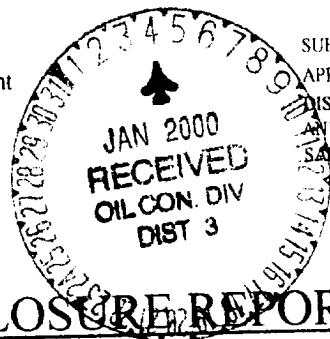


District I
P.O. Box 1980, Hobbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
1000 Rio Brazos Rd, Aztec, NM 87410

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

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

Address: 2198 Bloomfield Highway Farmington, NM 87401

Facility Or: W.O. Hughes # 6
Well Name

Location: Unit or Qtr/Qtr Sec J Sec 8 T 24N R 3W County Rio Arriba

Pit Type: Separator Dehydrator Other Separator/Production Tank

Land Type: BLM State Fee X Other

Pit Location: Pit dimensions: Length 20 ft, width 20 ft, depth 13 ft
(Attach diagram)

Reference: wellhead X other

Footage from reference: 105 ft

Direction from reference: 80 Degrees East North X
of
X West South

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

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: 3/1/99

Date Completed: 10/22/99

Excavation X

Approx. cubic yards 168

Landfarmed X

Insitu Bioremediation _____

Other _____

Remediation Method:

Onsite X

Offsite _____

(Check all appropriate
sections)

General Description of Remedial Action : On 3/1/99, the pit was excavated to a depth of 13 feet.
A soil sample was obtained from the center bottom of the pit at a depth of 13 feet utilizing
U.S.E.P.A. protocol and sent to IML for GRO/DRO and BTEX analysis. Excavate soils
were andfarmed on site. The landfarm was tested and provided concentrations below
NMOCD guidelines. See attached risk assessment write up.

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 13 feet (Bedrock)

Sample date 3/1/99

Sample time 13:05

Sample Results

Benzene(ppm) <10

Total BTEX (PPM) <992

Field Headspace (ppm) 145

TPH <3263

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 12/22/99

PRINTED NAME Virgil Chavez

SIGNATURE Virgil Chavez

and TITLE Environmental Specialist

**Risk Assessment
W.O. Hughes # 6**

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

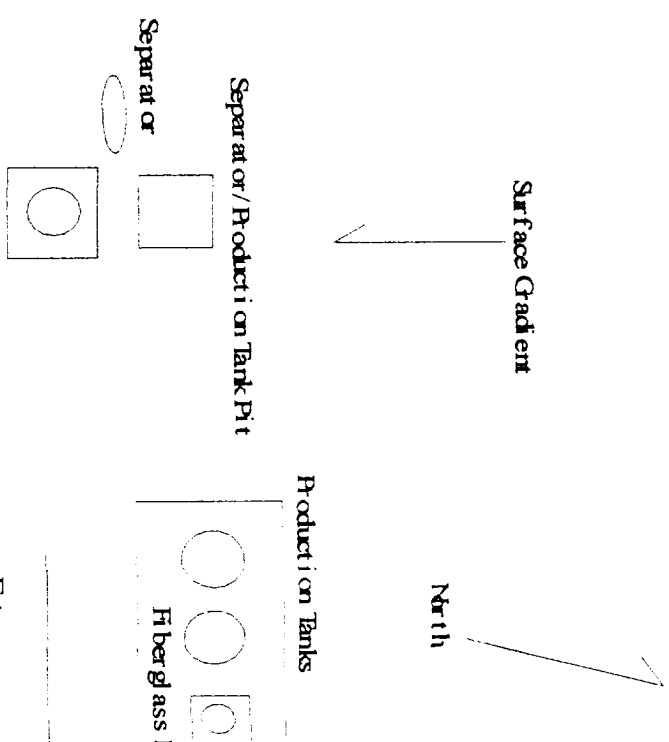
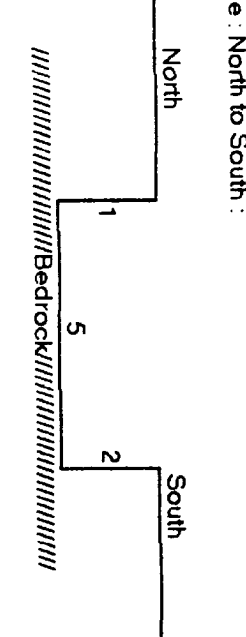
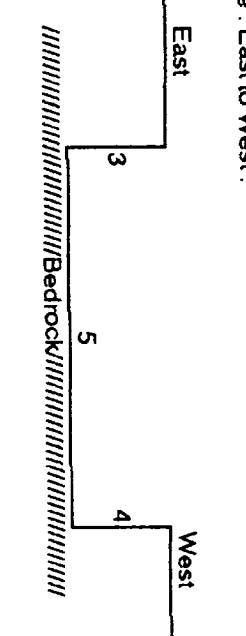
The subject pit was located in hard, well cemented sandstone at a depth of 13 feet. The initial size of the pit was 15' X 15' X 3' deep. The stained soil was excavated to a final pit size of 20' X 20' X 13' deep. Excavated soil amounted to approximately 168 total cubic yards, and was landfarmed on location.

Pit excavation and closure verification was performed on March 1, 1999 by Cimarron Environmental Services. Total depth of the pit was established at 13 feet (average) due to encountering bedrock along the walls and bottom. A sample from the center bottom at a depth of 13 feet provided a TPH concentration of <3263 ppm and a Headspace concentration of 145 ppm. Total BTEX concentration was measured at <992 ppm. No groundwater was encountered.

The landfarm was sampled by Cimarron Environmental Services on October 22, 1999. A 5-point sample was extracted from the 160 cubic yard landfarm and analyzed. TPH concentration of the sample was <535 ppm with a Headspace concentration of 0.2.

With the associated pit encased in bedrock, lateral and vertical extent determined, and excavated soils within NMOCD and BLM requirements, this pit should be considered to have reached "final closure". Energen Resources has removed and remediated all soils to the extent practical. By filling the excavation, the driving force created by additional fluids will be eliminated. Based on this information and the physical location of the pit, there is little to no risk to human health or environment.

Client : Energien Resources (Taurus Exploration)Date Started : March 1, 1999 Date Completed : March 1, 1999

Location : <u>W.O. Hughes # 6</u>		Overview of Location and Sampling :																																								
Quad : <u>J</u>	Section : <u>8</u>																																									
Range : <u>3 W</u>	Township: <u>24 N</u>																																									
Pit : Separator/Production Tank Reference : 105' N 80 W from wellhead Initial Size : 15' x 15' x 3' deep Final Size : 20' x 20' x 13' deep Yds. Excavated : 168 cy																																										
<table border="1"><thead><tr><th>Sample #</th><th>Location</th><th>OVM</th></tr></thead><tbody><tr><td>1</td><td>N Wall @ 10'</td><td>N.D.</td></tr><tr><td>2</td><td>S Wall @ 10'</td><td>N.D.</td></tr><tr><td>3</td><td>E Wall @ 10'</td><td>2</td></tr><tr><td>4</td><td>W Wall @ 10'</td><td>1</td></tr><tr><td>5</td><td>C Bottom @ 13'</td><td>145</td></tr><tr><td>6</td><td></td><td></td></tr><tr><td>7</td><td></td><td></td></tr><tr><td>8</td><td></td><td></td></tr><tr><td>9</td><td></td><td></td></tr><tr><td>10</td><td></td><td></td></tr><tr><td>11</td><td></td><td></td></tr><tr><td>12</td><td></td><td></td></tr></tbody></table>		Sample #	Location	OVM	1	N Wall @ 10'	N.D.	2	S Wall @ 10'	N.D.	3	E Wall @ 10'	2	4	W Wall @ 10'	1	5	C Bottom @ 13'	145	6			7			8			9			10			11			12				
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NMOCD Ranking Score: <u>0</u>																																										
TPH Closure Standard: <u>5000</u>																																										
Comments : Top soil - 10' Soil is moist, medium brown, sandy/loam with black staining and a strong hydrocarbon odor. 10' - 13' Soil is moist, light brown, sand, with some black staining and a strong hydrocarbon odor. 13' Bedrock - solid sandstone A sample from the center bottom at 13' was sent to IML for GRO/DRO and BTEX analysis.																																										
Pit Profile : North to South :		Pit Profile : East to West :																																								
																																										



Inter-Mountain Laboratories, Inc.

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

2506 West Main Street, Farmington, NM 87401

Client: Energen Resources
Project: WO Hughes #6
Sample ID: WO Hughes #6 C. Btm @ 13'
Lab ID: 0399W01190
Matrix: Soil
Condition: Cool/Intact

Date Reported: 03/19/99
Date Sampled: 03/02/99
Date Received: 03/03/99
Date Analyzed: 03/03/99

Parameter	Analytical Result	PQL	Units
Benzene	<10	10	mg/Kg
Ethylbenzene	471	50	mg/Kg
Toluene	<50	50	mg/Kg
Xylenes (total)	461	50	mg/Kg

Quality Control - Surrogate Recovery	%	QC Limits
a,a,a-Trifluorotoluene(SUR-602)	92	70 - 130

Diesel Range Organics	3,258	5	mg/Kg
Diesel Range Organics as Diesel	3,258	5	mg/Kg

Quality Control - Surrogate Recovery	%	QC Limits
o-Terphenyl(SUR-8015)	0 **	70 - 130

Gasoline Range Organics	477	5	mg/Kg
Gasoline Range Organics as Gasoline	<5	5	mg/Kg

Quality Control - Surrogate Recovery	%	QC Limits
a,a,a-Trifluorotoluene(SUR-8015)	92	70 - 130

** - Surrogate Recovery failed QC Limits due to matrix interference.

Reference: Method 8021, Volatile Organic Compounds, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, United States Environmental Protection Agency, SW-846, Volume IB, December 1987.

Reviewed By: 

Sharon Willams, Organic Lab Supervisor



CHAIN OF CUSTODY RECORD

[illegible]

[illegible]



Inter-Mountain Laboratories, Inc.

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

2506 West Main Street, Farmington, NM 87401

Client: Energen Resources

Project: WO Hughes #6

Sample ID: Landfarm Comp #1

Lab ID: 0399W05387

Matrix: Soil

Condition: Cool/Intact

Date Reported: 11/04/99

Date Sampled: 10/22/99

Date Received: 10/25/99

Date Analyzed: 10/27/99

Parameter	Analytical Result	PQL	Units
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GRO - Method 8015M

Gasoline Range Organics	<5	5	mg/Kg
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Gasoline Range Organics as Gasoline	<5	5	mg/Kg
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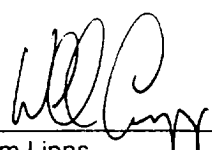
Quality Control - Surrogate Recovery	%	QC Limits
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4-Bromofluorobenzene(SUR-8015)	98	70 - 130
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a,a,a-Trifluorotoluene(SUR-8015)	120	70 - 130
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Reference: Method 8015AZ, C10 - C32 Hydrocarbons in Soil, Arizona Department of Health Services, Revision - 1.0, 09/25/98.

Reviewed By:


William Lipps



Inter-Mountain Laboratories, Inc.

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

2506 West Main Street, Farmington, NM 87401

Client: Energen Resources
Project: WO Hughes #6
Sample ID: Landfarm Comp #1
Lab ID: 0399W05387
Matrix: Soil
Condition: Cool/Intact

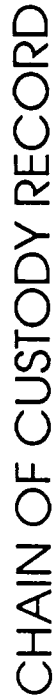
Date Reported: 11/19/99
Date Sampled: 10/22/99
Date Received: 10/25/99
Date Analyzed: 11/03/99

Parameter	Analytical Result	PQL	Units
DRO - Method 8015M			
Diesel Range Organics (C10 - C22)	530	5	mg/Kg
Quality Control - Surrogate Recovery			
o-Terphenyl(SUR-8015)	102	70 - 130	

Reference: Method 8015AZ, C10 - C32 Hydrocarbons in Soil, Arizona Department of Health Services, Revision - 1.0, 09/25/98.

Reviewed By: _____

William Lipps



CHAIN OF CUSTODY RECORD

[illegible]