Districts 1625 N. French Pr., Hobbs, NM 88240 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

Liner type: Thickness _

Alternative Method:

State of New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

For temporary pits, closed-loop systems, and **below-grade tanks**, submit to the appropriate NMOCD District Office. For permanent pits and exceptions submit to

the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

District Office.
Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application
Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
Operator:Elm Ridge ExplorationOGRID #:149052
Address: P.O. Box 156; Bloomfield, NM 87413
Facility or well name: McKenzie Federal 1
API Number: 3003960002 OCD Permit Number:
U/L or Qtr/Qtr M Section 25 Township 25N Range 6W County: Rio Arriba
Center of Proposed Design: Latitude <u>36.366437</u> Longitude <u>-107.425040</u> NAD: □1927 ☑ 1983
Surface Owner: X Federal X State Tribal Trust or Indian Allotment
Pit: Subsection F or G of 19.15.17.11 NMAC
Temporary: Drilling Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D
3. Closed-loop System: Subsection H of 19.15.17.11 NMAC
Type of Operation: P&A Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other
☐ Lined ☐ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams:
4.
Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume: 42 bbl Type of fluid: Produced water
Tank Construction material: Steel tank Secondary containment with look detection Visible sidewalls lines 6 inch life and externation conflows that off
Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off ☐ Visible sidewalls and liner ☒ Visible sidewalls only ☒ Other Single walled tank
The Algorithm and little to Algorithm Algorithm Algorithm Algorithm

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

mil HDPE PVC Other

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)	
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, institution or church)	hospital,
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet	
Alternate. Please specify 4' tall hogwire fencing with pipe railing	
7. Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen Netting Other	
Monthly inspections (If netting or screening is not physically feasible)	
8.	
Signs: Subsection C of 19.15.17.11 NMAC ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	
Signed in compliance with 19.15.3.103 NMAC	
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.	
Please check a box if one or more of the following is requested, if not leave blank: Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for
consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district pproval.
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - Attached C-144 report, completed by Envirotech, approved by the OCD in April 2006 indicates that the NMOCD accepted depth to groundwater is over 100 feet at this site	☐ Yes ☑ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - The nearest watercourse is 2,212.5 ft. east per attached topographic map. These findings are reflected by the attached visual inspection sheet.	☐ Yes 🖾 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. The attached aerial photograph and visual inspection sheet indicates that none of the above locations are within 1000 feet of the well site.	☐ Yes ☑ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)	☐ Yes ☐ No ☑ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - The attached iWATERS database search and visual inspection sheet indicates no wells are within 1000 feet of the well site.	☐ Yes ☑ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - The site is not within incorporated municipal boundaries per the attached topographical map and visual inspection sheet.	☐ Yes ☑ No
Within 500 feet of a wetland. - The USFWS data file, WetlandsData.kmz, dated July 2, 2008 was opened using Google Earth. No wetlands were noted.	☐ Yes ☑ No
Within the area overlying a subsurface mine. - The NM EMNRD web map indicates that the well site is not within an area overlying a subsurface mine.	☐ Yes ☑ No
Within an unstable area. The attached topographical map and visual inspection sheet indicates that the well site is not within an unstable area.	☐ Yes ☑ No
Within a 100-year floodplain. The attached FEMA Man indicates the well site is not within a 100 year flood plain.	☐ Yes ☑ No

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Design Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC Previously Approved Design (attach copy of design) API Number: or Permit Number:
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Previously Approved Design (attach copy of design) API Number:
Previously Approved Operating and Maintenance Plan API Number:
13.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Climatological Factors Assessment Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Nuisance or Hazardous Odors, including H ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
Proposed Closure: 19.15.17.13 NMAC Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Closed-loop System Alternative Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only) On-site Closure Method (Only for temporary pits and closed-loop systems) In-place Burial On-site Trench Burial Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)
15. Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. □ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC □ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC □ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) □ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC □ Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Instructions: Please indentify the facility or facilities for the disposal of liquids,		
facilities are required. Disposal Facility Name:	Dienocal Facility Permit Number	
	Disposal Facility Permit Number:	
Disposal Facility Name:	Disposal Facility Permit Number:	
Will any of the proposed closed-loop system operations and associated activities of ☐ Yes (If yes, please provide the information below) ☐ No	cur on or in areas that will not be used for future serv	nce and operations?
Required for impacted areas which will not be used for future service and operatio Soil Backfill and Cover Design Specifications based upon the appropriate Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsect	requirements of Subsection H of 19.15.17.13 NMAC I of 19.15.17.13 NMAC	
17. Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the provided below. Requests regarding changes to certain siting criteria may required considered an exception which must be submitted to the Santa Fe Environmental demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC)	e administrative approval from the appropriate distr Bureau office for consideration of approval. Justij	ict office or may be
Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Database search;	obtained from nearby wells	Yes No
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data	obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Database search;	obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other sig lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	nificant watercourse or lakebed, sinkhole, or playa	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church - Visual inspection (certification) of the proposed site; Aerial photo; Satellite		☐ Yes ☐ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that les watering purposes, or within 1000 horizontal feet of any other fresh water well or s NM Office of the State Engineer - iWATERS database; Visual inspection (pring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approve	·	☐ Yes ☐ No
Within 500 feet of a wetland US Fish and Wildlife Wetland Identification map; Topographic map; Visua	ll inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining	and Mineral Division	☐ Yes ☐ No
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geolog Society; Topographic map 	& Mineral Resources; USGS; NM Geological	☐ Yes ☐ No
Within a 100-year floodplain FEMA map		☐ Yes ☐ No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Construction/Design Plan of Temporary Pit (for in-place burial of a drying protocols and Procedures - based upon the appropriate requirements of 19.12 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Disposal Facility Name and Permit Number (for liquids, drilling fluids and Confirmation Sampling Plan - based upon the appropriate requirements of Subsection Soil Cover Design - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	nirements of 19.15.17.10 NMAC Subsection F of 19.15.17.13 NMAC propriate requirements of 19.15.17.11 NMAC ad) - based upon the appropriate requirements of 19.1 17.13 NMAC nirements of Subsection F of 19.15.17.13 NMAC Subsection F of 19.15.17.13 NMAC rill cuttings or in case on-site closure standards cannot of 19.15.17.13 NMAC I of 19.15.17.13 NMAC	5.17.11 NMAC

Operator Application Certification: I hereby certify that the information submitted with this application is true, accurate and Name (Print): Ms. Amy Mackey Signature: e-mail address: amackeyl@elmridge.com	complete to the best of my knowledge and belief. Title: Administrative Manager Date: 505-632-3476 ext. 201
OCD Approval: Permit Application (including closure plan) Closure Plan (on	ly)
OCD Representative Signature:	Approval Date:
Title: OCD	Permit Number:
Closure Report (required within 60 days of closure completion): Subsection K of 19 Instructions: Operators are required to obtain an approved closure plan prior to imple The closure report is required to be submitted to the division within 60 days of the completion of the form until an approved closure plan has been obtained and the closure and the	ementing any closure activities and submitting the closure report. appletion of the closure activities. Please do not complete this activities have been completed.
	Closure Completion Date:
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Closure from approved plan, please explain.	losure Method Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Instructions: Please indentify the facility or facilities for where the liquids, drilling flutwo facilities were utilized. Disposal Facility Name: Disposal Facility Name:	
	osal Facility Permit Number:
Were the closed-loop system operations and associated activities performed on or in area Yes (If yes, please demonstrate compliance to the items below) No	
Required for impacted areas which will not be used for future service and operations: Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	
24. Closure Report Attachment Checklist: Instructions: Each of the following items mumark in the box, that the documents are attached. Proof of Closure Notice (surface owner and division) Proof of Deed Notice (required for on-site closure) Plot Plan (for on-site closures and temporary pits) Confirmation Sampling Analytical Results (if applicable) Waste Material Sampling Analytical Results (required for on-site closure) Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location: Latitude Longitude	
25.	
Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure report is belief. I also certify that the closure complies with all applicable closure requirements an	nd conditions specified in the approved closure plan.
Name (Print):	Citle:
Signature:	Date:
e-mail address:	Telephone:

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

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

Form C-144 June 1, 2004

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 of	r below-grade tank Closure of a pit or below-grade	tank 🖾
	(505) 632-3476 e-mail address: <u>ama</u>	ackey I@elmridge.net
Address: #20 County Road 5060, Bloomfield, New Mexico, 87413		
Facility or well name: McKenzie Federal Compressor No. 1		or Qtr/Qtr M Sec 25 T 25N R 6W
	36,366759 Longitude -107,42478	NAD: 1927 ☑ 1983 ☐
Surface Owner: Federal State Private Indian		
<u>Pit</u>	Below-grade tank	
Type: Drilling Production Disposal	Volume: 40 bbl Type of fluid:	
Workover ☐ Emergency ☐	Construction material: Fiberglass	
Lined Unlined	Double-walled, with leak detection? Yes If not,	explain why not.
Liner type: Synthetic Thicknessmil Clay _	No, Tank in place prior to Rule 50	
Pit Volume 10 bbl		
Depth to ground water (vertical distance from bottom of pit to seasonal	Less than 50 feet	(20 points)
high water elevation of ground water.)	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	Yes	(20 points)
water source, or less than 1000 feet from all other water sources.)	No	(0 points) 0
	Less than 200 feet	(20 points)
Distance to surface water: (horizontal distance to all wetlands, playas,	200 feet or more, but less than 1000 feet	(10 points)
irrigation canals, ditches, and perennial and ephemeral watercourses.)	1000 feet or more	(0 points) 0
		0
	Ranking Score (Total Points)	
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	e disposal location: (check the onsite box if
your are burying in place) onsite 🔲 offsite 🔯 If offsite, name of facility _	Envirotech Landfarm #2 . (3) Attach a general descri	iption of remedial action taken including
remediation start date and end date. (4) Groundwater encountered: No 🗵	es If yes, show depth below ground surface	ft. and attach sample results.
(5) Attach soil sample results and a diagram of sample locations and excaval	ions.	2677728300
Additional Comments:		A STATE OF THE STA
Approximately 660 cubic yards of contaminated soil was transported and d	isposed of at Envirotech's Landfarm #2	(A)
Maximum reasonable extent of excavation reached at 12' due to shale layer		APR 2008
	0	(A M: D)
VA.	edvock	E LICI. 3 07
10) (0.1	E 1 3 07
	^	Plan no
I hereby certify that the information above is true and complete to the best has been/will be constructed or closed according to NMOCD guideline		e above-described pit or below-grade tank
Date: 4/19/06	(1)	
Printed Name/Title Ms. Amy Mackey - Production Technician	Signature Mrs Mackey	1 —
Your certification and NMOCD approval of this application/closure does not relieve the operator of (iab/hity 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.		
SEPTITY OR & GAS INSPECTOR DISTOR STANDARD THE	Parall Date: APR 2 7 200	D6

New Mexico Office of the State Engineer **POD Reports and Downloads**

Township: 25N

Range: 06W

Y:

Sections: 25

NAD27 **X**:

Zone:

Search Radius:

County:

Basin:

Number:

Suffix:

Owner Name: (First)

(Last)

o Non-Domestic

o Domestic • All

POD / Surface Data Report | Avg Depth to Water Report

Water Column Report

Clear Form

iWATERS Menu

Help 1

AVERAGE DEPTH OF WATER REPORT 10/24/2008

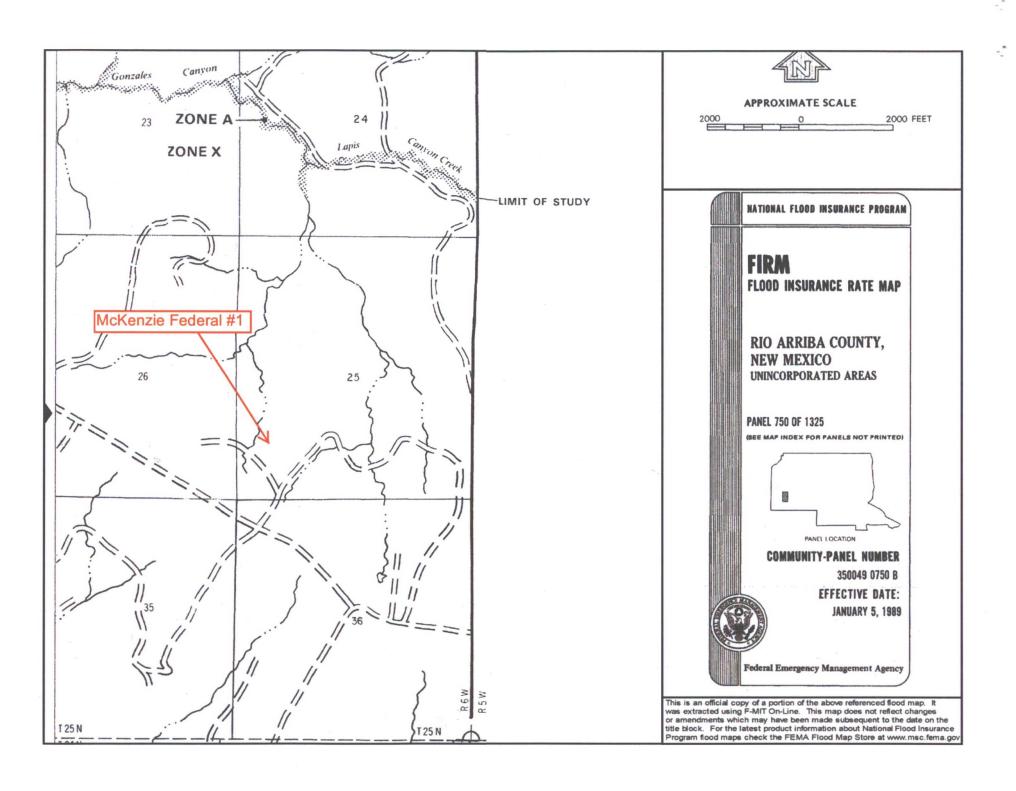
Bsn Tws Rng Sec Zone

Y Wells

(Depth Water in Feet)

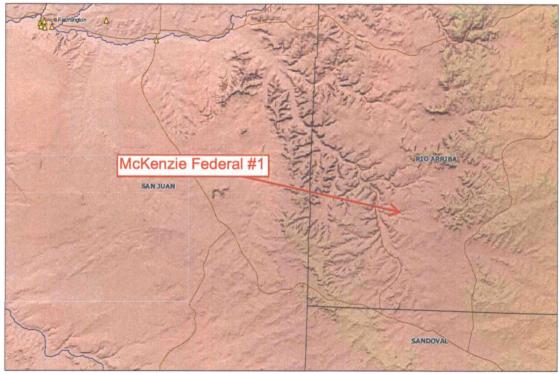
No Records found, try again

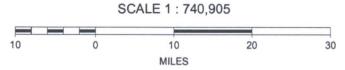




Elm Ridge Exploration Mine Map



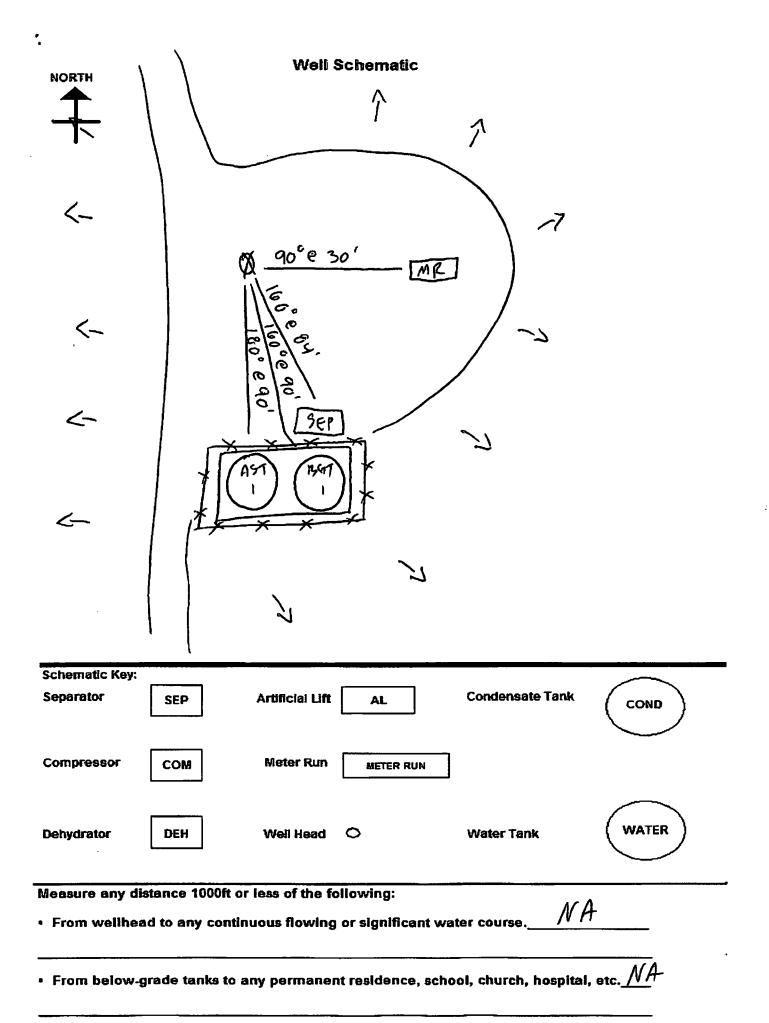






OY/22/08 Elm Ridge Site Inventory Sheet
Date: 6-25-08 Initials: UN Time: Started: Control Ended: 10:20 Am
Well Name & Number: MCKENZIE FEDERAL OOI.
• API#: 3003960002
• Lease #:
• Quarter/Quarter: M Section: 25 Township: 25N Range: 6W
• Lat: N36°21.9862' Long: W107°25.5024' GPS Point ID: MF-1
Pit Tank #1: Manufacturer:
• Serial #: <u>NA</u> DOM: <u>NA</u> Size <u>NA</u> bbl
o If N/A ~ Dimensions: Diameter (() [/] Height 5 [/]
Material: Steel Galvanized Fiberglass
Tank Configuration: Double Wall Single Wall (Buried or Exposed)
Visible Walls: Y N Leak Detection: Y N
Contents: Produced Water
Tank Top Covering: Solid/Cone-top Nettingx (Solid
Secondary Containment: Yes No
Fencing around berm: Yes X No
o Fence Type: Cattle Panel Field Fence Barbwire
Pit Tank #2: Manufacturer:
• Serial #: DOM: Sizebbl o If N/A - Dimensions: Diameter Height
 If N/A - Dimensions: Diameter Height Material: Steel Galvanized Fiberglass
Tank Configuration: Double Wall Single Wall (Buried or Exposed)
Visible Walls: Y N Leak Detection: Y N Contents: Breatward Metals: Quantum Security Officers
Contents: Produced Water Condensate Recycled Oil Tank Tan Covering Salkd Condensate Nettern (Salkd Eibern)
Tank Top Covering: Solid/Cone-top Netting (Solid Fiber) Secondary Containment: Management Netting Ne
Secondary Containment: Yes No Fencing around however Yes No
Fencing around berm: Yes No
o Fence Type: Cattle Panel Field Fence Barbwire
• Above-Ground Tank #1: Manufacturer: WFS/FBN MANU FACTOR Nら と SUPPLY
• Serial #: 427 DOM: 8-81 Size 210 bbl
o If N/A - Dimensions: Diameter // A Height // A
Material: Steel
• Contents: Produced Water Condensate (State # 6) - 7213) Resycled Gil
Secondary Containment: Yes \(\scale \) No
Tocondary Containment, 185 A No

۲.



BELOW GRADE TANK (BGT) CLOSURE PLAN

SITE NAME:

MCKENZIE FEDERAL #1
UNIT LETTER M, SECTION 25, TOWNSHIP 25N, RANGE 6W
RIO ARRIBA COUNTY, NEW MEXICO
LATITUDE 36.366437 LONGITUDE -107.425040

SUBMITTED TO:

MR. WAYNE PRICE
NEW MEXICO OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505
(505) 476-3490

SUBMITTED BY:

Ms. Amy Mackey
ELM RIDGE EXPLORATION
PO Box 156
BLOOMFIELD, NEW MEXICO 87413
(505) 632-3476

JANUARY 2009

BELOW GRADE TANK (BGT) CLOSURE PLAN ELM RIDGE EXPLORATION MCKENZIE FEDERAL #1 RIO ARRIBA COUNTY, NEW MEXICO

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<u>Introduction</u>

Elm Ridge Exploration would like to submit a closure plan for the below grade tank (BGT) at the McKenzie Federal #1 well site located in the SW ¼ SW ¼ of Section 25, Township 25N, Range 6W, Rio Arriba, New Mexico. This closure plan has been prepared in conformance with the closure requirements of 19.15.17.13 NMAC.

SCOPE OF CLOSURE ACTIVITIES

The purpose of this closure plan is to provide the details of activities involved in the closure of the BGT at the McKenzie Federal #1 well site. The following scope of closure activities has been designed to meet this objective:

- 1) Elm Ridge Exploration, or a contracting acting on behalf of Elm Ridge Exploration, will close all of the BGTs currently in service within the five (5) years allotted. Elm Ridge Exploration does not operate any BGTs which would qualify to be upgraded or retrofitted; as such they will be closing all their current BGTs and replacing them with above ground storage tanks.
- 2) Elm Ridge Exploration will close BGTs deemed to be an imminent danger to fresh water, public health, or the environment by an earlier date that the division requires as specified in Subsection A of 19.15.17.13 NMAC.
- 3) Elm Ridge Exploration will close any BGT which demonstrates a compromise of integrity before the five (5) years allotted by the division per Paragraph (6) of Subsection I of 19.15.17.11 NMAC.
- 4) Elm Ridge Exploration will close any BGT within 60 days of cessation of the BGTs operation per Subsection A of 19.15.17.13 NMAC.
- 5) No less than 72 hours and no greater than one (1) week prior to BGT removal Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will provide written notification to the appropriate division district office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (2) NMAC. Written notification will include the name of the well operator, the well's API number, the well's name and number, and the well's unit letter, section, township and range.
- 6) No less than 24 hours and no greater than one (1) week prior to beginning BGT closure activities Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will provide written notification to the appropriate surface owner, as in accordance with 19.15.17.13 Subsection J Paragraph (1) NMAC. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will notify the surface owner by certified mail, return receipt requested, that the operator plans to close a below-grade tank. The return receipt will be used to ensure that the surface owner has received written notification no less than 24 hours and no greater than one (1) week prior to the beginning of BGT closure activities. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement. Closure activities that will take place on tribal land will have notifications sent by certified mail, return

receipt requested, to the appropriate tribal office. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will notify the Bureau of Land Management (BLM) of closure activates for wells located on federal land per a Sundry Notice, as in accordance with 19.15.17.13 Subsection J Paragraph (1) NMAC. All notices will be sent in such a way that the surface owner received notice at least 24 hours prior to the beginning of closure activities.

- 7) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will remove all liquids, and/or sludge, if applicable, prior to closure. Material will be disposed of at Envirotech's Landfarm #2, Permit # NM-01-0011, TNT Environmental Inc. Landfarm, Permit # NM-01-0008, Industrial Ecosystems Inc. (IEI) Landfarm, permit # NM-01-0010B or Basin Disposal, Permit # NM-01-0005, depending on the consistence of the material removed, as in accordance with 19.15.17.13 Subsection E Paragraph (1) NMAC.
- 8) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will remove all on-site equipment associated with this BGT that is no longer required for some other purpose, as in accordance with 19.15.17.13 Subsection E Paragraphs (3) NMAC.
- 9) If applicable, any liners or leak detection systems removed from a BGT closure will be cleaned off and disposed of at San Juan County Regional Landfill in accordance with Subparagraph (m) of Paragraph (1) of Subsection D of 19.15.9.712 NMAC.
- 10) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will obtain prior approval from the OCD to dispose, recycle, reuse or reclaim the BGT. Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will provide the OCD with documentation concerning the final disposition of the BGT with the closure report.
- 11) Once the BGT is removed a five (5) point composite sample will be collected from directly below the tank or below the leak detection system if present. Grab samples will be collected from any area that are wet, discolored, or showing other evidence of a release. All samples being collected will be analyzed for benzene and total BTEX via USEPA Method 8021B, TPH via USEPA Method 418.1, and chlorides via USEPA 300.1, as in accordance with 19.15.17.13 Subsection E Paragraph (4) NMAC.
- 12) Depending on soil sample results the area will be either backfilled or the area will be excavated.
 - a. If soil samples do not exceed the regulatory standards of 0.2 mg/kg benzene, 50 mg/kg BTEX, 100 mg/kg TPH, and 250 mg/kg or background concentration of chlorides, as in accordance with 19.15.17.13 Subsection E Paragraph (4) NMAC.
 - i. Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration shall submit a Form C-141 with the laboratory results so that the division may review the results to determine if additional delineation is required in accordance with Paragraph (5) of Subsection E of 19.15.17.13 NMAC.
 - ii. Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will backfill the excavation or impacted area with non-waste containing, earthen material, in accordance with 19.15.17.13

Subsection E Paragraph (6) NMAC. A soil cover shall be installed for all backfilled excavations consisting of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater in accordance with Subsections H of 19.15.17.13 NMAC. The operator shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.

iii. All areas of the well site that are no longer utilized on a day to day basis for the production of oil and/or gas, Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will substantially restore, recontour and re-vegetate the areas, in accordance with 19.15.17.13 Subsections G and I NMAC. The operator shall notify the division when it has re-seed and when it has achieved successful re-vegetation. For re-vegetation methods, please see attached re-vegetation plan.

b. If soil samples exceed the regulatory standards stated above.

- i. Elm Ridge Exploration will submit a Release Notification by Form C-141 with the appropriate analytical laboratory results to the appropriate division district office, in accordance with 19.15.17.13 Subsection E Paragraph (4) NMAC.
- ii. In accordance with Paragraph (5) of Subsection E of 19.15.17.13 NMAC, once the operator or the OCD has determined that a release has occurred, Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will comply with rule 19.15.3.116 NMAC and 19.15.1.19 NMAC as appropriate.

REPORTING

Elm Ridge Exploration will submit a closure report within 60 days following the BGT closure and will consist of a form C-144 with all supporting data, and a form C-141 with all supporting data. The supporting data will include proof of closure notice to the surface owner and the OCD, confirmation sampling analytical results, a site diagram, soil backfilling and cover installation, and re-vegetation rates, re-seeding techniques and site reclamation photo documentation if applicable, along with all other information related to the onsite activities.

We appreciate the opportunity to be of service. If you have any questions or require further information, please do not hesitate to contact our office at (505) 632-3476 Ext. 201.

Respectfully Submitted:

Elm Ridge Exploration

Amy Mackey

Elm Ridge Exploration

Elm Ridge Exploration

Re-Seeding Techniques and Seed Mixture Ratios

These applied practices by Elm Ridge Exploration will at a minimum comply with the New Mexico Oil Conservation Divisions rule 19.15.17.13, Subsection I NMAC Elm Ridge Exploration has adopted these re-seeding application techniques, ratios and mixtures as their standard operating procedures.

- The first growing season after closure of a below grade tank or pit, all areas of the well site not
 utilized for the production of oil and/or gas on a daily basis will be re-seeded with the specified
 seed mixture.
- The seed mixture used will be certified with no primary or secondary noxious weeds in seed mixtures. The seed labels from each bag shall be available for inspection while seed is being sown.
- 3. The operator shall accomplish seeding by drilling on the contour whenever practical or by other division-approved methods. The operator shall obtain vegetative cover that equals 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.
- 4. Hand seeding with hydro-mulch, excelsior netting or mulch with netting is required on the cut/fill slopes. Mulch will be spread at a rate of 2,000-3,000 pounds per acre.
- 5. Compacted areas determined by visual inspection will be ripped to a depth of twelve (12) inches below ground surface and disked to a depth of six (6) inches before seeding. Seeding shall be done with a disk type drill with two (2) boxes for various seed sizes. The drill rows shall be eight (8) to ten (10) inches apart. Seed shall be planted at no less than one-half (1/2) inch deep or more than one (1) inch deep. The seeder shall be followed with a drag, packer, or roller to ensure uniform coverage of the seed and adequate compaction. Drilling shall be done on the contour where possible, but not up and down the slope.
- 6. Where slopes are too steep for contour drilling a hand seeder shall be used. Seed shall be covered to the depth stated above by whatever means is practical. If the seed is unable to be covered by the means listed above, the prescribed seed mixture amount will be doubled.
- 7. Elm Ridge Exploration shall repeat seeding or planting until it successfully achieves the required vegetative cover of 70% of the native perennial vegetation cover.

- 8. Upon abandonment of a well site, if the retention of the access road is not considered necessary for the management and multiple uses of the natural resources, or by the surface owner, it will be ripped a minimum of twelve (12) inches in depth. After ripping, water bars will be installed. All ripped surfaces are to be protected from vehicular travel by construction of a dead end ditch and earthen barricade at the entrance to these ripped areas. Re-seeding of areas affected by the ditch and barriers will be re-seeded if necessary.
- 9. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will inform the division once successful re-vegetation has occurred.

Elm Ridge Exploration

San Juan Basin

Below Grade Tank Maintenance and Operating Plan

In accordance with Rule 19.15.17 the following information describes the operation and maintenance of a Below Grade Tank (BGT) on Elm Ridge Exploration locations. This particular location does not meet the siting criteria to operate a BGT, and thus will be closing the BGT within five (5) years, or upon failure of integrity, and replacing it with an above ground storage tank.

GENERAL PLAN:

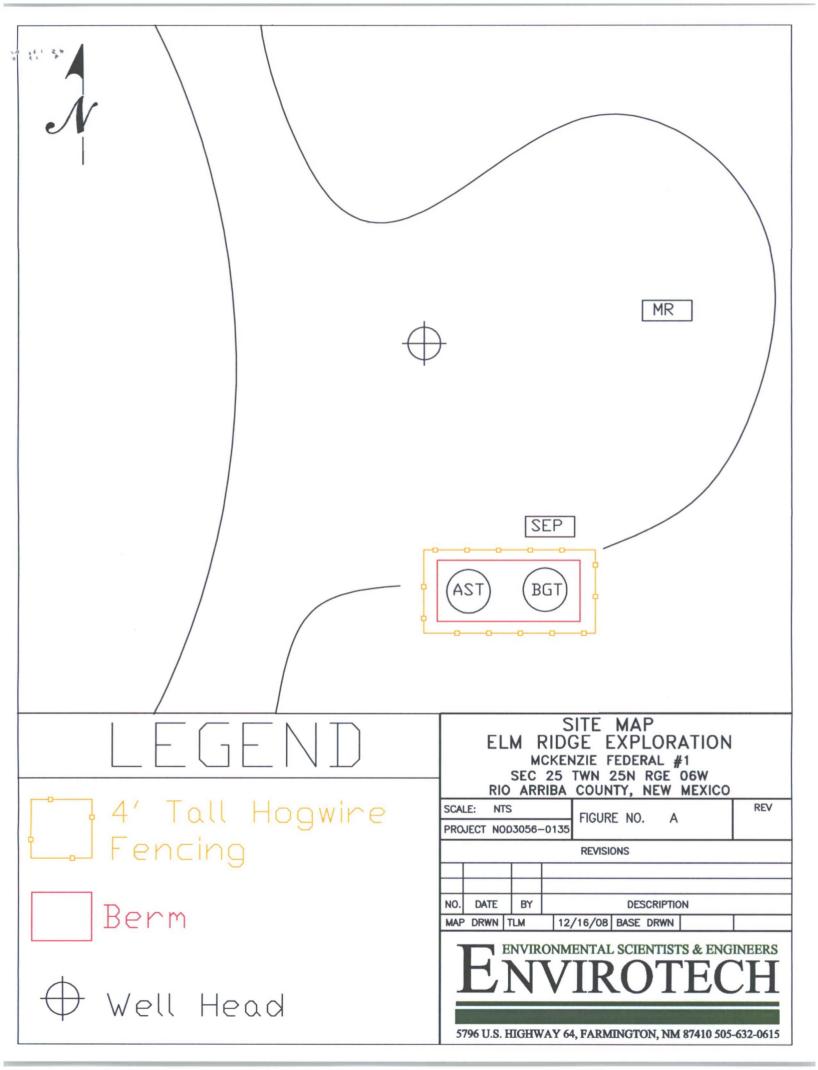
- Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will operate
 and maintain a BGT to contain liquids and solids to prevent contamination of fresh
 water and to protect public health and environment. This will be accomplished by
 performing monthly inspections of the BGT, any liners or leak detection if applicable,
 netting, secondary containment, fencing, and maintaining adequate freeboard.
- 2. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall not allow a BGT to overflow or allow surface water run-on to enter the BGT. This will be accomplished by a secondary containment consisting of a soil berm around the BGT that will be monitored by monthly inspections. Overflowing will be prevented by maintaining an adequate freeboard of eight (8) inches, maintained by monthly inspections. This process will be performed on the current BGT located at this well site.
- 3. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall continuously remove any visible or measurable layer of oil from the fluid surface of a BGT in an effort to prevent the accumulation of oil over time.
- 4. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall inspect the BGT at least once monthly and maintain a written record of each inspection for at least five (5) years. The monthly inspection form to be used by Elm Ridge Exploration is attached to this document.
- 5. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall maintain adequate freeboard to prevent overtopping of the BGT. The standard freeboard to be maintained by Elm Ridge Exploration is eight (8) inches.

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- 6. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall maintain an expanded metal covering on the BGT.
- 7. Elm Ridge Exploration will not discharge into or store any hazardous wastes into the BGT.
- 8. If Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, determines that a BGT has developed a leak below the liquid's surface, then Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will notify the appropriate division office within 48 hours of discovering the leak. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall remove all liquids above the damage or leak line within 48 hours in accordance with Subsection A of 19.15.17.12 NMAC. The damaged tank will then be removed and closure activities will begin in accordance with the submitted closure plan.
- 9. Elm Ridge Exploration will close any BGT within 60 days of cessation of the BGTs operation per Subsection A of 19.15.17.13 NMAC.
- 10. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will close the BGT within the NMOCD allotted five (5) years, within 60 days of cessation of operation of the BGT or upon failure of integrity, and put into service an above ground storage tank to meet the needs previously fulfilled by the BGT.

Figure A, Site Map

Attachment 1, Monthly BGT Inspection Form



m 10.1 🗫

Elm Ridge Exploration, LLC

Monthly Below Grade Tank Inspection Form

Inspection Performed By:	Date:
Well Site Name:	
Unit: Section: Township:	Range: County:
Quarter Footage:	
Latitude: Longitude:	
Below Grade Tank	
Construction Material of BGT (circle one): Steel F	iberglass Galvanized Other:
Tank Capacity (BBLS):	
Status of Tank (circle one): NA poor	fair good excellent
Leaks Detected (circle one): Yes No	Unknown
Liquid level in tank from the top:	<u> </u>
Recent overflow detected (circle one): Yes	No Unknown
BGT Cover present: Yes No NA	
Cover Type (circle one): wire mesh steel me	esh fibrous netting other:
Berm Present (circle one): Yes No	
Secondary Containment	
Type of secondary containment:	
Status of secondary containment (circle one): NA	A poor fair good excellent
Fencing	
Fencing Present (circle one): Yes No	
Describe Fencing:	
Status of Fencing (circle one): NA poor	fair good excellent

^{*}Maintain this document on record for a minimum of five (5) years from the date performed.

OCD Aztec District III ELM RIDGE Checklist Below Grade Tank Closure Plans

19,15.17.9 Permit application
☑ Signed C-144 (Page 5 of C-144)
Site Specific Hydrogeology (Iwaters)
19.15.17.10 Siting requirements
Proximity to watercourses (Topo map)
Proximity to Permanent Structure (Aerial Map)
Proximity to Flood Plain Map (Aerial Map)
Proximity to Subsurface Mines Map (Aerial Map)
40.45.47.43.6lassus Dlau
19.15.17.13 Closure Plan
Below Grade Tank Closure Plan
40.45.47.42 On systing and Maintenance Plan
19.15.17.12 Operating and Maintenance Plan
Below Grade Tank Operating and Maintenance Plan
Requirements: (Application Marked Closure Plan Only
, ,
$A = \frac{1}{2} $
Registration Date: VF CS 5/18/18