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

RECEIVED
2009 JAN 21 PM 1 29

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.

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: GH Callow 2

API Number: 3004507740 OCD Permit Number:

U/L or Qtr/Qtr B Section 33 Township 29N Range 13W County: San Juan

Center of Proposed Design: Latitude 36.688342 Longitude -108.207135 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: 120 bbl Type of fluid: Produced water

Tank Construction material: Fiberglass tank

☐ 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

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 4 foot tall hogwire fencing with a rebar 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

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 shows a well, approximately 1.75 miles to the north-east, with a depth to groundwater of 6 feet. This well is at an elevation approximately 250 feet below the BGT, thus suggesting that groundwater is greater than 50 feet from the bottom of the BGT.**	☐ 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).0. - **The nearest watercourse is 924.3 ft. northwest per attached topographic map. The attached visual inspection sheet reflects these findings.**	☐ 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 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. - **Attached iWATERS database search and visual inspection sheet indicates no water 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 attached 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 Map indicates that the well site is not within a 100 year flood plain.**	☐ Yes ☒ No

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_2S, 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 indentify 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

Signature: [signature] Date: 1-19-09

E-mail address: amackey1@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: [signature] **Approval Date:** 01 FEB 18

Title: HYDROLOGIST **OCD Permit Number:** NA

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 indentify 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

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 00588 S	29N	13W	23	3	3	1			

Driller Licence: 717 WESTERN WATER WELLS
Driller Name: TERRY HOOD
Source: Shallow
Drill Start Date: 08/08/1995
Drill Finish Date: 08/10/1995
Log File Date: 12/04/1995
PCW Received Date: 12/04/1995
Pump Type: SUBMER
Pipe Discharge Size: 3
Casing Size: 10
Estimated Yield: 150
Depth Well: 21
Depth Water: 6

Water Bearing Stratifications:	Top	Bottom	Description
	11	21	Sandstone/Gravel/Conglomer

Casing Perforations:	Top	Bottom
	13	21

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 29N Range: 13W Sections: 33

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

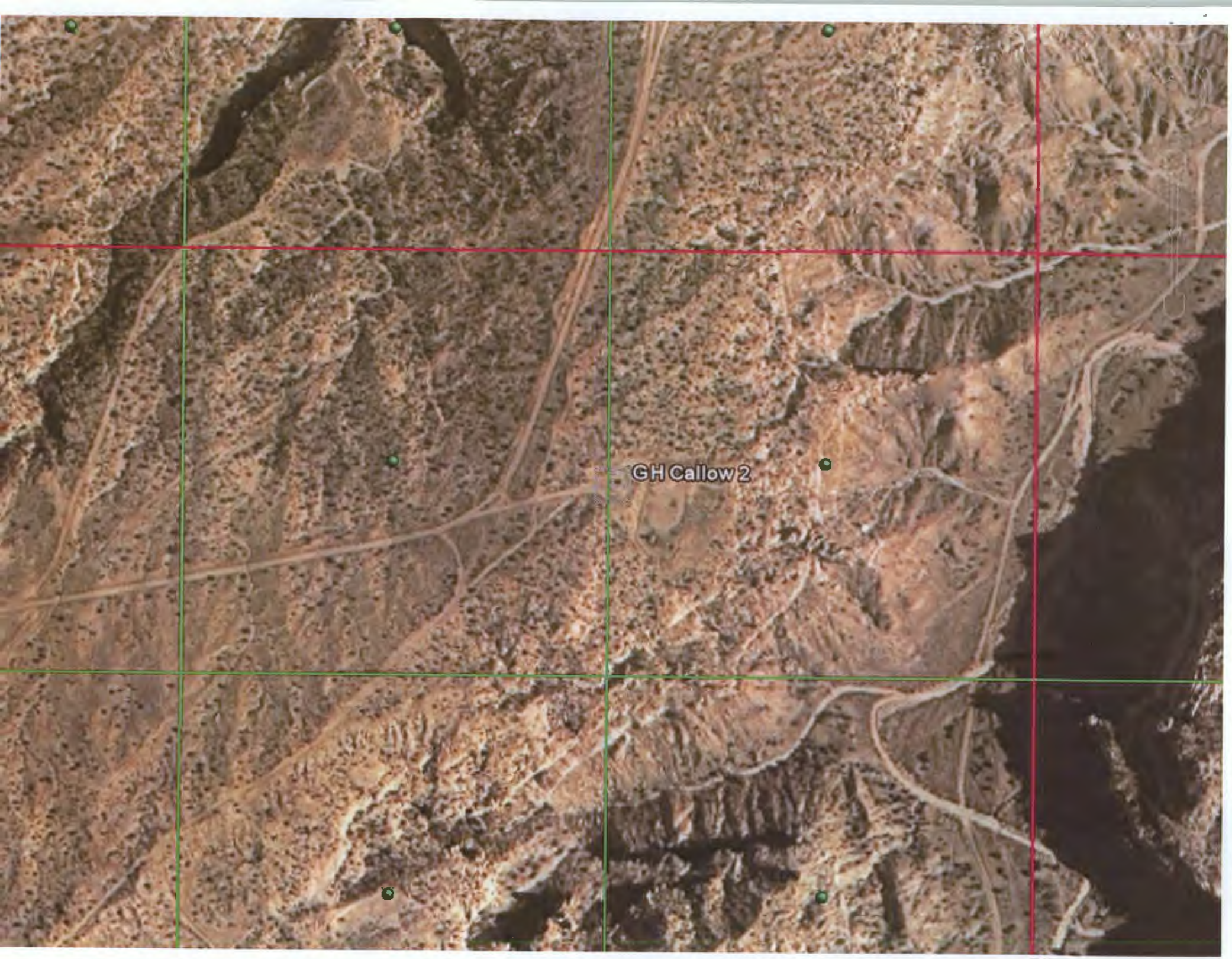
Clear Form | iWATERS Menu | Help

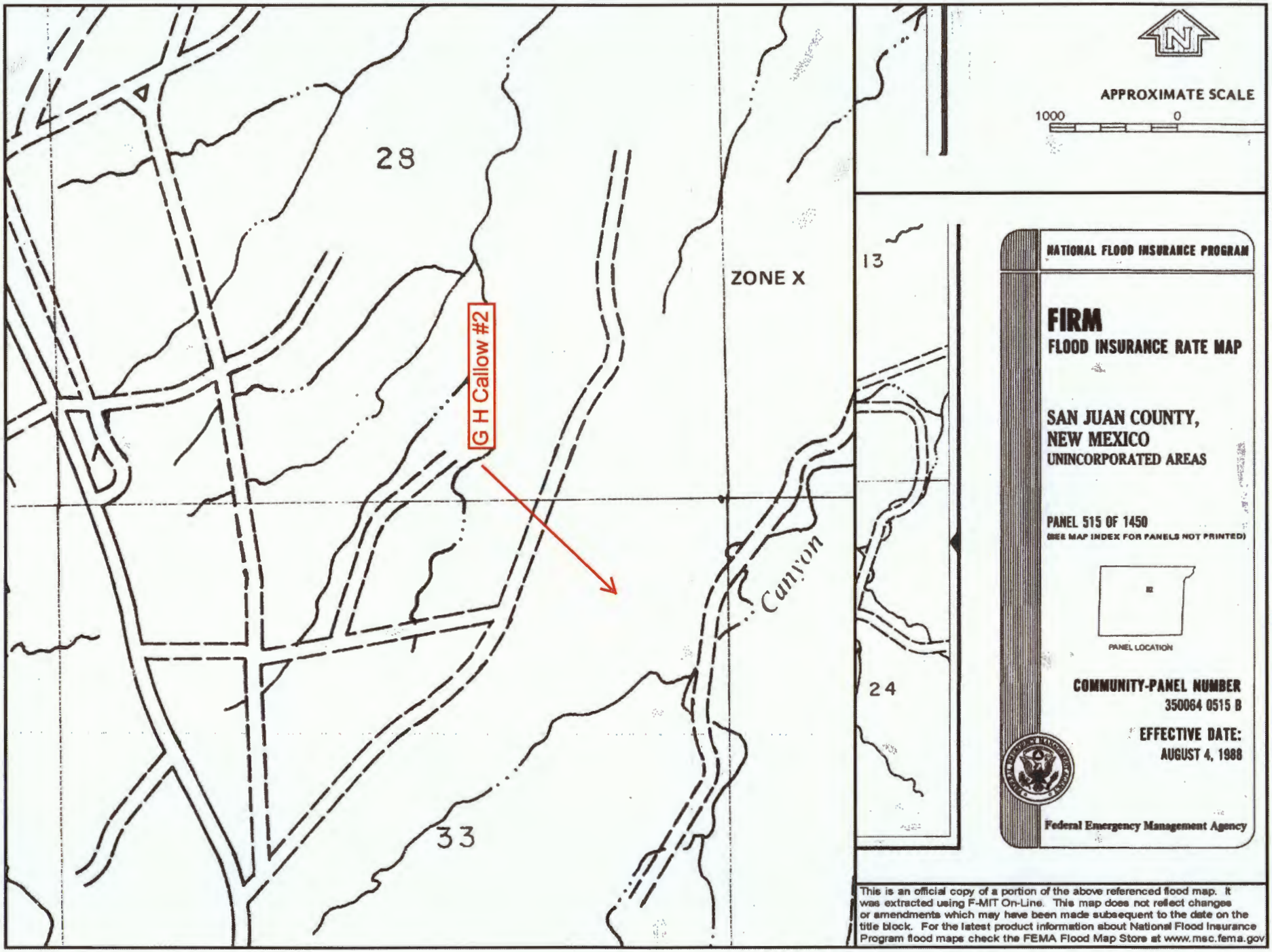
POD / SURFACE DATA REPORT 09/11/2008

DB File Nbr	Use	Diversion (acre ft per annum)	Owner	POD Number	Source	Tws	Rng	Sec	q	q	q	X Y are in Feet Zone	X	Y	UTM (are in Meters) UTM_Zone	Easting	Northing	Start Date	Finish Date	Depth Well	Depth Water (in feet)
No Records found, try again																					

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


DeLorme Topo USA® 7.0
S MILLER AVE
S BUTLER AVE
YORK AVE
JUNEAU PL
CONCHO PL
HEAD ST
GRAHAM RD
GRAHAM RD
San Juan River
BISTI HWY
371
Head Canyon
GH Callow 2
924.3 ft
924.3 ft
371
371
371
Bentley Spring
HEMSTREET MEMORIAL RD
Data use subject to license.
© DeLorme. DeLorme Topo USA® 7.0.
www.delorme.com
TN
MN (10.4°E)
Scale 1 : 25,000
1" = 2,083.3 ft
Data Zoom 13-0


GH Callow 2


28
ZONE X
G H Callow #2
Canyon
33
13
24
N
APPROXIMATE SCALE
1000
0
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
SAN JUAN COUNTY,
NEW MEXICO
UNINCORPORATED AREAS
PANEL 515 OF 1450
(SEE MAP INDEX FOR PANELS NOT PRINTED)
PANEL LOCATION
COMMUNITY-PANEL NUMBER
350064 0515 B
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

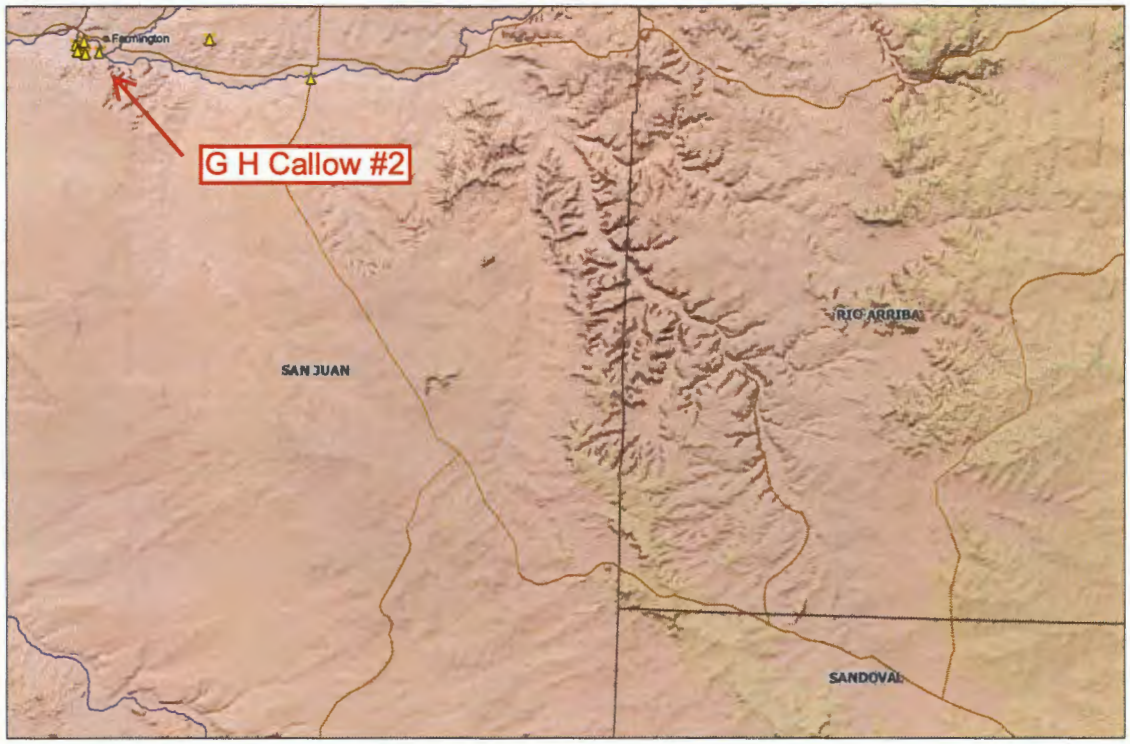
Elm Ridge Exploration Mine Map

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

10 0 10 20 30

MILES

N

http://www.emnrd.state.nm.us/MMD/MMQonline/MMQonline-PUBLIC-PROD.mwf

Monday, October 20, 2008 4:12 PM

Elm Ridge Site Inventory Sheet

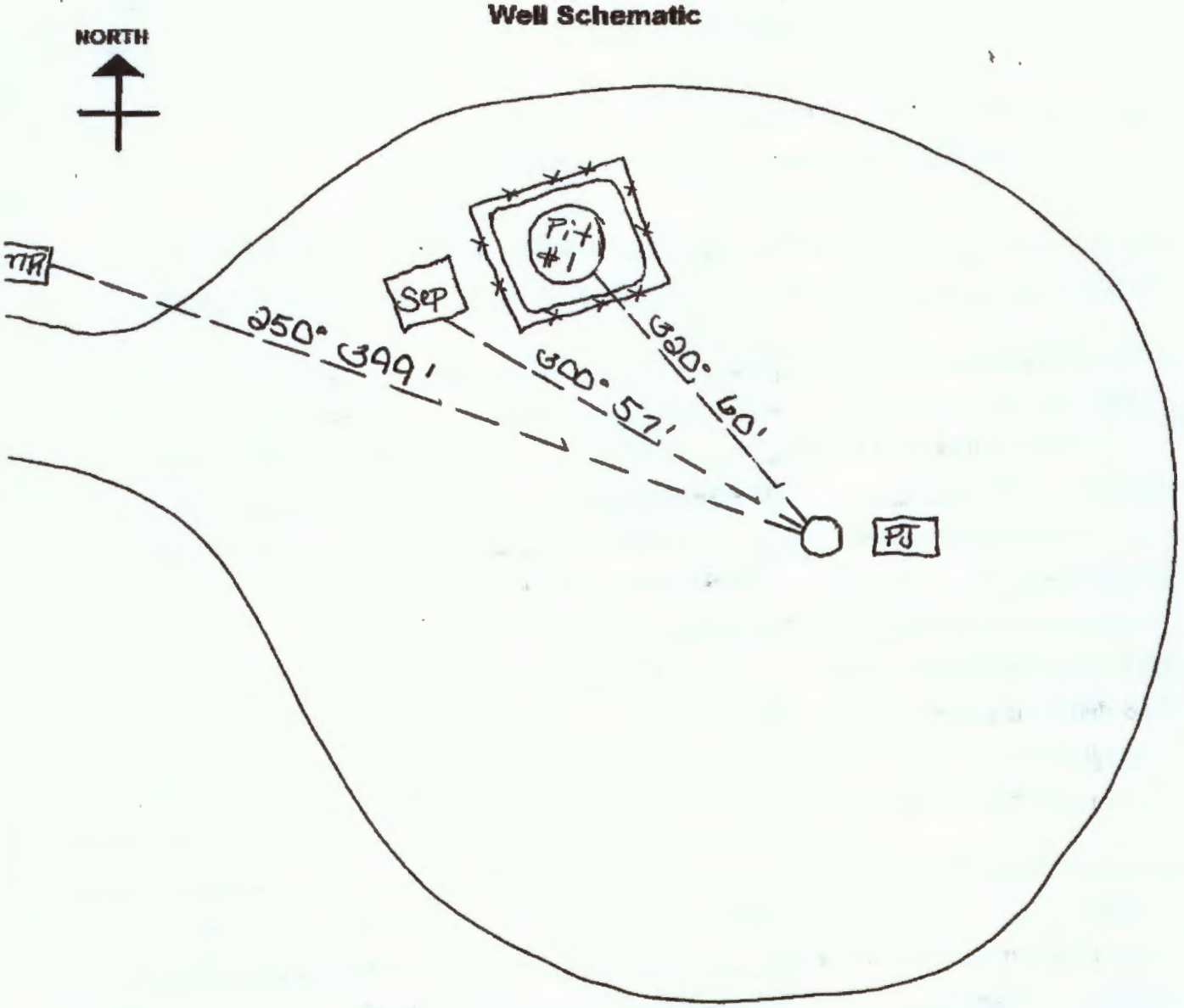
- Date: 7/31/08 Initials: TKT Time: Started: 9:17 Ended: 9:42
- Well Name & Number: GH Callow #2
- API #: 3004507740
- Lease #: _____
- Quarter/Quarter: B Section: 33 Township: 29N Range: 13W
- Lat: 36.688342° Long: -108.207135° GPS Point ID: Callow2

- Pit Tank #1: Manufacturer: N/A
- Serial #: N/A DOM: N/A Size N/A bbl
  - If N/A – Dimensions: Diameter 12' Height 6'
- Material: Steel_____ Galvanized_____ Fiberglass X
- Tank Configuration: Double Wall _____ Single Wall X (Buried___ or Exposed X)
- Visible Walls: Y X N____ Leak Detection: Y____ N X
- Contents: Produced Water_____ Condensate_____ Recycled Oil_____
- Tank Top Covering: Solid/Cone-top____ Netting X (Solid___ Fiber___) Chicken wire
- Secondary Containment: Yes X No____
- Fencing around berm: Yes X No____
  - Fence Type: Cattle Panel_____ Field Fence X Barbwire_____

- Pit Tank #2: Manufacturer: _____
- Serial #:_____ DOM:_____ Size_____bbl
  - 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: Produced Water_____ Condensate_____ Recycled Oil_____
- Tank Top Covering: Solid/Cone-top____ Netting____ (Solid___ Fiber___)
- Secondary Containment: Yes____ No____
- Fencing around berm: Yes____ No____
  - Fence Type: Cattle Panel_____ Field Fence_____ Barbwire_____

- Above-Ground Tank #1: Manufacturer:_____
- Serial #:_____ DOM:_____ Size_____bbl
  - If N/A – Dimensions: Diameter_____ Height_____
- Material: Steel_____ Galvanized_____ Fiberglass_____
- Contents: Produced Water_____ Condensate_____ (State #_____) Recycled Oil_____
- Secondary Containment: Yes____ No____

Well Schematic



Schematic Key:

Separator	SEP	Artificial Lift	AL	Condensate Tank	COND
Compressor	COM	Meter Run	METER RUN		
Dehydrator	DEH	Well Head	○	Water Tank	WATER

Measure any distance 1000ft or less of the following:

- **From wellhead to any continuous flowing or significant water course.** Wash at approx. 995'
- **From below-grade tanks to any permanent residence, school, church, hospital, etc.** n/A

BELOW GRADE TANK (BGT) CLOSURE PLAN

SITE NAME:

G H CALLOW #2
UNIT LETTER B, SECTION 33, TOWNSHIP 29N, RANGE 13W
SAN JUAN COUNTY, NEW MEXICO
LATITUDE 36.688342 LONGITUDE -108.207135

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
P.O. BOX 156
BLOOMFIELD, NEW MEXICO 87413
(505) 632-3476 EXT. 201

JANUARY 2009

BELOW GRADE TANK (BGT) CLOSURE PLAN
ELM RIDGE EXPLORATION
G H CALLOW #2
SAN JUAN COUNTY, NEW MEXICO

TABLE OF CONTENTS

INTRODUCTION 1

SCOPE OF CLOSURE ACTIVITIES 1

REPORTING 3

INTRODUCTION

Elm Ridge Exploration would like to submit a closure plan for the below grade tank (BGT) at the G H Callow #2 well site located in the SW ¼ NW 1/4 of Section 33, Township 29N, Range 13W, San Juan County, 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 G H Callow #2 well site. 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, 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 activities 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. The report 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, 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.

1. 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.

2. 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 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 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:

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 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.

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.

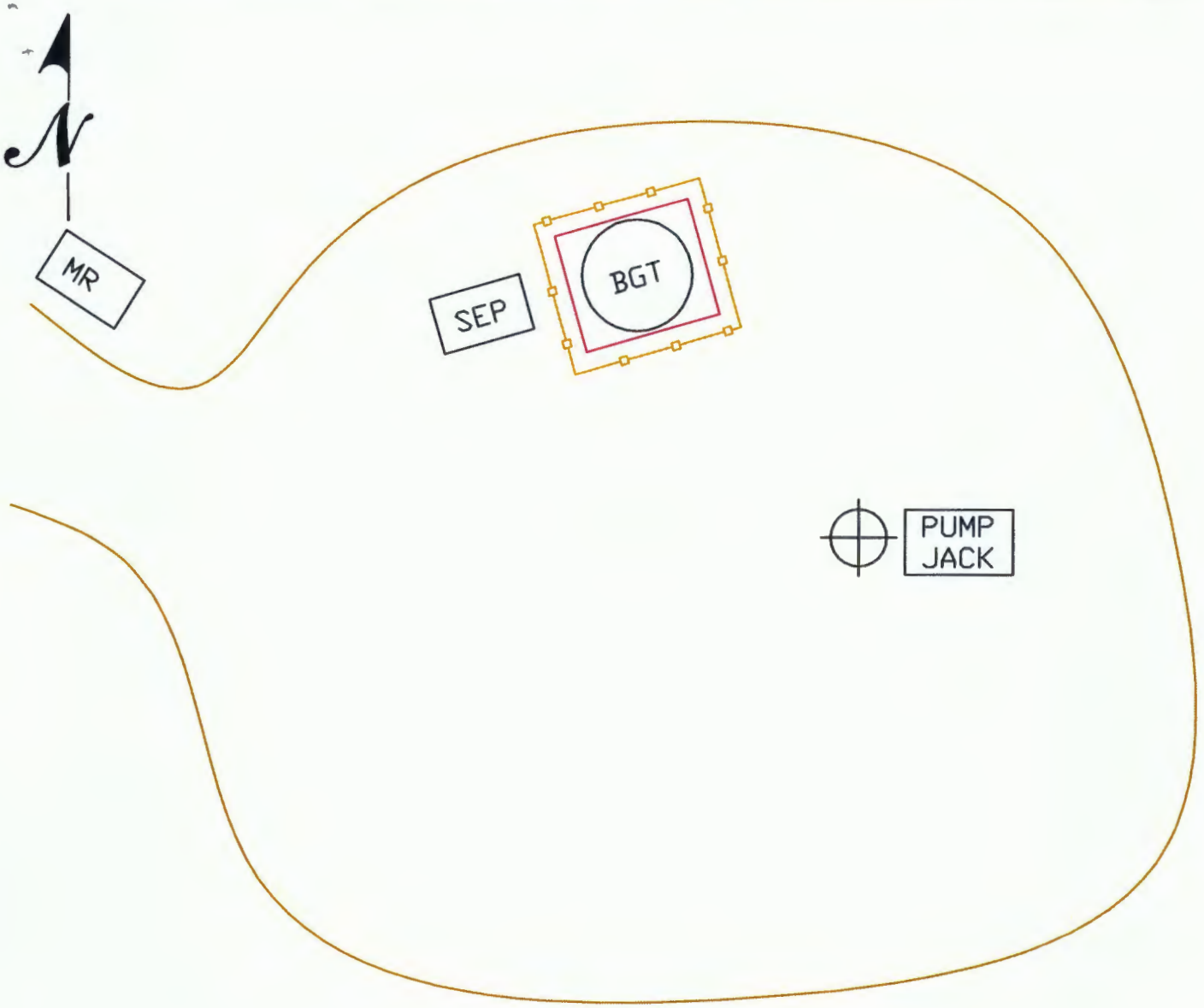
8. If Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, determines that a BGT has developed a leak below the liquid's surface, then Elm Ridge Exploration, or a contractor representing Elm Ridge Exploration, will notify the appropriate division office within 48 hours of discovering 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



LEGEND

4' Tall Hogwire Fencing

Berm

Well Head

SITE MAP
ELM RIDGE EXPLORATION
G H CALLOW #2
SEC 33 TWN 29N RGE 13W
SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS	FIGURE NO. A	REV
PROJECT NOD3056-0135		

REVISIONS

NO.	DATE	BY	DESCRIPTION

MAP DRWN	JPM	10/28/08	BASE DRWN		

ENVIRONMENTAL SCIENTISTS & ENGINEERS
ENVIROTECH
5796 U.S. HIGHWAY 64, FARMINGTON, NM 87410 505-632-0615

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 Fiberglass 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: _____

Recent overflow detected (circle one): Yes No Unknown

BGT Cover present: Yes No NA

Cover Type (circle one): wire mesh steel mesh fibrous netting other: _____

Berm Present (circle one): Yes No

Secondary Containment

Type of secondary containment: _____

Status of secondary containment (circle one): NA 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.