

District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088



SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Bedrock

Operator : Questar Energy Company Telephone: (505) 326-9195

Address: P.O. Box 2330 Farmington, NM 87499

Facility Or: Lindrith #13
Well Name

Location: Unit or Qtr/Qtr Sec K Sec 3 T 26N R 7W County Rio Arriba

Pit Type: Separator _____ Dehydrator _____ Other Condensate

Land Type: BLM _____ State X Fee _____, Other _____

Pit Location: Pit dimensions: Length 20 ft, width 15 ft, depth 9 ft
(Attach diagram)

Reference: wellhead X other _____

Footage from reference: 70 ft

Direction from reference: 30 Degrees X East North X
of
West South _____

Depth to Ground Water: (vertical distance from contaminants to seasonal highwater elevation of ground water)	<u>>100'</u>	Less than 50 feet	(20 points)	
		50 ft to 99 feet	(10 points)	
	<u>X</u>	Greater than 100 feet	(0 points)	<u>0</u>

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)	
	<u>X</u>	No	(0 points)	<u>0</u>

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)	
	<u>X</u>	Greater than 1000 feet	(0 points)	<u>0</u>

P:\pits\PrrC@.WK3

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 10/21/97

Date Completed: 2/4/99

Excavation _____

Approx. cubic yards 96

Landfarmed X

Insitu Bioremediation _____

Other _____

Remediation Method: Onsite X

Offsite _____

(Check all appropriate
sections)

General Description of Remedial Action : On 10/21/97, the pit was excavated to an average depth of 9 feet. A sample was obtained from the east bottom of the pit at a depth of 12 feet utilizing U.S.E.P.A. protocol and sent to On Site Technologies, Ltd. for GRO/DRO and BTEX analysis. On 1/15/98, a risk assessment was performed. A test hole was dug on the east side of the pit to a depth of 15 feet, where bedrock was encountered. A sample was taken from a depth of 14 to 15 feet and submitted to On Site Technologies, Ltd. for BTEX analysis. Results provided concentrations below NMOCD guidelines. On 2/4/99, the landfarm was tested and provided concentrations below NMOCD guidelines.

Ground Water Encountered: No X Yes _____ Depth _____

Final Pit:

Closure Sampling:
(if multiple samples,
attach sample results

and diagram of sample
locations and depths)

Sample location East Bottom

Sample depth 12 feet

Sample date 10/21/97

Sample time 13:27

Sample Results

Benzene(ppm) ND

Total BTEX (PPM) 74.664

Field Headspace (ppm) 527

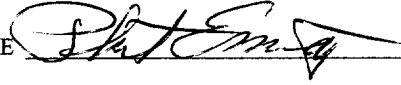
TPH 723

Ground Water Sample: Yes _____ No X (if yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETED TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATE 1-4-99

PRINTED NAME Phil Emig

SIGNATURE 

and TITLE Senior Operator

Risk Assessment
Questar Energy Company
Lindrith #13

Depth to Groundwater	>100'
Distance to Water Source	>1000'
Distance to Surface Water	>1000'
TPH Limit (ppm)	5000

The subject pit was located in bedrock at a depth of 15 feet. The initial size of the pit was 10' x 10' x 1' deep. The stained soil was a silty clay and was excavated to a final pit size of 20' x 15' x 9' deep (average). Excavated soil amounted to approximately 96 total cubic yards and was landfarmed on location.

On October 21, 1997 Cimarron Oilfield Service Co. performed a pit closure verification. The pit was excavated to an average depth of 9 feet. A soil sample from the east bottom at 12 feet provided a headspace concentration of 527 ppm and a Total Petroleum Hydrocarbon (TPH) concentration of 723 ppm. A BTEX analysis provided a benzene concentration of non-detect and a total BTEX concentration of 74.664 ppm. No groundwater was encountered. Excavated soils were landfarmed on location.

A risk assessment was performed to establish lateral extent east of the associated pit. The risk assessment was performed on January 15, 1998 by Cimarron. A bore hole was established at the east side of the original pit to a depth of 15 feet, where bedrock was encountered. A sample from this depth provided a headspace concentration of 73.9 ppm, a benzene concentration of non-detect, and a total BTEX concentration of 24.580 ppm. No hydrocarbon staining was noticeable at any depth.

Landfarm sampling was provided by Cimarron on February 4, 1999. A 5-point sample was extracted and analyzed. Results of the sample provided a TPH concentration of 560 ppm and a headspace concentration of 8 ppm.

Having determined lateral and vertical extent as well as achieving action levels below NMOCD and BLM requirements, this pit should be considered to have reached "final closure". Questar Energy Company has removed and remediated all soils to the extent practical. Based on this information and the physical location of the pit, there is little to no risk to human health or environment.

Location : Lindrith #13				Depth (ft)		Bore # 1	Bore # 2
Quad : K	Section : 3			1		Moist	
Township: 26N	Range: 7W			2		grey	
				3		sandy	
				4		clay	
				5			
				6			
				7			
				8			
				9		Dry	
				10		Grey	
				12		Sandy	
				13		Clay	
				14		Btm @ 15'	
				15		Bedrock	
				16			
				17			
				18			
				19			
				20			
				21			
Pit : Abandoned Separator Reference : 73' N15E From Wellhead Pit Size : 0							
				Depth to Groundwater : >100' Soil Type : Sandy clay			
				Ranking Score: 0 Bedrock Encountered : Yes			
				Closure Standard : 5000 ppm Groundwater Encountered : No			
				Comments :			
				Bore Hole # 1 Soil grey sandy clay, slight HC odor			
				Test hole dug with Geo-Probe to a depth of 15' where bedrock was encountered			
				sample was taken at this point 14' - 15'. Sample was submitted to On Site labs for BTEX analysis			

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Frank McDonald*
Company: *Cimmaron Oilfield Service*
Address: *P.O. Box 3235*
City, State: *Farmington, NM 87401*

Date: *2-Feb-98*
COC No.: *6810*
Sample No.: *17361*
Job No.: *2-1000*

Project Name: ***Questar Energy - Lindrith #13***

Project Location: ***Bore Hole @ 15'***

Sampled by: *BS* Date: *15-Jan-98* Time: *12:00*

Analyzed by: *DC* Date: *28-Jan-98*

Sample Matrix: *Soil*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/kg	250	ug/kg
<i>Toluene</i>	1785	ug/kg	500	ug/kg
<i>Ethylbenzene</i>	1970	ug/kg	250	ug/kg
<i>m,p-Xylene</i>	17376	ug/kg	500	ug/kg
<i>o-Xylene</i>	3450	ug/kg	250	ug/kg
	<i>TOTAL</i>	24580	ug/kg	

ND - Not Detected at Limit of Quantitation

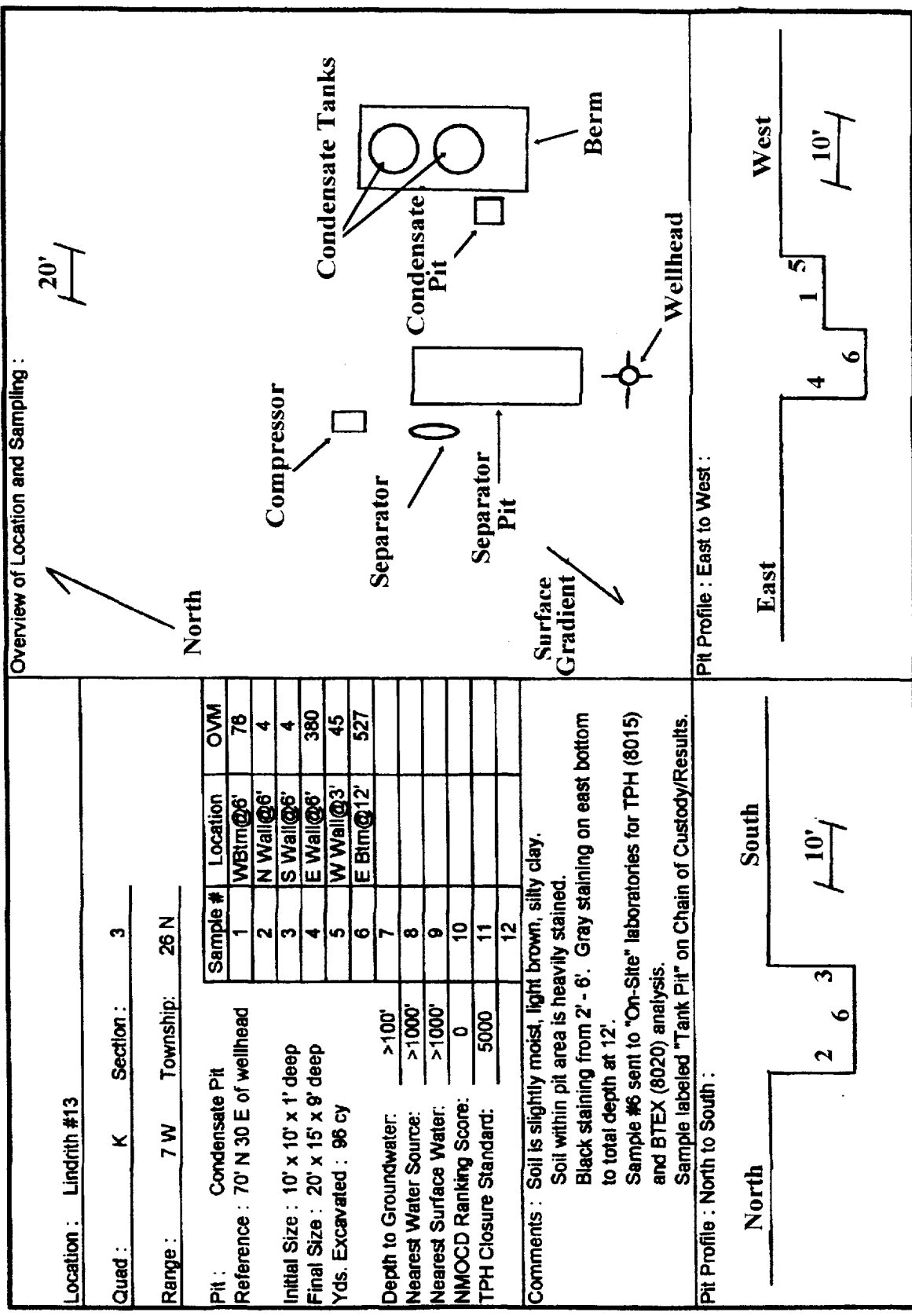
Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*
Date: *2/2/98*

P.O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

Purchase Order No.:		Job No.		Name		Title	
SEND INVOICE TO		Name		Company		Company	
Company		Dept.		Mailing Address		P.O. Box 3235	
Address		City, State, Zip		City, State, Zip		Farmingdale N.Y.	
City, State, Zip		Telephone No.		327-4787		Telefax No.	
Sampling Location: Lind. #13				ANALYSIS REQUESTED			
Sampler: B. Schepstok				LAB ID			
SAMPLE IDENTIFICATION				DATE			
Lind. #13 Borehole @ 15'				1-15-88 1200			
MATRIX				PRES.			
Soil				CWD			
Number of Containers				RESULTS TO REPORT			
1				✓			
Received by:				Date/Time			
Received by:				Date/Time			
Received by:				Date/Time			
Rush				24-48 Hours			
10 Working Days				Special Instructions:			
Relinquished by: Bud Schepstok				Date/Time 1-16-88 1011			
Relinquished by:				Date/Time			
Relinquished by:				Date/Time			
Method of Shipment:				Date			
Authorized by: Bud Schepstok				Date 1-16-88			
(Client Signature Must Accompany Request)							



OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Frank McDonald*
Company: *Cimmaron Oilfield Service*
Address: *P.O. Box 3235*
City, State: *Farmington, NM 87401*

Date: *28-Oct-97*
COC No.: *B1109*
Sample No.: *16653*
Job No.: *2-1000*

Project Name: *Questar Energy*
Project Location: *Lindrith 13; Tank Pit*
Sampled by: *VC*
Analyzed by: *DC/HR*
Sample Matrix: *Soil*

Date: *21-Oct-97* Time: *13:27*
GRO Date: *24-Oct-97*
DRO Date: *24-Oct-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Gasoline Range Organics (C5 - C9)</i>	<i>630</i>	<i>mg/kg</i>	<i>100</i>	<i>mg/kg</i>
<i>Diesel Range Organics (C10 - C28)</i>	<i>93</i>	<i>mg/kg</i>	<i>5</i>	<i>mg/kg</i>

ND - Not Detected at Limit of Quantitation

Quality Assurance Report

GRO QC No.: 0554-STD

DRO QC No.: 0555-STD

Continuing Calibration Verification

Parameter	Method Blank	Unit of Measure	True Value	Analyzed Value	RPD	RPD Limit
<i>Gasoline Range (C5 - C9)</i>	<i>ND</i>	<i>ppb</i>	<i>1,801</i>	<i>2,045</i>	<i>12.7</i>	<i>15%</i>
<i>Diesel Range (C10 - C28)</i>	<i>ND</i>	<i>ppm</i>	<i>200</i>	<i>216</i>	<i>7.7</i>	<i>15%</i>

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	RPD	RPD Limit
<i>Gasoline Range (C5-C9)</i>	<i>104</i>	<i>97</i>	<i>(80-120)</i>	<i>2</i>	<i>20%</i>
<i>Diesel Range (C10-C28)</i>	<i>79</i>	<i>101</i>	<i>(75-125)</i>	<i>16</i>	<i>20%</i>

Method: *SW-846 EPA Method 8015A mod. - Nonhalogenated Volatile Hydrocarbons by Gas Chromatography*

Approved by: *[Signature]*
Date: *10/28/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Attn: *Frank McDonald*
Company: *Cimmaron Oilfield Service*
Address: *P.O. Box 3235*
City, State: *Farmington, NM 87401*

Date: *24-Oct-97*
COC No.: *B1109*
Sample No.: *16653*
Job No.: *2-1000*

Project Name: *Questar Energy*
Project Location: *Lindrith 13 Tank Pit*
Sampled by: *VC*
Analyzed by: *DC*
Sample Matrix: *Soil*

Date: *21-Oct-97* Time: *13:27*
Date: *22-Oct-97*

Laboratory Analysis

Parameter	Results as Received	Unit of Measure	Limit of Quantitation	Unit of Measure
<i>Benzene</i>	ND	ug/kg	500 (1)	ug/kg
<i>Toluene</i>	12945	ug/kg	200	ug/kg
<i>Ethylbenzene</i>	4770	ug/kg	200	ug/kg
<i>m,p-Xylene</i>	44793	ug/kg	200	ug/kg
<i>o-Xylene</i>	12157	ug/kg	200	ug/kg
	<i>TOTAL</i>	74664	ug/kg	

ND - Not Detected at Limit of Quantitation

(1) - Limit of Quantitation raised due to non-target interference in sample.

Method - *SW-846 EPA Method 8020A Aromatic Volatile Organics by Gas Chromatography*

Approved by: *[Signature]*
Date: *10/24/97*

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

CHAIN OF CUSTODY RECORD

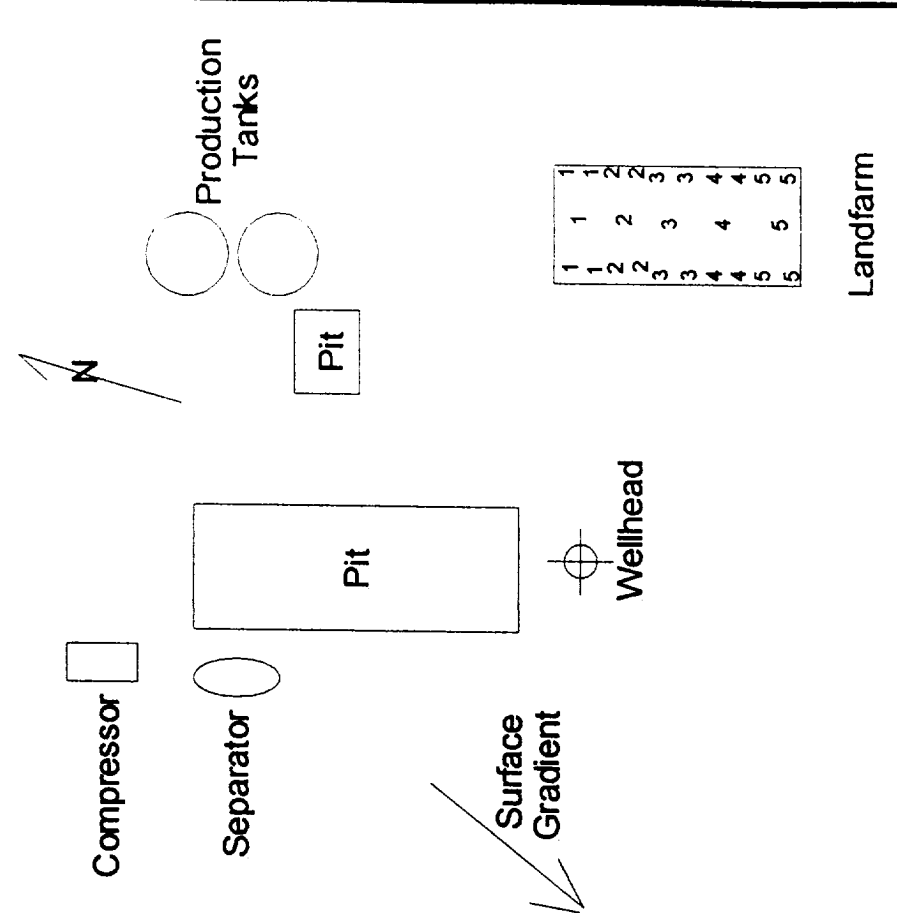
B 1109

Date: 10-22-97Page 1 of 1

612 E. Murray Dr. • P. O. Box 2606 • Farmington NM 87499
(505) 327-1072 • FAX: (505) 327-1496

[illegible]

Distribution:	White – On Site	Yellow – LAB	Pink – Sampler	Goldenrod – Client

Overview of Landfarm and Sampling :																											
Location: <u>Lindrith #13</u>																											
Quad: <u>K</u>	Section: <u>3</u>																										
Township: <u>26N</u>	Range: <u>7W</u>																										
Pits: <u>Sep./Compressor & Condensate</u>	Sample #	Location	OVM																								
Reference: <u>50' North 85° East of wellhead</u>	1	Comp. 1	8																								
	2	Comp. 2	7																								
	3	Comp. 3	7																								
	4	Comp. 4	5																								
	5	Comp. 5	6																								
Size: <u>20' x 50' x 1' deep</u>	6																										
Yds: <u>985 cubic yards</u>	7																										
	8																										
	9																										
	10																										
	11																										
5 <u>5 - Point Composite(s)</u>	12																										
 The diagram illustrates the layout of the landfarm. At the top left is a 'Compressor' (rectangle). Below it is a 'Separator' (circle). To the right of the separator is a large 'Pit' (rectangle). Further right are two 'Production Tanks' (circles). Below the separator is a 'Wellhead' (circle with a cross). A 'Surface Gradient' arrow points from the wellhead area towards the bottom right. A 'Pit' (rectangle) is also shown below the separator. A north arrow points towards the top left. A grid of numbers is located at the bottom right of the diagram area. <table border="1" data-bbox="747 276 1006 425"><tr><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>1</td><td>1</td><td>2</td><td>2</td></tr><tr><td>2</td><td>2</td><td>3</td><td>3</td></tr><tr><td>3</td><td>3</td><td>4</td><td>4</td></tr><tr><td>4</td><td>4</td><td>5</td><td>5</td></tr><tr><td>5</td><td>5</td><td>5</td><td>5</td></tr></table> Landfarm				1	1	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	5	5
1	1	1	1																								
1	1	2	2																								
2	2	3	3																								
3	3	4	4																								
4	4	5	5																								
5	5	5	5																								
Comments: <u>Soil is dry, light brown silty clay with no visible staining or hydrocarbon odor.</u>																											
<u>A sample from Composite #1 was sent to "On-Site Technologies, Ltd." for 8015 GRO/DRO analysis.</u>																											
Environmental Specialist : <u>RB</u>																											

OFF: (505) 325-5667



LAB: (505) 325-1556

ANALYTICAL REPORT

Date: 25-Feb-99

Client:	Cimarron Oilfield Service	Client Sample Info:	Lindrith #13 Landfarm
Work Order:	9902043	Client Sample ID:	Lindrith #13 Comp
Lab ID:	9902043-01A	Matrix:	SOIL
Project:	Lindrith #13 Landfarm	Collection Date:	2/4/99 9:30:00 AM
		COC Record:	5696

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		SW8015				Analyst: DC
T/R Hydrocarbons: C10-C28	560	25		mg/Kg	1	2/24/99
GASOLINE RANGE ORGANICS		SW8015				Analyst: HR
T/R Hydrocarbons: C6-C10	ND	0.18		mg/Kg	1	2/12/99

Qualifiers:	PQL - Practical Quantitation Limit	S - Spike Recovery outside accepted recovery limits
	ND - Not Detected at Practical Quantitation Limit	R - RPD outside accepted recovery limits
	J - Analyte detected below Practical Quantitation Limit	E - Value above quantitation range
	B - Analyte detected in the associated Method Blank	Surr: - Surrogate

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- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

1 of 1

Distribution:	White -- On Site	Yellow -- LAB	Pink -- Sampler	Goldenrod -- Client
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