270

1000 TPH  
500 CL



WHY WEREN'T ORIG S#4 & #5 RUN FOR BTX & TPH  
HIST / NON REPORTABLE SPILL

CH10F 30 ST #3

ACCESS  
ROAD

District I  
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☐ Initial Report ☒ Final Report

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Facility Name	Chief 30 State 3H	Facility Type	Oil Well
Surface Owner	Pat Sims	Mineral Owner	
		Lease No.	162683

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Latitude 32.545928 Longitude -103.504139

NATURE OF RELEASE

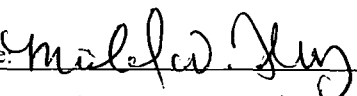
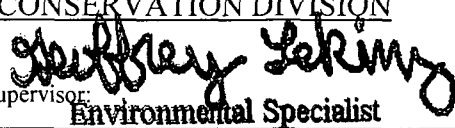
Type of Release Spill	Volume of Release	55 bbl	Volume Recovered	45 bbl	
Source of Release	Frac Tank Overflow	Date and Hour of Occurrence	03:30 3/19/2013	Date and Hour of Discovery	04:30 3/19/2013
Was Immediate Notice Given?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Mike Fraley (Cimarex Energy Company)		
By Whom?	Johnny Ables (Pace Oilfield Services)	Date and Hour	08:39 3/19/2013		
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Frac Tank overflow. Vacuum Truck immediately picked up pooled oil from ground.

Describe Area Affected and Cleanup Action Taken.\*  
SEE ATTACHED SHEET

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Signature: 	OIL CONSERVATION DIVISION	
Printed Name: MICHAEL W FRALEY	Approved by District Supervisor:  Environmental Specialist	
Title: Field Supt.	Approval Date: 4/25/13	Expiration Date: —
E-mail Address: MFRALEY2@CIMAREX.COM	Conditions of Approval: —	Attached <input type="checkbox"/>
Date: 4/24/13 Phone: 575 390-9097	IRP-04-13-2910	

\* Attach Additional Sheets If Necessary

Chief 30 State 3H

C141 Attachment

(Affected Area Clean-up Action Taken)

(See attached map for reference)

Soil was removed from affected area and samples were taken to Cardinal Laboratory for analysis.

Sample 1 (4/1/2013) was taken at 3' BS. Tests 8021B, 8015M, and chloride were performed. All BTEX levels were below reporting limit. All TPH levels were below reporting limit. Chlorides are at 64 mg/kg.

Sample 2 (4/1/2013) was taken at 6" BS. Tests 8021B, 8015M, and chloride were performed. All BTEX levels were below reporting limit. All TPH levels were below reporting limit. Chlorides are at 32 mg/kg.

Sample 3 (4/1/2013) was taken at 3' BS. Tests 8021B, 8015M, and chloride were performed. All BTEX levels were below reporting limit. All TPH levels were below reporting limit. Chlorides are at 992 mg/kg.

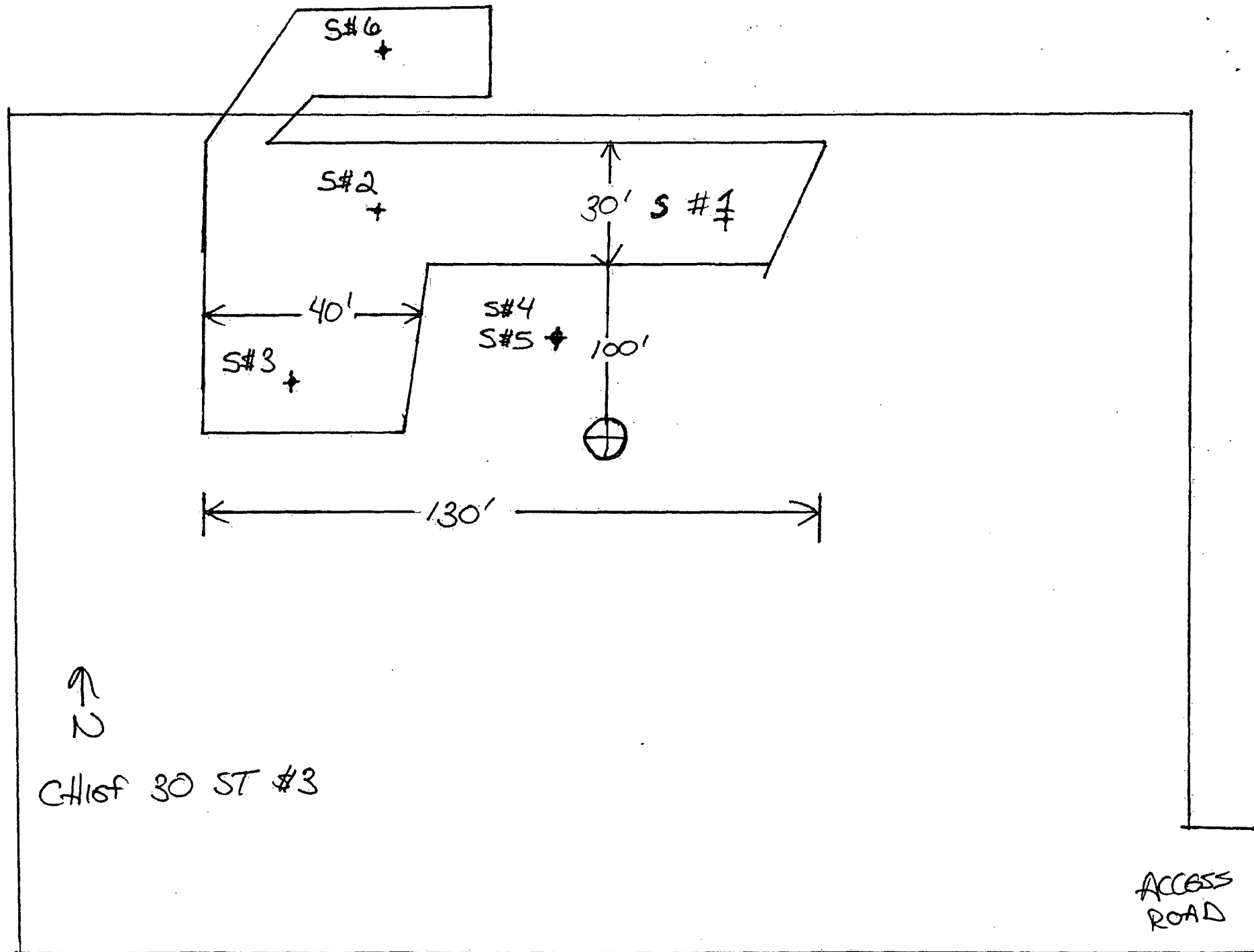
Sample 6 (4/1/2013) was taken at 1' BS. Tests 8021B, 8015M, and chloride were performed. All BTEX levels were below reporting limit. Diesel Range Organic level was at 431 mg/kg. Chlorides are at 80 mg/kg. **NOTE: ACTUALLY 2' BS JARL 4/25/13**

Sample 4 and sample 5 are not in the immediate affected spill area.

OCD requested that sample area 3 have additional soil removed and re-tested using test methods 8270C, 8015M, and chloride.

Sample 1 (4/11/2013) was taken at 5' BS. Test 8270C results show levels below reporting limit. All TPH levels were below reporting limit. Chlorides are at 48 mg/kg.

Affected area will be back filled with clean material upon approval of final C-141.





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 23, 2013

JIM HAWLEY

H & R ENTERPRISES

1010 GAMBLIN ROAD

HOBBS, NM 88240

RE: CHIEF 30 ST #3

Enclosed are the results of analyses for samples received by the laboratory on 04/11/13 16:00.

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](http://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:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/11/2013  
 Reported: 04/23/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 04/11/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

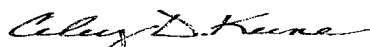
**Sample ID: #1 5' BGS (H300869-01)**

Chloride, SM4500Cl-B			mg/kg							
			Analyzed By: DW							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>48.0</b>	16.0	04/12/2013	ND	432	108	400	0.00		
Semi-volatile 8270C			mg/kg							
			Analyzed By: ms							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Pyridine	<0.200	0.200	04/22/2013	ND	0.326	81.6	0.400	1.34		
N-Nitrosodimethylamine	<0.200	0.200	04/22/2013	ND	0.510	127	0.400	2.40		
2-Picoline	<0.200	0.200	04/22/2013	ND	0.364	91.1	0.400	0.0384		
Methyl methanesulfonate	<0.200	0.200	04/22/2013	ND	0.447	112	0.400	1.65		
Ethyl methanesulfonate	<0.200	0.200	04/22/2013	ND	0.529	132	0.400	1.59		
Pentachloroethane	<0.200	0.200	04/22/2013	ND	0.512	128	0.400	2.73		
Aniline	<0.200	0.200	04/22/2013	ND	0.436	109	0.400	6.72		
Phenol	<0.200	0.200	04/22/2013	ND	0.509	127	0.400	0.0275		
2-Chlorophenol	<0.200	0.200	04/22/2013	ND	0.493	123	0.400	0.0669		
bis(2-Chloroethyl)ether	<0.200	0.200	04/22/2013	ND	0.506	127	0.400	2.26		
1,4-Dichlorobenzene	<1.00	1.00	04/22/2013	0.903	1.07	267	0.400	1.89		
1,3-Dichlorobenzene	<0.040	0.040	04/22/2013	ND	0.475	119	0.400	0.938		
Benzyl alcohol	<0.040	0.040	04/22/2013	ND	0.537	134	0.400	3.27		
1,2-Dichlorobenzene	<0.040	0.040	04/22/2013	ND	0.480	120	0.400	1.84		
bis(2-Chloroisopropyl)ether	<0.040	0.040	04/22/2013	ND	0.510	128	0.400	1.20		
Acetophenone	<0.040	0.040	04/22/2013	ND	0.504	126	0.400	0.312		
2-Methylphenol	<0.040	0.040	04/22/2013	ND	0.528	132	0.400	0.658		
4-Methylphenol	<0.040	0.040	04/22/2013	ND	1.10	275	0.400	0.714		
Hexachloroethane	<0.040	0.040	04/22/2013	ND	0.486	121	0.400	1.24		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/11/2013  
 Reported: 04/23/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 04/11/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: #1 5' BGS (H300869-01)**

Semi-volatile 8270C			mg/kg		Analyzed By: ms				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
N-Nitrosodi-n-propylamine	<0.040	0.040	04/22/2013	ND	0.604	151	0.400	3.64	
Nitrobenzene	<0.040	0.040	04/22/2013	ND	0.531	133	0.400	4.62	
N-Nitrosopiperidine	<0.040	0.040	04/22/2013	ND	0.518	130	0.400	2.98	
Isophorone	<0.040	0.040	04/22/2013	ND	0.521	130	0.400	0.761	
2-Nitrophenol	<0.040	0.040	04/22/2013	ND	0.506	126	0.400	3.31	
2,4-Dimethylphenol	<0.200	0.200	04/22/2013	ND	0.500	125	0.400	2.71	
bis(2-Chloroethoxy)methane	<0.040	0.040	04/22/2013	ND	0.521	130	0.400	0.962	
2,6-Dichlorophenol	<0.040	0.040	04/22/2013	ND	0.542	136	0.400	1.92	
1,2,4-Trichlorobenzene	<0.200	0.200	04/22/2013	ND	0.479	120	0.400	2.40	
Naphthalene	<0.040	0.040	04/22/2013	ND	0.498	125	0.400	3.08	
2,4-Dichlorophenol	<0.040	0.040	04/22/2013	ND	0.504	126	0.400	3.67	
4-Chloroaniline	<0.040	0.040	04/22/2013	ND	0.502	126	0.400	3.69	
Hexachloropropene	<0.040	0.040	04/22/2013	ND	0.493	123	0.400	3.76	
Hexachlorobutadiene	<0.040	0.040	04/22/2013	ND	0.467	117	0.400	2.79	
N-Nitroso-di-n-butylamine	<0.040	0.040	04/22/2013	ND	0.579	145	0.400	2.93	
4-Chloro-3-methylphenol	<0.040	0.040	04/22/2013	ND	0.523	131	0.400	0.254	
Safrole	<0.040	0.040	04/22/2013	ND	0.500	125	0.400	1.99	
2-Methylnaphthalene	<0.040	0.040	04/22/2013	ND	0.498	125	0.400	0.0983	
1,2,4,5-Tetrachlorobenzene	<0.040	0.040	04/22/2013	ND	0.470	117	0.400	1.25	
Caprolactam	<0.200	0.200	04/22/2013	ND	0.074			1.24	
Hexachlorocyclopentadiene	<0.040	0.040	04/22/2013	ND	0.450	112	0.400	3.59	
2,4,6-Trichlorophenol	<0.040	0.040	04/22/2013	ND	0.472	118	0.400	3.45	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

H & R ENTERPRISES  
JIM HAWLEY  
1010 GAMBLIN ROAD  
HOBBS NM, 88240  
Fax To: NONE

Received: 04/11/2013  
Reported: 04/23/2013  
Project Name: CHIEF 30 ST #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 04/11/2013  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: #1 5' BGS (H300869-01)**

Semi-volatile 8270C		mg/kg	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
2,4,5-Trichlorophenol	<0.040	0.040	04/22/2013	ND	0.484	121	0.400	1.36	
Isosafrole	<0.040	0.040	04/22/2013	ND	0.474	119	0.400	4.18	
2-Chloronaphthalene	<0.040	0.040	04/22/2013	ND	0.528	132	0.400	1.13	
2-Nitroaniline	<0.040	0.040	04/22/2013	ND	0.563	141	0.400	4.97	
<b>Dimethylphthalate</b>	<b>0.048</b>	0.040	04/22/2013	ND	0.526	132	0.400	1.49	
Acenaphthylene	<0.040	0.040	04/22/2013	ND	0.493	123	0.400	0.296	
2,6-Dinitrotoluene	<0.040	0.040	04/22/2013	ND	0.507	127	0.400	0.417	
3-Nitroaniline	<0.040	0.040	04/22/2013	ND	0.491	123	0.400	1.29	
Acenaphthene	<0.040	0.040	04/22/2013	ND	0.490	122	0.400	0.364	
2,4-Dinitrophenol*	<0.040	0.040	04/22/2013	ND	0.473	118	0.400	2.00	
Dibenzofuran	<0.040	0.040	04/22/2013	ND	0.492	123	0.400	0.675	
4-Nitrophenol	<0.040	0.040	04/22/2013	ND	0.473	118	0.400	16.5	
Pentachlorobenzene	<0.040	0.040	04/22/2013	ND	0.466	116	0.400	0.590	
2,4-Dinitrotoluene	<0.040	0.040	04/22/2013	ND	0.508	127	0.400	0.0216	
2-Naphthylamine	<0.040	0.040	04/22/2013	ND	0.418	105	0.400	0.184	
1-Naphthylamine	<0.040	0.040	04/22/2013	ND	0.336	83.9	0.400	2.34	
2,3,4,6-Tetrachlorophenol	<0.040	0.040	04/22/2013	ND	0.466	117	0.400	0.850	
Fluorene	<0.040	0.040	04/22/2013	ND	0.493	123	0.400	0.0791	
Diethylphthalate	<0.040	0.040	04/22/2013	ND	0.529	132	0.400	0.981	
4-Chlorophenyl-phenyl ether	<0.040	0.040	04/22/2013	ND	0.480	120	0.400	1.03	
5-Nitro-o-toluidine	<0.040	0.040	04/22/2013	ND	0.544	136	0.400	0.305	
4-Nitroaniline	<0.040	0.040	04/22/2013	ND	0.519	130	0.400	3.97	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
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 Received: 04/11/2013  
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 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

**Sample ID: #1 5' BGS (H300869-01)**

Semi-volatile 8270C		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
4,6-Dinitro-2-methylphenol	<0.040	0.040	04/22/2013	ND	0.477	119	0.400	0.0335	
Diphenylamine	<0.040	0.040	04/22/2013	ND	0.513	128	0.400	1.50	
Azobenzene	<0.040	0.040	04/22/2013	ND	0.525	131	0.400	0.648	
1,3,5-Trinitrobenzene	<0.040	0.040	04/22/2013	ND	0.453	113	0.400	2.74	
4-Bromophenyl-phenyl ether	<0.200	0.200	04/22/2013	ND	0.479	120	0.400	0.161	
Phenacetin	<0.040	0.040	04/22/2013	ND	0.541	135	0.400	1.43	
Diallate	<0.200	0.200	04/22/2013	ND	0.526	131	0.400	0.486	
Hexachlorobenzene	<0.200	0.200	04/22/2013	ND	0.465	116	0.400	1.33	
4-Aminobiphenyl	<0.040	0.040	04/22/2013	ND	0.378	94.5	0.400	4.09	
Pentachlorophenol	<0.040	0.040	04/22/2013	ND	0.482	121	0.400	0.346	
Pentachloronitrobenzene	<0.040	0.040	04/22/2013	ND	0.503	126	0.400	1.33	
Pronamide	<0.040	0.040	04/22/2013	ND	0.533	133	0.400	0.686	
Phenanthrene	<0.040	0.040	04/22/2013	ND	0.498	125	0.400	0.191	
Anthracene	<0.040	0.040	04/22/2013	ND	0.477	119	0.400	1.42	
Dinoseb	<0.200	0.200	04/22/2013	ND	0.926	232	0.400	0.570	
Carbazole	<0.040	0.040	04/22/2013	ND	0.498	125	0.400	0.325	
Di-n-butylphthalate	0.067	0.040	04/22/2013	0.232	0.759	190	0.400	0.521	B
Isodrin	<0.040	0.040	04/22/2013	ND	0.468	117	0.400	0.0811	
Fluoranthene	<0.040	0.040	04/22/2013	ND	0.487	122	0.400	1.24	
Benidine	<0.200	0.200	04/22/2013	ND	0.058	14.4	0.400	0.121	
Pyrene	<0.040	0.040	04/22/2013	ND	0.486	122	0.400	1.15	
Dimethylaminoazobenzene	<0.040	0.040	04/22/2013	ND	0.516	129	0.400	0.246	

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/11/2013  
 Reported: 04/23/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 04/11/2013  
 Sampling Type: Soil  
 Sampling Condition: \*\* (See Notes)  
 Sample Received By: Jodi Henson

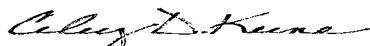
**Sample ID: #1 5' BGS (H300869-01)**

Semi-volatile 8270C	mg/kg	Analyzed By: ms							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chlorobenzilate	<0.040	0.040	04/22/2013	ND	0.523	131	0.400	2.85	
<b>Butylbenzylphthalate</b>	<b>0.052</b>	0.040	04/22/2013	0.065	0.584	146	0.400	0.972	B
Benzo[a]anthracene	<0.040	0.040	04/22/2013	ND	0.466	117	0.400	2.70	
3,3'-Dichlorobenzidine	<0.200	0.200	04/22/2013	ND	0.465	116	0.400	1.87	
Chrysene	<0.040	0.040	04/22/2013	ND	0.495	124	0.400	0.924	
<b>bis(2-Ethylhexyl)phthalate</b>	<b>0.189</b>	0.040	04/22/2013	0.134	0.762	191	0.400	1.26	B
Di-n-octylphthalate	<0.200	0.200	04/22/2013	ND	0.463	116	0.400	0.0237	
Benzo[b]fluoranthene	<0.040	0.040	04/22/2013	ND	0.441	110	0.400	1.18	
Benzo[k]fluoranthene	<0.040	0.040	04/22/2013	ND	0.416	104	0.400	3.17	
Benzo[a]pyrene	<0.008	0.008	04/22/2013	ND	0.409	102	0.400	0.274	
3-Methylcholanthrene	<0.040	0.040	04/22/2013	ND	0.375	93.8	0.400	3.08	
Indeno[1,2,3-cd]pyrene	<0.040	0.040	04/22/2013	ND	0.331	82.7	0.400	2.55	
Dibenz[a,h]anthracene	<0.040	0.040	04/22/2013	ND	0.329	82.3	0.400	2.49	
Benzo[g,h,i]perylene	<0.040	0.040	04/22/2013	ND	0.301	75.4	0.400	5.39	
<hr/>									
Surrogate: 2-Fluorophenol	163 %	21-100							
Surrogate: Phenol-d5	158 %	10-94							
Surrogate: Nitrobenzene-d5	164 %	35-114							
Surrogate: 2-Fluorobiphenyl	149 %	43-116							
Surrogate: 2,4,6-Tribromophenol	164 %	10-123							
Surrogate: Terphenyl-d14	151 %	33-141							

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

H & R ENTERPRISES  
JIM HAWLEY  
1010 GAMBLIN ROAD  
HOBBS NM, 88240  
Fax To: NONE

Received: 04/11/2013  
Reported: 04/23/2013  
Project Name: CHIEF 30 ST #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 04/11/2013  
Sampling Type: Soil  
Sampling Condition: \*\* (See Notes)  
Sample Received By: Jodi Henson

**Sample ID: #1 5' BGS (H300869-01)**

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	04/12/2013	ND	215	108	200	3.39	
DRO >C10-C28	<10.0	10.0	04/12/2013	ND	210	105	200	3.55	
EXT DRO >C28-C35	<10.0	10.0	04/12/2013	ND					
<hr/>									
Surrogate: 1-Chlorooctane	82.5 %	65.2-140							
Surrogate: 1-Chlorooctadecane	104 %	63.6-154							

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

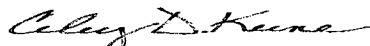
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
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



## Page 9 of 9

Company Name: <b>THR ENTERPRISES LLC</b>				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>											
Project Manager: <b>Jim Hawley</b>				P.O. #:				<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em; margin-right: 10px;">8070</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em; margin-right: 10px;">8015</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em;">CHLORIDES</div> </div>											
Address: <b>1010 GAMBLIN ST</b>				Company: <b>CIMARGX</b>															
City: <b>Abbeys</b> State: <b>WM</b> Zip: <b>88240</b>				Attn: <b>MIKE FRANKY</b>															
Phone #: <b>575 605-3471</b> Fax #:				Address:															
Project #:                      Project Owner:				City:															
Project Name: <b>CH16F 30 ST #3</b>				State:              Zip:															
Project Location: <b>LEA COUNTY</b>				Phone #: <b>575 390-9097</b>															
Sampler Name: <b>Jim Hawley</b>				Fax #:															
FOR LAB USE ONLY																			
Lab I.D.		Sample I.D.		(G)BAB OR (O)OMP. # CONTAINERS		MATRIX					PRESERV.		SAMPLING						
						GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME			
H3000869		1 #1 5' BGS		✓				✓				✓	4/11/32	2:30P	✓				
				✓				✓				✓	<del>4/11/32</del>	<del>2:30P</del>					

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Relinquished By:		Date: 4/11/13		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Relinquished By: Jim Hawley		Time: 4:00P		Received By: Adi Henson		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By:		Date:		Received By:		REMARKS: JHAWLEY@WINDSTREAM.NET MFRA16Y2@CIMAREX.COM samples taken & brought to lab			
Relinquished By:		Time:		Received By:					
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other:				Cool Intact		(Initials)			
14°C				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

**HOBBS OCD**

**Cimarex Chief 30 St. #3 Samples.**

**APR 10 2013**

**RECEIVED**

**Sample ID #1;** Pulled 115' North of wellhead at a depth of 3' below surface.

**Sample ID #2;** Pulled 130' North West of wellhead at a depth of 6" below surface.

**Sample ID #3;** Pulled 140' West of wellhead at a depth of 3' below surface.

**Sample ID #4;** Pulled 50' North of wellhead in pit area at surface.

**Sample ID #5;** Pulled 50' North of wellhead in pit area 1' below surface.

**Sample ID #6;** Pulled 170' North West of wellhead off of location at a depth of 2' below surface.

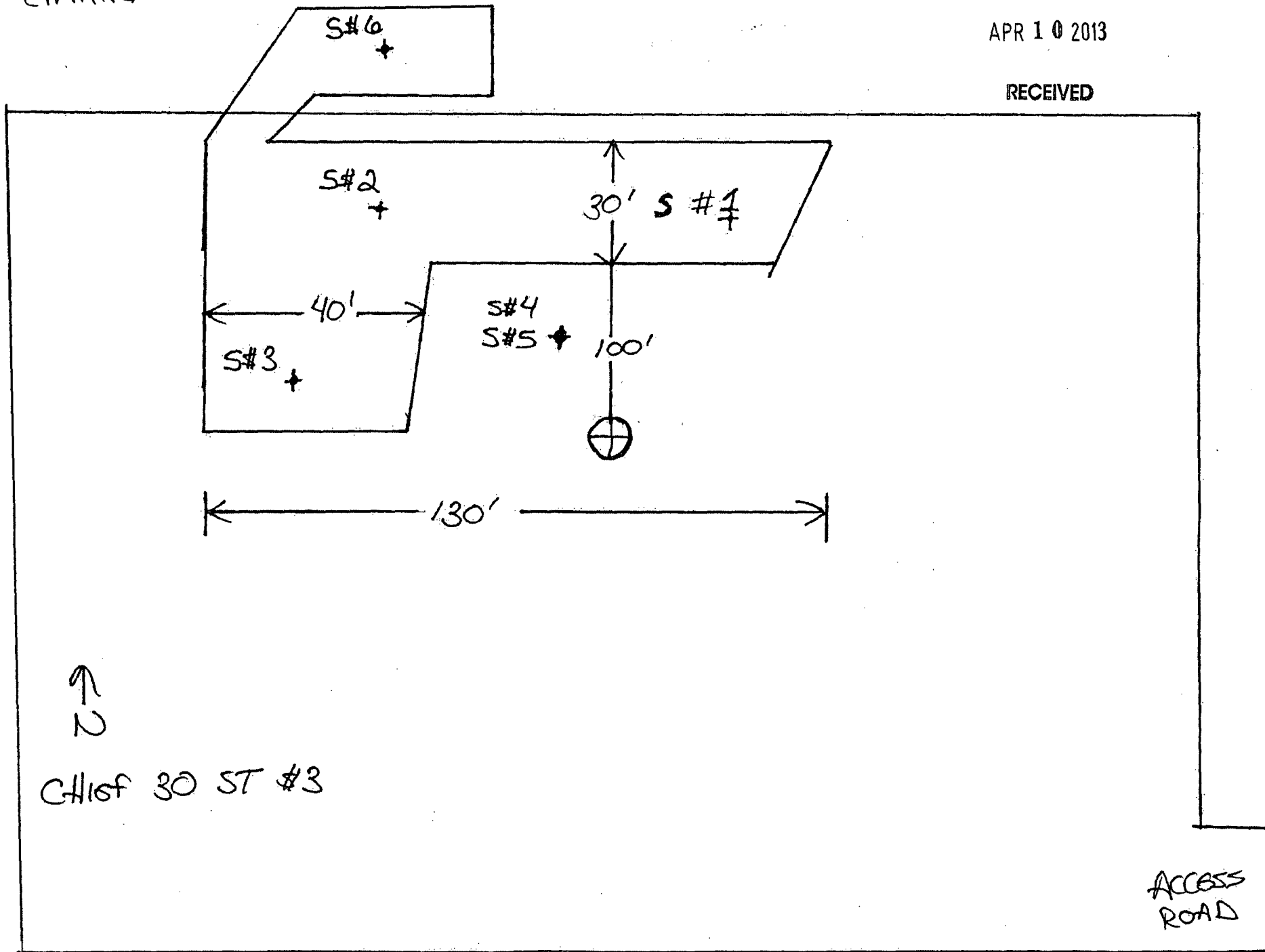


CIMAREX

HOBBS OCD

APR 10 2013

RECEIVED





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

April 05, 2013

HOBBS OCD

JIM HAWLEY

H & R ENTERPRISES

1010 GAMBLIN ROAD

HOBBS, NM 88240

APR 10 2013

RECEIVED

RE: CHIEF 30 ST #3

Enclosed are the results of analyses for samples received by the laboratory on 04/01/13 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/ga/lab\\_accred\\_certif.html](http://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,

A handwritten signature in black ink, appearing to read "Celey D. Keene". The signature is fluid and cursive, with a long horizontal stroke at the end.

Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/01/2013  
 Reported: 04/05/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 03/29/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: #1 3' BS EAST (H300762-01)**

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/04/2013	ND	2.02	101	2.00	0.606	
Toluene*	<0.050	0.050	04/04/2013	ND	2.23	112	2.00	0.756	
Ethylbenzene*	<0.050	0.050	04/04/2013	ND	2.32	116	2.00	0.556	
Total Xylenes*	<0.150	0.150	04/04/2013	ND	6.90	115	6.00	0.229	
Total BTEX	<0.300	0.300	04/04/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: DW				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	04/02/2013	ND	416	104	400	7.41	

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	04/02/2013	ND	191	95.5	200	2.72	
DRO >C10-C28	115	10.0	04/02/2013	ND	198	99.2	200	7.84	

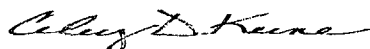
Surrogate: 1-Chlorooctane 86.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 110 % 63.6-154

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

H & R ENTERPRISES  
JIM HAWLEY  
1010 GAMBLIN ROAD  
HOBBS NM, 88240  
Fax To: NONE

Received: 04/01/2013  
Reported: 04/05/2013  
Project Name: CHIEF 30 ST #3  
Project Number: NONE GIVEN  
Project Location: LEA COUNTY, NM

Sampling Date: 03/29/2013  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: #2 6" BS MIDDLE (H300762-02)**

BTEX 8021B			mg/kg		Analyzed By: AP				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	04/04/2013	ND	2.02	101	2.00	0.606	
Toluene*	<0.050	0.050	04/04/2013	ND	2.23	112	2.00	0.756	
Ethylbenzene*	<0.050	0.050	04/04/2013	ND	2.32	116	2.00	0.556	
Total Xylenes*	<0.150	0.150	04/04/2013	ND	6.90	115	6.00	0.229	
Total BTEX	<0.300	0.300	04/04/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: DW				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	04/02/2013	ND	416	104	400	7.41	

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	04/02/2013	ND	191	95.5	200	2.72	
DRO >C10-C28	<10.0	10.0	04/02/2013	ND	198	99.2	200	7.84	

Surrogate: 1-Chlorooctane 86.6 % 65.2-140

Surrogate: 1-Chlorooctadecane 106 % 63.6-154

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/01/2013  
 Reported: 04/05/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 03/29/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: #3 3' BS WEST (H300762-03)**

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	04/04/2013	ND	2.02	101	2.00	0.606	
Toluene*	<0.050	0.050	04/04/2013	ND	2.23	112	2.00	0.756	
Ethylbenzene*	<0.050	0.050	04/04/2013	ND	2.32	116	2.00	0.556	
Total Xylenes*	<0.150	0.150	04/04/2013	ND	6.90	115	6.00	0.229	
Total BTEX	<0.300	0.300	04/04/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 89.4-126

Chloride, SM4500Cl-B			mg/kg		Analyzed By: DW				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	04/02/2013	ND	416	104	400	7.41	

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	04/02/2013	ND	191	95.5	200	2.72	
DRO >C10-C28	<10.0	10.0	04/02/2013	ND	198	99.2	200	7.84	

Surrogate: 1-Chlorooctane 79.4 % 65.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

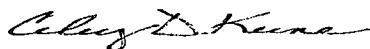
**Sample ID: #4 S PIT AREA (H300762-04)**

Chloride, SM4500Cl-B			mg/kg		Analyzed By: DW				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	84000	16.0	04/02/2013	ND	416	104	400	7.41	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

 H & R ENTERPRISES  
 JIM HAWLEY  
 1010 GAMBLIN ROAD  
 HOBBS NM, 88240  
 Fax To: NONE

 Received: 04/01/2013  
 Reported: 04/05/2013  
 Project Name: CHIEF 30 ST #3  
 Project Number: NONE GIVEN  
 Project Location: LEA COUNTY, NM

 Sampling Date: 03/29/2013  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: #5 1' BS PIT AREA (H300762-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	04/02/2013	ND	416	104	400	7.41	

**Sample ID: #6 2' BS OFF PAD (H300762-06)**

BTEX 8021B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	04/04/2013	ND	2.02	101	2.00	0.606		
Toluene*	<0.050	0.050	04/04/2013	ND	2.23	112	2.00	0.756		
Ethylbenzene*	<0.050	0.050	04/04/2013	ND	2.32	116	2.00	0.556		
Total Xylenes*	<0.150	0.150	04/04/2013	ND	6.90	115	6.00	0.229		
Total BTEX	<0.300	0.300	04/04/2013	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: DW						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	04/02/2013	ND	416	104	400	7.41		

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	04/02/2013	ND	191	95.5	200	2.72	
DRO >C10-C28	431	10.0	04/02/2013	ND	198	99.2	200	7.84	

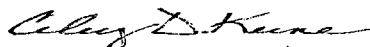
Surrogate: 1-Chlorooctane 99.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 117 % 63.6-154

Cardinal Laboratories

\*=Accredited Analyte

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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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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





# Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	3/8/2013
State:	New Mexico
County:	Lea
API Number:	30-025-40872
Operator Name:	Cimarex Energy Co. of Colorado
Well Name and Number:	Chief 30 State #3H
Longitude:	-103.50414
Latitude:	32.54593
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	10,531
Total Water Volume (gal)*:	1,760,518

HOBBS OCD

APR 11 2013

RECEIVED

## Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Fresh Water	Cimarex				100.00%	83.97056%	
Premium White-20/40	Halliburton				100.00%	11.47049%	
Garnett CRC-20/40	Halliburton				100.00%	4.17132%	
LOSURF-360W	Halliburton	Surfactant	Poly(oxy-1,2-ethanediyl), alpha.-isodecyl-.omega.-hydroxy- Complex alkylamine	61827-42-7	0.30%	0.00028%	
BC-140 X2	Halliburton	Initiator	Ethylene glycol Monoethanolamine borate	107-21-1 26038-87-9	30.00% 100.00%	0.02202% 0.07341%	
WG-36 GELLING AGENT	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00%	0.18399%	
OPTIFLO-HTE	Halliburton	Breaker	Crystalline silica, quartz Walnut hulls	14808-60-7 Mixture	30.00% 100.00%	0.00145% 0.00482%	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%	0.00046%	
HCL 15%	Petroplex	Acid	Hydrochloric Acid	7647-01-0	15.00%	0.01505%	
Cronox AK-50	Petroplex	Corrosion Inhibitor	Oxyalkylated Alkylphenol Heavy Aromatic Naptha Isopropanol Fatty Acids Complex Alkylaryl Poly-o-Ester Tar Bases, Quinoline Derivatives, Benzyl Chloride-Quaternized Formaldehyde Acetylenic Alcohol Propargyl Alcohol Naphthalene	CBI 64742-94-5 67-63-0 CBI CBI 72480-70-7 50-00-0 CBI 107-19-7 91-20-3	30.00% 30.00% 30.00% 10.00% 10.00% 10.00% 10.00% 5.00% 5.00%	0.00005% 0.00005% 0.00002% 0.00002% 0.00002% 0.00002% 0.00002% 0.00001% 0.00001%	
Citric Acid	Petroplex	Iron Control	Citric Acid	77-92-9	100.00%	0.00047%	
EC9546A	Petroplex	Surfactant	Heavy Aromatic Naptha	64742-94-5	10.00%	0.00002%	

			Isopropanol	67-63-0	60.00%	0.00010%	
			Polyethylene Glycol	25322-68-3	5.00%	0.00001%	
			Napthalene	91-20-3	1.00%	0.00000%	
			Phosphoric Acid Ester	CBI	10.00%	0.00002%	
			Oxyalkylated Alcohol	CBI	10.00%	0.00002%	
			Oxyalkylated Alkyl Alcohol	CBI	10.00%	0.00002%	
CIO2	Bosque	Biocide	Chlorine Dioxide	10049-04-4	100.00%	0.00026%	

Ingredients Listed Below This Line Are Part of the Fluid Composition Provided by Halliburton Which Do Not Appear On the Material Safety Data Sheets (MSDS)

			2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-[(4-sulfor-1-naphthalenyl) azo] -, trisodium salt	915-67-3			
			Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4			
			C.I. Pigment Red 5	6410-41-9			
			Crystalline Silica, Quartz	14808-60-7			
			Cured Acrylic Resin	Mixture			
			Cured Acrylic Resin	9002-98-6			
			Enzyme	9025-56-3			
			Silica gel	112926-00-8			
			Sodium sulfate	7757-82-6			
			Surfactant Mixture	67254-71-1			
			Surfactant Mixture	56449-46-8			
			Water	7732-18-5			

\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* Information is based on the maximum potential for concentration and thus the total may be over 100%

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

CIMMREX  
CHIEF 30 ST # 34  
4/25/13

SAMP #3 - 992 CLS

- VERT DOL TO 250

- EXCAV/BLND 992 CL TO 250

SAMP #4 & #5 - 84000 PPM CL @ SURF

- 288 PPM CL @ 1'

- EXCAV HAUL SURF - BLND 288 CL  
TO 250 PPM

RUN BOTTOM SAMPS FOR RES 8015 & 8270

- MAINLY GLYCOL

WHY WEREN'T ORIG #4 & #5 SAMPS RAN FOR  
TPH? BTEX?

4/25/13

HAUL'D 5' @ #3

- EXCAV OTHERS PER DEPTH PREV

- #4 & #5 - MINIMUMS - NON REPORTABLE -

- APPROVED THE FINAL C-141