

**Cimarex Energy Company  
Cooper Federal No. 1  
Section 21, Township 24S, Range 36E  
Lea County, New Mexico**

**Delineation Report/Work Plan**

**August 27, 2010**



**Prepared for:**

***Cimarex Energy Company  
600 North Marienfeld, Suite 600  
Midland, Texas 79701***

**By:**

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

*approved by:  
Steve Lohm  
Environmental Engineer  
NMOC D-Hobbs  
10/13/10*

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**I. Company Contacts**

Company Representative	Company	Telephone	E-mail
Marc Bishop	Cimarex Energy Co.	575-602-1002	mbishop@cimarex.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

**II. Background**

Safety and Environmental Solutions, Inc. (SESI) was engaged by Cimarex Energy Company to perform a site assessment at the Cooper Federal No. 1. This location is the site of an active well and battery. The location is located in Section 21, Township 24 South, and Range 36 East. One of the tanks on the battery was run over, releasing approximately 10 barrels of condensate onto the raised firewall area. Some of the condensate soaked through the firewall on the south side.

**III. Surface and Ground Water**

According the database provided by the New Mexico Office of State Engineer's online database, the average depth of water in this area is 97'.

**IV. Soils**

The surface soils in the area are predominantly sand and sandy loam.

**V. Characterization**

The target cleanup levels are reached by the application of the "Unlined Surface Impoundment Closure Guidelines New Mexico Oil Conservation Division (NMOCD) – February, 1993 to this site is 1000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH). Application of the New Mexico Oil Conservation Division's ranking criteria for contaminated soils at this site is presented below:

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



## VI. Work Performed

On August 4, 2010, SESI was onsite to conduct a site assessment. A crew was onsite with a backhoe and began the removal of the raised firewall area that was saturated with condensate. The excavated soils were transported to Sundance Services, a New Mexico Oil Conservation Division (NMOCD) approved facility for disposal.

On August 6, 2010, SESI was onsite to attempt to delineate the release, utilizing a hand auger. A total of three (3) auger holes were installed within the affected areas. Auger refusal was encountered ranging from depths of 3 ft. to 9 ft. Samples were collected in intervals of 3 ft. The samples were properly preserved and transported under chain of custody to Cardinal Labs of Hobbs, New Mexico. The samples were analyzed for Total Petroleum Hydrocarbons (EPA Method 8015) and BTEX (EPA Method SW-846-8021B).

The results of the analysis are as follows:

Lab ID	Sample ID	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl - Benzene (mg/kg)	Total Xylenes (mg/kg)	GRO (C6-C10) (mg/kg)	DRO (>C10-C28) (mg/kg)
Analysis Date:	-	08/12/10	08/12/10	08/12/10	08/12/10	08/12/10	08/11/10
H020588-01	B-2 1' BGS	<0.050	0.199	0.058	0.851	<10.0	1,580
H020588-02	B-2 3' BGS	<0.050	0.747	0.193	3.19	40.3	1,880
H020588-03	B-3 1' BGS	<0.050	0.154	<0.050	1.12	34.0	352
H020588-04	B-3 3' BGS	<0.050	0.161	0.050	0.958	<10.0	22.4
H020588-05	B-3 6' BGS	<0.050	0.115	<0.050	0.517	<10.0	33.2
H020588-06	B-3 9' BGS	<0.050	0.241	0.292	2.51	<10.0	84.5
EPA Methods: BTEX: SW846-8021B; TPH: 8015M							

On August 9, 2010, SESI was again onsite to attempt to delineate the release utilizing a backhoe. Two (2) sample trenches were installed within the affected area. Samples were collected in intervals of 2' to 3'. The samples were properly preserved and transported under chain of custody to Cardinal Labs of Hobbs, New Mexico. The samples were analyzed for Total Petroleum Hydrocarbons (EPA Method 8015) and BTEX (EPA Method SW-846-8021B).

The results of the analysis are as follows:

Lab ID	Sample ID	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl - Benzene (mg/kg)	Total Xylenes (mg/kg)	GRO (C6-C10) (mg/kg)	DRO (>C10-C28) (mg/kg)
Analysis Date:	-	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10
H020587-01	TT#1-5'	0.784	15.0	3.34	69.6	3,260	8,520
H020587-02	TT#1-7'	0.053	1.18	0.242	5.33	10.8	126
H020587-03	TT#1-9'	0.218	7.57	2.44	43.7	2,980	7,120
H020587-04	TT#1-12'	<0.050	0.367	0.089	1.97	20.1	197
EPA Methods: BTEX: SW846-8021B; TPH: 8015M							



Lab ID	Sample ID	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl - Benzene (mg/kg)	Total Xylenes (mg/kg)	GRO (C6-C10) (mg/kg)	DRO (>C10-C28) (mg/kg)
Analysis Date:	-	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10
H020587-06	TT#2-7'	1.55	43.5	14.0	158	6,090	9,180
H020587-07	TT#2-9'	0.403	14.0	3.1	51.7	4,070	6,440
H020587-08	TT#2-11'	0.227	10.6	3.95	46.7	1,980	3,080
H020587-09	TT#2-13'	0.143	4.25	0.836	17.7	476	1,110
EPA Methods: BTEX: SW846-8021B; TPH: 8015M							

On August 12, 2010, SESI was onsite with Eco Enviro Drilling to delineate the release and install vent wells utilizing an auger style rig. A total of four (4) boreholes were installed within the affected area to depths ranging from 35' to 50' below ground level (bgl). Samples were collected in intervals of 5'. The samples were properly preserved and transported under chain of custody to Cardinal Labs of Hobbs, New Mexico. The samples were analyzed for Total Petroleum Hydrocarbons (EPA Method 8015) and BTEX (EPA Method SW-846-8021B). The results of the analysis are as follows:

Lab ID	Sample ID	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl - Benzene (mg/kg)	Total Xylenes (mg/kg)	GRO (C6-C10) (mg/kg)	DRO (>C10-C28) (mg/kg)
Analysis Date:	-	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10	08/16/10
H020647-01	BH #1 5'	<0.050	0.099	0.466	3.36	251	4910
H020647-02	BH #1 10'	<0.050	0.364	1.55	13.5	727	4810
H020647-03	BH #1 15'	<0.050	0.468	0.196	3.40	96.1	1130
H020647-04	BH #1 20'	<0.050	0.050	0.050	7.89	705	2800
H020647-05	BH #1 25'	<0.050	<0.050	0.105	4.46	305	1220
H020647-06	BH #1 30'	<0.050	0.131	<0.050	1.66	122	826
H020647-07	BH #1 35'	<0.050	0.094	<0.050	0.574	<10.0	218
H020647-08	BH #1 40'	<0.050	0.113	<0.050	0.853	<10.0	12.4
H020647-09	BH #1 45'	<0.050	0.140	<0.050	0.693	<10.0	<10.0
H020647-10	BH #1 50'	<0.050	<0.050	<0.050	<0.150	<10.0	<10.0
Analysis Date:	-	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10
H020647-11	BH #2 10'	<0.050	0.197	0.161	1.59	53.5	1180
H020647-12	BH #2 15'	<0.050	<0.050	<0.050	0.206	<10.0	<10.0
H020647-13	BH #2 20'	<0.050	<0.050	<0.050	0.307	14.6	651
H020647-14	BH #2 30'	<0.050	0.059	<0.050	1.09	124	858
H020647-15	BH #2 35'	<0.050	<0.050	<0.050	0.521	43.1	496
H020647-16	BH #2 40'	<0.050	<0.050	<0.050	<0.150	<10.0	25.5
H020647-17	BH #2 45'	<0.050	<0.050	<0.050	<0.150	<10.0	10.1
Analysis Date:	-	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10
H020647-18	BH #3 15'	<0.050	2.82	0.670	14.1	339	1010
H020647-19	BH #3 20'	<0.050	0.107	<0.050	0.537	<10.0	35.2
H020647-20	BH #3 25'	<0.050	<0.050	<0.050	0.263	<10.0	<10.0
H020647-25	BH #3 30'	<0.050	0.056	<0.050	<0.150	<10.0	<10.0
H020647-26	BH #3 35'	<0.050	<0.050	<0.050	0.170	<10.0	<10.0



Analysis Date:	-	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10	08/17/10
H020647-21	BH #4 15'	<0.050	0.246	0.083	1.49	120	728
H020647-22	BH #4 25'	<0.050	0.052	<0.050	0.289	<10.0	<10.0
H020647-23	BH #4 30'	<0.050	<0.050	<0.050	<0.150	<10.0	<10.0
H020647-24	BH #4 35'	<0.050	<0.050	<0.050	<0.150	<10.0	<10.0
<b>EPA Methods: BTEX: SW846-8021B; TPH: 8015M</b>							

Each borehole was converted to a vent well. The borehole was cased with 4" slotted (holes) PVC pipe from TD to the surface. Gravel (3/4") was placed in the annulus between the borehole and the outside of the casing from TD to surface. The gravel will allow the adjoining soils to vent to the atmosphere and no longer be trapped subsurface. A passive wind turbine was installed on the top of the casing.

## VII. Action Plan

The delineation of the site using boreholes indicates that this site may have had historical spills which migrated to depths ranging from 15' to 30' below ground level. The top 4' to 5' was saturated with condensate from the current spill and the contaminant levels dropped off drastically at the lower depths. Each borehole was advance to depths where two (2) consecutive samples were below 100 ppm TPH.

The tank battery has been removed and relocated to the east end of the location pad. The tanks are now contained within a firewall that is lined with 20 mil reinforced liner.

Cimarex proposes that the area affected by the spill be excavated to a depth of 4' to 5' below ground level, removing the most highly contaminated soils. The excavated soils will be placed in a bermed area on-site where the condensate affected soil will be allowed to be exposed to the atmosphere and turned on a regular schedule until the soil is no longer above the guideline limits for this site. Once the soils reach the target level, they may be used for berming material as necessary. The excavated area will then be backfilled with clean soils and contoured to original grade.

An additional 6 to 8 vent wells will be installed within the affected area to allow the remaining condensate left to vent to the atmosphere. The vent wells will be constructed of slotted PVC pipe from a depth of 5' to the depth of 15' to 35' depending upon the area where the well is to be installed.

Each quarter, the vent wells will be covered with plastic and allowed to sit for 48 hours and the sampled with a PID through the port in the casing. The sample results will be recorded and appropriate reports will be compiled and submitted to the NMOCD for review. At such a point where the samples of all wells fall under the guideline requirement of this site for three (3) consecutive quarters, the vent wells will be pulled and plugged with a bentonite/grout mixture from the Total Depth to the surface.

**VIII. Figures and Appendices**

Figure 1 – Vicinity Map

Figure 2 – Site Map

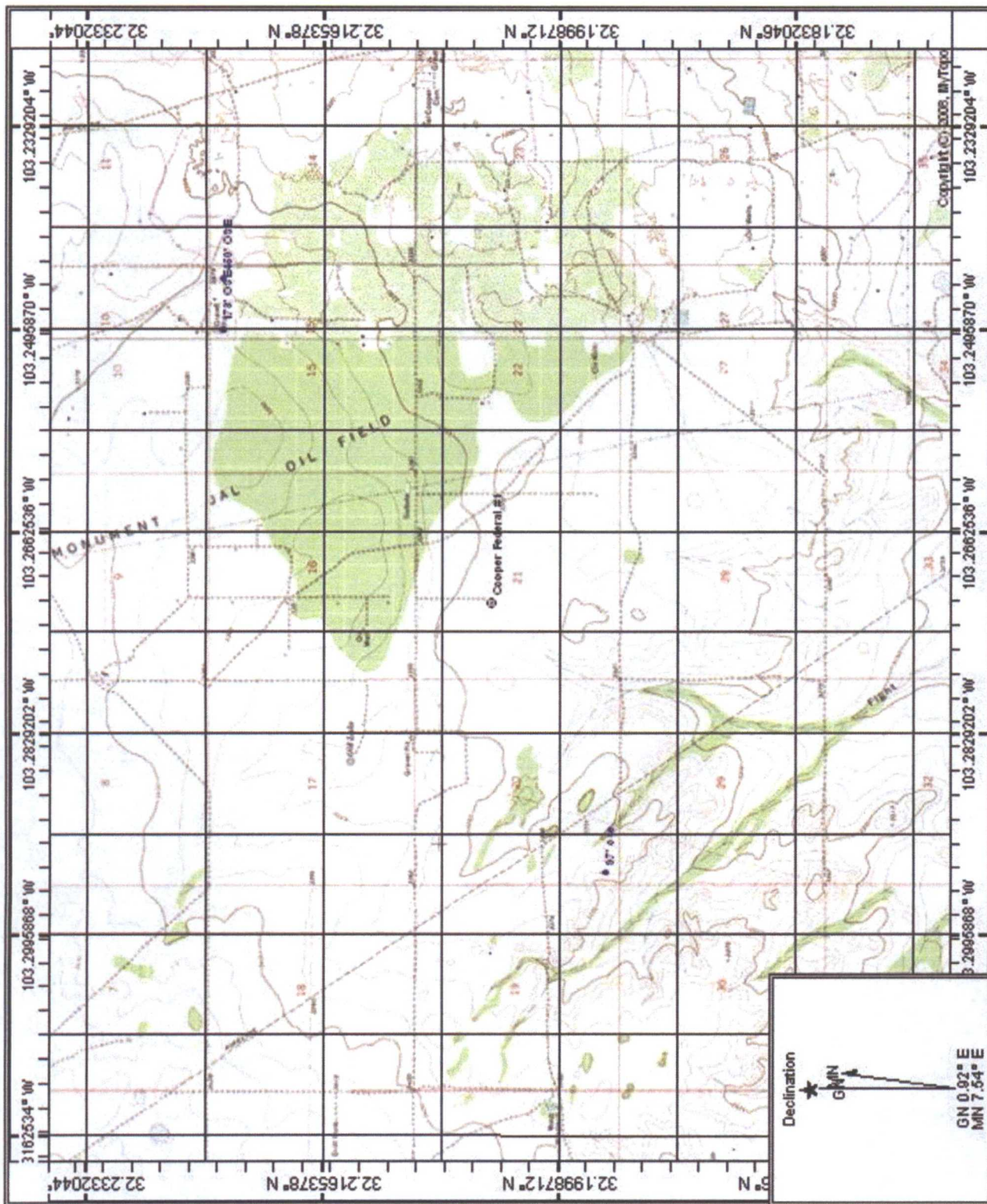
Appendix A – Analytical Results

Appendix B – Site Photographs

Appendix C – C-141



**Figure 1**  
**Vicinity Map**

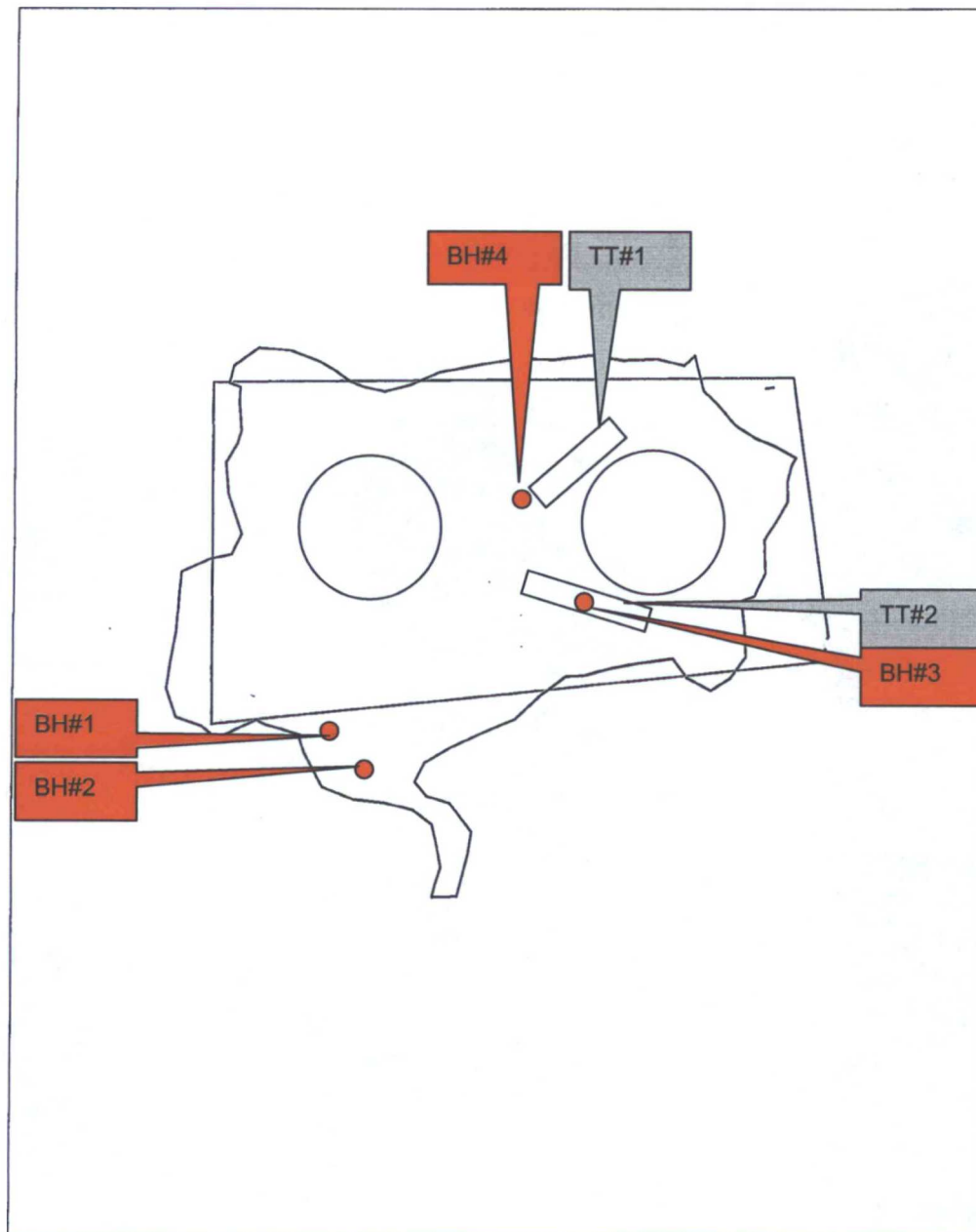


Map Name: JAL NW,  
Scale: 1 inch = 4,000 ft.

Map Center: 032.2041447° N 103.2725830° W  
Horizontal Datum: WGS84

**Figure 1**  
**Site Map**





## Cooper Federal #1

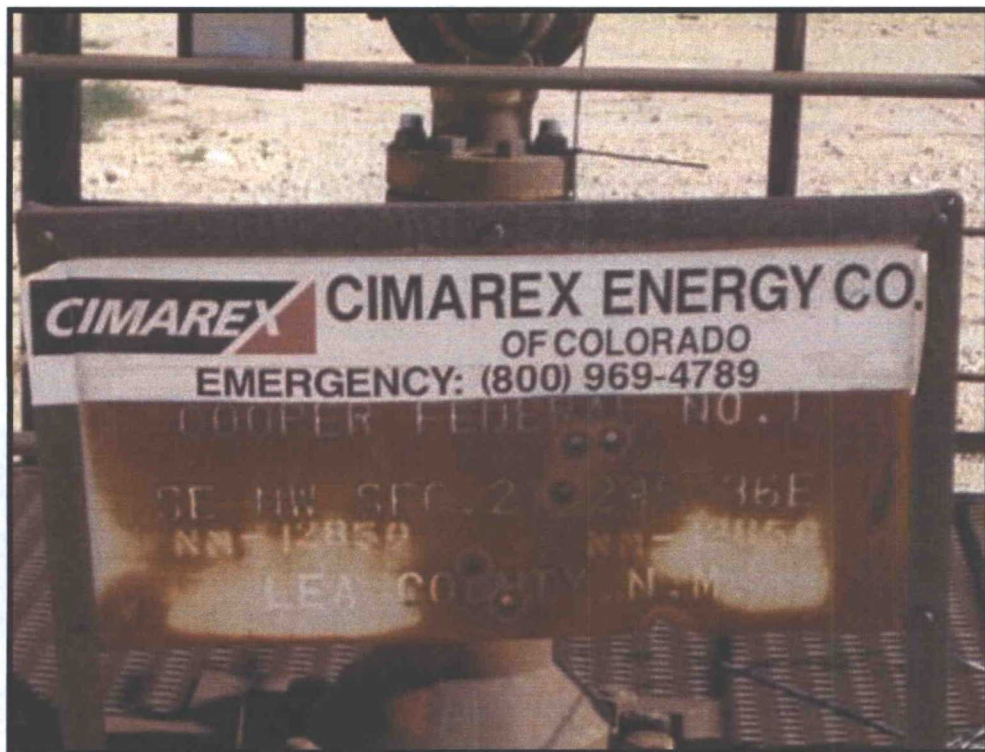
Lat/Long  
WGS 1984



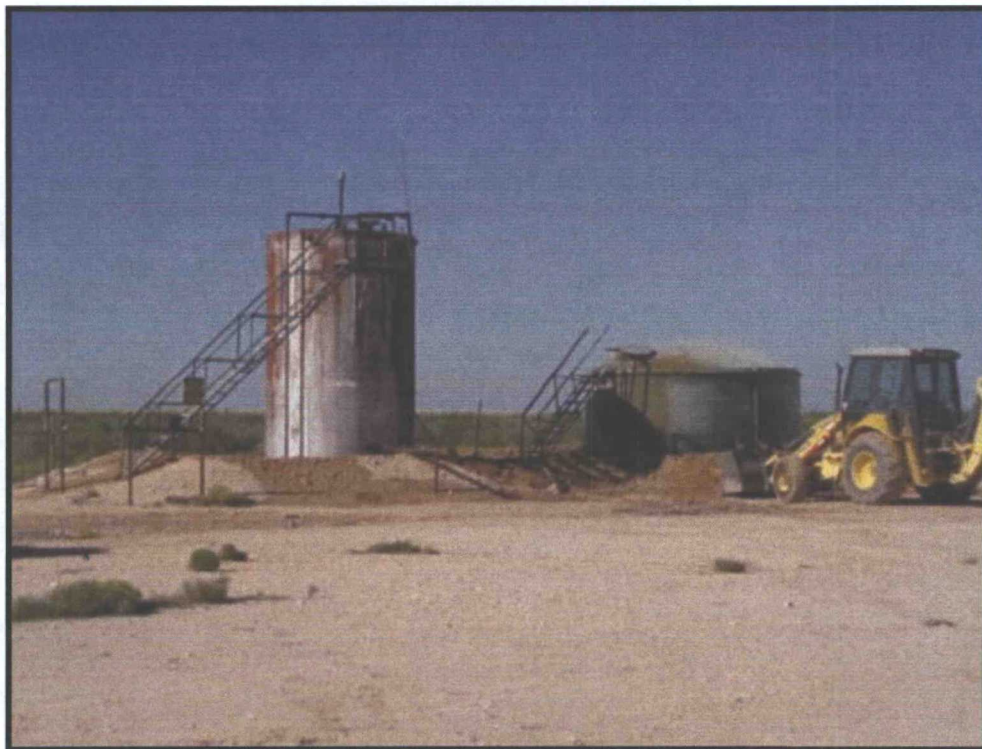
Scale 1 in : 20.0 ft  
0 30.00  
Feet

CIM-10-010 Trimble site map

GPS Pathfinder® Office  
**Trimble**

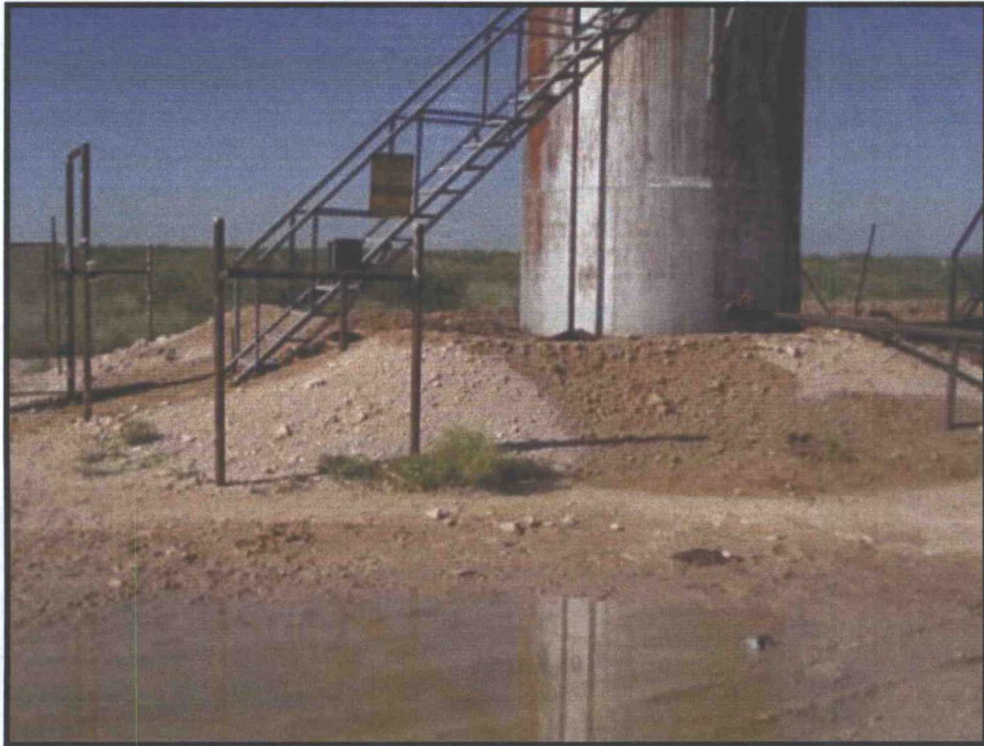


Cooper Federal No. 1 Lease Sign

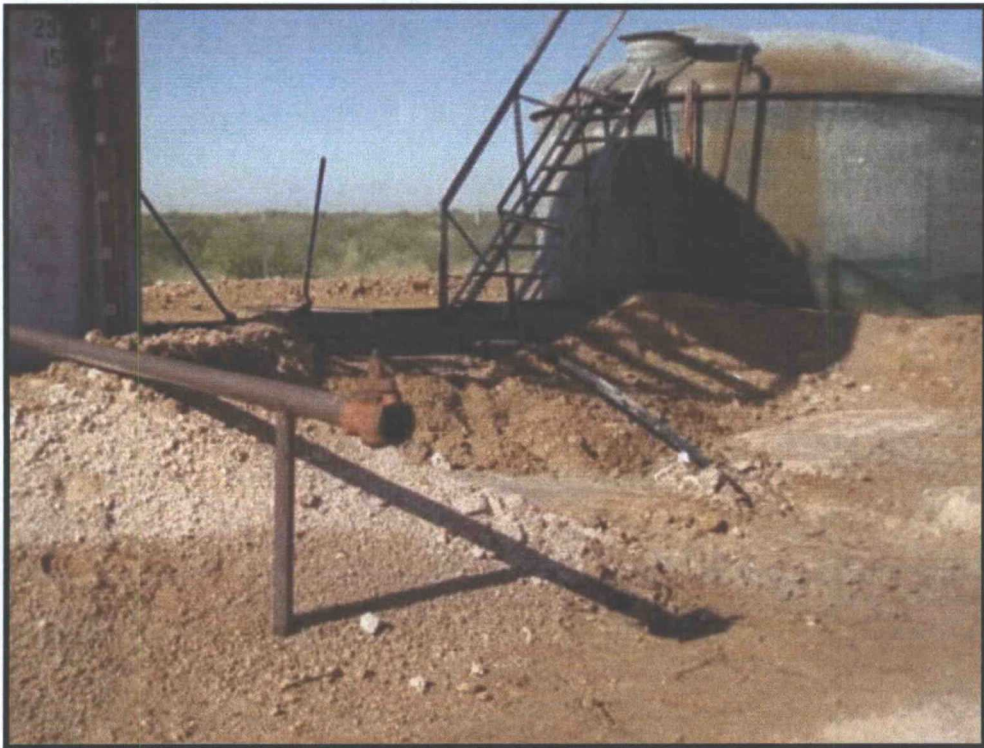


Battery facing south



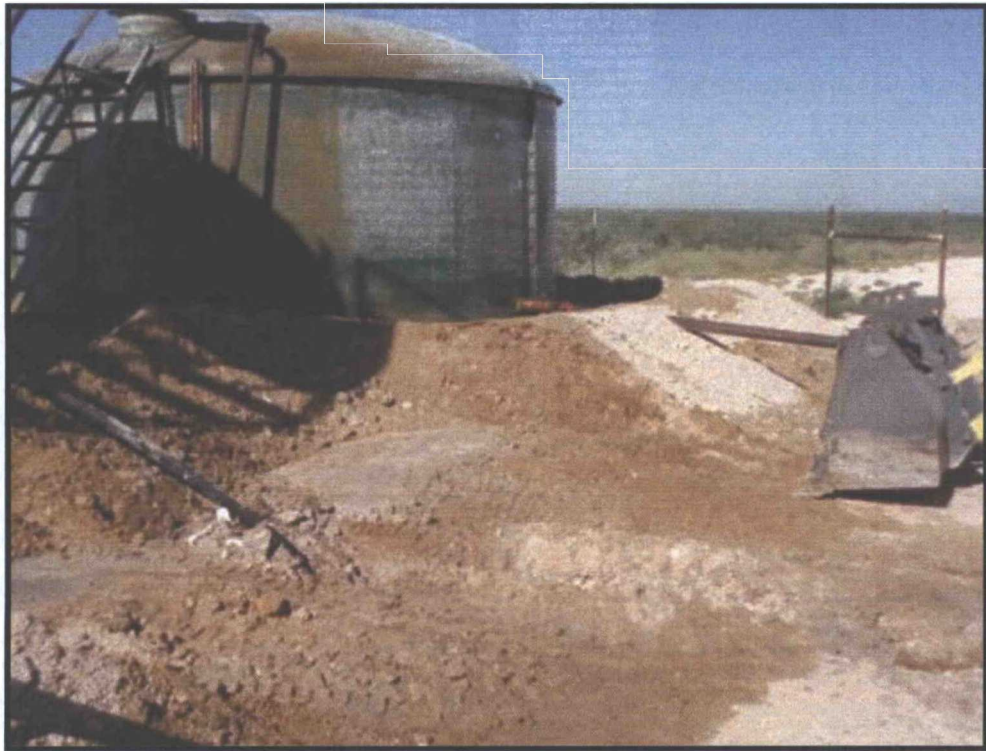


Affected area facing south

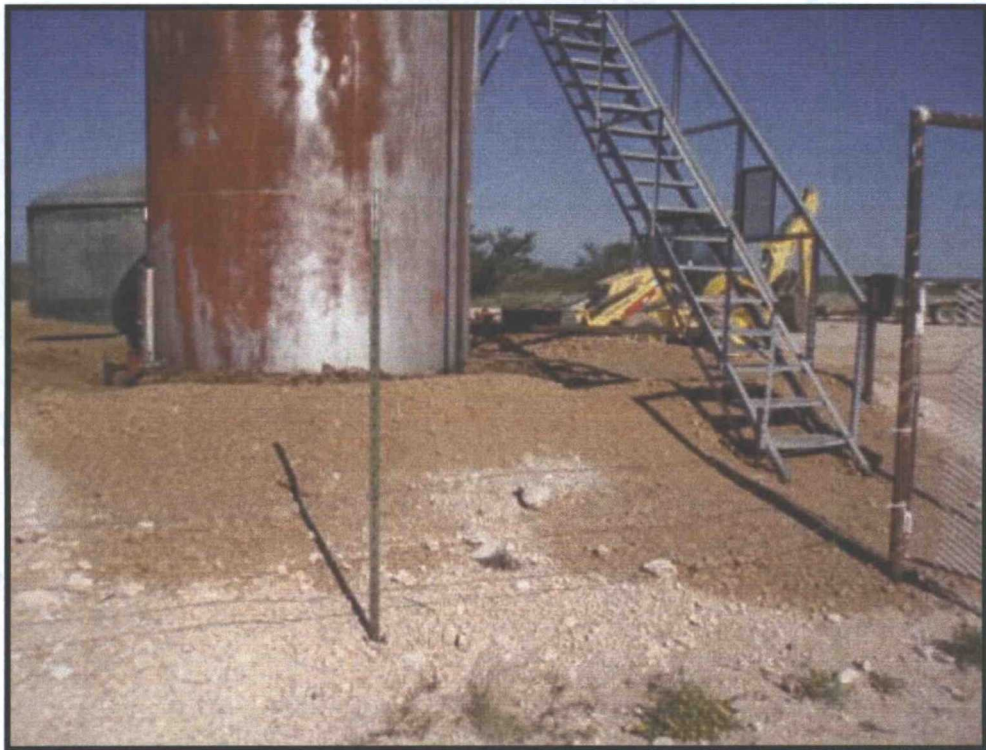


Affected area facing south

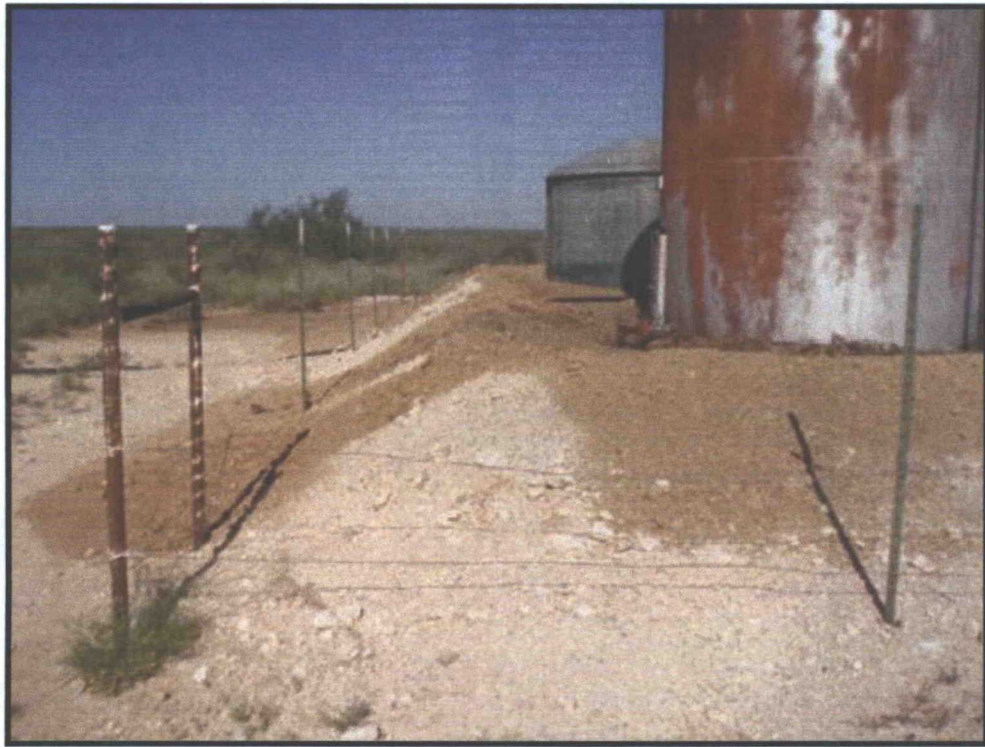




Affected area facing southwest



Affected area facing west



Affected area facing west

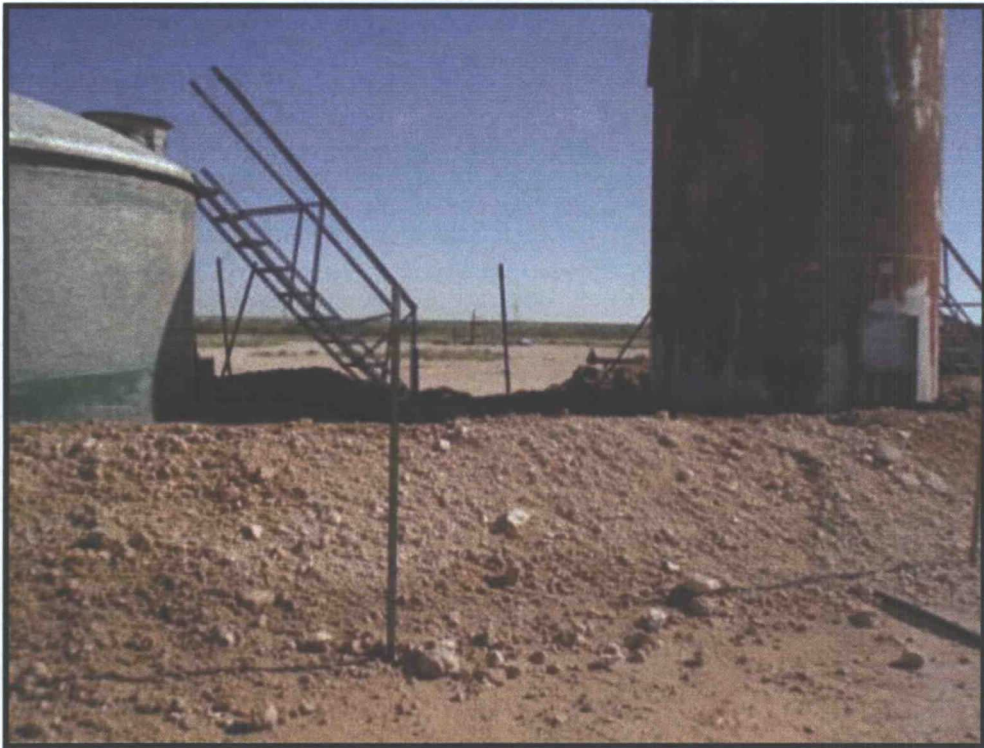


Affected area facing west





Affected area facing west

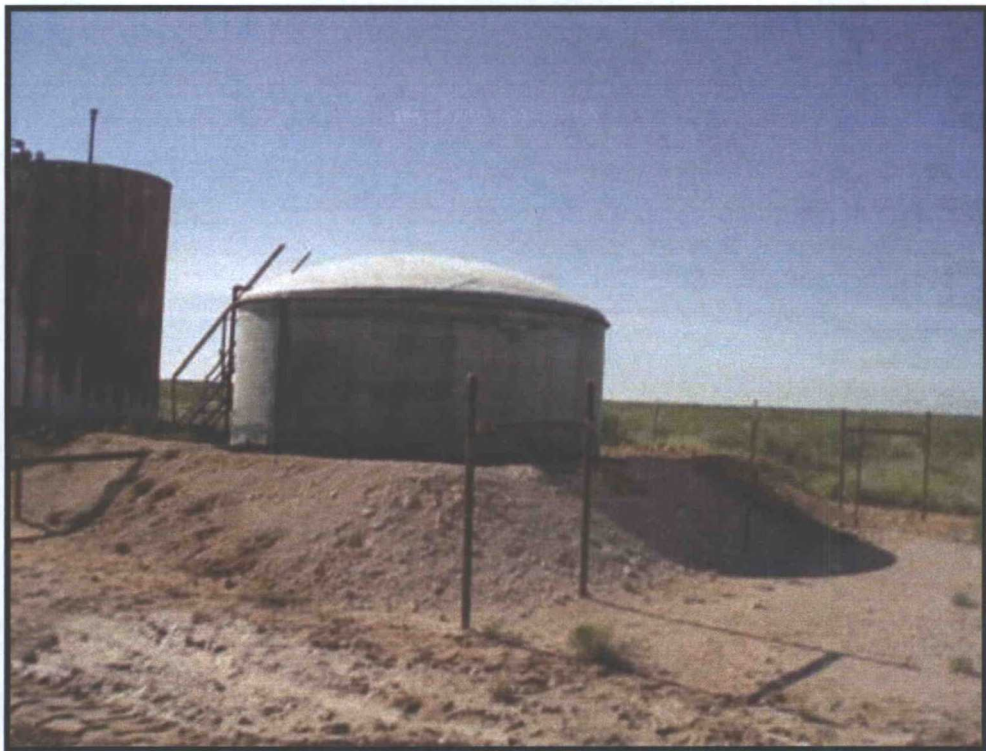


Affected area facing north





Affected area facing north



Affected area facing southeast



Excavated area



Excavated area facing south





Test Trench #1



Test Trench #2





Vent Well #1 & #2 facing northeast



Vent Well #1 & #2 facing North



Vent Well #3 facing northeast



Vent Well #4 facing south



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

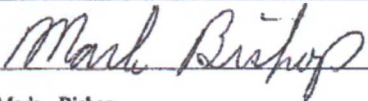
Name of Company Cimarex Energy Co	Contact Mark Bishop	
Address 702 N Grimes	Telephone No.	
Facility Name Cooper Federal #1	Facility Type Flowing gas well	
Surface Owner Woolworth Trust	Mineral Owner	Lease No.

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	21	24-S	36-E	1980'	NL	2180'	WL	Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release Oil spill	Volume of Release 5-10 bbl	Volume Recovered None
Source of Release water tank	Date and Hour of Occurrence 8-2-10 unknown what hour	Date and Hour of Discovery 8-3-10 11:30 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not required	If YES, To Whom? Larry Johnson	
By Whom? Mark Bishop	Date and Hour 8-3-10 4:30PM	
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.* A water tank containing oil ran over but was contained by the dyke. Some of the oil leached through to the outside of the dyke. Safety & Environmental Solutions Inc. will be supervising the cleanup operation. The affected soil will be removed and clean soil will be brought in.		
Describe Area Affected and Cleanup Action Taken.* The affected area is inside and on the side of the tank battery containment		
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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Mark Bishop	Approved by District Supervisor:	
Title: Production Foreman	Approval Date:	Expiration Date:
E-mail Address: mbishop@cimarex.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8-3-10	Phone: 57-602-1002	

\* Attach Additional Sheets If Necessary



August 16, 2010

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: COOPER FED #1

Enclosed are the results of analyses for samples received by the laboratory on 08/09/10 15:00.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #1 5' (H020587-01)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.784</b>	0.100	08/13/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>15.0</b>	0.100	08/13/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>3.34</b>	0.100	08/13/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>69.6</b>	0.300	08/13/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					QM-07	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	3260	10.0	08/10/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	8520	50.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 109 % 70-130

Surrogate: 1-Chlorooctadecane 74.6 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



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: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #1 7' (H020587-02)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.053</b>	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>1.18</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>0.242</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>5.33</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 115 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>10.8</b>	10.0	08/10/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>126</b>	10.0	08/10/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 86.9 % 70-130

Surrogate: 1-Chlorooctadecane 83.3 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #1 9' (H020587-03)**

BTEX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.218</b>	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>7.57</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>2.44</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>43.7</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 88.2 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>2980</b>	10.0	08/10/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>7120</b>	50.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 117 % 70-130

Surrogate: 1-Chlorooctadecane 93.3 % 70-130

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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: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #1 12' (H020587-04)**
**BTEX 8021B**
**mg/kg**
**Analyzed By: ZL**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.367</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<b>0.089</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	<b>1.97</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

*Surrogate: 4-Bromofluorobenzene (PIL)*

89.3 %

80-120

**TPH 8015M**
**mg/kg**
**Analyzed By: AB**
**QM-07**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>20.1</b>	10.0	08/10/2010	ND	155	77.7	200	1.41	
DRO >C10-C28	<b>197</b>	10.0	08/10/2010	ND	154	77.1	200	1.46	

*Surrogate: 1-Chlorooctane*

89.6 %

70-130

*Surrogate: 1-Chlorooctadecane*

97.9 %

70-130

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Celestine 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: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #2 4' (H020587-05)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.983</b>	0.100	08/13/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>22.6</b>	0.100	08/13/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>8.56</b>	0.100	08/13/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>104</b>	0.300	08/13/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 88.7 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>3890</b>	10.0	08/10/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>10100</b>	50.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 94.8 % 70-130

Surrogate: 1-Chlorooctadecane 78.3 % 70-130

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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:	08/09/2010	Sampling Date:	08/09/2010
Reported:	08/16/2010	Sampling Type:	Soil
Project Name:	COOPER FED #1	Sampling Condition:	Cool & Intact
Project Number:	CIM-10-001 (CIMAREX)	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: TT #2 7' (H020587-06)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>1.55</b>	0.100	08/13/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>43.5</b>	0.100	08/13/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>14.0</b>	0.100	08/13/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>158</b>	0.300	08/13/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 91.0 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07, S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>6090</b>	50.0	08/11/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>9180</b>	50.0	08/11/2010	ND	154	77.1	200	1.46		


Surrogate: 1-Chlorooctane 22.6 % 70-130

Surrogate: 1-Chlorooctadecane 15.1 % 70-130

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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:	08/09/2010	Sampling Date:	08/09/2010
Reported:	08/16/2010	Sampling Type:	Soil
Project Name:	COOPER FED #1	Sampling Condition:	Cool & Intact
Project Number:	CIM-10-001 (CIMAREX)	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: TT #2 9' (H020587-07)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.403</b>	0.100	08/13/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>14.0</b>	0.100	08/13/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>3.10</b>	0.100	08/13/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>51.7</b>	0.300	08/13/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 114 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>4070</b>	10.0	08/10/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>6440</b>	50.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 113 % 70-130

Surrogate: 1-Chlorooctadecane 85.5 % 70-130

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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:	08/09/2010	Sampling Date:	08/09/2010
Reported:	08/16/2010	Sampling Type:	Soil
Project Name:	COOPER FED #1	Sampling Condition:	Cool & Intact
Project Number:	CIM-10-001 (CIMAREX)	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY		

**Sample ID: TT #2 11' (H020587-08)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.227</b>	0.100	08/13/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>10.6</b>	0.100	08/13/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>3.95</b>	0.100	08/13/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>46.7</b>	0.300	08/13/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 112 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>1980</b>	10.0	08/10/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>3080</b>	10.0	08/10/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 108 % 70-130

Surrogate: 1-Chlorooctadecane 98.2 % 70-130

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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: 08/09/2010  
Reported: 08/16/2010  
Project Name: COOPER FED #1  
Project Number: CIM-10-001 (CIMAREX)  
Project Location: LEA COUNTY

Sampling Date: 08/09/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: TT #2 13' (H020587-09)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.143</b>	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
<b>Toluene*</b>	<b>4.25</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
<b>Ethylbenzene*</b>	<b>0.836</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>17.7</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 116 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>476</b>	10.0	08/11/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>1110</b>	10.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 123 % 70-130

Surrogate: 1-Chlorooctadecane 109 % 70-130

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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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager





# CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 873-7001 Fax (915) 873-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name: SEST		Project Manager:		Address: 703 E. CLINTON, #103		City: HOBBS		State: NM Zip: 88240		Phone #: (505) 397-0510		Fax #: (505) 393-4388		Project #: CWM-10-001		Project Owner: Cwarex		Project Name: Cooper Fed. #1		Project Location: Lea County	
FOR LAB USE ONLY		LAB I.D.		Sample I.D.		MATRIX		PRES.		SAMPLING		DATE		TIME		OTHER:		ACID:		ICE / COOL:	
H20587-1	TT#1.5'	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	TT#1.7'	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
3	TT#1.9'	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
4	TT#1.12'	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
5	TT#2.4'	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
6	TT#2.7'	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
7	TT#2.9'	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	
8	TT#2.11'	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	
9	TT#2.13'	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	

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Sampler Relinquished: 5/21/09 Date: 5/21/09 Time: 1500

Relinquished By: [Signature]

Received By: (Lab Staff) [Signature]

Delivered By: (Circle One) Sample Condition

Sampler - UPS - Bus - Other: 2.58

Phone Result: ☐ Yes ☐ No Additional Fax #: ☐ Yes ☐ No

REMARKS:



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 Co	Contact Mark Bishop	
Address 702 N Grimes	Telephone No.	
Facility Name Cooper Federal #1	Facility Type Flowing gas well	
Surface Owner Woolworth Trust	Mineral Owner	Lease No.

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	21	24-S	36-E	1980'	NL	2180'	WL	Lea

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

**NATURE OF RELEASE**

Type of Release Oil spill	Volume of Release 5-10 bbl	Volume Recovered None
Source of Release water tank	Date and Hour of Occurrence 8-2-10 unknown what hour	Date and Hour of Discovery 8-3-10 11:30 AM
Was Immediate Notice Given? x <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not required	If YES, To Whom? Larry Johnson	
By Whom? Mark Bishop	Date and Hour 8-3-10 4:30PM	
Was a Watercourse Reached? <input type="checkbox"/> Yes X <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.\*

A water tank containing oil ran over but was contained by the dyke. Some of the oil leached through to the outside of the dyke. Safety & Environmental Solutions Inc. will be supervising the cleanup operation. The affected soil will be removed and clean soil will be brought in.

Describe Area Affected and Cleanup Action Taken.\*

The affected area is inside and on the side of the tank battery containment

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:

*Mark Bishop*

Printed Name: Mark Bishop

Approved by District Supervisor:

Title: Production Foreman

Approval Date:

Expiration Date:

E-mail Address: mbishop@cimarex.com

Conditions of Approval:

Attached ☐

Date: 8-3-10

Phone: 57-602-1002

\* Attach Additional Sheets If Necessary



August 20, 2010

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CIM-10-010

Enclosed are the results of analyses for samples received by the laboratory on 08/16/10 10:40.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

### Sample ID: BH #1 5' (H020647-01)

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	0.099	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	0.466	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	3.36	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	251	10.0	08/16/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	4910	10.0	08/16/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 95.4 % 70-130

Surrogate: 1-Chlorooctadecane 97.4 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 10' (H020647-02)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<b>0.364</b>	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<b>1.55</b>	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<b>13.5</b>	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 98.8 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>727</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<b>4810</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 105 % 70-130

Surrogate: 1-Chlorooctadecane 104 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/12/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #1 15' (H020647-03)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	0.468	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	0.196	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	3.40	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	96.1	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	1130	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 116 % 70-130

Surrogate: 1-Chlorooctadecane 114 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 20' (H020647-04)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	0.050	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	7.89	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 82.5 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	705	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	2800	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 126 % 70-130

Surrogate: 1-Chlorooctadecane 102 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 25' (H020647-05)**

BTX 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<b>0.105</b>	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<b>4.46</b>	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 85.8 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>305</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<b>1220</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 127 % 70-130

Surrogate: 1-Chlorooctadecane 105 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 30' (H020647-06)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<b>0.131</b>	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>1.66</b>	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 88.0 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>122</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
<b>DRO &gt;C10-C28</b>	<b>826</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 113 % 70-130

Surrogate: 1-Chlorooctadecane 105 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 35' (H020647-07)**

BTX 8021B			mg/kg							Analyzed By: ZL	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10			
Toluene*	<b>0.094</b>	0.050	08/16/2010	ND	1.02	102	1.00	1.41			
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03			
<b>Total Xylenes*</b>	<b>0.574</b>	0.150	08/16/2010	ND	3.40	113	3.00	1.14			

Surrogate: 4-Bromofluorobenzene (PIL) 83.6 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/17/2010	ND	168	84.2	200	3.43		
<b>DRO &gt;C10-C28</b>	<b>218</b>	10.0	08/17/2010	ND	167	83.4	200	3.26		

Surrogate: 1-Chlorooctane 103 % 70-130

Surrogate: 1-Chlorooctadecane 110 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 40' (H020647-08)**

BTX 8021B			mg/kg							Analyzed By: ZL	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10			
Toluene*	0.113	0.050	08/16/2010	ND	1.02	102	1.00	1.41			
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03			
Total Xylenes*	0.853	0.150	08/16/2010	ND	3.40	113	3.00	1.14			

Surrogate: 4-Bromofluorobenzene (PIL) 90.9 % 80-120

TPH 8015M			mg/kg							Analyzed By: AB	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
GRO C6-C10	<10.0	10.0	08/17/2010	ND	168	84.2	200	3.43			
DRO >C10-C28	12.4	10.0	08/17/2010	ND	167	83.4	200	3.26			

Surrogate: 1-Chlorooctane 91.3 % 70-130

Surrogate: 1-Chlorooctadecane 100 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 45' (H020647-09)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<b>0.140</b>	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>0.693</b>	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 94.7 % 70-130

Surrogate: 1-Chlorooctadecane 105 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #1 50' (H020647-10)**

BTX 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/16/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/16/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/16/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<0.150	0.150	08/16/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 110 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 95.1 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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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: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #2 10' (H020647-11)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<b>0.197</b>	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<b>0.161</b>	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<b>1.59</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 80.1 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>53.5</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<b>1180</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 107 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #2 15' (H020647-12)**

BTEx 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>0.206</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 95.6 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	168	84.2	200	3.43	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 98.4 % 70-130

Surrogate: 1-Chlorooctadecane 109 % 70-130

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Fax To: (575) 393-4388

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/12/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #2 20' (H020647-13)**
**BTEX 8021B**
**mg/kg**
**Analyzed By: ZL**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>0.307</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 95.0 % 80-120

**TPH 8015M**
**mg/kg**
**Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>14.6</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
<b>DRO &gt;C10-C28</b>	<b>651</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 99.1 % 70-130

Surrogate: 1-Chlorooctadecane 103 % 70-130

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Fax To: (575) 393-4388

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #2 30' (H020647-14)**
**BTEX 8021B**
**mg/kg**
**Analyzed By: ZL**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<b>0.059</b>	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>1.09</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 94.5 % 80-120

**TPH 8015M**
**mg/kg**
**Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>124</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
<b>DRO &gt;C10-C28</b>	<b>858</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 112 % 70-130

Surrogate: 1-Chlorooctadecane 102 % 70-130

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Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #2 35' (H020647-15)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>0.521</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 96.6 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10</b>	<b>43.1</b>	10.0	08/17/2010	ND	168	84.2	200	3.43	
<b>DRO &gt;C10-C28</b>	<b>496</b>	10.0	08/17/2010	ND	167	83.4	200	3.26	

Surrogate: 1-Chlorooctane 107 % 70-130

Surrogate: 1-Chlorooctadecane 108 % 70-130

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**Analytical Results For:**

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

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #2 40' (H020647-16)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<0.150	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 99.8 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	25.5	10.0	08/17/2010	ND	165	82.3	200	2.36	

Surrogate: 1-Chlorooctane 96.8 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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**Analytical Results For:**

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 Fax To: (575) 393-4388

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #2 45' (H020647-17)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	<0.050	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	<0.150	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
<b>DRO &gt;C10-C28</b>	<b>10.1</b>	10.0	08/17/2010	ND	165	82.3	200	2.36	

Surrogate: 1-Chlorooctane 96.6 % 70-130

Surrogate: 1-Chlorooctadecane 109 % 70-130

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 Hobbs NM, 88240  
 Fax To: (575) 393-4388

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #3 15' (H020647-18)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
Toluene*	2.82	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	0.670	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
Total Xylenes*	14.1	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 108 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	339	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	1010	10.0	08/17/2010	ND	165	82.3	200	2.36	

Surrogate: 1-Chlorooctane 126 % 70-130

Surrogate: 1-Chlorooctadecane 113 % 70-130

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Fax To: (575) 393-4388

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #3 20' (H020647-19)**
**BTEX 8021B**
**mg/kg**
**Analyzed By: ZL**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	0.902	90.2	1.00	6.10	
<b>Toluene*</b>	<b>0.107</b>	0.050	08/17/2010	ND	1.02	102	1.00	1.41	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.961	96.1	1.00	5.03	
<b>Total Xylenes*</b>	<b>0.537</b>	0.150	08/17/2010	ND	3.40	113	3.00	1.14	

Surrogate: 4-Bromofluorobenzene (PIL) 114 % 80-120

**TPH 8015M**
**mg/kg**
**Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
<b>DRO &gt;C10-C28</b>	<b>35.2</b>	10.0	08/17/2010	ND	165	82.3	200	2.36	

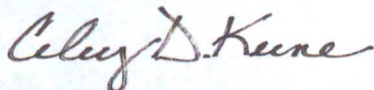
Surrogate: 1-Chlorooctane 91.1 % 70-130

Surrogate: 1-Chlorooctadecane 103 % 70-130

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Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #3 25' (H020647-20)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<0.050	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
<b>Total Xylenes*</b>	<b>0.263</b>	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

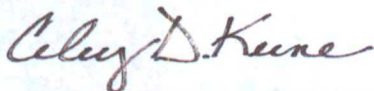
Surrogate: 1-Chlorooctane 95.5 % 70-130

Surrogate: 1-Chlorooctadecane 108 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #4 15' (H020647-21)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<b>0.246</b>	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<b>0.083</b>	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
Total Xylenes*	<b>1.49</b>	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 90.7 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<b>120</b>	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<b>728</b>	10.0	08/17/2010	ND	165	82.3	200	2.36	

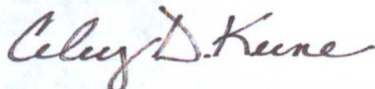
Surrogate: 1-Chlorooctane 123 % 70-130

Surrogate: 1-Chlorooctadecane 119 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #4 25' (H020647-22)**

BTX 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<b>0.052</b>	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
<b>Total Xylenes*</b>	<b>0.289</b>	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 97.1 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

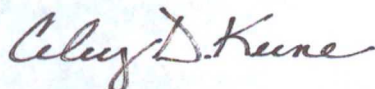
Surrogate: 1-Chlorooctane 89.4 % 70-130

Surrogate: 1-Chlorooctadecane 101 % 70-130

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #4 30' (H020647-23)**

BTX 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<0.050	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
Total Xylenes*	<0.150	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 98.6 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

Surrogate: 1-Chlorooctane 96.2 % 70-130

Surrogate: 1-Chlorooctadecane 108 % 70-130

Cardinal Laboratories

\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



**Analytical Results For:**

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

Received: 08/16/2010  
Reported: 08/20/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/13/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: BH #4 35' (H020647-24)**
**BTEX 8021B**
**mg/kg**
**Analyzed By: ZL**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<0.050	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
Total Xylenes*	<0.150	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 106 % 80-120

**TPH 8015M**
**mg/kg**
**Analyzed By: AB**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

Surrogate: 1-Chlorooctane 90.4 % 70-130

Surrogate: 1-Chlorooctadecane 102 % 70-130

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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: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #3 30' (H020647-25)**

BTX 8021B			mg/kg		Analyzed By: ZL				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
<b>Toluene*</b>	<b>0.056</b>	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
Total Xylenes*	<0.150	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 117 % 80-120

TPH 8015M			mg/kg		Analyzed By: AB				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

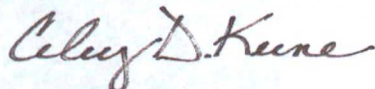
Surrogate: 1-Chlorooctane 93.9 % 70-130

Surrogate: 1-Chlorooctadecane 106 % 70-130

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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: 08/16/2010  
 Reported: 08/20/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/13/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: BH #3 35' (H020647-26)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2010	ND	1.11	111	1.00	3.12	
Toluene*	<0.050	0.050	08/17/2010	ND	0.907	90.7	1.00	6.95	
Ethylbenzene*	<0.050	0.050	08/17/2010	ND	0.900	90.0	1.00	1.93	
<b>Total Xylenes*</b>	<b>0.170</b>	0.150	08/17/2010	ND	3.16	105	3.00	2.99	

Surrogate: 4-Bromofluorobenzene (PIL) 116 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2010	ND	169	84.7	200	1.68	
DRO >C10-C28	<10.0	10.0	08/17/2010	ND	165	82.3	200	2.36	

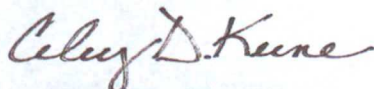
Surrogate: 1-Chlorooctane 93.7 % 70-130

Surrogate: 1-Chlorooctadecane 104 % 70-130

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\* = 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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---

Celey D. Keene, Lab Director/Quality Manager



# CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 3

Company Name: SEST		PO #:	
Project Manager: Bob Allen		Company: SAME	
Address: 703 E. CLINTON, #103		Alt:	
City: HOBBS		Address:	
Phone #: (505) 397-0510		City:	
Fax #: (505) 393-4388		State:	
Project #: CM-10-010		Zip:	
Project Name: Cooper Federal #1		Phone #:	
Project Location: JAL, NM		Fax #:	

LAB I.D.	Sample I.D.	MATRIX										PRES.	SAMPLING
		GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER	ACID	ICE / COOL	OTHER			
H20647-1	BH#1.5'	X											
2	BH#1.10'												
3	BH#1.15'												
4	BH#1.20'												
5	BH#1.25'												
6	BH#1.30'												
7	BH#1.35'												
8	BH#1.40'												
9	BH#1.45'												
10	BH#1.50'												

DATE	TIME	INITIALS
8/10/10	0913	X
0922		
0930		
0944		
0958		
1008		
1021		
1031		
1048		
1105		

Terms and Conditions: Material will be charged on at account more than 30 days past due at the rate of 3% per annum from the original date of invoice, and at cost of collection, including attorney's fee.

Phone Result: ☐ Yes ☐ No Additional Fax #: ☐ Yes ☐ No  
Fax Result: ☐ Yes ☐ No  
REMARKS:

Received By: (Lab Staff) Jodi Benson  
Checked By: Jodi Benson  
Sample Condition: ☐ Cool ☐ Intact ☐ Yes ☐ No  
Time: 0.50

Delivered By: (Circle One)  
Sampler - JPS - Bus - Other:  
Relinquished By: B. C. d.  
Relinquished Date: 8/16/10  
Time: 1040







ARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603. 101 East Marland, Hobbs, NM 88240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

Page 3 of 3

Company Name: SEPT		Project Manager:		Address: 703 E. CLINTON, #103		City: HOBBS		State: NM Zip: 88240		Phone #: (505) 397-0510		Fax #: (505) 393-4388		Project #:		Project Owner:		Project Name:		Project Location:	
LAB I.D.		Sample I.D.		FOR LAB USE ONLY		MATRIX		PRES.		SAMPLING		DATE		TIME							
H2D647-21	BH#4.15'																				
22	BH#4.25'																				
23	BH#4.30'																				
24	BH#4.35'																				
25	BH#3.30'																				
26	BH#3.35'																				

PLEASE NOTE: Utility and Dumpsites. Ordinal's liability and client's exclusivity are not intended to be construed as a warranty of any kind. Ordinal's liability and client's exclusivity are not intended to be construed as a warranty of any kind. Ordinal's liability and client's exclusivity are not intended to be construed as a warranty of any kind.

Sampler Relinquished: BQ Date: 8/16/10 Time: 1040

Relinquished By: John Henson

Delivered By: (Circle One) UPS - Bus - Other:

REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 1507/3-7020. #2/2

August 16, 2010

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: CIM-10-010

Enclosed are the results of analyses for samples received by the laboratory on 08/09/10 14:45.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method SW-846 8260	Benzene, Toluene, Ethyl Benzene, and Total Xylenes
Method TX 1005	Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

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 (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: 08/09/2010  
Reported: 08/16/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/06/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B-2 1' BGS (H020588-01)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	0.199	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	0.058	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	0.851	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 111 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/11/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	1580	10.0	08/11/2010	ND	154	77.1	200	1.46		

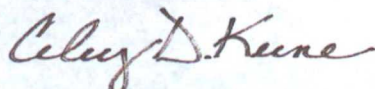
Surrogate: 1-Chlorooctane 83.5 % 70-130

Surrogate: 1-Chlorooctadecane 97.5 % 70-130

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received: 08/09/2010  
Reported: 08/16/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/06/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B-2 3' BGS (H020588-02)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.747</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<b>0.193</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	<b>3.19</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 118 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<b>40.3</b>	10.0	08/11/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	<b>1880</b>	10.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 80.3 % 70-130

Surrogate: 1-Chlorooctadecane 81.3 % 70-130

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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: 08/09/2010  
Reported: 08/16/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/06/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B-3 1' BGS (H020588-03)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.154</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<0.050	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
<b>Total Xylenes*</b>	<b>1.12</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 82.7 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10</b>	<b>34.0</b>	10.0	08/11/2010	ND	155	77.7	200	1.41		
<b>DRO &gt;C10-C28</b>	<b>352</b>	10.0	08/11/2010	ND	154	77.1	200	1.46		

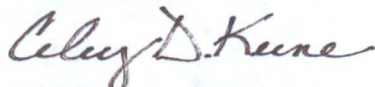
Surrogate: 1-Chlorooctane 89.8 % 70-130

Surrogate: 1-Chlorooctadecane 86.2 % 70-130

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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: 08/09/2010  
Reported: 08/16/2010  
Project Name: CIM-10-010  
Project Number: COOPER FEDERAL #1  
Project Location: JAL, NEW MEXICO

Sampling Date: 08/06/2010  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Jodi Henson

**Sample ID: B-3 3' BGS (H020588-04)**

BTX 8021B		mg/kg	Analyzed By: ZL						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.161</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<b>0.050</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	<b>0.958</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 110 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB					QM-07	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/11/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	22.4	10.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 90.3 % 70-130

Surrogate: 1-Chlorooctadecane 92.7 % 70-130

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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: 08/09/2010  
 Reported: 08/16/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/06/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: B-3 6' BGS (H020588-05)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.115</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<0.050	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	<b>0.517</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 100 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/11/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	<b>33.2</b>	10.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 85.7 % 70-130

Surrogate: 1-Chlorooctadecane 82.9 % 70-130

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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: 08/09/2010  
 Reported: 08/16/2010  
 Project Name: CIM-10-010  
 Project Number: COOPER FEDERAL #1  
 Project Location: JAL, NEW MEXICO

 Sampling Date: 08/06/2010  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Jodi Henson

**Sample ID: B-3 9' BGS (H020588-06)**

BTX 8021B		mg/kg		Analyzed By: ZL					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/12/2010	ND	0.822	82.2	1.00	7.10	
Toluene*	<b>0.241</b>	0.050	08/12/2010	ND	0.842	84.2	1.00	6.91	
Ethylbenzene*	<b>0.292</b>	0.050	08/12/2010	ND	0.833	83.3	1.00	6.93	
Total Xylenes*	<b>2.51</b>	0.150	08/12/2010	ND	2.66	88.7	3.00	7.12	

Surrogate: 4-Bromofluorobenzene (PIL) 88.4 % 80-120

TPH 8015M		mg/kg		Analyzed By: AB						QM-07
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10	<10.0	10.0	08/11/2010	ND	155	77.7	200	1.41		
DRO >C10-C28	<b>84.5</b>	10.0	08/11/2010	ND	154	77.1	200	1.46		

Surrogate: 1-Chlorooctane 88.0 % 70-130

Surrogate: 1-Chlorooctadecane 93.2 % 70-130

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Celey D. Keene, Lab Director/Quality Manager



**Notes and Definitions**

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

ARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603. 101 East Marland, Hobbs, NM 80240  
(915) 673-7001 Fax (915) 673-7020 (505) 393-2328 Fax (505) 393-2476

Page 1 of 1

Company Name: <b>SEST</b>		PO #:	
Project Manager: <b>BOB ALLEN / BRIAN CARTER</b>		Company: <b>SAME</b>	
Address: <b>703 E. CLINTON, #103</b>		Attn:	
City: <b>HOBBES</b>		Address:	
State: <b>NM</b> Zip: <b>88240</b>		City:	
Phone #: <b>(505) 397-0510</b>		State:	
Fax #: <b>(505) 393-4388</b>		Phone #:	
Project # <b>CIM-10-010</b>		Project Owner: <b>CIMARLEY</b>	
Project Name: <b>COOPER FERTILIZER</b>		Project Location: <b>SAN JUAN</b>	

LAB I.D.	Sample I.D.	FOR LAB USE ONLY		MATRIX		PRES.		SAMPLING		DATE	TIME
		(G) FAS OR (COMP)	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	SLUDGE	OTHER:	ACID:		
H20588-1	B-2 1' BGS	6	1							08/06	1055
2	B-2- 3' BGS	6	1							08/06	1120
3	B-3 1' BGS	6	1							08/06	1130
4	B-3 3' BGS	6	1							08/06	1155
5	B-3 6' BGS	6	1							08/06	1300
6	B-3 9' BGS	6	1							08/06	1340

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Terms and Conditions: Interval will be charged on all accounts more than 30 days past due at the rate of 2% per annum from the original date of invoice, and at costs of collection, including attorney's fees.

Phone Result: ☐ Yes ☐ No Additional Fax #: ☐ Yes ☐ No

Fax Result: ☐ Yes ☐ No

REMARKS:

Received By: <b>Bob Jensen</b>		Checked By: <b>HA</b>	
Date: <b>08-04-10</b>	Date:	Sample Condition: <input checked="" type="checkbox"/> Cool <input type="checkbox"/> Intact	Initials: <b>HA</b>
Time: <b>1445</b>	Time:	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Delivered By: (Circle One)		Sampler - UPS - Bus - Other:	