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.

1995
4129

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

1.
Operator: **ELM RIDGE EXPLORATION COMPANY, LLC** OGRID #: **149052**
Address: **P. O. BOX 156, BLOOMFIELD, NM 87413**
Facility or well name: **MARCUS B #2**
API Number: **30-039-30402** OCD Permit Number: _____
U/L or Qtr/Qtr **G** Section **5** Township **23 N** Range **6 W** County. **RIO ARRIBA**
Center of Proposed Design. Latitude **36.25590° N** Longitude **107.49119° W** NAD. ☐1927 ☒ 1983
Surface Owner ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

RECEIVED
OCT 2009
OIL CONS. DIV. DIST 3

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 **20** mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: **9,939** bbl Dimensions: L **160'** x W **40'** x D **10'**

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 _____

RECEIVED
OCT 2008
OIL CONS. DIV. DIST. 3

4.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
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.

25

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 minimum 36" hog wire topped with at least 1 strand of barbed wire = at least 48" high fence

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. *See request for alternate marking on Page 2 of attachment*

☐ 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. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ 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). - 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. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ 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)* - Visual inspection (certification) of the proposed site; Aerial photo, Satellite image	☐ 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 - NM Office of the State Engineer - iWATERS database search; 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

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 *See 10. on APD Page 9 (Exhibit K)*
☐ 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): **BRIAN WOOD** Title: **CONSULTANT**

Signature _____ Date **10-13-08**

e-mail address: **brian@permitswest.com** Telephone: **(505) 466-8120**

20.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Brandon Powell Jonathan D. Kelly 10/07/2011 **Approval Date:** 11-5-08

Title: Environ Spec 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:** May 1, 2009

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) See Attached

☐ Proof of Deed Notice (required for on-site closure) Federal Land, N/A

☒ Plot Plan (for on-site closures and temporary pits) See Attached

☒ Confirmation Sampling Analytical Results (if applicable) See Attached

☒ Waste Material Sampling Analytical Results (required for on-site closure) See Attached

☒ Disposal Facility Name and Permit Number See Attached

☒ Soil Backfilling and Cover Installation See Attached

☒ Re-vegetation Application Rates and Seeding Technique See Attached

☒ Site Reclamation (Photo Documentation) See Attached

On-site Closure Location: Latitude 36.25590 Longitude -107.49119 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): Ms. Amy Mackey Title: Administrative Manager

Signature: _____ Date: 10/8/09

e-mail address: _____ Telephone: _____

Elm Ridge Exploration
Marcus B #2
Closure Date: May 1, 2009
Job No. 03056-0223

Drill Pit Closure Checklist

1) An alternative interim marking system will be used to allow for safer and more efficient operations. A minimum 4" O.D. steel pipe will be set at least 36" deep at the center of the pit. A threaded collar will be on the top of the pipe. A minimum 12" x 12" steel plate will be welded atop the threaded collar. The top of the plate will be flush with the ground level. The standard location information listed will be welded onto the plate, plus a notation that it marks an on-site buried, temporary pit. Upon plugging the well, the plate will be removed, and the pit will be marked as described in 19.15.17.13.F(1)(d).
See attached photo for on-site temporary ground-level marker. In ground marker will be replaced by a division approved four (4) foot riser upon P&A of this well location. Information welded onto the marker will include: Elm Ridge Exploration, Lease #NMSF-078362, Marcus B #2, UL G, Sec. 5, Twn. 23N, Rge 6W, on-site burial and the date.

2) Elm Ridge Exploration will close the pit in accordance with OCD rules 19.15.17.12 &13. Post closure documents will be submitted within 60 days of pit closure and will include forms C-105 and C-144, cover details, pit diagram, inspection report and closure sampling results.
See attached C-105, C-144, pit diagrams, and closure sampling results. Cover was installed in accordance with 19.15.17.12 &13.

3) All free standing liquids will be removed before backfilling the pit and disposed of at an Elm Ridge Disposal Well or at Basin Disposal's evaporation pond.
Liquid was removed and disposed of at Carson WDW 242 on December 18, 2008.

4) **Due to the land being located on federal land, a deed notice was not applicable.**

5) **Due to confusion associated with the transition period pertaining to 19.15.17, the new 'Pit Rule', a drill pit inspection log was not maintained on this drill pit. Elm Ridge Exploration will comply with the rule and perform drill pit inspections as standard operating procedure as of 7/31/09, and will perform all necessary drill pit inspections after this date.**

6) The preferred method of closure will be on-site, in place burial, assuming all criteria outlined in 19.15.17.13 (B) are met.
All criteria were met, and the drill pit was buried in-place on May 1, 2009.

7) The surface owner has been notified.
The Bureau of Land Management was notified on April 29, 2009. See attached BLM notification.

8) After approval of this application, Elm Ridge Exploration will notify the OCD verbally, or by other means, at least 72 hours, but not more than one week, prior to any closure operations. The notice shall include the operator's name and the location to be closed by unit letter, section, township and range, well name and number, and API number.
The Oil Conservation Division, Aztec Office, was notified on April 29, 2009. See attached OCD notification.

9) All liner above the mud level will be cut and removed after stabilization. Removed liner will be disposed of in a licensed disposal facility.
Liner was cut, removed, and disposed of, after stabilization of the drill pit contents, at San Juan County Regional Landfill, Solid Waste Facility Permit SW 05-30 (P).

10) Elm Ridge Exploration will stabilize or solidify the contents to a bearing capacity sufficient to support the temporary pit's final cover. Elm Ridge Exploration will mix the contents with soil or other material at a mixing ratio of no greater than 3-1, soil or other material: to drill pit contents.
Contents of drill pit were mixed at a 3:1 ratio of soil to contents of drill pit.

11) A five (5)-point composite sample will be taken of the pit, and all samples will be tested per Subsection B of 19.15.17.13(B)(1)(b). If the criteria are not met, then all contents will be handled per subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13. (i.e. dig and haul). If a dig and haul is required, then the disposal facility will be Envirotech's Landfarm (NM01-0011).
Initial sampling on 4/22/09 returned results that were below the NMOCD regulatory standards for all constituents analyzed; see attached *Laboratory Results.*

Sample	Chloride	Benzene (8021)	BTEX (8021)	TPH (418.1)	DRO/GRO (8015)
NMOCD Regulatory Standards	**1,000 mg/kg**	**0.2 mg/kg**	**50.0 mg/kg**	**2,500 mg/kg**	**500 mg/kg**
Contents Pre-Mix	**466 mg/kg**	**0.0013 mg/kg**	**0.0155 mg/kg**	**603mg/kg**	**92.3 mg/kg**

12) After completing solidification and testing, the pit area will be backfilled with compacted, waste free, earthen material. At least four (4) feet of cover will be achieved. The cover will include one (1) foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
Site was backfilled using one (1) foot of topsoil and approximately four (4) feet of non-waste containing earthen material used for cover.

13) Recontouring of the location will match the fit, shape, line, form, and texture of the surrounding area. Re-shaping will control drainage and prevent ponds and erosion. Natural drainages will be unimpeded. Water bars and/or silt traps will be placed where needed to prevent erosion on a large scale. Final recontour will have a uniform appearance with smooth surface, fitting the natural landscape.
The site was recontoured to match the fit, shape, line and form of the surrounding area. It was re-shaped to prevent ponding and erosion, and in such a way that natural drainage was unimpeded. Water bars or silt traps were not needed to prevent erosion. The final recontour has a uniform appearance and a smooth surface, and fits the natural landscape. See attached photos of site recontouring.

14) Notice will be sent to the OCD when the reclaimed area is seeded.
Elm Ridge Exploration will comply with the BLM's re-seeding requirements in this area in accordance with the federal rules and regulations as allowed by the BLM/OCD Memorandum of Understanding. Re-seeding was scheduled to begin on July 7, 2009 per the BLM.

Submit To Appropriate District Office
Two Copies
District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd , 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

Form C-105
July 17, 2008

1. WELL API NO. **30-039-30402**

2 Type of Lease
☐ STATE ☐ FEE ☒ FED/INDIAN

3 State Oil & Gas Lease No **NMSF-078362**

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4 Reason for filing

☐ **COMPLETION REPORT** (Fill in boxes #1 through #31 for State and Fee wells only)

☒ **C-144 CLOSURE ATTACHMENT** (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33, attach this and the plat to the C-144 closure report in accordance with 19 15 17 13 K NMAC)

5 Lease Name or Unit Agreement Name
Marcus B

6 Well Number
2

7 Type of Completion
☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER

8 Name of Operator
Elm Ridge Exploration

9 OGRID
149052

10 Address of Operator
PO Box 156, Bloomfield, New Mexico, 87413

11 Pool name or Wildcat

12.Location	Unit Ltr	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:										
BH:										

13 Date Spudded	14 Date T D Reached	15 Date Rig Released	16 Date Completed (Ready to Produce)	17 Elevations (DF and RKB, RT, GR, etc)
		July 16, 2008		

18 Total Measured Depth of Well	19 Plug Back Measured Depth	20 Was Directional Survey Made?	21 Type Electric and Other Logs Run

22 Producing Interval(s), of this completion - Top, Bottom, Name

23 **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB /FT	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED

24 LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25 TUBING RECORD

SIZE	DEPTH SET	PACKER SET

26 Perforation record (interval, size, and number)

27 ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

28 **PRODUCTION**

Date First Production	Production Method *(Flowing, gas lift, pumping - Size and type pump)*	Well Status *(Prod or Shut-in)*

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl	Gas - Oil Ratio

Flow Tubing Press	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl	Gas - MCF	Water - Bbl	Oil Gravity - API - *(Corr)*

29 Disposition of Gas *(Sold, used for fuel, vented, etc)*

30 Test Witnessed By

31 List Attachments

32 If a temporary pit was used at the well, attach a plat with the location of the temporary pit **Attached**

33 If an on-site burial was used at the well, report the exact location of the on-site burial

Latitude **36.25590** Longitude **-107.49119** NAD 1927 **1983**

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature
Printed Name **Ms. Amy Mackey** Title **Administrative Manager**
Date
E-mail Address **amackey1@elmridge.net**

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T Ojo Alamo	T Penn A"
T. Salt	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt	T. Atoka	T. Fruitland	T Penn "C"
T. Yates	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T Cliff House	T. Leadville
T. Queen	T Silurian	T Menefee	T Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres	T. Simpson	T. Mancos	T. McCracken
T Glorieta	T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddock	T. Ellenburger	Base Greenhorn	T.Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T.Tubb	T. Delaware Sand	T Morrison	
T. Drinkard	T. Bone Springs	T Todilto	
T Abo	T.	T Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from..... .....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology		From	To	Thickness In Feet	Lithology

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
OCT 16 2007
Bureau of Land Management
Farmington Field Office

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease – 4 Copies
Fee Lease – 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-30402	22619	ESCRITO GALLUP (ASSOCIATED)

4 Property Code	5 Property Name	6 Well Number
36835	MARCUS B	2

7 OGRID No.	8 Operator Name	9 Elevation
149052	ELM RIDGE EXPLORATION, LLC	6871'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	5	23N	6W		1735'	NORTH	2175'	EAST	RIO ARRIBA

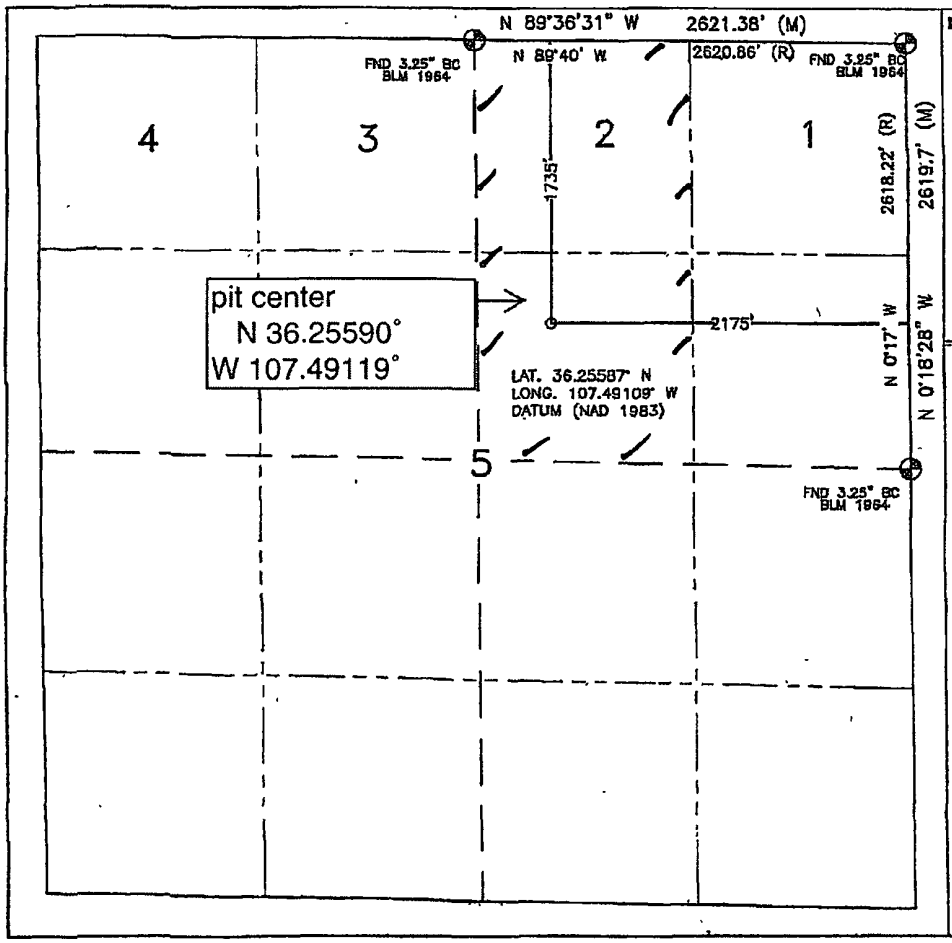
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

13 Dedicated Acres	12 Joint or Infill	14 Consolidation Code	15 Order No.
80.04			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner or a compulsory pooling order heretofore entered by the division.

Signature: BWood Date: 10-15-07

Printed Name: BRIAN WOOD

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: JUNE 6, 2007

Signature and Seal of Professional Surveyor:

DAVID R. RUSSELL NEW MEXICO 10201 REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number: DAVID RUSSELL 10201

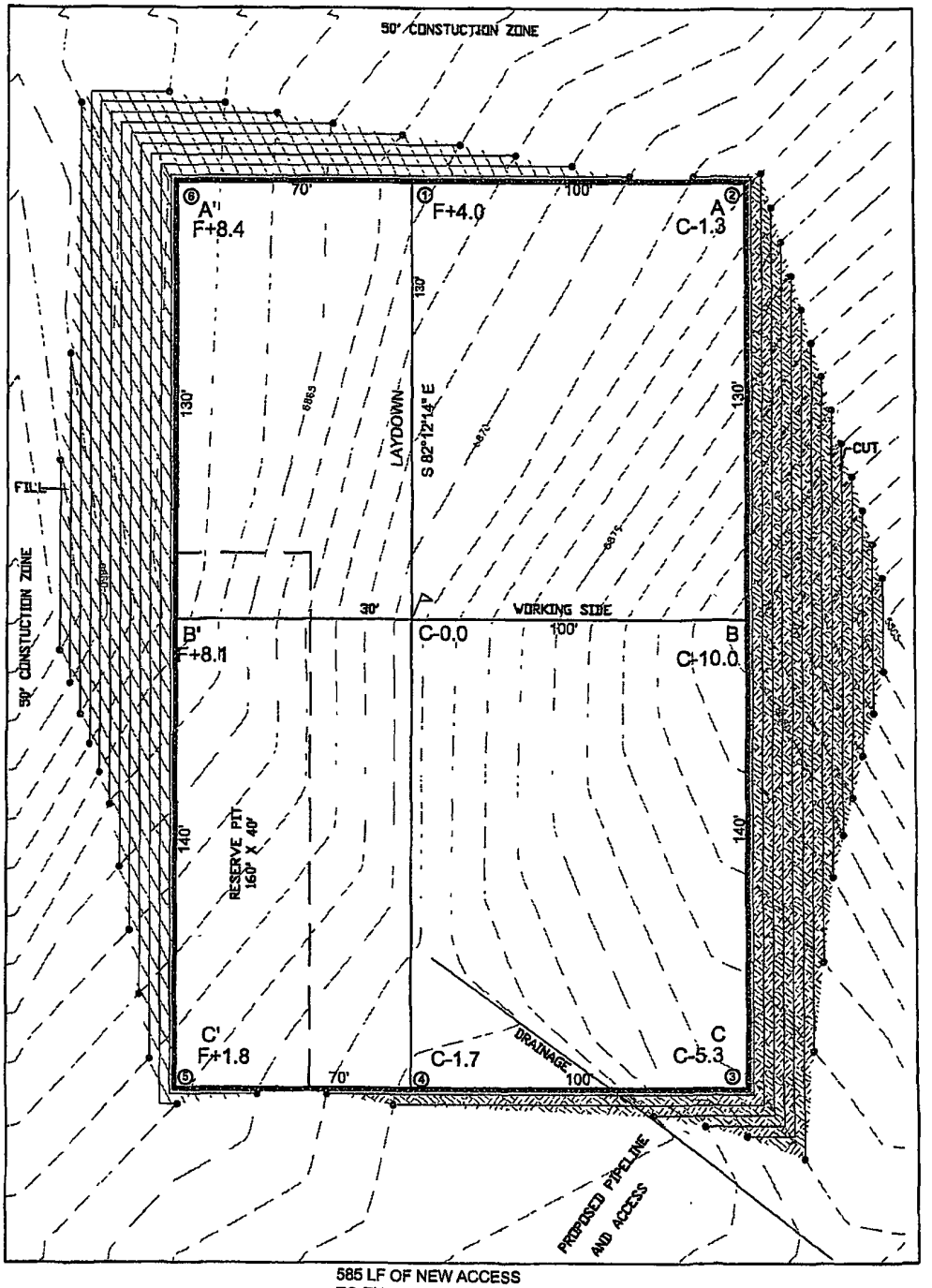
EXHIBIT 1

LATITUDE: 36.25587°N
LONGITUDE: 107.49109°W
DATUM: NAD 83

ELM RIDGE EXPLORATION, LLC

MARCUS B #2
1735' FNL & 2175' FEL
LOCATED IN THE SW/4 NE/4 OF SECTION 5,
T23N, R6W, N.M.P.M.,
RIO ARRIBA COUNTY, NEW MEXICO
GROUND ELEVATION: 6871', NAVD 88
FINISHED PAD ELEVATION: 6870.6', NAVD 88

25' 0 25' 50'
SCALE = 50'



585 LF OF NEW ACCESS
TO EXISTING DIRT ROAD

EXHIBIT 1

1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERE016
DATE: 06/14/07

Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

envirotech

April 29, 2009 Project No. 03056-0223

Mr. Mack Humphrey
Elm Ridge Exploration, Inc.
P.O. Box 156
Bloomfield, New Mexico 87413 Phone: (505) 330-9401

RE: MARCUS B #2 DRILL PIT CLOSURE NOTIFICATIONS

Dear Mr. Humphrey,

Enclosed, please find the required notifications for the drill pit closure activities to be performed at the Marcus B #2 well site located in Section 5, Township 23N, Range 6W, Rio Arriba County, New Mexico. Closure activities are scheduled to begin on Friday, May 1st, 2009. Enclosed, please find the proof of notification to the Bureau of Land Management (BLM) as the surface owner and the proof of notification to the Oil Conservation Division.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.

James McDaniel
Project Scientist
jmcdaniel@envirotech-inc.com

Enclosure: Proof of BLM Notification
Proof of OCD Notification

Cc: Client File No. 03056

FROM: **JAMES MCDANIEL**
SENT: **WEDNESDAY, APRIL 29, 2009 7:58 AM**
TO: **'BRANDON.POWELL@STATE.NM.US'**
SUBJECT: **MARCUS B #2 DRILL PIT CLOSURE NOTIFICATION**

Mr. Brandon Powell,

Please accept this email as the 48 hour notice on behalf of Elm Ridge Exploration to begin closure activities at the Marcus B #2 well site located in Unit G, Section 5, Township 23N, Range 6W, Rio Arriba County, New Mexico, API # 300393042. The contents of the drill pit have been sampled, and are below the requirements for all constituents analyzed for a drill pit with a depth to groundwater of over 100 feet. Closure activities are scheduled to begin Friday, May 1st and last approximately one week. An email has been sent to Mr. Mark Kelly with the BLM as the surface owner. Thank you very much for your time in regards to this project.

James P McDaniel
Project Scientist
Envirotech, Inc

505-793-5392

FROM: **JAMES MCDANIEL**
SENT: **WEDNESDAY, APRIL 29, 2009 8:08 AM**
TO: **'MARK KELLY (MARK_KELLY@NM.BLM.GOV)'**
SUBJECT: **MARCUS B #2 DRILL PIT CLOSURE NOTIFICATION**
ATTACHMENTS: **SUNDRY NOTICE EDITABLE.PDF**

Mr. Mark Kelly,

Please accept this email as the 24 hour notice on behalf of Elm Ridge Exploration to begin closure activities at the Marcus B #2 well site located in Unit G, Section 5, Township 23N, Range 6W, Rio Arriba County, New Mexico, API # 300393042. The contents of the drill pit have been sampled, and are below the requirements for all constituents analyzed for a drill pit with a depth to groundwater of over 100 feet. Closure activities are scheduled to begin Friday, May 1st and last approximately one week. A Sundry Notice is attached to this email. An email has been sent to Mr. Brandon Powell with the OCD. Thank you very much for your time in regards to this project.

James P McDaniel
Project Scientist
Envirotech, Inc

505-793-5392

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires. July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE – *Other instructions on page 2.*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Marcus B #2

2. Name of Operator
Elm Ridge Exploration

9. API Well No.
30-039-3042

3a. Address
PO Box 156
Bloomfield, NM 87413

3b. Phone No. *(include area code)*
(505) 632-3476

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
1735 FNL 2175 FEL, G-6-23N-6W, Lat. 36.255862 long -107 491131

11. Country or Parish, State
Rio Arriba County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Closure of a Drill Pit
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Elm Ridge Exploration plans to beging closure activities for a drill pit located at the above mentioned site. All formal notifications have been made. Closure activities are scheduled to being on Friday, May 1st, 2009.

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*
Mr. Mack Humprey

Title

Signature

Date 04/29/2009

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

ELM RIDGE EXPLORATION
MARCUS B #2
SITE RESTORATION PHOTOGRAPHS
JOB NUMBER: 03056-0223
PHOTOS TAKEN: JULY 15, 2009

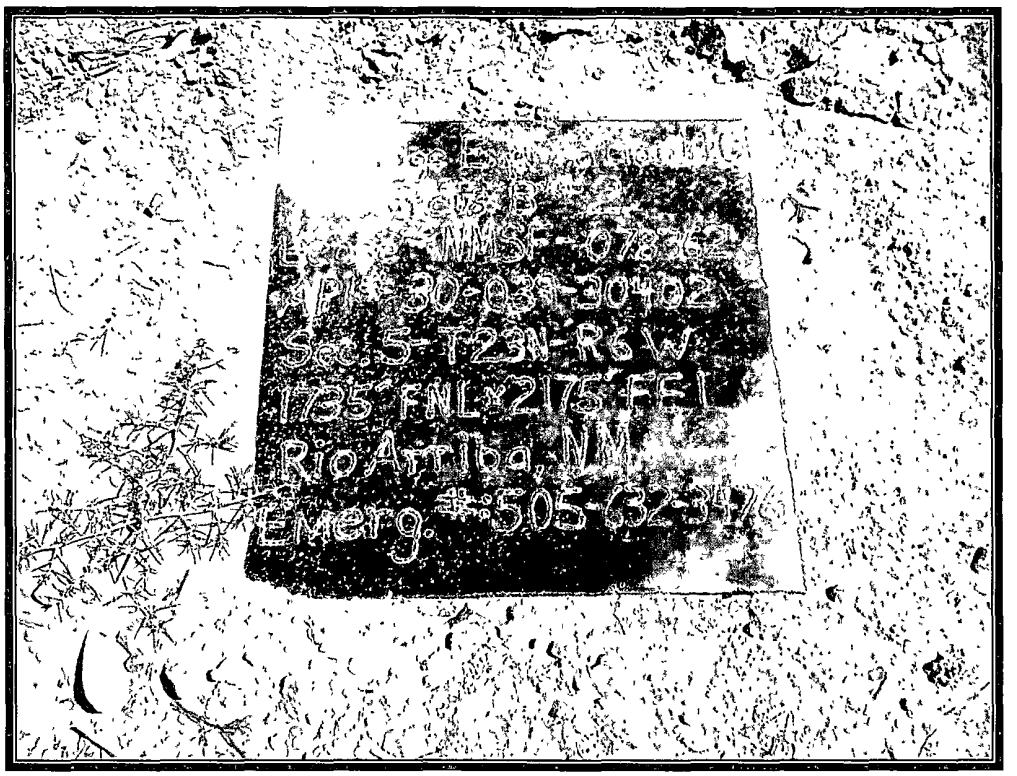


Photo 1: Steel Marker Plate


Photo 2: Overview of Recontoured Area

ELM RIDGE EXPLORATION
MARCUS B #2
SITE RESTORATION PHOTOGRAPHS
JOB NUMBER: 03056-0223
PHOTOS TAKEN: JULY 15, 2009

Photo 3: Overview of Site with Recontoured Area

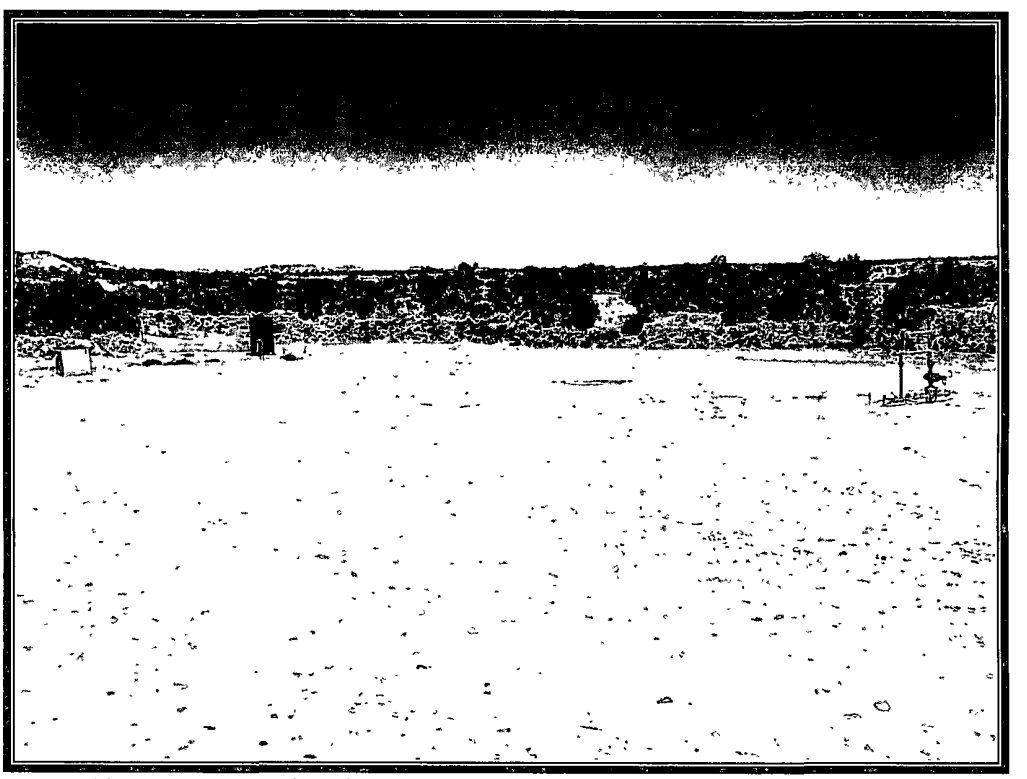


Photo 4: Site Overview Showing Recontoured Area Level with Natural Surroundings

envirotech
Analytical Laboratory

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client	ElmRidge Resources	Project #	03056-0223
Sample ID	Drill Pit	Date Reported	04-24-09
Laboratory Number	49747	Date Sampled	04-22-09
Chain of Custody No	6854	Date Received	04-22-09
Sample Matrix	Soil	Date Extracted	04-23-09
Preservative	Cool	Date Analyzed	04-24-09
Condition	Intact	Analysis Requested	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**3.6**	**0.2**
Diesel Range (C10 - C28)	**88.7**	**0.1**
Total Petroleum Hydrocarbons	**92.3**	**0.2**

ND - Parameter not detected at the stated detection limit

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996

Comments: **Marcus B #2**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505)632-0615 Fr (800)362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc com

envirotech
Analytical Laboratory

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client	QA/QC	Project #	N/A
Sample ID.	04-24-09 QA/QC	Date Reported:	04-24-09
Laboratory Number.	49752	Date Sampled.	N/A
Sample Matrix	Methylene Chloride	Date Received:	N/A
Preservative	N/A	Date Analyzed:	04-24-09
Condition.	N/A	Analysis Requested.	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9 9681E+002	9.9720E+002	**0.04%**	**0 - 15%**
Diesel Range C10 - C28	05-07-07	1.0068E+003	1.0072E+003	**0.04%**	**0 - 15%**

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	**ND**	**0.2**
Diesel Range C10 - C28	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	**0.2**

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	**10.7**	**10.6**	**0.9%**	**0 - 30%**
Diesel Range C10 - C28	**6.4**	**6.3**	**1.6%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	**10.7**	**250**	**256**	**98.1%**	**75 - 125%**
Diesel Range C10 - C28	**6.4**	**250**	**245**	**95.7%**	**75 - 125%**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996

Comments: **QA/QC for Samples 49746 - 49748 and 49750 - 49753.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

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Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client	ElmRidge Resources	Project #	03056-0223
Sample ID	Drill Pit	Date Reported	04-27-09
Laboratory Number	49747	Date Sampled	04-22-09
Chain of Custody	6854	Date Received	04-22-09
Sample Matrix	Soil	Date Analyzed	04-24-09
Preservative	Cool	Date Extracted	04-23-09
Condition	Intact	Analysis Requested	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**1.3**	**0.9**
Toluene	**2.3**	**1.0**
Ethylbenzene	**3.1**	**1.0**
p,m-Xylene	**5.3**	**1.2**
o-Xylene	**3.5**	**0.9**
Total BTEX	**15.5**	

ND - Parameter not detected at the stated detection limit

Surrogate Recoveries	Parameter	Percent Recovery
	Fluorobenzene	**97.0 %**
	1,4-difluorobenzene	**97.0 %**
	Bromochlorobenzene	**97.0 %**

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

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

Comments: **Marcus B #2**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505)632-0615 Fr (800)362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

envirotech
Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client	N/A	Project #	N/A
Sample ID	04-24-BT QA/QC	Date Reported	04-27-09
Laboratory Number	49752	Date Sampled	N/A
Sample Matrix	Soil	Date Received	N/A
Preservative	N/A	Date Analyzed	04-24-09
Condition	N/A	Analysis	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	7 0871E+006	7 1013E+006	**0.2%**	**ND**	**0.1**
Toluene	6 4663E+006	6 4792E+006	**0.2%**	**ND**	**0.1**
Ethylbenzene	5 5557E+006	5 5668E+006	**0.2%**	**ND**	**0.1**
p,m-Xylene	1 4632E+007	1 4662E+007	**0.2%**	**ND**	**0.1**
o-Xylene	5 3483E+006	5 3590E+006	**0.2%**	**ND**	**0.1**

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	**8.1**	**8.4**	**3.7%**	**0 - 30%**	**0.9**
Toluene	**43.0**	**41.5**	**3.5%**	**0 - 30%**	**1.0**
Ethylbenzene	**52.6**	**50.4**	**4.2%**	**0 - 30%**	**1.0**
p,m-Xylene	**256**	**252**	**1.6%**	**0 - 30%**	**1.2**
o-Xylene	**33.8**	**32.6**	**3.6%**	**0 - 30%**	**0.9**

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	**8.1**	**50.0**	**56.6**	**97.4%**	**39 - 150**
Toluene	**43.0**	**50.0**	**87.5**	**94.1%**	**46 - 148**
Ethylbenzene	**52.6**	**50.0**	**101**	**98.8%**	**32 - 160**
p,m-Xylene	**256**	**100**	**353**	**99.4%**	**46 - 148**
o-Xylene	**33.8**	**50.0**	**80.7**	**96.3%**	**46 - 148**

ND - Parameter not detected at the stated detection limit

References
Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996

Comments: **QA/QC for Samples 49746 - 49748 and 49750 - 49753.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

envirotech
Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client	Elm Ridge Resources	Project #	03056-0223
Sample ID	Drill Pit	Date Reported	04-24-09
Laboratory Number	49747	Date Sampled	04-22-09
Chain of Custody No	6854	Date Received	04-22-09
Sample Matrix	Soil	Date Extracted	04-23-09
Preservative	Cool	Date Analyzed	04-23-09
Condition	Intact	Analysis Needed	TPH-418 1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**603**	**6.0**

ND = Parameter not detected at the stated detection limit

References: Method 418 1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No 4551, 1978

Comments. **Marcus B #2.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc com envirotech-inc.com

envirotech
Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYROCARBONS
QUALITY ASSURANCE REPORT

Client	QA/QC	Project #:	N/A
Sample ID	QA/QC	Date Reported	04-24-09
Laboratory Number.	04-23-TPH.QA/QC 49740	Date Sampled·	N/A
Sample Matrix	Freon-113	Date Analyzed	04-23-09
Preservative·	N/A	Date Extracted	04-23-09
Condition·	N/A	Analysis Needed	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF	C-Cal RF:	% Difference	Accept Range
	04-06-09	04-23-09	1,510	1,560	3.3%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	6.0

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
TPH	74.8	71.2	4.8%	+/- 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	74.8	2,000	1,810	87.2%	80 - 120%

ND = Parameter not detected at the stated detection limit

References: Method 418 1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments. **QA/QC for Samples 49740 - 49748.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc com envirotech-inc com

envirotech
Analytical Laboratory

Chloride

Client	Elm Ridge Resources	Project #:	03056-0223
Sample ID	Drill Pit	Date Reported.	04-27-09
Lab ID#	49747	Date Sampled	04-22-09
Sample Matrix	Soil	Date Received	04-22-09
Preservative	Cool	Date Analyzed.	04-24-09
Condition	Intact	Chain of Custody	6854

Parameter	Concentration (mg/Kg)
Total Chloride	**466**

Reference: U.S E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983
Standard Methods For The Examination of Water And Waste Water", 18th ed , 1992

Comments: **Marcus B #2.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc com

CHAIN OF CUSTODY RECORD

6854

Client: Elm Ridge Resources	Project Name / Location: Marcus B #2
Client Address:	Sampler Name: R. Nielsen
Client Phone No.:	Client No.: 03056-0223

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No	Sample Matrix	No./Volume of Containers	Preservative HgCl2	Preservative HCl	Preservative Cool	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
Drill Pit	4/22/09	15:02	49747	(Soil) Sludge Solid Aqueous	1-4oz			X	X	X							X	X				X	X
				Soil Sludge Solid Aqueous																			
				Soil Sludge Solid Aqueous																			
				Soil Sludge Solid Aqueous																			
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				Soil Sludge Solid Aqueous																			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Rachel Nielsen	4/22/09	16:52	[signature]	4/22/09	16:52
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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