

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

LF-607

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

## PIT REMEDIATION AND CLOSURE REPORT

Operator: Energen Resources (Taurus Exploration) Telephone: (505) 326-6131

Address: 2198 Bloomfield Highway Farmington, NM 87401

Facility Or: McCroden A #2  
Well Name

Location: Unit or Qtr/Qtr Sec O Sec 9 T 25N R 3W County Rio Arriba

Pit Type: Separator                      Dehydrator                      Other Production Unit/Tank

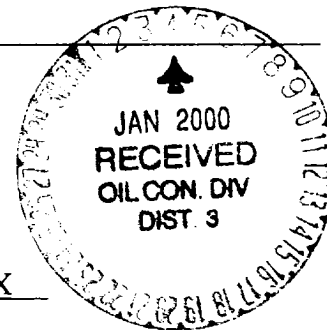
Land Type: BLM                      State                      Fee X Other                     

Pit Location: Pit dimensions: Length 38 ft, width 45 ft, depth 7 ft  
(Attach diagram)

Reference: wellhead X other                     

Footage from reference: 100 ft

Direction from reference: 10 Degrees                      East North X  
X West South                     



Depth to Ground Water: (vertical distance from contaminants to seasonal highwater elevation of ground water)	<u>&gt;100 feet</u>	<u>                    </u> Less than 50 feet (20 points)	
		<u>                    </u> 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).	<u>                    </u> 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.)	<u>                    </u> Less than 200 feet (20 points)	
	<u>                    </u> 200 feet to 1000 feet (10 points)	
	<u>X</u> Greater than 1000 feet (0 points)	<u>0</u>

P:\pits\Prcc@WKJ

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 8/21/98 Date Completed: 1/27/99

Excavation X Approx. cubic yards 413

Landfarmed X Insitu Bioremediation \_\_\_\_\_

Other \_\_\_\_\_

Remediation Method: Onsite X Offsite \_\_\_\_\_

(Check all appropriate  
sections)

General Description of Remedial Action : On 8/24/98, the pit was excavated to a depth of 7 feet where bedrock was encountered. A soil sample was obtained from the center bottom of the pit at a depth of 7 feet utilizing U.S.E.P.A. protocol and evaluated for BTEX and GRO/DRO analysis. Excavated soils were landfarmed on site. On 1/27/99, 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 Center Bottom

Sample depth 7 feet (Bedrock)

Sample date 8/24/98

Sample time 12:35

Sample Results

Benzene(ppm) 0.025

Total BTEX (PPM) 0.925

Field Headspace (ppm) 319

TPH 1355

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

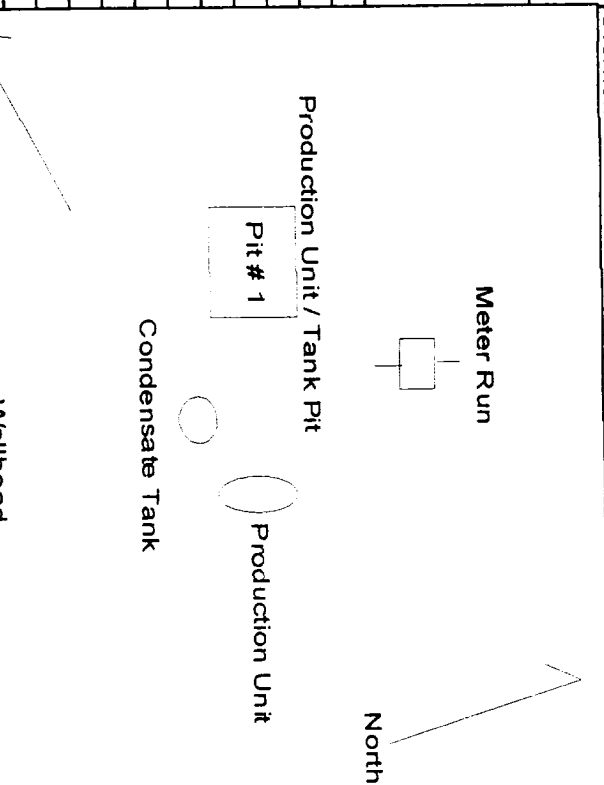
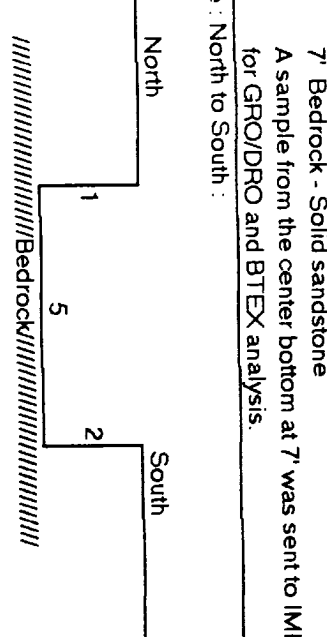
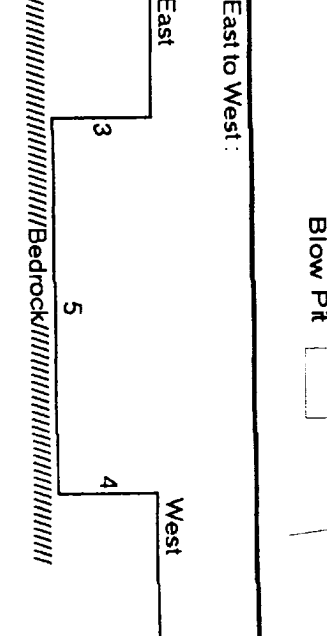
I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETED TO THE BEST  
OF MY KNOWLEDGE AND BELIEF.

DATE 12/22/98 PRINTED NAME Virgil Chavez

SIGNATURE Virgil Chavez and TITLE Environmental Specialist

Client : Taurus Exploration

Date Started : August 21, 1998 Date Completed : August 24, 1998

Location : <u>McCroden A # 2</u>			<b>Overview of Location and Sampling :</b>  		
Quad : <u>O</u> Section : <u>9</u>					
Range : <u>3 W</u> Township: <u>25 N</u>					
Pit : Production Unit/Tank (pit # 1) Reference : 100' N 10 W from wellhead Initial Size : 20' x 20' x 2' deep Final Size : 38' x 45' x 7' deep Yds. Excavated : 413 cy					
			Sample #	Location	OVM
			1	N Wall @ 5'	3.1
			2	S Wall @ 5'	115
			3	E Wall @ 5'	7.3
			4	W Wall @ 4'	198
			5	C Bottom @ 7'	319
			6		
			7		
			8		
			9		
			10		
			11		
			12		
Comments : Top soil - 5' Soil is moist, dark brown, sandy/loam with gray staining and a strong hydrocarbon odor. 5' - 7' Soil is moist, gray, packed sand with moderate staining and a moderate hydrocarbon odor. 7' Bedrock - Solid sandstone A sample from the center bottom at 7' was sent to IML for GRO/DRO and BTEX analysis.					
Pit Profile : North to South :			Pit Profile : East to West :		
					

## GASOLINE RANGE ORGANICS - GRO

### Taurus Exploration U.S.A., Inc.


Project ID:	McCroden A#2 Tank Pit	Report Date:	09/10/98
Sample ID:	C. Bottom @ 7'	Date Sampled:	08/24/98
Lab ID:	0398G04868	Date Received:	08/25/98
Sample Matrix:	Soil	Date Analyzed:	08/28/98
Condition:	Cool/Intact		

TPH GAS-RANGE (MOD EPA 8015)	RESULT	DETECTION LIMIT
Gasoline-Range Petroleum Hydrocarbons	1200	5.0 mg/kg

ND - Analyte not detected at the stated detection limit.

Reference:

Comments:

  
Reported By:

  
Reviewed By:

**Diesel Range Organic - DRO****Taurus Exploration U.S.A., Inc.**

Project ID:	McCroden A#2 Tank Pit	Report Date:	08/31/98
Sample ID:	Mc. A#2 T.P.C. Btm @ 7'	Date Sampled:	08/24/98
Lab ID:	0398G04868	Date Received:	08/25/98
Sample Matrix:	Soil	Date Analyzed:	08/28/98
Condition:	Cool/Intact		

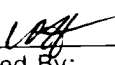
TPH DIESEL-RANGE (MOD EPA 8015)	RESULT mg/Kg	DETECTION LIMIT
Diesel-Range Petroleum Hydrocarbons	155	5.0 mg/kg
Total Extractable Petroleum Hydrocarbons	164	5.0 mg/kg

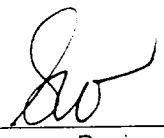
**Quality Control:** Surrogate      Percent Recovery      Acceptance Limits

O-Terphenyl      101%      70-130%

**Comments:** Hydrocarbon pattern in the gasoline range.

**Reference:** USEPA Manual SW-846, Methods, 3510, 3550a, 8015Mod, Revision 2, 1996.  
Hydrocarbons in Soil - 8015AZ, Revision 0, 1998.

  
Reported By:

  
Reviewed By:

**VOLATILE AROMATIC HYDROCARBONS****Taurus Exploration U.S.A., Inc.**

Project ID: McCroden A#2 Tank Pit  
Sample ID: C. Bottom @ 7'  
Lab ID: 0398G04868  
Sample Matrix: Soil  
Condition: Cool/Intact


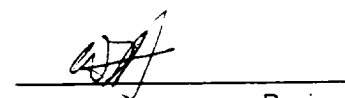
Report Date: 09/01/98  
Date Sampled: 08/24/98  
Time Sampled: 12:35  
Date Received: 08/25/98  
Date Extracted: NA  
Date Analyzed: 08/28/98

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	25	10.0
Toluene	170	50.0
Ethylbenzene	140	50.0
m,p-Xylenes	395	50.0
o-Xylene	195	50.0

ND - Analyte not detected at the stated detection limit.

<b>Quality Control:</b>	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	118%	70%-130%

**Reference:** Method 5030, Purge and Trap; Method 8021B, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Revision 2, December, 1996.

**Comments:**  
\_\_\_\_\_  
Analyst  
\_\_\_\_\_  
Review



**Inter-Mountain Laboratories, Inc.**







# Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4132

2506 West Main Street, Farmington, NM 87401

**Client:** Energen Resources

**Project:** McGroden A #2

**Sample ID:** Landfarm Comp 1

**Lab ID:** 0399W00620

**Matrix:** Soil

**Condition:** Warm

**Date Reported:** 02/02/99

**Date Sampled:** 01/27/99

**Date Received:** 01/27/99

**Date Analyzed:** 01/28/99

Parameter	Analytical Result	PQL	Units
<b>METHOD 8015-GASOLINE RANGE ORGANICS</b>			
Gasoline Range Organics	<5	5	mg/Kg
Gasoline Range Organics as Gasoline	<5	5	mg/Kg

Reference: GRO - USEPA Method for Determination of Gasoline Range Organics, Revision 5, February 1992.

WTPH-G Total Petroleum Hydrocarbons Analytical Methods for Soil, Washington State Department of Ecology, Revision 3, October 1991.

Reviewed By: 

Sharon Willams, Organic Lab Supervisor



# Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

**Client:** Energen Resources

**Project:** McGroden A #2

**Sample ID:** Landfarm Comp 1

**Lab ID:** 0399W00620

**Matrix:** Soil

**Condition:** Warm

**Date Reported:** 02/02/99

**Date Sampled:** 01/27/99

**Date Received:** 01/27/99

**Date Analyzed:** 02/01/99

Parameter	Analytical Result	PQL	Units
<b>METHOD 8015 - DIESEL RANGE ORGANICS</b>			
Diesel Range Organics	<5	5	mg/Kg
Diesel Range Organics as Diesel	<5	5	mg/Kg
<b>Quality Control - Surrogate Recovery</b>			
	<b>%</b>	<b>QC Limits</b>	
o-Terphenyl(SUR-8015)	71	70 - 130	

Reference: DRO - USEPA Method for Determination of Diesel Range Organics. Revision 2, February 1992.

WTPH-D Total Petroleum Hydrocarbons Analytical Methods for Soil, Washington State Department of Ecology, Revision 3, October 1991.

Reviewed By: 

Sharon Willams, Organic Lab Supervisor



## CHAIN OF CUSTODY RECORD

[illegible]