

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: NCRA State 32 No. 1 API #: 3003925099 U/L or Qtr/Qtr K Sec 32 T 24N R 6W  
County: Rio Arriba Latitude 36.265081 Longitude -107.49676 NAD: 1927 ☒ 1983 ☐  
Surface Owner: Federal ☐ State ☒ Private ☐ Indian ☐

<u>Pit</u>	<u>Below-grade tank</u>
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 _____ bbl	Volume: <u>20</u> bbl Type of fluid: <u>Produced Water and Incidental Oil</u> Construction material: <u>Fiberglass</u> 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 100 cubic yards of contaminated soil was excavated and hauled to Envirotech's NMOCD permitted Landfarm

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: 5/24/06

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:

Printed Name/Title \_\_\_\_\_

Signature Denny

Date: MAY 25 2006

DEPUTY OIL & GAS INSPECTOR, DIST. 8

CLIENT: <u>Elm Ridge</u>	<b>ENVIROTECH INC.</b> <small>ENVIRONMENTAL SCIENTISTS &amp; ENGINEERS          5796 U.S. HIGHWAY 64-3014          FARMINGTON, NEW MEXICO 87401          PHONE: (505) 632-0615</small>	LOCATION NO: _____  C.O.C. NO: _____
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FIELD REPORT: CLOSURE VERIFICATION	PAGE No: <u>1</u> of <u>1</u>
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LOCATION: NAME: <u>NCRA State 31</u> WELL #: <u>1</u> PIT: <u>Sep</u> QUAD/UNIT: <u>K</u> SEC: <u>32</u> TWP: <u>24N</u> RNG: <u>6W</u> PM: <u>WMA</u> CNTY: <u>RA</u> ST: <u>NM</u> QTR/FOOTAGE: <u>1615 FSL</u> <u>1375FWL</u> CONTRACTOR: <u>Frank's</u>	DATE STARTED: <u>5/12/00</u> DATE FINISHED: <u>5/12/00</u> ENVIRONMENTAL SPECIALIST: <u>GWC</u>
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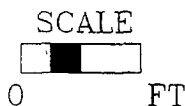
EXCAVATION APPROX. <u>21</u> FT. x <u>20</u> FT. x <u>5</u> FT. DEEP. CUBIC YARDAGE: <u>80 yds</u>
DISPOSAL FACILITY: <u>Envirotech Landfarm #2</u> REMEDIATION METHOD: <u>Landfarm</u>
LAND USE: _____ LEASE: _____ FORMATION: _____

FIELD NOTES & REMARKS:	PIT LOCATED APPROXIMATELY <u>100'</u> FT. <u>35°</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>&gt;100</u> NEAREST WATER SOURCE: <u>&gt;1000</u> NEAREST SURFACE WATER: <u>&gt;1000</u> NMCD RANKING SCORE: <u>0</u> NMCD TPH CLOSURE STD: <u>5,000</u> PPM
SOIL AND EXCAVATION DESCRIPTION:	CHECK ONE: <input type="checkbox"/> PIT ABANDONED <input checked="" type="checkbox"/> STEEL TANK INSTALLED

Maximum reasonable extent of excavation reached at 5' BGS At sandstone layer. Approximately 80 cubic yards of hydrocarbon contaminated soil was transported to Envirotech's Landfarm #2 for remediation

FIELD 418.1 CALCULATIONS

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



PIT PERIMETER

OVM RESULTS

PIT PROFILE

	<table border="1" style="width:100%"> <tr> <th>SAMPLE ID</th><th>FIELD HEADSPACE PID (ppm)</th></tr> <tr><td>1 Bottoms</td><td>141</td></tr> <tr><td>2 Excavated</td><td></td></tr> <tr><td>3 Material</td><td>414</td></tr> <tr><td>4 Well, Lamp</td><td>6</td></tr> <tr><td>5</td><td></td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table> <table border="1" style="width:100%"> <tr> <th>SAMPLE ID</th><th>ANALYSIS</th><th>TIME</th></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	SAMPLE ID	FIELD HEADSPACE PID (ppm)	1 Bottoms	141	2 Excavated		3 Material	414	4 Well, Lamp	6	5												SAMPLE ID	ANALYSIS	TIME																<p>Sandstone</p> <p>x - bottom sample * wall sample</p>
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TRAVEL NOTES:	CALLOUT: _____	ONSITE: _____
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## Method 418.1 Analysis Log Total Petroleum Hydrocarbons

Date 5/12/06

Analyst G. Crabtree

Location NCRA STATE 32-1

Instrument Infracal

Job No. 030516-040-038

Sample No.	Sample Description	Sample Wt. (g)	Volume Freon (mL)	Dilution Factor	Abs. Reading	TPH (mg/kg)	OVM (mg/kg)
1	Bottom <del>Sample</del> Sandstone 5' BGS	5.0	20	40	408	16,320	141
2	Excavated Material	5.0	20	40	442	17,680	414
3	Wall Composite	5.0	20	4	238	952	6

### Infrared Spectrophotometer Calibration

New Freon \_\_\_\_\_

Date Standards Prepared \_\_\_\_\_

Standard Concentration (mg/L)	Absorbance
100	_____
200	<u>213</u>
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 #:	03056-040-038
Sample No.:	1	Date Reported:	5/12/2006
Sample ID:	Composite sample of bottom @ 5' BGS	Date Sampled:	5/12/2006
Sample Matrix:	Soil	Date Analyzed:	5/12/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	16,300	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: **NCRA State 32 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 #:	03056-040-038
Sample No.:	2	Date Reported:	5/12/2006
Sample ID:	Composite sample of Walls	Date Sampled:	5/12/2006
Sample Matrix:	Soil	Date Analyzed:	5/12/2006
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	952.0	5.0


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: **NCRA State 32 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 #:	03056-040-038
Sample ID:	Bottom @ 5'	Date Reported:	05-16-06
Laboratory Number:	37126	Date Sampled:	05-12-06
Chain of Custody:	15968	Date Received:	05-12-06
Sample Matrix:	Soil	Date Analyzed:	05-15-06
Preservative:	Cool	Date Extracted:	05-15-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	437	1.8
Toluene	1,260	1.7
Ethylbenzene	558	1.5
p,m-Xylene	2,430	2.2
o-Xylene	986	1.0
Total BTEX	5,670	

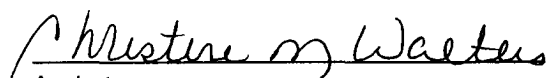
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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: NCRA State 32-1 Composite.

  
Analyst

  
Review