

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

Form C-144
June 1, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

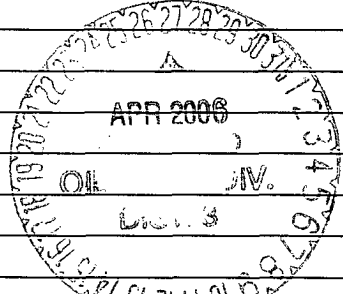
Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: Elm Ridge Resources Telephone: (505) 632-3476 e-mail address: amackey1@elmridge.net
Address: #20 County Road 5060, Bloomfield, New Mexico, 87413
Facility or well name: McKenzie Federal Compressor No. 1 API #: 3003960002 U/L or Qtr/Qtr M Sec 25 T 25N R 6W
County: Rio Arriba Latitude 36.366759 Longitude -107.42478 NAD: 1927 ☒ 1983 ☐
Surface Owner: Federal ☐ State ☐ Private ☒ Indian ☐

Pit Type: Drilling <input type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input type="checkbox"/> Thickness _____ mil Clay <input type="checkbox"/> Pit Volume <u>10</u> bbl	Below-grade tank Volume: <u>40</u> bbl Type of fluid: Construction material: Fiberglass Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. No, Tank in place prior to Rule 50
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more (0 points) 0
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) 0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more (0 points) 0
	Ranking Score (Total Points) 0

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☒ If offsite, name of facility Envirotech Landfarm #2. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:
Approximately 660 cubic yards of contaminated soil was transported and disposed of at Envirotech's Landfarm #2
Maximum reasonable extent of excavation reached at 12' due to shale layer, BTEX of bottom shale layer are attached
<i>Bedrock</i>


I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 4/19/06
Printed Name/Title Ms. Amy Mackey - Production Technician Signature Amy Mackey

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval: DEPUTY OIL & GAS INSPECTOR DIST. IV Signature Brandon Russell Date: APR 27 2006

CLIENT: Elm Ridge

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615

LOCATION NO: _____
C.O.C. NO: _____

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: Mckinzie Fed. Comp WELL #: 1 PIT: _____
QUAD/UNIT: M SEC: 25 TWP: 25N RNG: 6W PM: NMPM CNTY: Ariz ST: NM
QTR/FOOTAGE: _____ CONTRACTOR: FRANKS

DATE STARTED: 3/16
DATE FINISHED: 3/21
ENVIRONMENTAL SPECIALIST: GWC

EXCAVATION APPROX. 30 FT. x 20 FT. x 12 FT. DEEP. CUBIC YARDAGE: 660 yd
DISPOSAL FACILITY: Envirotech Landfarm #2 REMEDIATION METHOD: Landfarm
LAND USE: Rangeland LEASE: _____ FORMATION: _____

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 20 FT. 300' FROM COMPRESSOR WELLHEAD.
DEPTH TO GROUNDWATER: >100 NEAREST WATER SOURCE: >1000 NEAREST SURFACE WATER: >1000
NMOC D RANKING SCORE: 0 NMOC D TPH CLOSURE STD: 5,000 PPM

CHECK ONE:
☒ PIT ABANDONED
☐ STEEL TANK INSTALLED

SOIL AND EXCAVATION DESCRIPTION:

Approximately 660 yd of soil was transported to Envirotech's Landfarm #2 for remediation

SCALE
0 FT

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm
	See Method 418.1 Analysis Sheet						

PIT PERIMETER

OVM RESULTS

SAMPLE ID	FIELD HEADSPACE PID (ppm)
1	See Attached sheets
2	
3	
4	
5	

LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME

PIT PROFILE

TRAVEL NOTES: CALLOUT: _____ ONSITE: _____

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

Method 418.1 Analysis Log Total Petroleum Hydrocarbons

Date 3/16/04

Analyst G. Crabtree

Location Mckinzie Federal Camp. #1

Instrument Infracal

Job No. _____

Sample No.	Sample Description	Sample Wt. (g)	Volume Freon (mL)	Dilution Factor	Abs. Reading	TPH (mg/kg)	OVM (mg/kg)
3/16 1	Composite Sample of walls	5.0	20	40	176	7,040	255
3/16 2	Composite Sample of Bottom At 12' BGS	5.0	20	40	45	1800	771
3/16 3	Excavator Material	5.0	20	40	303	12120	1359
3/21 4	South and West wall composite	5.0	20	4	126	504	8
3/21 5	NORTH AND EAST wall composite	5.0	20	4	164	656	10

Infrared Spectrophotometer Calibration

New Freon _____

Date Standards Prepared _____

3/16 OVM STD 98 ppm

3/21 OVM STD 101 ppm

Standard Concentration (mg/L) Absorbance

100	_____
200	220 / 240
500	_____
1000	_____

I-CAL RF: _____

C-CAL RF: _____

RSD: _____ %

% Difference: _____ %

QA/QC Acceptance Criteria: I-CAL RSD +/- 20%

C-Cal Difference +/- 10%

EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Resources	Project #:	03056-040-032
Sample No.:	1	Date Reported:	4/14/2006
Sample ID:	Composite sample of Walls	Date Sampled:	3/16/2006
Sample Matrix:	Soil	Date Analyzed:	3/16/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	7,040.0	500.0

ND = Parameter not detected at the stated detection limit.

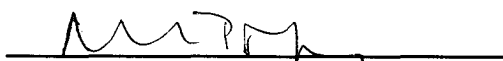
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McKenzie Federal Compressor No. 1**

Instrument callibration checked against 200 ppm standard. Zeroed before each sample



Analyst



Review

EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Resources	Project #:	03056-040-032
Sample No.:	2	Date Reported:	4/14/2006
Sample ID:	Composite sample 12' below surface	Date Sampled:	3/16/2006
Sample Matrix:	Soil	Date Analyzed:	3/16/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

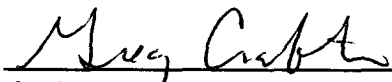
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,800.0	50.0

ND = Parameter not detected at the stated detection limit.

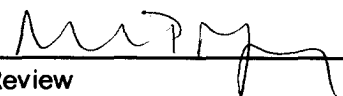
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McKenzie Federal Compressor No. 1**

Instrument callibration checked against 200 ppm standard. Zeroed before each sample



Analyst



Review

EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Resources	Project #:	03056-040-020
Sample No.:	3	Date Reported:	4/14/2006
Sample ID:	Composite sample Excavated Material	Date Sampled:	3/16/2006
Sample Matrix:	Soil	Date Analyzed:	3/16/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	12,120	50.0

ND = Parameter not detected at the stated detection limit.

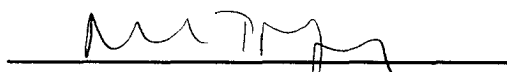
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McKenzie Federal Compressor No. 1**

Instrument calibration checked against 200 ppm standard. Zeroed before each sample



Analyst



Review

EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Resources	Project #:	03056-040-032
Sample No.:	4	Date Reported:	4/14/2006
Sample ID:	Composite sample of S & W Walls	Date Sampled:	3/21/2006
Sample Matrix:	Soil	Date Analyzed:	3/21/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	504.0	5.0
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ND = Parameter not detected at the stated detection limit.

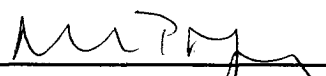
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McKenzie Federal Compressor No. 1**

Instrument callibration checked against 200 ppm standard. Zeroed before each sample



Analyst



Review

**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client:	Elm Ridge Resources	Project #:	03056-040-032
Sample No.:	5	Date Reported:	4/14/2006
Sample ID:	Composite sample of N & E Walls	Date Sampled:	3/16/2006
Sample Matrix:	Soil	Date Analyzed:	3/16/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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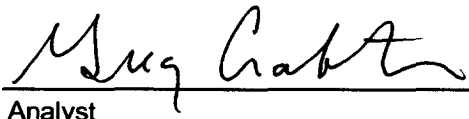
Total Petroleum Hydrocarbons	656	5.0
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ND = Parameter not detected at the stated detection limit.

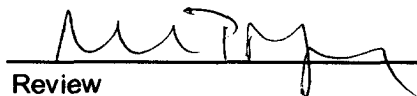
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **McKenzie Federal Compressor No. 1**

Instrument calibration checked against 200 ppm standard. Zeroed before each sample



Analyst



Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-040-032
Sample ID:	McKinzie Compressor #1	Date Reported:	03-17-06
Laboratory Number:	36463	Date Sampled:	03-16-06
Chain of Custody:	15678	Date Received:	03-16-06
Sample Matrix:	Soil	Date Analyzed:	03-17-06
Preservative:	Cool	Date Extracted:	03-17-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	10.5	1.8
Toluene	40.7	1.7
Ethylbenzene	52.7	1.5
p,m-Xylene	336	2.2
o-Xylene	64.6	1.0
Total BTEX	505	

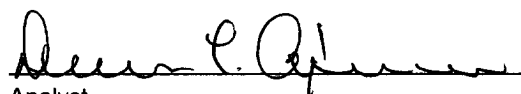
ND - Parameter not detected at the stated detection limit.

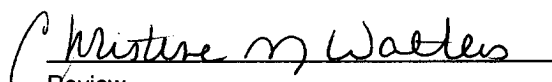
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Bottom Composite at 12' BGS.


Analyst


Review