

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

Form C-144  
July 21, 2008

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.

2472

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 Exploration OGRID #: 149052  
Address: P.O. Box 156, Bloomfield, NM 87413  
Facility or well name: Bisti Coal 2-1T  
API Number: 3004532835 OCD Permit Number: Not Applicable  
U/L or Qtr/Qtr C Section 2 Township 25N Range 12W County: San Juan  
Center of Proposed Design: Latitude 36.434229 Longitude -108.085129 NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.  
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC  
Temporary: ☐ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A  
☐ Lined ☐ Unlined Liner type: Thickness \_\_\_\_\_ mil ☐ 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: Thickness \_\_\_\_\_ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
Liner Seams: ☐ Welded ☐ Factory ☐ Other \_\_\_\_\_

4.  
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: 62 bbl Type of fluid: Produced Water  
Tank Construction material: Steel tank with fixed roof  
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☒ Visible sidewalls only ☒ Other Secondary containment  
Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_

5.  
☐ **Alternative Method:**  
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.



6.

**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, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate. Please specify \_\_\_\_\_

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

9.

**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.

10.

**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 acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.

- Attached iWATERS database search indicates a nearby water well has a depth to water of 210 feet. The well is approximately 1 mile to the SE of the oil well in question at approximately the same elevation. This indicates GW is greater than 50 feet.

☐ Yes ☒ No

☐ 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).

- 1,355.9 ft. south per attached topographic map

☐ Yes ☒ No

☐ NA

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

(Applies to temporary, emergency, or cavitation pits and below-grade tanks)

- The attached aerial illustrates a distance of approximately 1,300 feet to the north-south and 1,900 feet to the east-west from 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

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.

- iWATERS database search indicates that the site is more than 1000 feet from a water well

☐ 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.

- According to the attached topographical map, the site is not within incorporated municipal boundaries.

☐ Yes ☒ No

Within 500 feet of a wetland.

- The USFWS data file, WetlandsData.kmz, dated July 2, 2008, was opened using Google Earth. Electronic data was not available. Wetland-type vegetation was not noted during the site visit.

☐ Yes ☒ No

Within the area overlying a subsurface mine.

- The NM EMNRD web map was reviewed and attached. The map indicates the well site is not within an area overlying a subsurface mine.

☐ Yes ☒ No

Within an unstable area.

The attached topographical map indicates the well site is not within an unstable area.

☐ Yes ☒ No

Within a 100-year floodplain.

- Attached FEMA map indicates that the well site is not within a 100 year flood plain.

11.

**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 19.15.17.11 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: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**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: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

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  
☐ Liner Specifications and Compatibility Assessment - 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<sub>2</sub>S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection 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

14.

**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 I of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)

**Instructions:** Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

*Required for impacted areas which will not be used for future service and operations:*

☐ 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 I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G 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 closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 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 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; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

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).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

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.

- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed 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.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual 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 Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

18.

**On-Site 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.

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ 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

☐ Waste Material Sampling Plan - 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 or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19

**Operator Application Certification:**

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print). Ms Amy Mackey

Title:

Administrative Manager  
Production Technician

Signature:

Date:

11/5/08

e-mail address: amackey@elmridge.net

Telephone: (505) 632-3476 ext. 201

20

**OCD Approval:** ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature:

Approval Date:

3/26/2012

Title:

Compliance Officer

OCD Permit Number:

21.

**Closure Report (required within 60 days of closure completion):** Subsection K of 19.15 17 13 NMAC

**Instructions:** Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date:

22.

**Closure Method:**

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)  
☐ If different from approved plan, please explain

23.

**Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**

**Instructions:** Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name

Disposal Facility Permit Number

Disposal Facility Name:

Disposal Facility Permit Number:

Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?

☐ 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 must be attached to the closure report. Please indicate, by a check mark 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 \_\_\_\_\_ NAD: ☐ 1927 ☐ 1983

25.

**Operator Closure Certification:**

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print).

Title

Signature:

Date:

e-mail address

Telephone:

***New Mexico Office of the State Engineer***  
**Point of Diversion Summary**

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Back

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are biggest to smallest)

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y
SJ 01716	25N	12W	01	3	2				

**Driller Licence:**

<b>Driller Name:</b> W.R. WEST DRILLING CO.	<b>Source:</b> Shallow
<b>Drill Start Date:</b> 06/20/1963	<b>Drill Finish Date:</b> 02/05/1964
<b>Log File Date:</b>	<b>PCW Received Date:</b>
<b>Pump Type:</b> WINDMI	<b>Pipe Discharge Size:</b>
<b>Casing Size:</b> 6.63	<b>Estimated Yield:</b> 40
<b>Depth Well:</b> 403	<b>Depth Water:</b> 210

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New Mexico Office of the State Engineer  
POD Reports and Downloads

Township: 25N    Range: 12W    Sections: 2

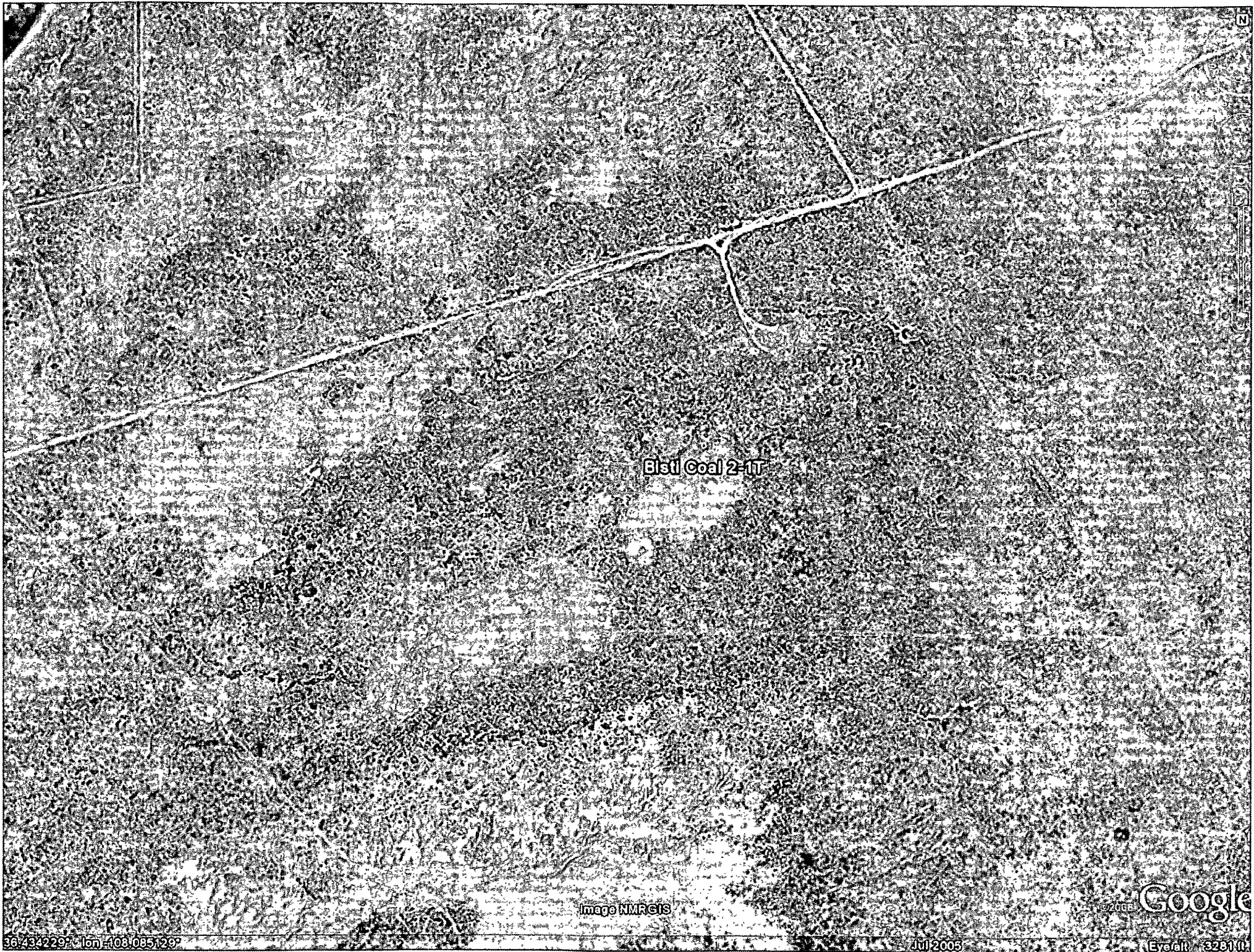
NAD27   X:                      Y:                      Zone:                      Search Radius:

County:                      Basin:                      Number:                      Suffix:

Owner Name:   (First)                      (Last)                      ☐ Non-Domestic   ☐ Domestic   • All

☐ POD / Surface Data Report   ☐ Avg Depth to Water Report   ☐ Water Column Report

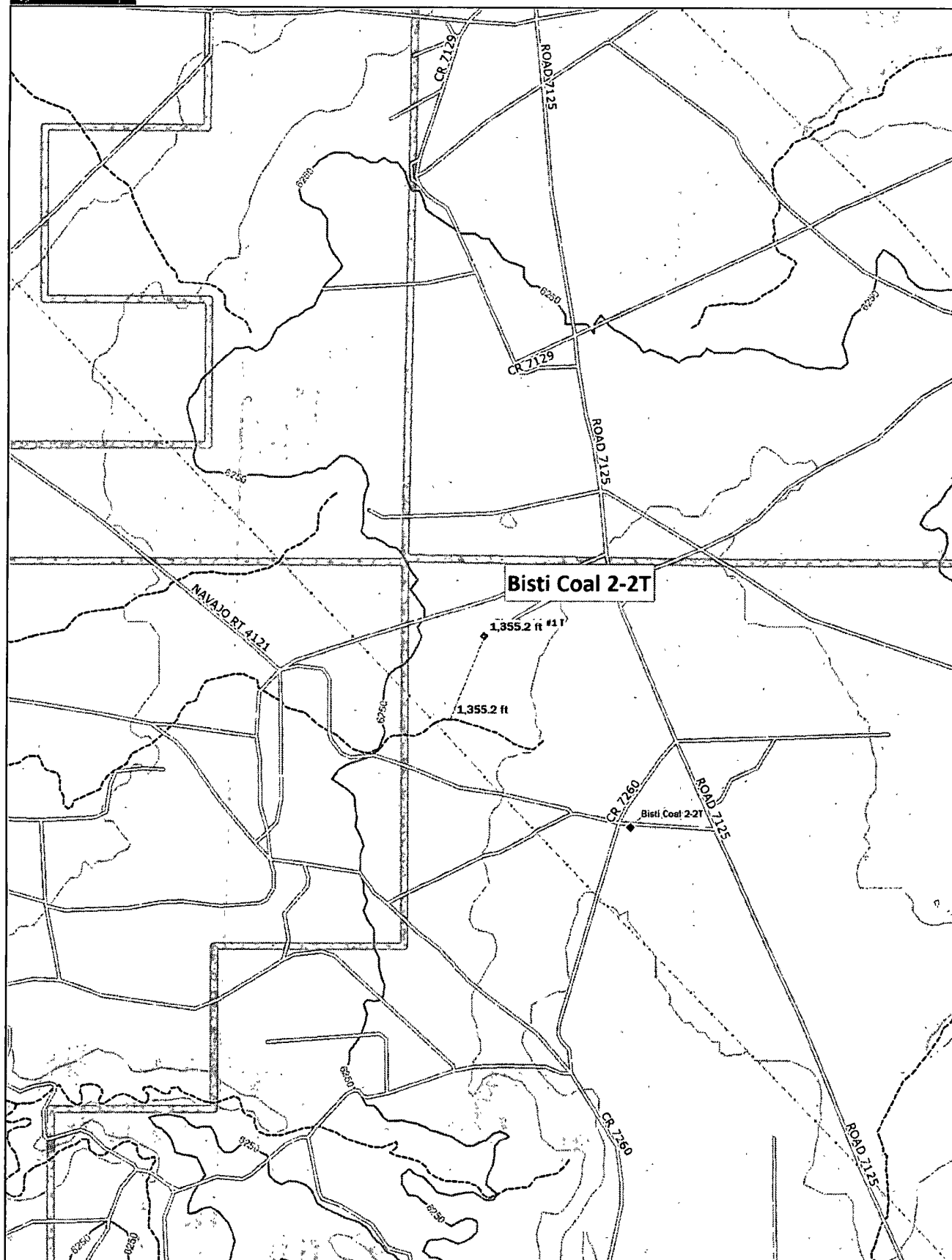
POD / SURFACE DATA REPORT    09/01/2008									
(acre ft per annum)				(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are biggest to smallest    X Y are in Feet	
DB File Nbr	Use	Diversion	Owner	POD Number	Source	Tws	Rng	Sec	q q q
					Zone	X	Y	UTM	UTM_Zone
No Records found, try again									



Elatl Coal 2-1T

Image NMRGIS

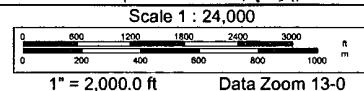
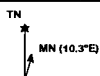
Google



Data use subject to license.

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www.delorme.com



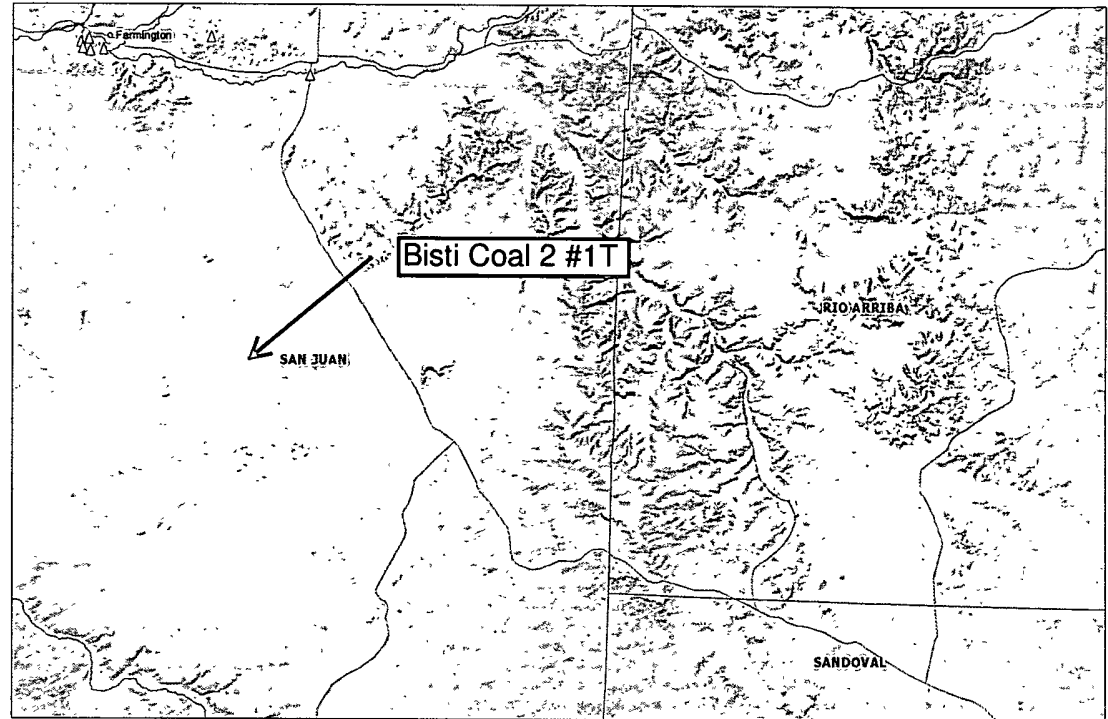
# Elm Ridge Exploration Mine Map

## Mines, Mills & Quarries Commodity Groups

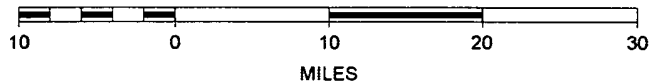
- △ Aggregate & Stone Mines
- ◆ Coal Mines
- ☆ Industrial Minerals Mines
- ▽ Industrial Minerals Mills
- ☒ Metal Mines and Mill Concentrate
- ☐ Potash Mines & Refineries
- ⚙ Smelters & Refinery Ops.
- ✱ Uranium Mines
- ⊕ Uranium Mills

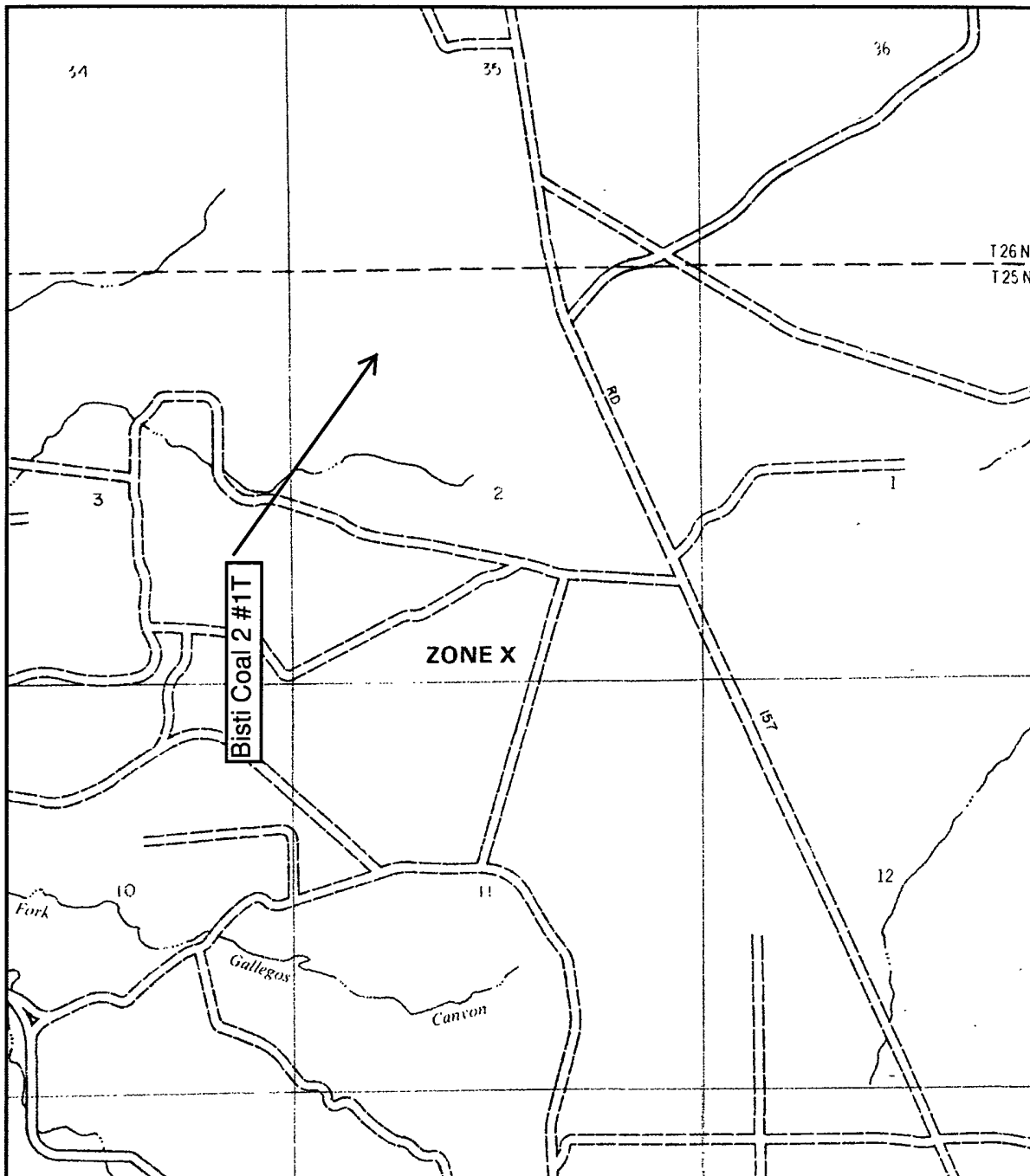
## Mines, Mills & Quarries Status

- × Active Mining
- ▲ Active Mining, Active Reclamation
- ◊ Permanent Closure, Active Reclamation
- ⊙ Permanent Closure, Reclaimed Awaiting Bond Release
- Temporary Suspension

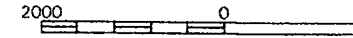


SCALE 1 : 740,905





APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

SAN JUAN COUNTY,  
NEW MEXICO  
UNINCORPORATED AREAS

PANEL 875 OF 1450  
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER  
350064 0875

EFFECTIVE DATE:  
AUGUST 4, 1988



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

# **BELOW GRADE TANK (BGT) CLOSURE PLAN**

**SITE NAME:**

**BISTI COAL 2 #1T  
UNIT LETTER C, SECTION 2, TOWNSHIP 25N, RANGE 12W  
SAN JUAN COUNTY, NEW MEXICO  
LATITUDE 36.434229 LONGITUDE -108.085129**

**SUBMITTED TO:**

**MR. WAYNE PRICE  
NEW MEXICO OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
SANTA FE, NEW MEXICO 87505  
(505) 476-3440**

**SUBMITTED BY:**

**MS. AMY MACKEY  
ELM RIDGE EXPLORATION  
P.O. BOX 156  
BLOOMFIELD, NEW MEXICO 87413  
(505) 632-3476**

**OCTOBER 2008**

**BELOW GRADE TANK (BGT) CLOSURE PLAN  
ELM RIDGE EXPLORATION  
BISTI COAL 2 #1T  
SAN JUAN COUNTY, NEW MEXICO**

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## **INTRODUCTION**

Elm Ridge Exploration would like to submit a closure plan for the below grade tank (BGT) at the Bisti Coal 2 #1T well site located in the SW ¼ SE ¼ of Section 2, Township 25N, Range 12W, San Juan County, New Mexico. This closure plan has been prepared in conformance with New Mexico Oil Conservation Division (NMOCD) procedures.

## **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 Bisti Coal 2 #1T. The following scope of closure activities has been designed to meet this objective:

- 1) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration shall submit a closure plan to the division's environmental bureau. Upon receipt of this plan the division shall review the current closure plan for adequacy and accordance with 19.15.17.9 Subsection C NMAC and 19.15.17.13 NMAC.
- 2) 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.
- 3) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration shall provide written notification to the surface owner no later than 72 hours prior to BGT removal by certified mail. BLM will receive notification per a Sundry Notice, as in accordance with 19.15.17.13 Subsection J Paragraph (1) NMAC.
- 4) 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 or Basin Disposal, depending on the consistence of the material removed, as in accordance with 19.15.17.13 Subsection E Paragraph (1) NMAC.
- 5) Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will remove the BGT and all on-site equipment associated with this BGT that cannot or will not be reused on-site, as in accordance with 19.15.17.13 Subsection E Paragraphs (2) and (3) NMAC.
- 6) 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. An additional discrete sample will be collected from any area that is wet, discolored, or showing other evidence of a release. All samples being collected will be analyzed for benzene and total BTEX via USEPA Method 8021, 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.
- 7) Depending on soil sample results the area will be either backfilled or the area will be excavated.
  - a. If soil samples pass the regulatory standards of 0.2 ppm benzene, 50 ppm

BTEX, 100 ppm TPH, and 250 ppm 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 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.
  - ii. Upon decommissioning of the well site Elm Ridge Exploration or a contractor acting on behalf of Elm Ridge Exploration will construct a division-prescribed soil cover, substantially restore, recontour and re-vegetate the site, in accordance with 19.15.17.13 Subsections G, H, and I NMAC. The soil cover for closures where the operator has removed the pit contents or remediated the contaminated soil to the division's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The operator shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material. The operator shall notify the division when it has been re-seeded and when it has achieved successful re-vegetation.
- b. If soil samples exceed the regulatory standards stated above.
- i. Elm Ridge Exploration will submit a Release Notification by Form C-141 to the appropriate division district office, in accordance with 19.15.17.13 Subsection E Paragraph (4) NMAC.
  - ii. Activities beyond this point will be in accordance with 19.15.3.116 NMAC and 19.15.11.19 NMAC.

### **REPORTING**

Reporting will occur 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, if necessary. The supporting data will include analytical results, a site diagram, a copy of the site owner notification, and 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**

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Ms. Amy Mackey  
Elm Ridge Exploration

## **Elm Ridge Exploration**

### **San Juan Basin**

#### **Below Grade Tank Maintenance and Operating Plan**

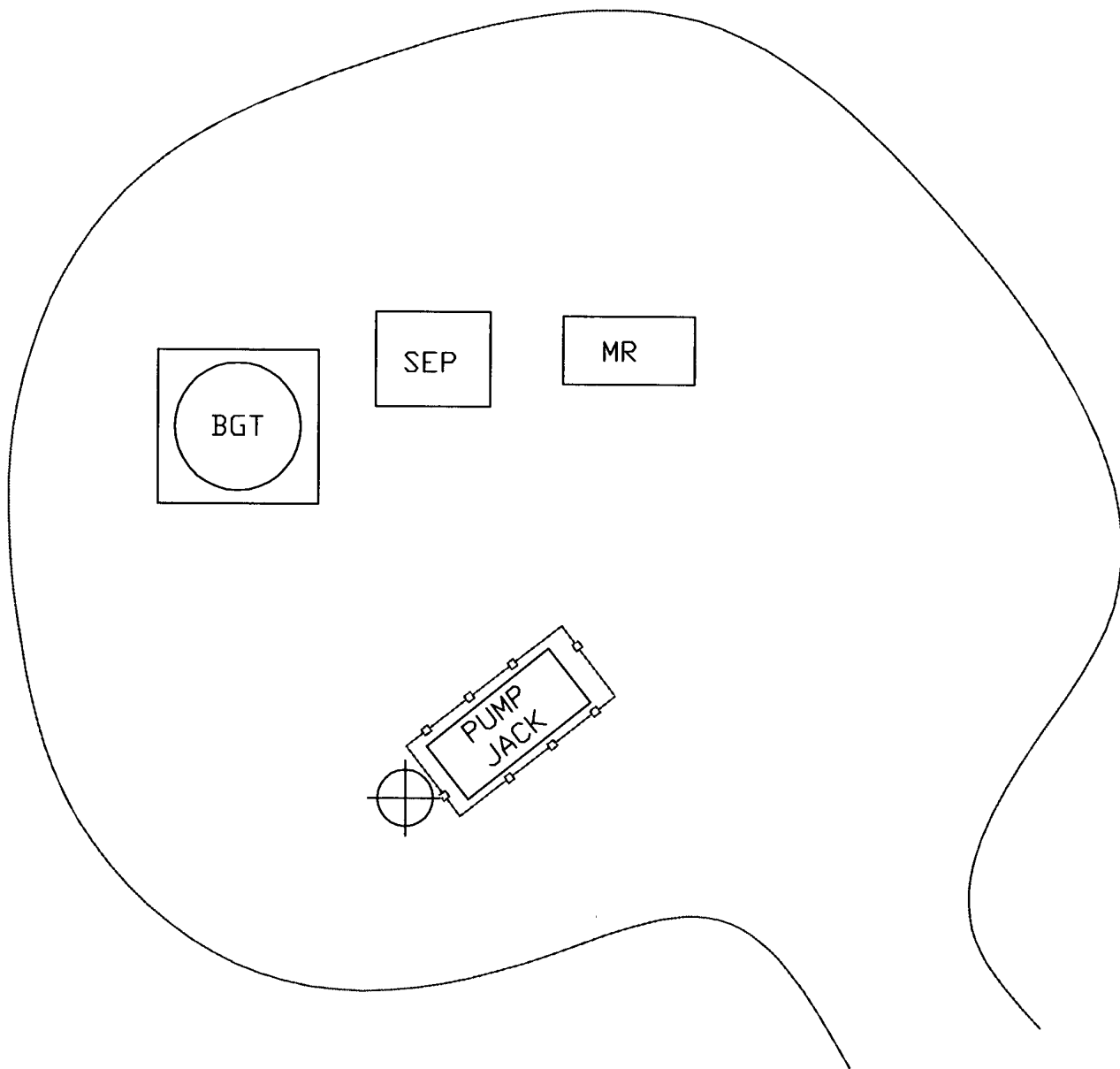
In accordance with Rule 19.15.17 the following information describes the operation and maintenance of a Below Grade Tank (BGT) on Elm Ridge Exploration's locations. This is Elm Ridge Exploration's standard procedure for all BGT's. A separate plan will be submitted for any BGT that Elm Ridge Exploration possesses, which does not conform to this particular plan.

#### **GENERAL PLAN:**

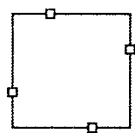
1. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will operate and maintain a BGT to contain liquids and solids to prevent contamination of fresh water and to protect public health and the environment.
2. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall not allow a BGT to overflow or allow surface water run-on to enter the BGT. **Figure A, Site Map** and **Figure B, Design Plan** can be referenced for a visual representation of how this will be accomplished.
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.
5. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall maintain adequate freeboard to prevent overtopping of the BGT.

***Figure A, Site Map***

***Figure B, Design Plan***



# LEGEND



4' Tall Hogwire Fencing



Berm



Well Head

## SITE MAP ELM RIDGE EXPLORATION BISTI COAL 2 #1T SEC 2 TWN 25N RGE 12W SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS

PROJECT N003056-0135

FIGURE NO. A

REV

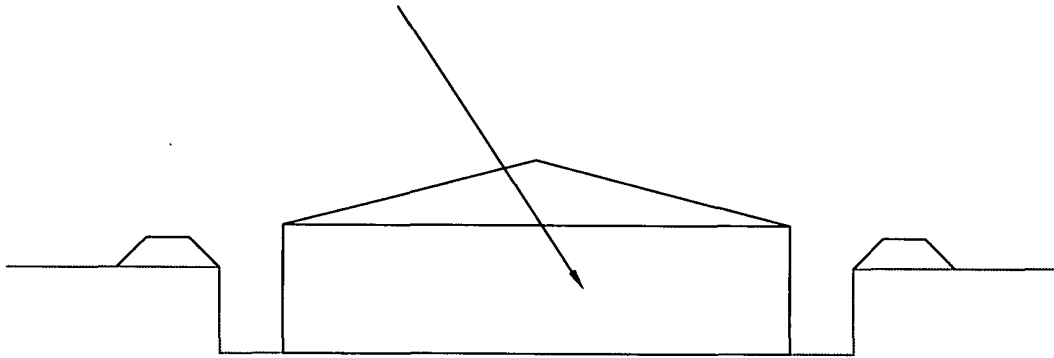
### REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	JPM	10/27/08	BASE DRWN

ENVIRONMENTAL SCIENTISTS & ENGINEERS  
**ENVIROTECH**

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87410 505-632-0615

62 BBL Steel  
Tank



\*Berm completed around  
AST and BGT

# LEGEND



Berm

DESIGN PLAN  
ELM RIDGE EXPLORATION  
BISTI COAL 2 #1T  
SEC 2 TWN 25N RGE 12W  
SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS

PROJECT N003056-0135

FIGURE NO. B

REV

## REVISIONS

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NO.	DATE	BY	DESCRIPTION
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MAP DRWN	JPM	10/27/08	BASE DRWN		
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**ENVIROTECH**

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## **Elm Ridge Exploration**

### **San Juan Basin**

#### **Below Grade Tank Design and Construction Plan**

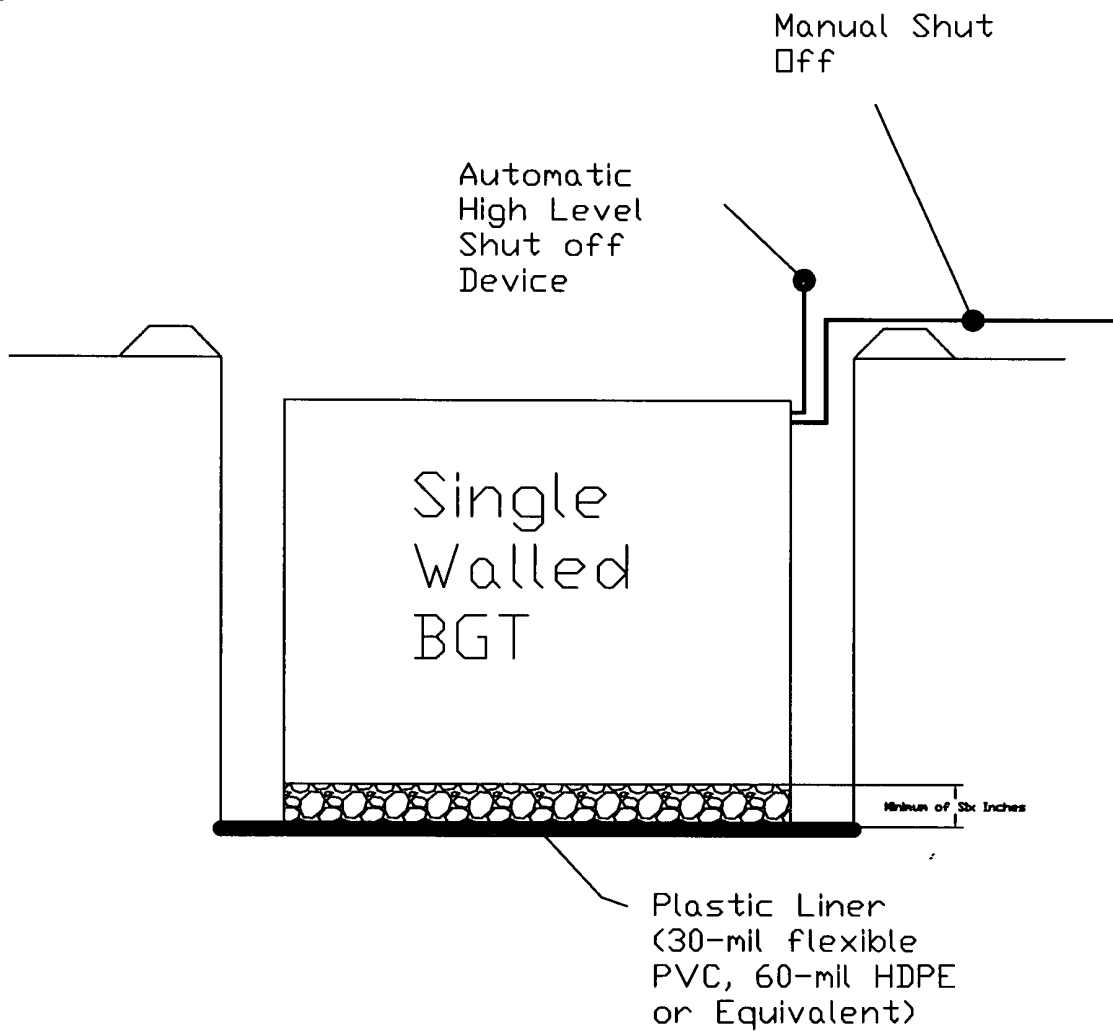
In accordance with Rule 19.15.17 the following information describes the design and construction of below grade tanks (BGTs) on Elm Ridge Exploration locations. This will be Elm Ridge Exploration's standard procedure for all BGTs. A separate plan will be submitted for any BGT which does not conform to this plan.

#### **GENERAL PLAN:**

1. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will design and construct a BGT to contain liquids and solids to prevent contamination of fresh water and to protect public health and the environment.
2. Elm Ridge Exploration will use a general location sign posted on location. If no general sign is posted, a separate sign at the location of the BGT will be provided.
3. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall construct fencing around the BGT using a four (4) foot hog wire fencing topped with two (2) strands of barbed wire, or with a pipe top rail. A six (6) foot chain link fence topped with three (3) strands of barbed wire will be used if the well location is within 1000 feet of a permanent residence, school, hospital, institution or a church.
4. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will construct an expanded metal covering on the top of the BGT.
5. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall ensure that a BGT is constructed of materials resistant from damage by sunlight and the BGT's particular contents.
6. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall ensure that the BGT system has a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom.

7. 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.
8. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will construct and use a BGT that does not have double walls. The BGT side walls will be open for visual inspection for leaks. The BGT bottom is elevated a minimum of six inches above the underlying ground surface and the BGT is underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected.
9. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, shall equip BGTs designed in this manner with a properly operating automatic high level shut-off control device and manual controls to prevent overflow.
10. Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will ensure that the geomembrane liner consists of 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner material that the appropriate division district office approves. The geomembrane liner shall have a hydraulic conductivity no greater than  $1 \times 10^{-9}$  cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 Method 9090A.
11. The general specification for design and construction is attached as ***Figure C, BGT Design and Construction.***

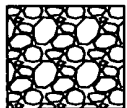
***Figure C, BGT Design and Construction***



# LEGEND



Berm



Gravel

## GENERAL BGT DESIGN AND CONSTRUCTION PLAN ELM RIDGE EXPLORATION

SCALE: NTS

PROJECT NOD3056-0135

FIGURE NO. C

REV

### REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	JPM	9/11/08	BASE DRWN

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