

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-  
Revised October 10,

Submit 2 Copies to approp  
District Office in accord  
with Rule 116 on l  
side of 1

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final R

|   |                                       |
|---|---------------------------------------|
| Name of Company: Elm Ridge Exploration    | Contact: Amy Mackey                   |
| Address: PO Box 156, Bloomfield, NM 87413 | Telephone No.: (505) 632-3476 Ext 201 |
| Facility Name: East Bisti Coal 6-1        | Facility Type: Gas Well               |

|                        |                |                        |
|------------------------|----------------|------------------------|
| Surface Owner: Federal | Mineral Owner: | Lease No.: SF-078062-A |
|------------------------|----------------|------------------------|

254-A

LOCATION OF RELEASE

|                  |              |                 |              |                      |                         |                       |                       |                    |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|
| Unit Letter<br>A | Section<br>6 | Township<br>25N | Range<br>11W | Feet from the<br>830 | North/South Line<br>FNL | Feet from the<br>1300 | East/West Line<br>FEL | County<br>San Juan |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|

Latitude: 36.435066 Longitude: -108.040664

NATURE OF RELEASE

|  |  |                                |
|--|--|--------------------------------|
| Type of Release: Produced Water  | Volume of Release: Unknown                 | Volume Recovered: Unknown      |
| Source of Release: Earth Pit   | Date and Hour of Occurrence:<br>Historical | Date and Hour of Discovery: NA |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                           |                                |
| By Whom?   | Date and Hour                              |                                |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.  |                                |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Produced Water from gas well at the mentioned location formerly discharged into an earthen pit on location. The well has been altered to no longer dra into an earthen pit.

Describe Area Affected and Cleanup Action Taken.\*

Blow sand was removed from the earthen pit, and approximately sixty-four (64) cubic yards of 'production sludge' was removed from the earthen pit. A 5-point composite sample was collected from approximately one (1) foot below the earthen pit once it was removed. The sample was analyzed in the fi for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and in Envirotech's laboratory for benzene and BTEX via USEPA Method 8021 and for total chlorides via USEPA Method 4500B. The sample returned results below the 'Pit Rule' standards of 100 mg/kg TPH, 0.2 mg/kg benzene, 50 mg/kg BTEX and 250 mg/kg total chlorides, confirming that a release had not occurred. Analytical results are attached for your reference.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

OIL CONSERVATION DIVISION

|   |                                  |  |                                   |
|---|----------------------------------|--|-----------------------------------|
| Signature:                              | Approved by District Supervisor: |  |                                   |
| Printed Name: Ms. Amy Mackey            | Approval Date:                   |  |                                   |
| Title: Administrative Manager           | Expiration Date:                 |  | Attached <input type="checkbox"/> |
| E-mail Address: amackey1@elmr ridge.net | Conditions of Approval:          |  |                                   |
| Date: 10/28/09                          | Phone: 505-632-3476 Ext 201      |  |                                   |

\* Attach Additional Sheets If Necessary

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

Form C-  
July 21,

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: East Bisti Coal 6-1  
API Number: 3004527871 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr A Section 6 Township 25N Range 11W County: San Juan  
Center of Proposed Design: Latitude 36.435066 Longitude -108.040664 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 12' x W 12' x D 5'

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: \_\_\_\_\_ 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 ☐ Not labeled

Liner type: Thickness \_\_\_\_\_ mil ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_

5.

☐ **Alternative Method:**

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

6.

**Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify \_\_\_\_\_

7.

**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

☐ Screen ☐ Netting ☐ Other \_\_\_\_\_

☐ Monthly inspections (If netting or screening is not physically feasible)

8.

**Signs:** Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.3.103 NMAC

9.

**Administrative Approvals and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

**Please check a box if one or more of the following is requested, if not leave blank:**

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

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

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

- 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.

☐ Yes ☐ No

Within 500 feet of a wetland.

☐ 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.

☐ Yes ☐ No

FEMA map

11.

**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design)      API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design)      API Number: \_\_\_\_\_

☐ Previously Approved Operating and Maintenance Plan      API Number: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

**Proposed Closure:** 19.15.17.13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System

☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

☐ On-site Closure Method (Only for temporary pits and closed-loop systems)

☐ In-place Burial ☐ On-site Trench Burial

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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

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

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

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

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

☐ 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): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

E-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

20.

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

**OCD Representative Signature:** \_\_\_\_\_ **Approval Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **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:** 9/4/09

22.

**Closure Method:**

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

23.

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

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

Disposal Facility Name: Envirotech Landfarm #2 Disposal Facility Permit Number: NM-01-0011

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)  
☐ Plot Plan (for on-site closures and temporary pits)  
☒ Confirmation Sampling Analytical Results (if applicable) **See Attached**  
☐ Waste Material Sampling Analytical Results (required for on-site closure)  
☒ Disposal Facility Name and Permit Number **Envirotech Landfarm #2, NM-01-0011**  
☒ Soil Backfilling and Cover Installation **See Attached**  
☒ Re-vegetation Application Rates and Seeding Technique **Pursuant to the BLM MOU**  
☒ Site Reclamation (Photo Documentation) **See Attached**

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): Ms. Amy Mackey Title: Administrative Manager

Signature: \_\_\_\_\_ Date: 10/28/09

E-mail address: amackey1@elmr ridge.net Telephone: (505) 632-3476 x 201

### **Earthen Pit Closure Checklist**

- 1) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close all former earthen pits prior to the closure date agreed upon by the New Mexico Oil Conservation Division (NMOCD) of December 31, 2009.  
**Closure date for the earth pit located at East Bisti Coal 6-1 well site is September 4, 2009.**
- 2) In accordance with Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximity to surface water sources and distance to groundwater.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.  
**Notification was provided to Mr. Brad Jones of the NMOCD Santa Fe Office on August 4, 2009, along with a schedule of on-site activities; see attached *Notification Letter*.**
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of on-site activities, 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 an earthen pit. 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 earth pit 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 will receive notice at least 24 hours prior to the beginning of closure activities.  
**Notification was provided to the Bureau of Land Management on August 26, 2009; see attached *Sundry Notice* and *Return Receipt*.**

- 6) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all liquids and/or sludge, to visual extents, prior to closure sampling. 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 C Paragraph (1) NMAC.

**On August 31, 2009 through September 4, 2009, approximately 64 cubic yards of production sludge was removed from the earthen pit and disposed of at Envirotech's NMOCD permitted soil remediation facility, Landfarm #2, Permit # NM-01-0011; see attached *Bill of Lading*.**

- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.

**All on-site equipment will be used for the continued operation of the East Bisti Coal 6-1 well site; see attached *Field Sheet* and *Site Photographs*.**

- 8) Once the earthen pit is removed to visual extents of contamination, a five (5)-point composite sample will be collected from directly below the liner(s) or at native soil. Additional discrete samples will be collected from any area that is wet, discolored, or show 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 C Paragraph (3) NMAC.

**On September 4, 2009, a five (5)-point composite sample was collected of native soil beneath the earthen pit and analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and analyzed in the laboratory for benzene and BTEX via USEPA Method 8021B and for total chlorides via USEPA Method 4500B. The sample returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard, the 50 mg/kg BTEX standard and the 250 mg/kg total chloride standard, confirming that a release did NOT occur.**

| NAME                        | Benzene        | BTEX         | Chlorides | TPH       |
|-----------------------------|----------------|--------------|-----------|-----------|
| Pit Rule Standard           | 0.2 mg/kg      | 50 mg/kg     | 250 mg/kg | 100 mg/kg |
| Earth Pit Comp 1' Below Pit | < 0.0009 mg/kg | 0.0282 mg/kg | 300 mg/kg | 16 mg/kg  |
| Background                  | NS             | NS           | 145 mg/kg | NS        |

- 9) Depending on soil sample results the area will be either backfilled or the area will be excavated.

1) 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 C Paragraph (3) 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 (4) of Subsection C of 19.15.17.13 NMAC.

**Completed Form C-141 is attached for your review.**

- 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 (1) 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.

**Elm Ridge Exploration has backfilled the excavated area with non-waste containing earthen material, and installed a soil cover of at least one (1) foot thick of suitable material to establish vegetation at this site. The soil cover has been graded in such a way that it conforms to the grade of the natural surroundings, and will prevent ponding of water and erosion of the cover material; see *Site Photographs*.**

- 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 been re-seeded and when it has achieved successful re-vegetation.

**Elm Ridge Exploration has restored, recontoured and re-seeded the excavated area in accordance with BLM standards as outlined in the Memorandum of Understanding (MOU).**

- 2) If soil samples exceed the regulatory standards stated above:

- 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 (4) of Subsection C of 19.15.17.13 NMAC.

**The five (5)-point composite sample of native soil beneath the earthen pit returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard, the 50 mg/kg BTEX standard and the 250 mg/kg above background total chloride standard, confirming that a release did NOT occur.**

- 10) Elm Ridge Exploration will submit a closure report within 60 days following the earthen pit closure. The closure 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.  
**See attached C-144 Closure Form and attached Form C-141 Release Notification Form. Closure report has been submitted prior to November 4, 2009.**


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## Track & Confirm

### Search Results

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Service(s): Certified Mail™

Status: Delivered

Your item was delivered at 10:11 AM on August 26, 2009 in FARMINGTON, NM 87401.

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Enter Label/Receipt Number.

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No FEAR Act/EEO Data

East Bisti Coal 6-1

08056 - 0197

Carson Unit 15 com 323

08056 - 0194

Buena Buerte 3L com 1

08056 - 0140

Carson Unit #206

08056 - 0195

Carson 10-332

08056 - 0193

Buena Buerte 42 com 1

08056 - 0192

Buena Buerte 3G com 1

08056 - 0189

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|--|---------|---------------|
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| Return Receipt Fee (Endorsement Required)      | 2.30    | 08.25.09      |
| Restricted Delivery Fee (Endorsement Required) | —       | - Alex        |
| Total Postage & Fees                           | \$ 6.83 |               |

Sent To: Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Ste. A  
Farmington, NM 87401

PS Form 3811, February 2004

See Reverse for Instructions

### SENDER: COMPLETE THIS SECTION

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse of this card and attach the card to you.
- 3. Attach this card to the back of the mailpiece, or on the inside space permits.

1. Article Addressed to:

Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Ste. A  
Farmington, NM 87401

2. Article Number (if Restricted Delivery is desired)

PS Form 3811, February 2004

### COMPLETE THIS SECTION ON DELIVERY

- A. Signature: *[Signature]* ☐ Agent ☐ Addressee
- B. Received by (Printed Name): *[Signature]* G. Date of Delivery: *[Signature]*
- D. Is delivery address different from item 1? ☐ Yes ☐ No
- # YES, enter delivery address below: ☐ No

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AUG 27 2009

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- ☒ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.
4. Restricted Delivery? (Extra Fee) ☐ Yes

7007 1490 0000 5398 9343

Domestic Return Receipt

102505-00-04



August 24, 2009

Project No. 03056-0194

Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Suite A  
Farmington, New Mexico 87401

Phone: (505) 599-8900

**RE: CARSON UNIT 15 COM 323 EARTH PIT CLOSURE NOTIFICATION**

Dear Mr. Kelly,

Please accept this letter and attached Sundry Notice as the necessary surface owner notification for earth pit closure activities at the Carson Unit 15 COM 323 well site, owned and operated by Elm Ridge Exploration. The Carson Unit 15 COM 323 well site is located in Unit K, Section 15, Township 25N, Range 12W, San Juan County, New Mexico. Closure activities are scheduled to begin on August 31, 2009 and continue through September 4, 2009.

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](mailto:jmcdaniel@envirotech-inc.com)

Enclosure: Sundry Notice

Cc: Client File No. 03056

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.*

5. Lease Serial No.  
NM-070322

6. If Indian, Allottee or Tribe Name

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

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator  
Elm Ridge Exploration

3a. Address  
PO Box 156  
Bloomfield, NM 87413

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

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1610 FSL 1580 FWL, K-15-25N-12W, Lm. 36.386364 long. -108.102662

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

8. Well Name and No.  
Carson Unit 15 COM 323

9. API Well No.  
30-045-27662

10. Field and Pool or Exploratory Area

11. Country or Parish, State  
San Juan County, NM

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

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |   |  |   |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off                           |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity                           |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other Closure of an Earth Pit |
|  | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       |   |
|  | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> 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 recompleate 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 recompleation 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 begin closure activities for an earthen pit located at the above mentioned site. All formal notifications have been made. Closure activities are scheduled to being on Monday, August 31, 2009 and last through September 4, 2009.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)  
Ms. Amy Mackey

Title Administrative Manager

Signature

Date 08/24/2009

**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)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13* - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment.

## NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

**PRINCIPAL PURPOSE:** The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

**ROUTINE USES:** Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

**EFFECT OF NOT PROVIDING THE INFORMATION:** Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

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Sender's Name James McDaniel Phone 5051632-0615

Company ENVIROTECH

Address 3795 HIGHWAY 64

City FARMINGTON State NM ZIP 87401

2 Your Internal Billing Reference 03056-0241

3 To Recipient's Name Brad Jones Phone 5051476-3487

Company N.M. Oil Conservation Division

Recipient's Address 1220 So. St. Francis Drive

City Santa Fe State NM ZIP 87505

0401633191



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☐ No Signature Required ☐ Direct Signature ☐ Indirect Signature

**9 Total Packages** 1 **Total Weight** 1.0 **Total Declared Value** 10

519



August 4, 2009

Project No. 03056-0241

Mr. Brad Jones  
New Mexico Oil Conservation Division  
1220 South St. Francis Street  
Santa Fe, New Mexico 87505

Phone (505) 476-3487

**RE: EARTH PIT CLOSURE NOTIFICATIONS AND PROPOSED CLOSURE SCHEDULE**

Dear Mr. Jones,

Envirotech, Inc., on the behalf of Elm Ridge Exploration, would like to submit this notification to begin closure activities at the below mentioned locations. Attached to this document is a proposed closure schedule for the months of August and September of 2009. Should this schedule be approved by your office, closure activities will begin as scheduled, with surface owner notifications being made at a minimum of 24 hours prior to the beginning of closure activities and a maximum of one (1) week prior to closure activities. Additional closure notifications and schedules will be made prior to beginning any closure activities. This letter will act as the closure notification for the following sites:

|                            |                       |                          |                        |
|----------------------------|-----------------------|--------------------------|------------------------|
| Bisti Coal 20-2            | Bisti Coal 6-1        | Bisti Coal 6-2           | Bisti Coal 7-1         |
| Bisti Coal 7 COM 2         | Bisti Coal 8 COM 1    | Bisti Coal 8L COM 2      | Bisti Coal 9-1         |
| Bisti Coal 9 COM 2         | Bisti Coal 21-1       | Bisti Coal 21 COM 2      | Bisti Coal 22-2        |
| Bisti Coal 28-1            | Bisti Coal 29-1       | Bisti Coal 29-2          | Bisti Coal 30 COM 1    |
| Bisti Coal 31-1            | Bisti Coal 4-1        | Bisti Coal 4 COM 2       | Bisti Coal 5 COM 1     |
| Bisti Coal 5K COM 2        | Carson 10-332         | Buena Suerte 3 G COM 1   | Buena Suerte 3 L COM 1 |
| Buena Suerte 32 G COM 1    | East Bisti Coal 6-1   | Buena Suerte 4 L COM 1   | Carson Unit 15 COM 323 |
| Carson Unit 206            | Carson Unit 313       | Pete Morrow 1            | Pete Morrow 2          |
| North Bisti Coal 32M COM 2 | North Bisti Coal 31-1 | Sam Jackson State COM 1  | Jeter COM 2            |
| West Bisti Coal 11 F COM 1 | West Bisti Coal 12-1  | West Bisti Coal 13-1     | West Bisti Coal 11-2   |
| West Bisti Coal 10-2       | West Bisti Coal 15-1  | West Bisti Coal 14 COM 1 | West Bisti Coal 15-2   |
| West Bisti Coal 22-2       | West Bisti Coal 23-1  | West Bisti Coal 22 COM 1 | West Bisti Coal 24-1   |
| West Bisti Coal 24 COM 2   | West Bisti Coal 25-1  | West Bisti Coal 25 2Y    | Jicarilla Apache I-11  |
| Sheila Hixon 1             | Bisti Coal 16-2       |                          |                        |

Elm Ridge Exploration is proposing to close the earthen pits at the above listed well locations based on the attached closure schedule.

We appreciate the opportunity to be of service. Should 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](mailto:jmcdaniel@envirotech-inc.com)

ELM RIDGE EXPLORATION

Amy Mackey  
Administrative Manager

[amackey1@elmridge.net](mailto:amackey1@elmridge.net)

Attachments: Closure Schedule



# August 2009

| Sunday | Monday   | Tuesday  | Wednesday  | Thursday   | Friday   | Saturday |
|--------|--|--|--|--|--|----------|
|        |  |  |  |  |  | 1        |
| 2      | 3  | 4  | 5  | 6  | 7  | 8        |
| 9      | 10<br>Blatt Coal 20-2<br>Blatt Coal 21-1<br>Blatt Coal 21 COM 2<br>Blatt Coal 22-2<br>Blatt Coal 28-1  | 11<br>Blatt Coal 20-2<br>Blatt Coal 21-1<br>Blatt Coal 21 COM 2<br>Blatt Coal 22-2<br>Blatt Coal 28-1  | 12<br>Blatt Coal 20-2<br>Blatt Coal 21-1<br>Blatt Coal 21 COM 2<br>Blatt Coal 22-2<br>Blatt Coal 28-1  | 13<br>Blatt Coal 20-2<br>Blatt Coal 21-1<br>Blatt Coal 21 COM 2<br>Blatt Coal 22-2<br>Blatt Coal 28-1  | 14<br>Blatt Coal 20-2<br>Blatt Coal 21-1<br>Blatt Coal 21 COM 2<br>Blatt Coal 22-2<br>Blatt Coal 28-1  | 15       |
| 16     | 17<br>Blatt Coal 28-1<br>Blatt Coal 29-2<br>Blatt Coal 30 COM 1<br>Blatt Coal 31-1<br>Blatt Coal 4-1<br>Blatt Coal 4 COM 2<br>Blatt Coal 5 COM 1<br>Blatt Coal 5K COM 2<br>Blatt Coal 16-2       | 18<br>Blatt Coal 28-1<br>Blatt Coal 29-2<br>Blatt Coal 30 COM 1<br>Blatt Coal 31-1<br>Blatt Coal 4-1<br>Blatt Coal 4 COM 2<br>Blatt Coal 5 COM 1<br>Blatt Coal 5K COM 2<br>Blatt Coal 16-2 | 19<br>Blatt Coal 28-1<br>Blatt Coal 29-2<br>Blatt Coal 30 COM 1<br>Blatt Coal 31-1<br>Blatt Coal 4-1<br>Blatt Coal 4 COM 2<br>Blatt Coal 5 COM 1<br>Blatt Coal 5K COM 2<br>Blatt Coal 16-2 | 20<br>Blatt Coal 28-1<br>Blatt Coal 29-2<br>Blatt Coal 30 COM 1<br>Blatt Coal 31-1<br>Blatt Coal 4-1<br>Blatt Coal 4 COM 2<br>Blatt Coal 5 COM 1<br>Blatt Coal 5K COM 2<br>Blatt Coal 16-2 | 21<br>Blatt Coal 28-1<br>Blatt Coal 29-2<br>Blatt Coal 30 COM 1<br>Blatt Coal 31-1<br>Blatt Coal 4-1<br>Blatt Coal 4 COM 2<br>Blatt Coal 5 COM 1<br>Blatt Coal 5K COM 2<br>Blatt Coal 16-2 | 22       |
| 23     | 24<br>Blatt Coal 6-1<br>Blatt Coal 6-2<br>Blatt Coal 7-1<br>Blatt Coal 7 COM 2<br>Blatt Coal 8 COM 1<br>Blatt Coal 8L COM 2<br>Blatt Coal 9-1<br>Blatt Coal 9 COM 2                              | 25<br>Blatt Coal 6-1<br>Blatt Coal 6-2<br>Blatt Coal 7-1<br>Blatt Coal 7 COM 2<br>Blatt Coal 8 COM 1<br>Blatt Coal 8L COM 2<br>Blatt Coal 9-1<br>Blatt Coal 9 COM 2                        | 26<br>Blatt Coal 6-1<br>Blatt Coal 6-2<br>Blatt Coal 7-1<br>Blatt Coal 7 COM 2<br>Blatt Coal 8 COM 1<br>Blatt Coal 8L COM 2<br>Blatt Coal 9-1<br>Blatt Coal 9 COM 2                        | 27<br>Blatt Coal 6-1<br>Blatt Coal 6-2<br>Blatt Coal 7-1<br>Blatt Coal 7 COM 2<br>Blatt Coal 8 COM 1<br>Blatt Coal 8L COM 2<br>Blatt Coal 9-1<br>Blatt Coal 9 COM 2                        | 28<br>Blatt Coal 6-1<br>Blatt Coal 6-2<br>Blatt Coal 7-1<br>Blatt Coal 7 COM 2<br>Blatt Coal 8 COM 1<br>Blatt Coal 8L COM 2<br>Blatt Coal 9-1<br>Blatt Coal 9 COM 2                        | 29       |
| 30     | 31<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Blatt Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206 |  |  |  |  |          |

# September 2009

Sun Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

|    |  |  |  |  |  |    |
|----|--|--|--|--|--|----|
|    |  | 1<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Blisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206               | 2<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Blisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206               | 3<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Blisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206               | 4<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Blisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206               | 5  |
| 6  | 7<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Blisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Blisti Coal 31-1<br>West Blisti Coal 11 F COM 1<br>Jeter COM 2                       | 8<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Blisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Blisti Coal 31-1<br>West Blisti Coal 11 F COM 1<br>Jeter COM 2                       | 9<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Blisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Blisti Coal 31-1<br>West Blisti Coal 11 F COM 1<br>Jeter COM 2                       | 10<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Blisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Blisti Coal 31-1<br>West Blisti Coal 11 F COM 1<br>Jeter COM 2                      | 11<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Blisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Blisti Coal 31-1<br>West Blisti Coal 11 F COM 1<br>Jeter COM 2                      | 12 |
| 13 | 14<br>West Blisti Coal 12-1<br>West Blisti Coal 13-1<br>West Blisti Coal 11-2<br>West Blisti Coal 10-2<br>West Blisti Coal 14 COM 1<br>West Blisti Coal 15-1<br>West Blisti Coal 15-2<br>West Blisti Coal 22-2 | 15<br>West Blisti Coal 12-1<br>West Blisti Coal 13-1<br>West Blisti Coal 11-2<br>West Blisti Coal 10-2<br>West Blisti Coal 14 COM 1<br>West Blisti Coal 15-1<br>West Blisti Coal 15-2<br>West Blisti Coal 22-2 | 16<br>West Blisti Coal 12-1<br>West Blisti Coal 13-1<br>West Blisti Coal 11-2<br>West Blisti Coal 10-2<br>West Blisti Coal 14 COM 1<br>West Blisti Coal 15-1<br>West Blisti Coal 15-2<br>West Blisti Coal 22-2 | 17<br>West Blisti Coal 12-1<br>West Blisti Coal 13-1<br>West Blisti Coal 11-2<br>West Blisti Coal 10-2<br>West Blisti Coal 14 COM 1<br>West Blisti Coal 15-1<br>West Blisti Coal 15-2<br>West Blisti Coal 22-2 | 18<br>West Blisti Coal 12-1<br>West Blisti Coal 13-1<br>West Blisti Coal 11-2<br>West Blisti Coal 10-2<br>West Blisti Coal 14 COM 1<br>West Blisti Coal 15-1<br>West Blisti Coal 15-2<br>West Blisti Coal 22-2 | 19 |
| 20 | 21<br>West Blisti Coal 22 COM 1<br>West Blisti Coal 23-1<br>West Blisti Coal 24-1<br>West Blisti Coal 24 COM 2<br>West Blisti Coal 25-1<br>West Blisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Shella Hixon 1   | 22<br>West Blisti Coal 22 COM 1<br>West Blisti Coal 23-1<br>West Blisti Coal 24-1<br>West Blisti Coal 24 COM 2<br>West Blisti Coal 25-1<br>West Blisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Shella Hixon 1   | 23<br>West Blisti Coal 22 COM 1<br>West Blisti Coal 23-1<br>West Blisti Coal 24-1<br>West Blisti Coal 24 COM 2<br>West Blisti Coal 25-1<br>West Blisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Shella Hixon 1   | 24<br>West Blisti Coal 22 COM 1<br>West Blisti Coal 23-1<br>West Blisti Coal 24-1<br>West Blisti Coal 24 COM 2<br>West Blisti Coal 25-1<br>West Blisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Shella Hixon 1   | 25<br>West Blisti Coal 22 COM 1<br>West Blisti Coal 23-1<br>West Blisti Coal 24-1<br>West Blisti Coal 24 COM 2<br>West Blisti Coal 25-1<br>West Blisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Shella Hixon 1   | 26 |
| 27 | 28   | 29   | 30   |  |  |    |



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

|                |                          |                  |            |
|----------------|--------------------------|------------------|------------|
| Client:        | Elm Ridge Exploration    | Project #:       | 03056-0197 |
| Sample No.:    | 1                        | Date Reported:   | 10/12/2009 |
| Sample ID:     | Earth Pit Comp @1' Below | Date Sampled:    | 9/4/2009   |
| Sample Matrix: | Soil                     | Date Analyzed:   | 9/4/2009   |
| Preservative:  | Cool                     | Analysis Needed: | TPH-418.1  |
| Condition:     | Cool and Intact          |                  |            |

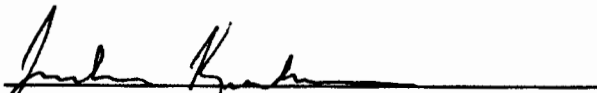
| Parameter                    | Concentration<br>(mg/kg) | Det.<br>Limit<br>(mg/kg) |
|------------------------------|--------------------------|--------------------------|
| Total Petroleum Hydrocarbons | 16                       | 5.0                      |

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **East Bisti Coal 6-1**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Joshua Kirchner  
Printed



James McDaniel  
Printed

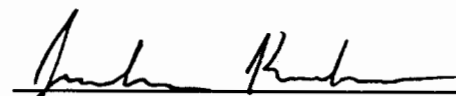


CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 4-Sep-09

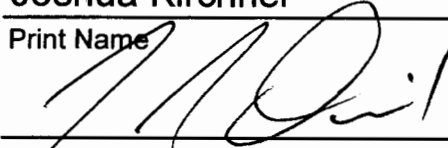
| Parameter | Standard<br>Concentration<br>mg/L | Concentration<br>Reading<br>mg/L |
|-----------|-----------------------------------|----------------------------------|
| TPH       | 100                               | 201                              |
|           | 200                               |                                  |
|           | 500                               |                                  |
|           | 1000                              |                                  |

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

  
Analyst

10/20/2009  
Date

Joshua Kirchner  
Print Name

  
Review

10/20/09  
Date

James McDaniel  
Print Name

|                    |               |                     |            |
|--------------------|---------------|---------------------|------------|
| Client:            | ElmRidge      | Project #:          | 03056-0197 |
| Sample ID:         | Pit Composite | Date Reported:      | 09-10-09   |
| Laboratory Number: | 51546         | Date Sampled:       | 09-04-09   |
| Chain of Custody:  | 7896          | Date Received:      | 09-04-09   |
| Sample Matrix:     | Soil          | Date Analyzed:      | 09-09-09   |
| Preservative:      | Cool          | Date Extracted:     | 09-08-09   |
| Condition:         | Intact        | Analysis Requested: | BTEX       |

| Parameter         | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|-------------------|--------------------------|--------------------------|
| Benzene           | ND                       | 0.9                      |
| Toluene           | 6.3                      | 1.0                      |
| Ethylbenzene      | 4.9                      | 1.0                      |
| p,m-Xylene        | 10.7                     | 1.2                      |
| o-Xylene          | 6.3                      | 0.9                      |
| <b>Total BTEX</b> | <b>28.2</b>              |                          |

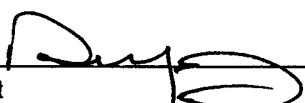
ND - Parameter not detected at the stated detection limit.

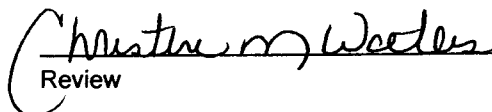
| Surrogate Recoveries: | Parameter           | Percent Recovery |
|-----------------------|---------------------|------------------|
|                       | Fluorobenzene       | 97.0 %           |
|                       | 1,4-difluorobenzene | 97.0 %           |
|                       | Bromochlorobenzene  | 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: **East Bisti Coal 6-1**

Analyst 

  
 Review

|                    |                |                |          |
|--------------------|----------------|----------------|----------|
| Client:            | N/A            | Project #:     | N/A      |
| Sample ID:         | 09-09-BT QA/QC | Date Reported: | 09-10-09 |
| Laboratory Number: | 51550          | Date Sampled:  | N/A      |
| Sample Matrix:     | Soil           | Date Received: | N/A      |
| Preservative:      | N/A            | Date Analyzed: | 09-09-09 |
| Condition:         | N/A            | Analysis:      | BTEX     |

|                     |             |             |             |           |            |
|---------------------|-------------|-------------|-------------|-----------|------------|
| <b>Benzene</b>      | 2.0452E+006 | 2.0493E+006 | <b>0.2%</b> | <b>ND</b> | <b>0.1</b> |
| <b>Toluene</b>      | 1.9290E+006 | 1.9329E+006 | <b>0.2%</b> | <b>ND</b> | <b>0.1</b> |
| <b>Ethylbenzene</b> | 1.7270E+006 | 1.7305E+006 | <b>0.2%</b> | <b>ND</b> | <b>0.1</b> |
| <b>p,m-Xylene</b>   | 4.4426E+006 | 4.4515E+006 | <b>0.2%</b> | <b>ND</b> | <b>0.1</b> |
| <b>o-Xylene</b>     | 1.6575E+006 | 1.6608E+006 | <b>0.2%</b> | <b>ND</b> | <b>0.1</b> |

|                     |           |           |             |                |            |
|---------------------|-----------|-----------|-------------|----------------|------------|
| <b>Benzene</b>      | <b>ND</b> | <b>ND</b> | <b>0.0%</b> | <b>0 - 30%</b> | <b>0.9</b> |
| <b>Toluene</b>      | <b>ND</b> | <b>ND</b> | <b>0.0%</b> | <b>0 - 30%</b> | <b>1.0</b> |
| <b>Ethylbenzene</b> | <b>ND</b> | <b>ND</b> | <b>0.0%</b> | <b>0 - 30%</b> | <b>1.0</b> |
| <b>p,m-Xylene</b>   | <b>ND</b> | <b>ND</b> | <b>0.0%</b> | <b>0 - 30%</b> | <b>1.2</b> |
| <b>o-Xylene</b>     | <b>ND</b> | <b>ND</b> | <b>0.0%</b> | <b>0 - 30%</b> | <b>0.9</b> |

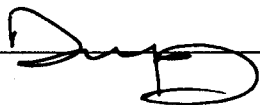
|                     |           |             |             |              |                 |
|---------------------|-----------|-------------|-------------|--------------|-----------------|
| <b>Benzene</b>      | <b>ND</b> | <b>50.0</b> | <b>49.5</b> | <b>99.0%</b> | <b>39 - 150</b> |
| <b>Toluene</b>      | <b>ND</b> | <b>50.0</b> | <b>49.1</b> | <b>98.2%</b> | <b>46 - 148</b> |
| <b>Ethylbenzene</b> | <b>ND</b> | <b>50.0</b> | <b>48.5</b> | <b>97.0%</b> | <b>32 - 160</b> |
| <b>p,m-Xylene</b>   | <b>ND</b> | <b>100</b>  | <b>102</b>  | <b>102%</b>  | <b>46 - 148</b> |
| <b>o-Xylene</b>     | <b>ND</b> | <b>50.0</b> | <b>46.3</b> | <b>92.6%</b> | <b>46 - 148</b> |

ND - Parameter not detected at the stated detection limit.

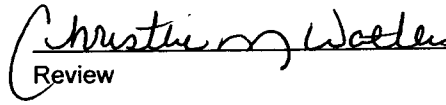
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.  
 Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

**Comments: QA/QC for Samples 51546, 51548, 51550, 51551, and 51555 - 51556.**

Analyst



Review



|                |               |                   |            |
|----------------|---------------|-------------------|------------|
| Client:        | Elm Ridge     | Project #:        | 03056-0197 |
| Sample ID:     | Pit Composite | Date Reported:    | 09-11-09   |
| Lab ID#:       | 51546         | Date Sampled:     | 09-04-09   |
| Sample Matrix: | Soil          | Date Received:    | 09-04-09   |
| Preservative:  | Cool          | Date Analyzed:    | 09-09-09   |
| Condition:     | Intact        | Chain of Custody: | 7896       |

**Parameter****Concentration (mg/Kg)****Total Chloride****300**

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: **East Bisti Coal 6-1.**

Analyst

Review

|                |            |                   |            |
|----------------|------------|-------------------|------------|
| Client:        | Elm Ridge  | Project #:        | 03056-0197 |
| Sample ID:     | Background | Date Reported:    | 09-11-09   |
| Lab ID#:       | 51547      | Date Sampled:     | 09-04-09   |
| Sample Matrix: | Soil       | Date Received:    | 09-04-09   |
| Preservative:  | Cool       | Date Analyzed:    | 09-09-09   |
| Condition:     | Intact     | Chain of Custody: | 7896       |

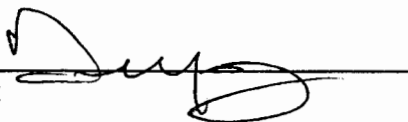
| Parameter | Concentration (mg/Kg) |
|-----------|-----------------------|
|-----------|-----------------------|

**Total Chloride****145**

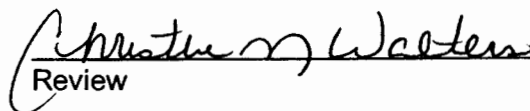
Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.  
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **East Bisti Coal 6-1.**

Analyst



Review





7096

[illegible]

PAGE NO: 1 OF 1**envirotech**(505) 632-0615 (800) 362-1879  
5796 U.S. Hwy 64, Farmington, NM 87401

ENVIRONMENTAL SPECIALIST

RJDATE STARTED: 8/31/09

LAT:

DATE FINISHED: 9/3/09

LONG:

**FIELD REPORT: BGT / PIT CLOSURE VERIFICATION**

LOCATION: NAME: East Bisti Coal WELL #: 1 TEMP PIT: PERMANENT PIT: X BGT:  
 LEGAL ADD: UNIT: SEC: 6 TWP: 25N RNG: 11W PM: NMPPM  
 QTR/FOOTAGE: E30' FNL 1310' FEL CNTY: SS ST:

EXCAVATION APPROX: 12 FT. X 12 FT. X 5 FT. DEEP CUBIC YARDAGE:DISPOSAL FACILITY: Envirotech CF #2 REMEDIATION METHOD: LandfarmLAND OWNER: Federal API: BGT / PIT VOLUME:CONSTRUCTION MATERIAL: Earth DOUBLE-WALLED, WITH LEAK DETECTION: NA

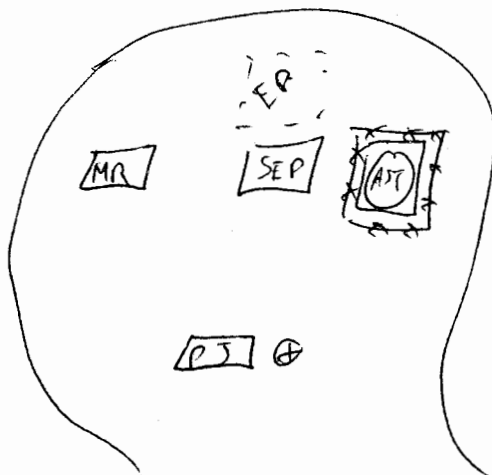
LOCATION APPROXIMATELY: FT. FROM WELLHEAD

DEPTH TO GROUNDWATER:

TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP

BENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, GRO & DRO FRACTION (8015)  $\leq 500$  mg/kg, TPH (418.1)  $\leq 2500$  mg/kg, CHLORIDES  $\leq 500$  mg/kgTEMPORARY PIT - GROUNDWATER  $\geq 100$  FEET DEEPBENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, GRO & DRO FRACTION (8015)  $\leq 500$  mg/kg, TPH (418.1)  $\leq 2500$  mg/kg, CHLORIDES  $\leq 1000$  mg/kg☒ PERMANENT PIT OR BGTBENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, TPH (418.1)  $\leq 100$  mg/kg, CHLORIDES  $\leq 250$  mg/kg**FIELD 418.1 ANALYSIS**

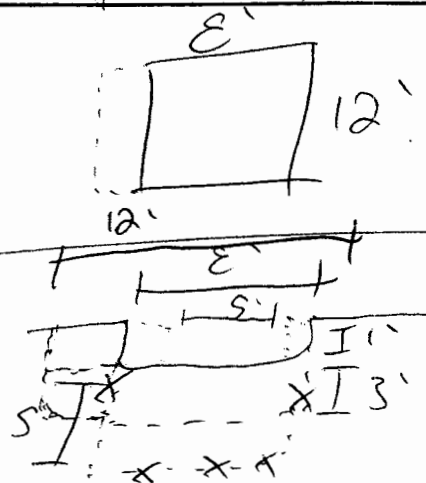
| TIME  | SAMPLE ID.  | LAB NO. | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. (mg/kg) |
|-------|-------------|---------|------------|----------|----------|---------|---------------|
| 8:25  | 200 STD     |         | -          | -        | -        | 210     |               |
| 8:40  | 5' deep     | 1       | 5.0        | 20       | 4        | 372     | 1408          |
| 9:41  | Wall Comp   | 2       | 5.0        | 20       | 4        | 4       | 16            |
| 9:54  | Bottom      | 3       | 5.0        | 20       | 4        | 12      | 24            |
| 10:02 | Wall Comp 2 | 4       | 5.0        | 20       | 4        | 0       | 0             |
|       |             | 5       |            |          |          |         |               |
|       |             | 6       |            |          |          |         |               |

**PERIMETER****FIELD CHLORIDES RESULTS****12' PROFILE**

| SAMPLE ID | READING | CALC. (mg/kg) |
|-----------|---------|---------------|
| 1         |         | 2409          |
| 2         |         | 800           |
| 3         |         | 27            |
| 4         |         | 45            |
| Bxct      | ND      | ND            |

**PID RESULTS**

| SAMPLE ID | RESULTS (ppm) |
|-----------|---------------|
| 100 STD   | 96.9          |
| 1         | 0.0           |
| 2         | 0.0           |
| 3         | 0.0           |
| 4         | 0.0           |

**LAB SAMPLES****NOTES:**

| SAMPLE ID | ANALYSIS  | RESULTS |
|-----------|-----------|---------|
|           | BENZENE   |         |
|           | BTEX      |         |
|           | GRO & DRO |         |
|           | CHLORIDES |         |

WORKORDER #

WHO ORDERED

|                               |  |   |
|-------------------------------|--|---|
| PAGE NO: <u>1</u> OF <u>1</u> |  <b>envirotech</b><br>(505) 632-0618 (800) 362-1879<br>5796 U.S. Hwy 64, Farmington, NM 87401 | ENVIRONMENTAL SPECIALIST:<br><i>SMK</i> |
| DATE STARTED:                 |  | LAT: <u>36.4349</u>                     |
| DATE FINISHED:                |  | LONG: <u>-108.0409</u>                  |

### FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

|                                       |                       |                 |                 |      |
|---------------------------------------|-----------------------|-----------------|-----------------|------|
| LOCATION: NAME: <u>EAST BAY COR 6</u> | WELL #: <u>1</u>      | TEMP PIT:       | PERMANENT PIT:  | BGT: |
| LEGAL ADD: UNIT: <u>6</u>             | SEC: <u>6</u>         | TWP: <u>24N</u> | RNG: <u>11W</u> | PM:  |
| QTR/FOOTAGE:                          | CNTY: <u>SAN JUAN</u> | ST:             |                 |      |

|  |   |
|--|---|
| EXCAVATION APPROX: <u>17</u> FT. X <u>12</u> FT. X <u>5</u> FT. DEEP | CUBIC YARDAGE:                                |
| DISPOSAL FACILITY: <u>envirotech</u>                                 | REMEDIAL METHOD: <u>Land Fill</u>             |
| LAND OWNER:  | API:  |
| CONSTRUCTION MATERIAL: <u>EARTH</u>                                  | BGT / PIT VOLUME:                             |
| LOCATION APPROXIMATELY: <u>EARTH</u>                                 | DOUBLE-WALLED, WITH LEAK DETECTION: <u>NA</u> |
| DEPTH TO GROUNDWATER:  | FROM WELLHEAD                                 |

#### TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP

BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 500 mg/kg

#### TEMPORARY PIT - GROUNDWATER ≥100 FEET DEEP

BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 1000 mg/kg

#### PERMANENT PIT OR BGT

BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, TPH (418.1) ≤ 100 mg/kg, CHLORIDES ≤ 250 mg/kg

#### FIELD 418.1 ANALYSIS

| TIME | SAMPLE ID | LAB NO. | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. (mg/kg) |
|------|-----------|---------|------------|----------|----------|---------|---------------|
|      | 200 STD   |         |            |          |          | 201     |               |
|      | 1         | 1       | 5          | 20       | 4        | 4       | 16            |
|      |           | 2       |            |          |          |         |               |
|      |           | 3       |            |          |          |         |               |
|      |           | 4       |            |          |          |         |               |
|      |           | 5       |            |          |          |         |               |
|      |           | 6       |            |          |          |         |               |

#### PERIMETER

#### FIELD CHLORIDES RESULTS

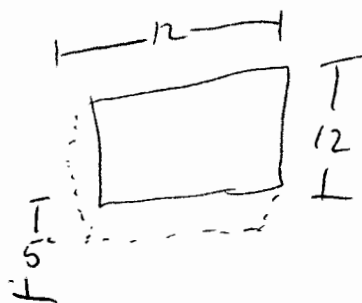
#### PROFILE



| SAMPLE ID | READING | CALC. (mg/kg) |
|-----------|---------|---------------|
| SRD       | 599.9   |               |
| 1         | 0.0     |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |

| PID RESULTS |               |
|-------------|---------------|
| SAMPLE ID   | RESULTS (ppm) |
| SRD         | 99.9          |
| 1           | 0.0           |
|             |               |
|             |               |
|             |               |
|             |               |
|             |               |



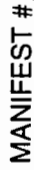
#### LAB SAMPLES

| SAMPLE ID | ANALYSIS  | RESULTS |
|-----------|-----------|---------|
|           | BENZENE   |         |
|           | BTEX      |         |
|           | GRO & DRO |         |
|           | CHLORIDES |         |
|           |           |         |
|           |           |         |

#### NOTES:

WORKORDER #

WHO ORDERED



34180

DATE 9-3-09 JOB# 03056-0/97

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME John McKinney COMPANY Elm Ridge SIGNATURE John McKinney






COMPANY CONTACT mark PHONE 329-2711 DATE 9-8-89



# Bill of Lading

**PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401**

DATE 9-3-05 JOB# 03056-0197

| LOAD NO.            | COMPLETE DESCRIPTION OF SHIPMENT |                        |            |      |     |  | TRANSPORTING COMPANY |      |       |   |
|---------------------|----------------------------------|------------------------|------------|------|-----|--|----------------------|------|-------|---|
|                     | POINT OF ORIGIN                  | DESTINATION            | MATERIAL   | GRID | YDS | BBLs   | COMPANY              | TRK# | TIME  | DRIVER SIGNATURE  |
| 1                   | Enviro tech                      | Elm Ridge East Bristol | Clean Fill | —    | 12  | —  | 4-21                 | 78   | 9:25  |  |
| 2                   | "                                | " " " "                | "          | —    | 20  | —  | 4-4                  | 74   | 9:57  |  |
| 3                   | "                                | " " " "                | "          | —    | 20  | —  |                      | 75   | 10:24 |  |
| 4                   | "                                | " " " "                | "          | —    | 12  | —  | 4-21                 | 78   | 12:50 |  |
|                     |                                  |                        |            |      | 64  |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
|                     |                                  |                        |            |      |     |  |                      |      |       |   |
| RESULTS: N/A        |                                  | LANDFARM EMPLOYEE:     |            |      |     | NOTES:  |                      |      |       |   |
|                     | CHLORIDE TEST                    |                        |            |      |     |  |                      |      |       |   |
|                     | PAINT FILTER TEST                |                        |            |      |     |  |                      |      |       |   |
| ENTERED SEP 09 2009 |                                  |                        |            |      |     |  |                      |      |       |   |

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME John McKenney COMPANY E/m Ridge SIGNATURE [Signature]

COMPANY CONTACT maet PHONE 827-2711 DATE 9-3-79



34187

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

### COMPLETE DESCRIPTION OF SHIPMENT

**RESULTS:**

**LANDFARM  
EMPLOYEE:**

NOTES:

ENTERED SEP 09 2009

327-2711

10

DATE 9.04.09

Elm Ridge Exploration  
East Bisti Coal 6-1  
Sec 6, Twn 25N, Rge 11W  
Project No. 03056-0197

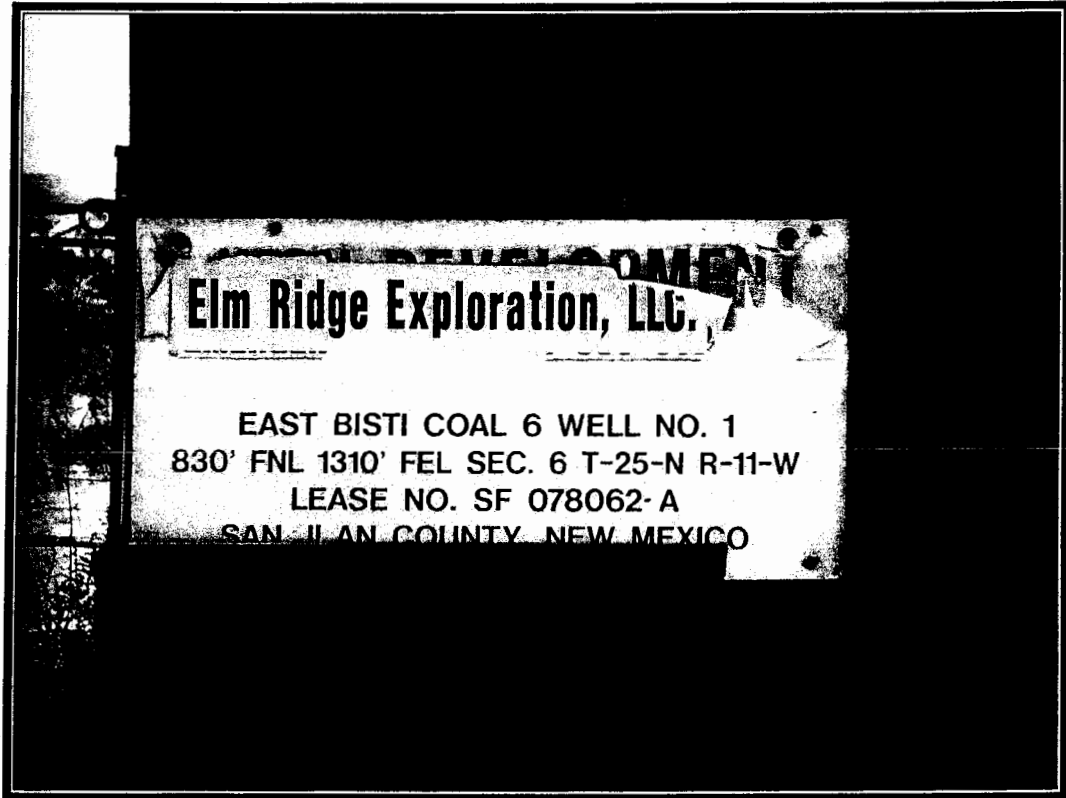


Photo 1: East Bisti Coal 6-1 Well Site

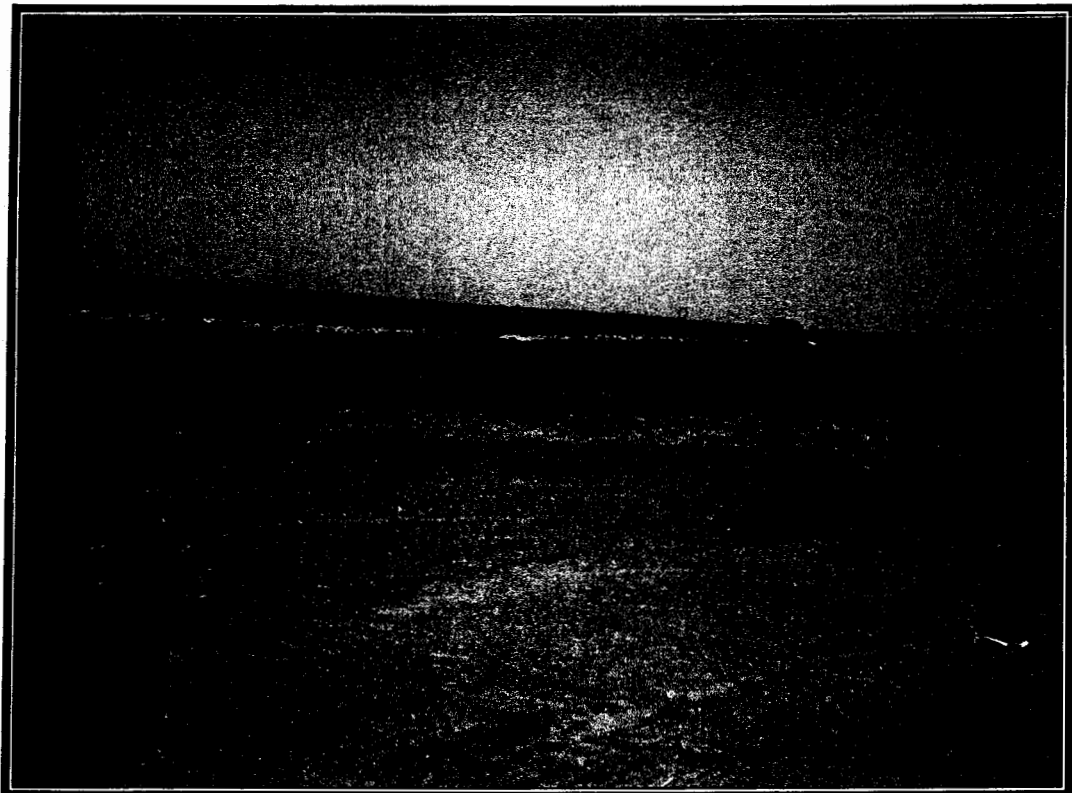


Photo 2: Excavated Area After Backfilling, Recontouring, and Re-seeding

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.

**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: <u>Elm Ridge Exploration</u>   | OGRID #: <u>149052</u>   |
| Address: <u>P.O. Box 156; Bloomfield, NM 87413</u>   |                          |
| Facility or well name: <u>East Bisti Coal 6-1</u>  |                          |
| API Number: <u>3004527871</u>  | OCD Permit Number: _____ |
| U/L or Qtr/Qtr <u>A</u> Section <u>6</u> Township <u>25N</u> Range <u>11W</u> County: <u>San Juan</u>  |                          |
| Center of Proposed Design: Latitude <u>36.434595</u> Longitude <u>-108.040485</u> NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983                        |                          |
| Surface Owner: <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment |                          |

2. ☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC Ceased operation prior to June 16, 2008

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 6' x W 10' x D 4'

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: \_\_\_\_\_ 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.



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' hogwire fencing with pipe railing

7.

**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☒ Screen ☐ Netting ☐ Other \_\_\_\_\_
- ☐ Monthly inspections (If netting or screening is not physically feasible)

8.

**Signs:** Subsection C of 19.15.17.11 NMAC

- ☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.3.103 NMAC

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.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> 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).<br>- Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>(Applies to temporary, emergency, or cavitation pits and below-grade tanks)<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>(Applies to permanent pits)<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> 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.<br>- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> 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.   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 500 feet of a wetland.  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within the area overlying a subsurface mine.   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within an unstable area.<br>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within a 100-year floodplain.<br>- FEMA map  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
|  | <input type="checkbox"/> Yes <input type="checkbox"/> 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 NMAC

☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC

☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_

☐ Previously Approved Operating and Maintenance Plan API Number: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13. **Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC  
**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC

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

☐ Climatological Factors Assessment

☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Quality Control/Quality Assurance Construction and Installation Plan

☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC

☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan

☐ Emergency Response Plan

☐ Oil Field Waste Stream Characterization

☐ Monitoring and Inspection Plan

☐ Erosion Control Plan

☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14. **Proposed Closure:** 19.15.17.13 NMAC  
**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☒ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System

☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

☐ On-site Closure Method (Only for temporary pits and closed-loop systems)

☐ In-place Burial ☐ On-site Trench Burial

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15. **Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)

☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

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

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

16. **Waste Removal Closure For Closed-loop System. That Utilize Above Ground Steel Tanks or Haul-trucks Only:** (19.15.17.13.D NMAC)  
**Instructions:** Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

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

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

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

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

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

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

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

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

17. **Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC

**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

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

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

18. **On-Site Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

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

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

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

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

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

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

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

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

19.

**Operator Application Certification:**

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

Name (Print): Ms. Amy Mackey Title: Administrative Manager

Signature: [Signature] Date: 3-2-09

e-mail address: amackey1@elmridge.net Telephone: (505) 632-3467 Ext. 201

20.

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

OCD Representative Signature: [Signature] Approval Date: 2/10/10

Title: Environmental Engineer OCD Permit Number: \_\_\_\_\_

21.

**Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC

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

☐ Closure Completion Date: \_\_\_\_\_

22.

**Closure Method:**

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

23.

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

**Instructions:** Please 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.

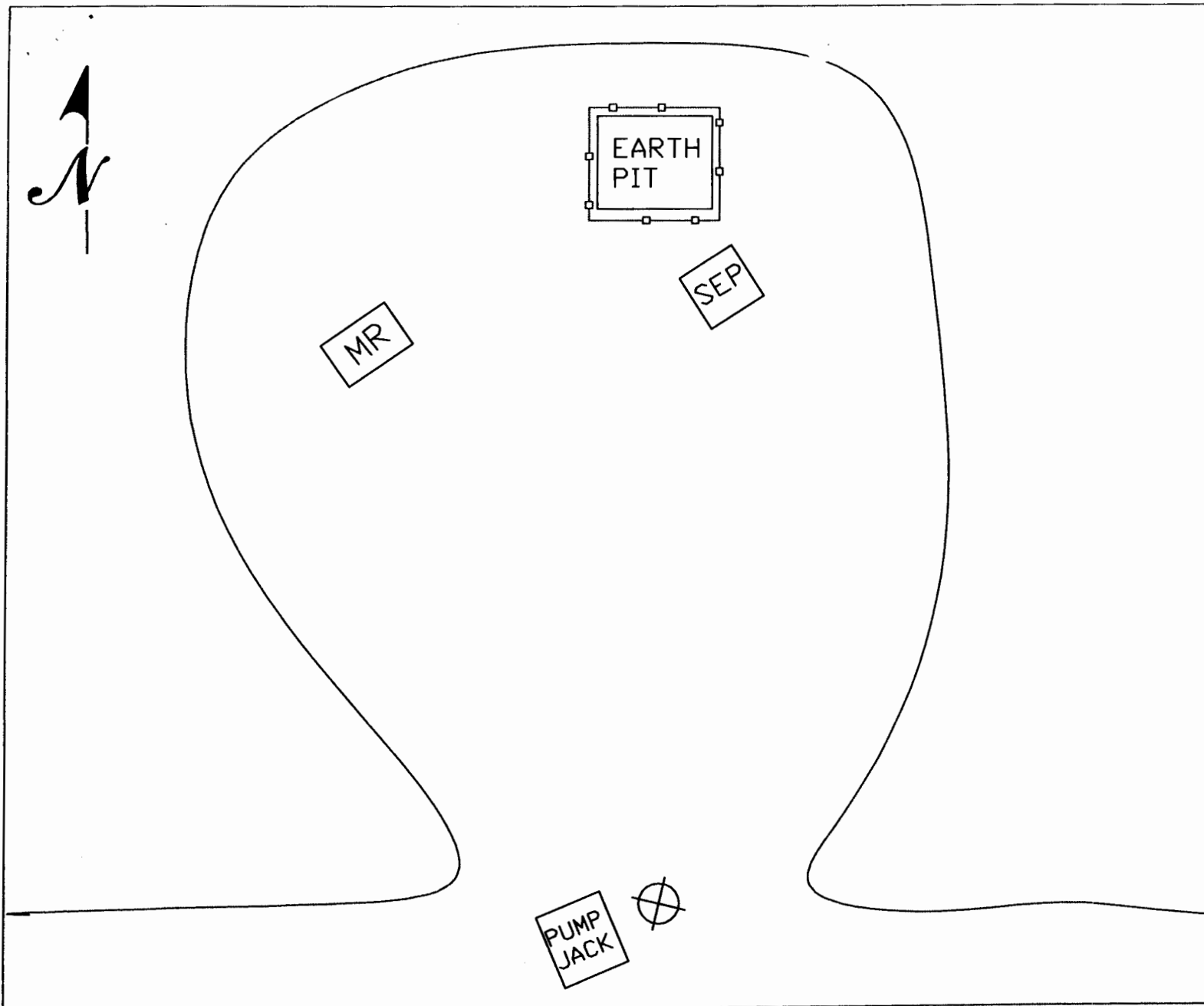
**Operator Closure Certification:**

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.

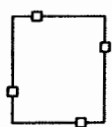
Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_



# LEGEND



4' Tall Hogwire Fencing



Berm



Well Head

## SITE MAP ELM RIDGE EXPLORATION EAST BISTI COAL 6-1 SEC 6 TWN 25N RGE 11W SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS

PROJECT N003056-0136

FIGURE NO. A

REV

### REVISIONS

| NO.      | DATE | BY       | DESCRIPTION |
|----------|------|----------|-------------|
| MAP DRWN | MDD  | 12/23/08 | BASE DRWN   |

ENVIRONMENTAL SCIENTISTS & ENGINEERS  
**ENVIROTECH**

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

# **EARTHEN PIT CLOSURE PLAN**

## **SITE NAME:**

**EAST BISTI COAL 6-1  
UNIT LETTER A, SECTION 6, TOWNSHIP 25N, RANGE 11W  
SAN JUAN COUNTY, NEW MEXICO  
LATITUDE 36.434595 LONGITUDE -108.040485**

## **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**

**EARTHEN PIT CLOSURE PLAN  
ELM RIDGE EXPLORATION  
EAST BISTI COAL 6-1  
SAN JUAN COUNTY, NEW MEXICO**

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## **INTRODUCTION**

Elm Ridge Exploration would like to submit a closure plan for the earthen pit at the East Bisti Coal 6-1 well site located in the NE ¼ NE ¼ of Section 6, Township 25N, Range 11W, 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 permanent unlined pit at the East Bisti Coal 6-1 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 former earthen pits prior to the closure date agreed upon by the New Mexico Oil Conservation Division of December 31, 2009.
- 2) In accordance with of Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximately to surface water sources and distance to groundwater.
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of on-site activities, 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 earthen pit. 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.

- 6) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all liquids, and/or sludge, to visual extents, prior to closure sampling. 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 C Paragraph (1) NMAC.
- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.
- 8) Once the earthen pit is removed to visual extents of contamination, a five (5) - point composite sample will be collected from directly below the liner(s) or at native soil. Additional discrete samples will be collected from any area that is wet, discolored or show 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 C Paragraph (3) NMAC.
- 9) 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 C Paragraph (3) 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 (4) of Subsection C 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.

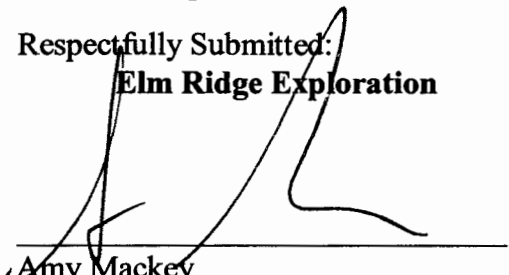
- b. If soil samples exceed the regulatory standards stated above.
  - i. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, shall submit a Form C-141 with the laboratory results so that the division may review the results to determine if additional delineation is required in accordance with Paragraph (4) of Subsection C of 19.15.17.13 NMAC.
  - ii. Activities beyond this point will be in accordance with 19.15.3.116 NMAC and 19.15.11.19 NMAC.

### **REPORTING**

Elm Ridge Exploration will submit a closure report within 60 days following the earthen pit closure. The closure 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.

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

RECEIVED OGD

2009 OCT 29 A 11:14

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

|   |                                       |
|---|---------------------------------------|
| Name of Company: Elm Ridge Exploration    | Contact: Amy Mackey                   |
| Address: PO Box 156, Bloomfield, NM 87413 | Telephone No.: (505) 632-3476 Ext 201 |
| Facility Name: East Bisti Coal 6-1        | Facility Type: Gas Well               |

|                        |                |                        |
|------------------------|----------------|------------------------|
| Surface Owner: Federal | Mineral Owner: | Lease No.: SF-078062-A |
|------------------------|----------------|------------------------|

254-A

LOCATION OF RELEASE

|                  |              |                 |              |                      |                         |                       |                       |                    |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|
| Unit Letter<br>A | Section<br>6 | Township<br>25N | Range<br>11W | Feet from the<br>830 | North/South Line<br>FNL | Feet from the<br>1300 | East/West Line<br>FEL | County<br>San Juan |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|

Latitude: 36.435066 Longitude: -108.040664

NATURE OF RELEASE

|  |  |                                |
|--|--|--------------------------------|
| Type of Release: Produced Water  | Volume of Release: Unknown                 | Volume Recovered: Unknown      |
| Source of Release: Earth Pit   | Date and Hour of Occurrence:<br>Historical | Date and Hour of Discovery: NA |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                           |                                |
| By Whom?   | Date and Hour                              |                                |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.  |                                |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Produced Water from gas well at the mentioned location formerly discharged into an earthen pit on location. The well has been altered to no longer drain into an earthen pit.

Describe Area Affected and Cleanup Action Taken.\*

Blow sand was removed from the earthen pit, and approximately sixty-four (64) cubic yards of 'production sludge' was removed from the earthen pit. A 5-point composite sample was collected from approximately one (1) foot below the earthen pit once it was removed. The sample was analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and in Envirotech's laboratory for benzene and BTEX via USEPA Method 8021 and for total chlorides via USEPA Method 4500B. The sample returned results below the 'Pit Rule' standards of 100 mg/kg TPH, 0.2 mg/kg benzene, 50 mg/kg BTEX and 250 mg/kg total chlorides, confirming that a release had not occurred. Analytical results are attached for your reference.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|   |  |                                  |                                   |
|---|--|----------------------------------|-----------------------------------|
| Signature:  |  | <u>OIL CONSERVATION DIVISION</u> |                                   |
| Printed Name: Ms. Amy Mackey                      |  | Approved by District Supervisor: |                                   |
| Title: Administrative Manager                     |  | Approval Date:                   | Expiration Date:                  |
| E-mail Address: amackey1@elmridge.net             |  | Conditions of Approval:          | Attached <input type="checkbox"/> |
| Date: <u>10/28/09</u> Phone: 505-632-3476 Ext 201 |  |                                  |                                   |

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
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1301 W. Grand Avenue, Artesia, NM 88210  
District III  
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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.

**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: <u>Elm Ridge Exploration</u>   | OGRID #: <u>149052</u> |
| Address: <u>P.O. Box 156; Bloomfield, NM 87413</u>   |                        |
| Facility or well name: <u>East Bisti Coal 6-1</u>  |                        |
| API Number: <u>3004527871</u>  | OCD Permit Number:     |
| U/L or Qtr/Qtr <u>A</u> Section <u>6</u> Township <u>25N</u> Range <u>11W</u> County: <u>San Juan</u>  |                        |
| Center of Proposed Design: Latitude <u>36.435066</u> Longitude <u>-108.040664</u> NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983                        |                        |
| Surface Owner: <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment |                        |

|   |   |
|---|---|
| 2. <input checked="" type="checkbox"/> <b>Pit:</b> Subsection F or G of 19.15.17.11 NMAC  |   |
| Temporary: <input type="checkbox"/> Drilling <input type="checkbox"/> Workover  |   |
| <input checked="" type="checkbox"/> Permanent <input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A   |   |
| <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined Liner type: Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____ |   |
| <input type="checkbox"/> String-Reinforced  |   |
| Liner Seams: <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____  | Volume: _____ bbl Dimensions: L <u>12'</u> x W <u>12'</u> x D <u>5'</u> |

|   |  |
|---|--|
| 3. <input type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19.15.17.11 NMAC   |  |
| Type of Operation: <input type="checkbox"/> P&A <input type="checkbox"/> Drilling a new well <input type="checkbox"/> Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) |  |
| <input type="checkbox"/> Drying Pad <input type="checkbox"/> Above Ground Steel Tanks <input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other _____   |  |
| <input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type: Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____  |  |
| Liner Seams: <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____  |  |

|   |  |
|---|--|
| 4. <input type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19.15.17.11 NMAC   |  |
| Volume: _____ bbl Type of fluid:  |  |
| Tank Construction material:   |  |
| <input type="checkbox"/> Secondary containment with leak detection <input type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off |  |
| <input type="checkbox"/> Visible sidewalls and liner <input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Not labeled                         |  |
| Liner type: Thickness _____ mil <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____                                   |  |

|  |  |
|--|--|
| 5. <input type="checkbox"/> <b>Alternative Method:</b>   |  |
| Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. |  |

6.

**Fencing:** Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate. Please specify \_\_\_\_\_

7.

**Netting:** Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☐ Screen ☐ Netting ☐ Other \_\_\_\_\_
- ☐ Monthly inspections (If netting or screening is not physically feasible)

8.

**Signs:** Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.3.103 NMAC

9.

**Administrative Approvals and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

**Please check a box if one or more of the following is requested, if not leave blank:**

- ☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

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

|   |  |
|---|--|
| Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  |  |
| 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).   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - Topographic map; Visual inspection (certification) of the proposed site   |  |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. ( <i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i> )  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image   | <input type="checkbox"/> NA                              |
| Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. ( <i>Applies to permanent pits</i> )   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image   | <input type="checkbox"/> 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. | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site   |  |
| 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.  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 500 feet of a wetland.   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within the area overlying a subsurface mine.  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division   |  |
| Within an unstable area.  | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map   |  |
| Within a 100-year floodplain.   | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| FEMA map  |  |

11.

**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_ or Permit Number: \_\_\_\_\_

12.

**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Previously Approved Design (attach copy of design) API Number: \_\_\_\_\_
- ☐ Previously Approved Operating and Maintenance Plan API Number: \_\_\_\_\_ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

**Permanent Pits Permit Application Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

**Proposed Closure:** 19.15.17.13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System
- ☐ Alternative
- Proposed Closure Method: ☐ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
- ☐ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

**Waste Excavation and Removal Closure Plan Checklist:** (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC



16.

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19.15.17.13.D NMAC)**Instructions:** Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

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

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

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?☐ Yes (If yes, please provide the information below) ☐ No*Required for impacted areas which will not be used for future service and operations:*☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

**Siting Criteria (regarding on-site closure methods only):** 19.15.17.10 NMAC**Instructions:** Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No  
☐ NA

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

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

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology &amp; 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): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

E-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

20.

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

**OCD Representative Signature:** \_\_\_\_\_ **Approval Date:** \_\_\_\_\_

**Title:** \_\_\_\_\_ **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: 9/4/09

22.

**Closure Method:**

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

23.

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

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

Disposal Facility Name: Envirotech Landfarm #2 Disposal Facility Permit Number: NM-01-0011

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)  
☐ Plot Plan (for on-site closures and temporary pits)  
☒ Confirmation Sampling Analytical Results (if applicable) **See Attached**  
☐ Waste Material Sampling Analytical Results (required for on-site closure)  
☒ Disposal Facility Name and Permit Number **Envirotech Landfarm #2, NM-01-0011**  
☒ Soil Backfilling and Cover Installation **See Attached**  
☒ Re-vegetation Application Rates and Seeding Technique **Pursuant to the BLM MOU**  
☒ Site Reclamation (Photo Documentation) **See Attached**

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): Ms. Amy Mackey Title: Administrative Manager

Signature: \_\_\_\_\_ Date: 10/28/09

E-mail address: amackey1@elmridge.net Telephone: (505) 632-3476 x 201

**Earthen Pit Closure Checklist**

- 1) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close all former earthen pits prior to the closure date agreed upon by the New Mexico Oil Conservation Division (NMOCD) of December 31, 2009.  
**Closure date for the earth pit located at East Bisti Coal 6-1 well site is September 4, 2009.**
- 2) In accordance with Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximity to surface water sources and distance to groundwater.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.  
**Notification was provided to Mr. Brad Jones of the NMOCD Santa Fe Office on August 4, 2009, along with a schedule of on-site activities; see attached Notification Letter.**
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of on-site activities, 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 an earthen pit. 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 earth pit 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 will receive notice at least 24 hours prior to the beginning of closure activities.  
**Notification was provided to the Bureau of Land Management on August 26, 2009; see attached Sundry Notice and Return Receipt.**

- 6) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all liquids and/or sludge, to visual extents, prior to closure sampling. 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 C Paragraph (1) NMAC.

**On August 31, 2009 through September 4, 2009, approximately 64 cubic yards of production sludge was removed from the earthen pit and disposed of at Envirotech's NMOCD permitted soil remediation facility, Landfarm #2, Permit # NM-01-0011; see attached *Bill of Lading*.**

- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.

**All on-site equipment will be used for the continued operation of the East Bisti Coal 6-1 well site; see attached *Field Sheet and Site Photographs*.**

- 8) Once the earthen pit is removed to visual extents of contamination, a five (5)-point composite sample will be collected from directly below the liner(s) or at native soil. Additional discrete samples will be collected from any area that is wet, discolored, or show 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 C Paragraph (3) NMAC.

**On September 4, 2009, a five (5)-point composite sample was collected of native soil beneath the earthen pit and analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and analyzed in the laboratory for benzene and BTEX via USEPA Method 8021B and for total chlorides via USEPA Method 4500B. The sample returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard, the 50 mg/kg BTEX standard and the 250 mg/kg total chloride standard, confirming that a release did NOT occur.**

| NAME                        | Benzene        | BTEX         | Chlorides | TPH       |
|-----------------------------|----------------|--------------|-----------|-----------|
| Pit Rule Standard           | 0.2 mg/kg      | 50 mg/kg     | 250 mg/kg | 100 mg/kg |
| Earth Pit Comp 1' Below Pit | < 0.0009 mg/kg | 0.0282 mg/kg | 300 mg/kg | 16 mg/kg  |
| Background                  | NS             | NS           | 145 mg/kg | NS        |

- 9) Depending on soil sample results the area will be either backfilled or the area will be excavated.

- 1) 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 C Paragraph (3) 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 (4) of Subsection C of 19.15.17.13 NMAC.

**Completed Form C-141 is attached for your review.**

- 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 (1) 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.

**Elm Ridge Exploration has backfilled the excavated area with non-waste containing earthen material, and installed a soil cover of at least one (1) foot thick of suitable material to establish vegetation at this site. The soil cover has been graded in such a way that it conforms to the grade of the natural surroundings, and will prevent ponding of water and erosion of the cover material; see *Site Photographs*.**

- 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 been re-seeded and when it has achieved successful re-vegetation.

**Elm Ridge Exploration has restored, recontoured and re-seeded the excavated area in accordance with BLM standards as outlined in the Memorandum of Understanding (MOU).**

- 2) If soil samples exceed the regulatory standards stated above:

- 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 (4) of Subsection C of 19.15.17.13 NMAC.

**The five (5)-point composite sample of native soil beneath the earthen pit returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard, the 50 mg/kg BTEX standard and the 250 mg/kg above background total chloride standard, confirming that a release did NOT occur.**

- 10) Elm Ridge Exploration will submit a closure report within 60 days following the earthen pit closure. The closure 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.  
**See attached C-144 Closure Form and attached Form C-141 Release Notification Form. Closure report has been submitted prior to November 4, 2009.**


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## Track & Confirm

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Status: Delivered

Your item was delivered at 10:11 AM on August 26, 2009 in  
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Enter Label/Receipt Number.

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| Total Postage & Fees                              | \$ 6.83 |

Kendra  
03056-0241  
Postmark Here  
08.25.09  
- Alan

Sent To: Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Ste. A  
Farmington, NM 87401

PS Form 3800, August 2005

See Reverse for Instructions

### SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

#### 1. Article Addressed to:

Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Ste. A  
Farmington, NM 87401

2. Article Number  
(Transfer from service label)

7007 1490 0000 5398 9343

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-154

### COMPLETE THIS SECTION ON DELIVERY

A. Signature: *[Signature]* ☐ Agent ☐ Addressee  
B. Received By (Printed Name): *[Signature]* C. Date of Delivery: *[Signature]*  
D. Is delivery address different from item 1? ☐ Yes ☐ No  
If YES, enter delivery address below:

3. Service Type: ☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

East Bisti Coal 6-1  
03056-0197  
Carson Unit 15 com 323  
03056-0194  
Buena Suerte 3L com 1  
03056-0190  
Carson Unit #206  
03056-0195  
Carson 10-332  
03056-0193  
Buena Suerte 4L com 1  
03056-0192  
Buena Suerte 3G com 1  
03056-0189



August 24, 2009

Project No. 03056-0194

Mr. Mark Kelly  
Bureau of Land Management  
1235 La Plata Highway, Suite A  
Farmington, New Mexico 87401

Phone: (505) 599-8900

**RE: CARSON UNIT 15 COM 323 EARTH PIT CLOSURE NOTIFICATION**

Dear Mr. Kelly,

Please accept this letter and attached Sundry Notice as the necessary surface owner notification for earth pit closure activities at the Carson Unit 15 COM 323 well site, owned and operated by Elm Ridge Exploration. The Carson Unit 15 COM 323 well site is located in Unit K, Section 15, Township 25N, Range 12W, San Juan County, New Mexico. Closure activities are scheduled to begin on August 31, 2009 and continue through September 4, 2009.

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](mailto:jmcdaniel@envirotech-inc.com)

Enclosure: Sundry Notice

Cc: Client File No. 03056



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.**

5. Lease Serial No.  
NM-070322

6. If Indian, Allottee or Tribe Name

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

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator  
Elm Ridge Exploration

7. If Unit of CA/Agreement, Name and/or No.  
8. Well Name and No.  
Carson Unit 15 COM 323

3a. Address  
PO Box 156  
Bloomfield, NM 87413

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

9. API Well No.  
30-045-27662

10. Field and Pool or Exploratory Area

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1610 FSL 1580 FWL, K-15-25N-12W, Lot. 36.396354 long. -108.102652

11. Country or Parish, State  
San Juan County, NM

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

| TYPE OF SUBMISSION                                   | TYPE OF ACTION                                |   |  |   |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize              | <input type="checkbox"/> Deepen           | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off                           |
| <input type="checkbox"/> Subsequent Report           | <input type="checkbox"/> Alter Casing         | <input type="checkbox"/> Fracture Treat   | <input type="checkbox"/> Reclamation               | <input type="checkbox"/> Well Integrity                           |
| <input type="checkbox"/> Final Abandonment Notice    | <input type="checkbox"/> Casing Repair        | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete                | <input checked="" type="checkbox"/> Other Closure of an Earth Pit |
|  | <input type="checkbox"/> Change Plans         | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon       |   |
|  | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back        | <input type="checkbox"/> 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 recompleat 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 recompleat 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 begin closure activities for an earthen pit located at the above mentioned site. All formal notifications have been made. Closure activities are scheduled to being on Monday, August 31, 2009 and last through September 4, 2009.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)  
Ms. Amy Mackey

Title Administrative Manager

Signature

Date 08/24/2009

**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)

### GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

### SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13* - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment.

### NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

**PRINCIPAL PURPOSE:** The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

**ROUTINE USES:** Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

**EFFECT OF NOT PROVIDING THE INFORMATION:** Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Index  
(Facing  
Number)

1 From Please print and stamp back. Sender's FedEx Account Number  
Date 8/04/09 1519-6147-9

Sender's Name James McDaniel Phone (565) 632-0615

Company ENVIRTECH

Address 5795 HIGHWAY 64

City FARMINGTON State NM ZIP 87401

2 Your Internal Billing Reference  
First 24 characters will appear on invoice. 03056-0291

To Recipient's Name  
Brad Jones  
Phone 505 476-3487

Company N. M. Oil Conservation Division

**Recipient's Address**

Address 1220 So. St Francis Drive

City Santa Fe State NM ZIP 87505

0401655191



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☐ **FedEx Priority Overnight**  
Next business morning, 1-day  
service will be delivered on Monday  
before 8:00 AM. Delivery is subject to  
carrier availability.

☒ **FedEx Standard Overnight**  
Next business afternoon, 2-day  
service will be delivered on Tuesday  
before 5:00 PM. Delivery is subject to  
carrier availability.

☐ **FedEx First Overnight**  
Next business morning, overnight  
delivery to select locations.  
Saturday Delivery (NOT available)

☐ **FedEx 2Day**  
Second business day\* Thursday  
\$5000s will be delivered on Monday

☐ **FedEx Express Saver**  
Third business day\*  
Saturday Delivery NOT available.

**4lb Express Freight Service**

☐ **FedEx 1Day Freight\*** Next business day. \*\* Holiday shipments will be delivered on Monday afternoon. Call 1-800-4FED-EX for details.

☐ **FedEx 2Day Freight** Second business day. \*\* Thursday shipments will be delivered on Monday afternoon. Call 1-800-4FED-EX for details.

☐ **FedEx 3Day Freight** Third business day. \*\* Saturday Delivery NOT available.

**5. Packaging**

☒ FedEx Envelope® ☐ FedEx Pak®  
Includes FedEx Small Pak, FedEx Large Pak, and FedEx Specialty Pak ☐ FedEx Tube ☐ Other

### 6 Special Handling

|                          |  |                          |   |                          |  |                          |  |
|--------------------------|--|--------------------------|---|--------------------------|--|--------------------------|--|
| <input type="checkbox"/> | <b>SATURDAY Delivery</b><br>NOT Available for<br>FedEx Standard Overnight,<br>FedEx First Overnight, FedEx Express | <input type="checkbox"/> | <b>Full Weekday</b><br>NOT Available for<br>FedEx Standard Overnight,<br>FedEx First Overnight, FedEx Express | <input type="checkbox"/> | <b>Full Weekday</b><br>Available ONLY for<br>FedEx First Overnight | <input type="checkbox"/> | <b>Full Weekday</b><br>Available ONLY for<br>FedEx First Overnight |
|--------------------------|--|--------------------------|---|--------------------------|--|--------------------------|--|

Save on FedEx® Day Freight.  
Drop this shipment inside a brown box?  
One box must be checked.

☒ No ☐ Yes  
 As per attached  
 Supplier's Declaration  
 not required

☐ DRY R28  
 Dry Ice, 3 UN 1845

☐ Cargo Aircraft Only

Gross weight (including dry ice) cannot be added to Pallet's weight.

7 Payment Bill to: ☐ Bill to: ☐ Enter FedEx Acct. No. or Credit Card No. below.

☒ **Senior**  
☐ **Assistant Section**  
☐ **I will be hired.**

☐ **Resident**

☐ **Third Party**

☐ **Credit Card**

☐ **Cash/Check**

|           | Total Packages | Total Weight | Total Declared Value* | Exp.<br>Date |
|-----------|----------------|--------------|-----------------------|--------------|
| Order No. |                |              |                       |              |
| Ship To:  |                |              |                       |              |
| City      |                |              |                       |              |
| State     |                |              |                       |              |
| Zip Code  |                |              |                       |              |
| Phone     |                |              |                       |              |
| Fax       |                |              |                       |              |
| E-mail    |                |              |                       |              |
| Comments  |                |              |                       |              |

1 1.0 \$ 1.00

### 3 Residential Delivery Signature Options

☐ No Signature Required ☐ Direct Signature ☐ Indirect Signature 

[illegible]

Rev. Date 10/20/97 File #15877-01104-2003 For Deposit ONLY IN U.S.A. ONLY



August 4, 2009

Project No. 03056-0241

Mr. Brad Jones  
New Mexico Oil Conservation Division  
1220 South St. Francis Street  
Santa Fe, New Mexico 87505

Phone (505) 476-3487

**RE: EARTH PIT CLOSURE NOTIFICATIONS AND PROPOSED CLOSURE SCHEDULE**

Dear Mr. Jones,

Envirotech, Inc., on the behalf of Elm Ridge Exploration, would like to submit this notification to begin closure activities at the below mentioned locations. Attached to this document is a proposed closure schedule for the months of August and September of 2009. Should this schedule be approved by your office, closure activities will begin as scheduled, with surface owner notifications being made at a minimum of 24 hours prior to the beginning of closure activities and a maximum of one (1) week prior to closure activities. Additional closure notifications and schedules will be made prior to beginning any closure activities. This letter will act as the closure notification for the following sites:

|                            |                       |                          |                        |
|----------------------------|-----------------------|--------------------------|------------------------|
| Bisti Coal 20-2            | Bisti Coal 6-1        | Bisti Coal 6-2           | Bisti Coal 7-1         |
| Bisti Coal 7 COM 2         | Bisti Coal 8 COM 1    | Bisti Coal 8L COM 2      | Bisti Coal 9-1         |
| Bisti Coal 9 COM 2         | Bisti Coal 21-1       | Bisti Coal 21 COM 2      | Bisti Coal 22-2        |
| Bisti Coal 28-1            | Bisti Coal 29-1       | Bisti Coal 29-2          | Bisti Coal 30 COM 1    |
| Bisti Coal 31-1            | Bisti Coal 4-1        | Bisti Coal 4 COM 2       | Bisti Coal 5 COM 1     |
| Bisti Coal 5K COM 2        | Carson 10-332         | Buena Suerte 3 G COM 1   | Buena Suerte 3 L COM 1 |
| Buena Suerte 32 G COM 1    | East Bisti Coal 6-1   | Buena Suerte 4 L COM 1   | Carson Unit 15 COM 323 |
| Carson Unit 206            | Carson Unit 313       | Pete Morrow 1            | Pete Morrow 2          |
| North Bisti Coal 32M COM 2 | North Bisti Coal 31-1 | Sam Jackson State COM 1  | Jeter COM 2            |
| West Bisti Coal 11 F COM 1 | West Bisti Coal 12-1  | West Bisti Coal 13-1     | West Bisti Coal 11-2   |
| West Bisti Coal 10-2       | West Bisti Coal 15-1  | West Bisti Coal 14 COM 1 | West Bisti Coal 15-2   |
| West Bisti Coal 22-2       | West Bisti Coal 23-1  | West Bisti Coal 22 COM 1 | West Bisti Coal 24-1   |
| West Bisti Coal 24 COM 2   | West Bisti Coal 25-1  | West Bisti Coal 25 2Y    | Jicarilla Apache I-11  |
| Sheila Hixon 1             | Bisti Coal 16-2       |                          |                        |

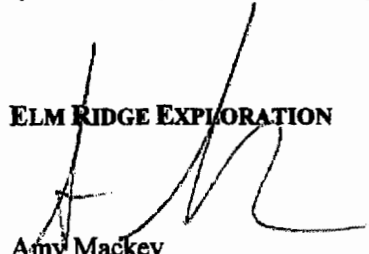
Elm Ridge Exploration is proposing to close the earthen pits at the above listed well locations based on the attached closure schedule.

We appreciate the opportunity to be of service. Should 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](mailto:jmcdaniel@envirotech-inc.com)

ELM RIDGE EXPLORATION

  
Amy Mackey  
Administrative Manager  
[amackey1@elmridge.net](mailto:amackey1@elmridge.net)

Attachments: Closure Schedule

# August 2009

| Sunday | Monday   | Tuesday  | Wed  | Thurs  | Friday   | Sat |
|--------|--|--|--|--|--|-----|
| 2      | 3  | 4  | 5  | 6  | 7  | 8   |
| 9      | 10<br>Bisti Coal 20-2<br>Bisti Coal 21-1<br>Bisti Coal 21 COM 2<br>Bisti Coal 22-2<br>Bisti Coal 28-1  | 11<br>Bisti Coal 20-2<br>Bisti Coal 21-1<br>Bisti Coal 21 COM 2<br>Bisti Coal 22-2<br>Bisti Coal 28-1  | 12<br>Bisti Coal 20-2<br>Bisti Coal 21-1<br>Bisti Coal 21 COM 2<br>Bisti Coal 22-2<br>Bisti Coal 28-1  | 13<br>Bisti Coal 20-2<br>Bisti Coal 21-1<br>Bisti Coal 21 COM 2<br>Bisti Coal 22-2<br>Bisti Coal 28-1  | 14<br>Bisti Coal 20-2<br>Bisti Coal 21-1<br>Bisti Coal 21 COM 2<br>Bisti Coal 22-2<br>Bisti Coal 28-1  | 15  |
| 16     | 17<br>Bisti Coal 29-1<br>Bisti Coal 29-2<br>Bisti Coal 30 COM 1<br>Bisti Coal 31-1<br>Bisti Coal 4-1<br>Bisti Coal 4 COM 2<br>Bisti Coal 5 COM 1<br>Bisti Coal 5K COM 2<br>Bisti Coal 16-2       | 18<br>Bisti Coal 29-1<br>Bisti Coal 29-2<br>Bisti Coal 30 COM 1<br>Bisti Coal 31-1<br>Bisti Coal 4-1<br>Bisti Coal 4 COM 2<br>Bisti Coal 5 COM 1<br>Bisti Coal 5K COM 2<br>Bisti Coal 16-2 | 19<br>Bisti Coal 29-1<br>Bisti Coal 29-2<br>Bisti Coal 30 COM 1<br>Bisti Coal 31-1<br>Bisti Coal 4-1<br>Bisti Coal 4 COM 2<br>Bisti Coal 5 COM 1<br>Bisti Coal 5K COM 2<br>Bisti Coal 16-2 | 20<br>Bisti Coal 29-1<br>Bisti Coal 29-2<br>Bisti Coal 30 COM 1<br>Bisti Coal 31-1<br>Bisti Coal 4-1<br>Bisti Coal 4 COM 2<br>Bisti Coal 5 COM 1<br>Bisti Coal 5K COM 2<br>Bisti Coal 16-2 | 21<br>Bisti Coal 29-1<br>Bisti Coal 29-2<br>Bisti Coal 30 COM 1<br>Bisti Coal 31-1<br>Bisti Coal 4-1<br>Bisti Coal 4 COM 2<br>Bisti Coal 5 COM 1<br>Bisti Coal 5K COM 2<br>Bisti Coal 16-2 | 22  |
| 23     | 24<br>Bisti Coal 6-1<br>Bisti Coal 6-2<br>Bisti Coal 7-1<br>Bisti Coal 7 COM 2<br>Bisti Coal 8 COM 1<br>Bisti Coal 8L COM 2<br>Bisti Coal 9-1<br>Bisti Coal 9 COM 2                              | 25<br>Bisti Coal 6-1<br>Bisti Coal 6-2<br>Bisti Coal 7-1<br>Bisti Coal 7 COM 2<br>Bisti Coal 8 COM 1<br>Bisti Coal 8L COM 2<br>Bisti Coal 9-1<br>Bisti Coal 9 COM 2                        | 26<br>Bisti Coal 6-1<br>Bisti Coal 6-2<br>Bisti Coal 7-1<br>Bisti Coal 7 COM 2<br>Bisti Coal 8 COM 1<br>Bisti Coal 8L COM 2<br>Bisti Coal 9-1<br>Bisti Coal 9 COM 2                        | 27<br>Bisti Coal 6-1<br>Bisti Coal 6-2<br>Bisti Coal 7-1<br>Bisti Coal 7 COM 2<br>Bisti Coal 8 COM 1<br>Bisti Coal 8L COM 2<br>Bisti Coal 9-1<br>Bisti Coal 9 COM 2                        | 28<br>Bisti Coal 6-1<br>Bisti Coal 6-2<br>Bisti Coal 7-1<br>Bisti Coal 7 COM 2<br>Bisti Coal 8 COM 1<br>Bisti Coal 8L COM 2<br>Bisti Coal 9-1<br>Bisti Coal 9 COM 2                        | 29  |
| 30     | 31<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Bisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206 |  |  |  |  |     |

# September 2009

| Sun | Monday   | Tuesday  | Wednesday  | Thursday   | Friday   | Sat |
|-----|--|--|--|--|--|-----|
|     |  | 1<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Bisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206        | 2<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Bisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206        | 3<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Bisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206        | 4<br>Carson 10-332<br>Buena Suerte 3 G COM 1<br>Buena Suerte 3 L COM 1<br>Buena Suerte 32 G COM 1<br>Buena Suerte 4 L COM 1<br>East Bisti Coal 6-1<br>Carson Unit 15 COM 323<br>Carson Unit 206        | 5   |
| 6   | 7<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Bisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Bisti Coal 31-1<br>West Bisti Coal 11 F COM 1<br>Jeter COM 2                  | 8<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Bisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Bisti Coal 31-1<br>West Bisti Coal 11 F COM 1<br>Jeter COM 2                  | 9<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Bisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Bisti Coal 31-1<br>West Bisti Coal 11 F COM 1<br>Jeter COM 2                  | 10<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Bisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Bisti Coal 31-1<br>West Bisti Coal 11 F COM 1<br>Jeter COM 2                 | 11<br>Carson Unit 313<br>Pete Morrow 1<br>Pete Morrow 2<br>North Bisti Coal 32M COM 2<br>Sam Jackson State COM 1<br>North Bisti Coal 31-1<br>West Bisti Coal 11 F COM 1<br>Jeter COM 2                 | 12  |
| 13  | 14<br>West Bisti Coal 12-1<br>West Bisti Coal 13-1<br>West Bisti Coal 11-2<br>West Bisti Coal 10-2<br>West Bisti Coal 14 COM 1<br>West Bisti Coal 15-1<br>West Bisti Coal 15-2<br>West Bisti Coal 22-2 | 15<br>West Bisti Coal 12-1<br>West Bisti Coal 13-1<br>West Bisti Coal 11-2<br>West Bisti Coal 10-2<br>West Bisti Coal 14 COM 1<br>West Bisti Coal 15-1<br>West Bisti Coal 15-2<br>West Bisti Coal 22-2 | 16<br>West Bisti Coal 12-1<br>West Bisti Coal 13-1<br>West Bisti Coal 11-2<br>West Bisti Coal 10-2<br>West Bisti Coal 14 COM 1<br>West Bisti Coal 15-1<br>West Bisti Coal 15-2<br>West Bisti Coal 22-2 | 17<br>West Bisti Coal 12-1<br>West Bisti Coal 13-1<br>West Bisti Coal 11-2<br>West Bisti Coal 10-2<br>West Bisti Coal 14 COM 1<br>West Bisti Coal 15-1<br>West Bisti Coal 15-2<br>West Bisti Coal 22-2 | 18<br>West Bisti Coal 12-1<br>West Bisti Coal 13-1<br>West Bisti Coal 11-2<br>West Bisti Coal 10-2<br>West Bisti Coal 14 COM 1<br>West Bisti Coal 15-1<br>West Bisti Coal 15-2<br>West Bisti Coal 22-2 | 19  |
| 20  | 21<br>West Bisti Coal 22 COM 1<br>West Bisti Coal 23-1<br>West Bisti Coal 24-1<br>West Bisti Coal 24 COM 2<br>West Bisti Coal 25-1<br>West Bisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Sheila Hixon 1 | 22<br>West Bisti Coal 22 COM 1<br>West Bisti Coal 23-1<br>West Bisti Coal 24-1<br>West Bisti Coal 24 COM 2<br>West Bisti Coal 25-1<br>West Bisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Sheila Hixon 1 | 23<br>West Bisti Coal 22 COM 1<br>West Bisti Coal 23-1<br>West Bisti Coal 24-1<br>West Bisti Coal 24 COM 2<br>West Bisti Coal 25-1<br>West Bisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Sheila Hixon 1 | 24<br>West Bisti Coal 22 COM 1<br>West Bisti Coal 23-1<br>West Bisti Coal 24-1<br>West Bisti Coal 24 COM 2<br>West Bisti Coal 25-1<br>West Bisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Sheila Hixon 1 | 25<br>West Bisti Coal 22 COM 1<br>West Bisti Coal 23-1<br>West Bisti Coal 24-1<br>West Bisti Coal 24 COM 2<br>West Bisti Coal 25-1<br>West Bisti Coal 25 2Y<br>Jicarilla Apache I-11<br>Sheila Hixon 1 | 26  |
| 27  | 28   | 29   | 30   |  |  |     |



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

|                |                          |                  |            |
|----------------|--------------------------|------------------|------------|
| Client:        | Elm Ridge Exploration    | Project #:       | 03056-0197 |
| Sample No.:    | 1                        | Date Reported:   | 10/12/2009 |
| Sample ID:     | Earth Pit Comp @1' Below | Date Sampled:    | 9/4/2009   |
| Sample Matrix: | Soil                     | Date Analyzed:   | 9/4/2009   |
| Preservative:  | Cool                     | Analysis Needed: | TPH-418.1  |
| Condition:     | Cool and Intact          |                  |            |

| Parameter | Concentration<br>(mg/kg) | Det.<br>Limit<br>(mg/kg) |
|-----------|--------------------------|--------------------------|
|-----------|--------------------------|--------------------------|

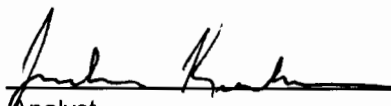
|                                     |           |            |
|-------------------------------------|-----------|------------|
| <b>Total Petroleum Hydrocarbons</b> | <b>16</b> | <b>5.0</b> |
|-------------------------------------|-----------|------------|

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: **East Bisti Coal 6-1**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

**Joshua Kirchner**  
\_\_\_\_\_  
Printed

  
\_\_\_\_\_  
Analyst

**James McDaniel**  
\_\_\_\_\_  
Printed

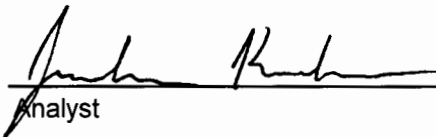


CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 4-Sep-09

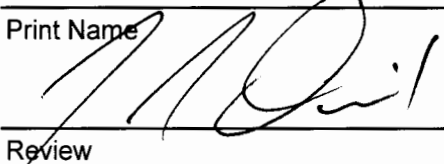
| Parameter | Standard<br>Concentration<br>mg/L | Concentration<br>Reading<br>mg/L |
|-----------|-----------------------------------|----------------------------------|
| TPH       | 100                               |                                  |
|           | 200                               | 201                              |
|           | 500                               |                                  |
|           | 1000                              |                                  |

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

  
Analyst

10/20/2009  
Date

Joshua Kirchner  
Print Name

  
Review

10/20/09  
Date

James McDaniel  
Print Name



|                    |               |                     |            |
|--------------------|---------------|---------------------|------------|
| Client:            | ElmRidge      | Project #:          | 03056-0197 |
| Sample ID:         | Pit Composite | Date Reported:      | 09-10-09   |
| Laboratory Number: | 51546         | Date Sampled:       | 09-04-09   |
| Chain of Custody:  | 7896          | Date Received:      | 09-04-09   |
| Sample Matrix:     | Soil          | Date Analyzed:      | 09-09-09   |
| Preservative:      | Cool          | Date Extracted:     | 09-08-09   |
| Condition:         | Intact        | Analysis Requested: | BTEX       |

| Parameter         | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|-------------------|--------------------------|--------------------------|
| Benzene           | ND                       | 0.9                      |
| Toluene           | 6.3                      | 1.0                      |
| Ethylbenzene      | 4.9                      | 1.0                      |
| p,m-Xylene        | 10.7                     | 1.2                      |
| o-Xylene          | 6.3                      | 0.9                      |
| <b>Total BTEX</b> | <b>28.2</b>              |                          |

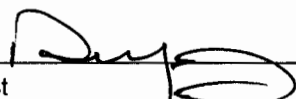
ND - Parameter not detected at the stated detection limit.

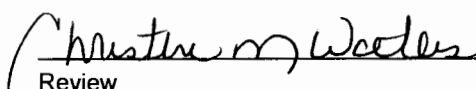
| Surrogate Recoveries: | Parameter           | Percent Recovery |
|-----------------------|---------------------|------------------|
|                       | Fluorobenzene       | 97.0 %           |
|                       | 1,4-difluorobenzene | 97.0 %           |
|                       | Bromochlorobenzene  | 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: East Bisti Coal 6-1**

  
 Analyst

  
 Review

|                    |                |                |          |
|--------------------|----------------|----------------|----------|
| Client:            | N/A            | Project #:     | N/A      |
| Sample ID:         | 09-09-BT QA/QC | Date Reported: | 09-10-09 |
| Laboratory Number: | 51550          | Date Sampled:  | N/A      |
| Sample Matrix:     | Soil           | Date Received: | N/A      |
| Preservative:      | N/A            | Date Analyzed: | 09-09-09 |
| Condition:         | N/A            | Analysis:      | BTEX     |

|              |             |             |      | Detected | Limit |
|--------------|-------------|-------------|------|----------|-------|
| Benzene      | 2.0452E+006 | 2.0493E+006 | 0.2% | ND       | 0.1   |
| Toluene      | 1.9290E+006 | 1.9329E+006 | 0.2% | ND       | 0.1   |
| Ethylbenzene | 1.7270E+006 | 1.7305E+006 | 0.2% | ND       | 0.1   |
| p,m-Xylene   | 4.4426E+006 | 4.4515E+006 | 0.2% | ND       | 0.1   |
| o-Xylene     | 1.6575E+006 | 1.6608E+006 | 0.2% | ND       | 0.1   |

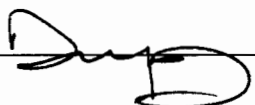
|              |    |    |      | Detected | Limit |
|--------------|----|----|------|----------|-------|
| Benzene      | ND | ND | 0.0% | 0 - 30%  | 0.9   |
| Toluene      | ND | ND | 0.0% | 0 - 30%  | 1.0   |
| Ethylbenzene | ND | ND | 0.0% | 0 - 30%  | 1.0   |
| p,m-Xylene   | ND | ND | 0.0% | 0 - 30%  | 1.2   |
| o-Xylene     | ND | ND | 0.0% | 0 - 30%  | 0.9   |

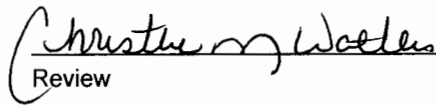
|              |    |      |      | Detected | Limit    |
|--------------|----|------|------|----------|----------|
| Benzene      | ND | 50.0 | 49.5 | 99.0%    | 39 - 150 |
| Toluene      | ND | 50.0 | 49.1 | 98.2%    | 46 - 148 |
| Ethylbenzene | ND | 50.0 | 48.5 | 97.0%    | 32 - 160 |
| p,m-Xylene   | ND | 100  | 102  | 102%     | 46 - 148 |
| o-Xylene     | ND | 50.0 | 46.3 | 92.6%    | 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 51546, 51548, 51550, 51551, and 51555 - 51556.

Analyst 

Review 

|                |               |                   |            |
|----------------|---------------|-------------------|------------|
| Client:        | Elm Ridge     | Project #:        | 03056-0197 |
| Sample ID:     | Pit Composite | Date Reported:    | 09-11-09   |
| Lab ID#:       | 51546         | Date Sampled:     | 09-04-09   |
| Sample Matrix: | Soil          | Date Received:    | 09-04-09   |
| Preservative:  | Cool          | Date Analyzed:    | 09-09-09   |
| Condition:     | Intact        | Chain of Custody: | 7896       |

**Parameter****Concentration (mg/Kg)****Total Chloride****300**

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: **East Bisti Coal 6-1.**

  
Analyst  
Review

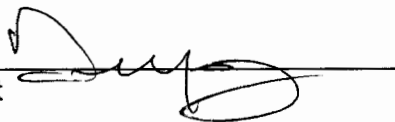
|                |            |                   |            |
|----------------|------------|-------------------|------------|
| Client:        | Elm Ridge  | Project #:        | 03056-0197 |
| Sample ID:     | Background | Date Reported:    | 09-11-09   |
| Lab ID#:       | 51547      | Date Sampled:     | 09-04-09   |
| Sample Matrix: | Soil       | Date Received:    | 09-04-09   |
| Preservative:  | Cool       | Date Analyzed:    | 09-09-09   |
| Condition:     | Intact     | Chain of Custody: | 7896       |

**Parameter****Concentration (mg/Kg)****Total Chloride****145**

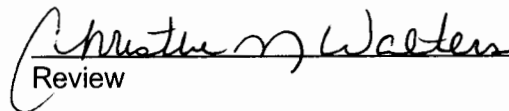
Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.  
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **East Bisti Coal 6-1.**

Analyst



Review



[illegible]

**envirotech**  
Analytical Laboratory

5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • [lab@envirotech-inc.com](mailto:lab@envirotech-inc.com)

PAGE NO: 1 OF 1**envirotech**(505) 632-0615 (800) 362-1879  
5796 U.S. Hwy 64, Farmington, NM 87401

ENVIRONMENTAL SPECIALIST:

RJDATE STARTED: 8/31/09DATE FINISHED: 9/3/09

LAT:

LONG:

## FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

LOCATION: NAME: East Bisti Coal WELL #: 1 TEMP PIT: PERMANENT PIT: X BGT:  
LEGAL ADD: UNIT: SEC: 6 TWP: 25N RNG: 11W PM: NMPPM  
QTR/FOOTAGE: E30' FNL 1310' FEL CNTY: SS ST:EXCAVATION APPROX: 12 FT. X 12 FT. X 5 FT. DEEP CUBIC YARDAGE:DISPOSAL FACILITY: Envirotech CF #2 REMEDIATION METHOD: Land FarmLAND OWNER: Federal API: BGT / PIT VOLUME:CONSTRUCTION MATERIAL: Earth DOUBLE-WALLED, WITH LEAK DETECTION: NA

LOCATION APPROXIMATELY: FT. FROM WELLHEAD

DEPTH TO GROUNDWATER:

TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP

BENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, GRO & DRO FRACTION (8015)  $\leq 500$  mg/kg, TPH (418.1)  $\leq 2500$  mg/kg, CHLORIDES  $\leq 500$  mg/kgTEMPORARY PIT - GROUNDWATER  $\geq 100$  FEET DEEPBENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, GRO & DRO FRACTION (8015)  $\leq 500$  mg/kg, TPH (418.1)  $\leq 2500$  mg/kg, CHLORIDES  $\leq 1000$  mg/kg☒ PERMANENT PIT OR BGTBENZENE  $\leq 0.2$  mg/kg, BTEX  $\leq 50$  mg/kg, TPH (418.1)  $\leq 100$  mg/kg, CHLORIDES  $\leq 250$  mg/kg

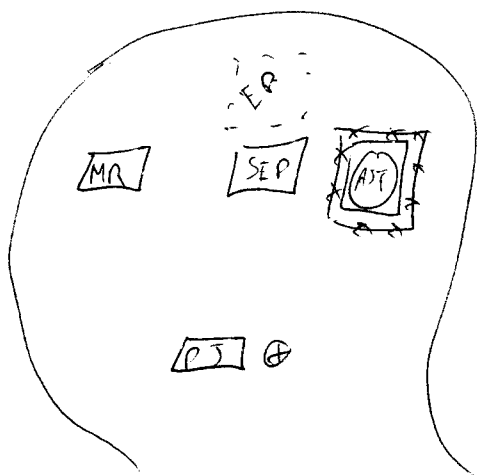
## FIELD 418.1 ANALYSIS

| TIME  | SAMPLE I.D. | LAB NO. | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. (mg/kg) |
|-------|-------------|---------|------------|----------|----------|---------|---------------|
| 8:25  | 200 STD     |         | -          | -        | -        | 210     |               |
| 8:40  | 5' deep     | 1       | S.C        | 20       | 4        | 372     | 1408          |
| 9:41  | well comp   | 2       | S.C        | 20       | 4        | 4       | 16            |
| 9:54  | Bc Homos    | 3       | S.C        | 20       | 4        | 12      | 24            |
| 10:02 | Well Comp 2 | 4       | S.C        | 20       | 4        | 0       | 0             |
|       |             | 5       |            |          |          |         |               |
|       |             | 6       |            |          |          |         |               |

## PERIMETER

## FIELD CHLORIDES RESULTS

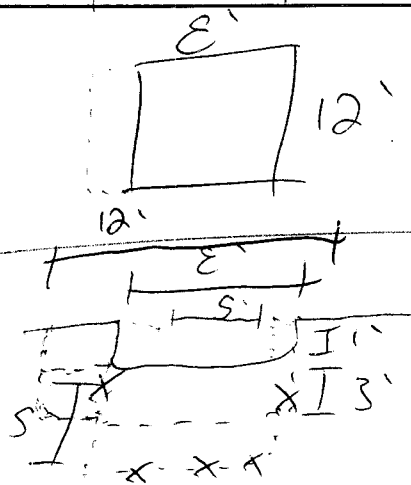
## 12' PROFILE



| SAMPLE ID | READING | CALC. (mg/kg) |
|-----------|---------|---------------|
| 1         |         | 2409          |
| 2         |         | 800           |
| 3         |         | 227           |
| 4         |         | 45            |
| Bcft      | ND      | ND            |

## PID RESULTS

| SAMPLE ID | RESULTS (ppm) |
|-----------|---------------|
| 100 STD   | 96.9          |
| 1         | 0.0           |
| 2         | 0.0           |
| 3         | 0.0           |
| 4         | 0.0           |



## LAB SAMPLES

## NOTES:

| SAMPLE ID | ANALYSIS  | RESULTS |
|-----------|-----------|---------|
|           | BENZENE   |         |
|           | BTEX      |         |
|           | GRO & DRO |         |
|           | CHLORIDES |         |
|           |           |         |
|           |           |         |

WORKORDER #

WHO ORDERED

FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

LOCATION: NAME: EAST Bgt CONC 6 WELL #: 1 TEMP PIT: PERMANENT PIT: BGT:

LEGAL ADD: UNIT: SEC: 6 TWP: 24N RNG: 11 W PM:

QTR/FOOTAGE: CNTY: San Juan ST:

EXCAVATION APPROX: 12 FT. X 12 FT. X 5 FT. DEEP CUBIC YARDAGE:

DISPOSAL FACILITY: envirotech REMEDIATION METHOD: Land Fill

LAND OWNER: API: BGT / PIT VOLUME:

CONSTRUCTION MATERIAL: Earth DOUBLE-WALLED, WITH LEAK DETECTION: NA

LOCATION APPROXIMATELY: FT. FROM WELLHEAD

DEPTH TO GROUNDWATER:


- TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP  
BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 500 mg/kg
- TEMPORARY PIT - GROUNDWATER ≥100 FEET DEEP  
BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 1000 mg/kg
- PERMANENT PIT OR BGT  
BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, TPH (418.1) ≤ 100 mg/kg, CHLORIDES ≤ 250 mg/kg

| FIELD 418.1 ANALYSIS |             |         |            |          |          |         |               |
|----------------------|-------------|---------|------------|----------|----------|---------|---------------|
| TIME                 | SAMPLE I.D. | LAB NO. | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. (mg/kg) |
|                      | 200 STD     |         | -          | -        | -        | 201     |               |
|                      | 1           | 1       | 5          | 20       | 4        | 4       | 16            |
|                      |             | 2       |            |          |          |         |               |
|                      |             | 3       |            |          |          |         |               |
|                      |             | 4       |            |          |          |         |               |
|                      |             | 5       |            |          |          |         |               |
|                      |             | 6       |            |          |          |         |               |

PERIMETER

FIELD CHLORIDES RESULTS

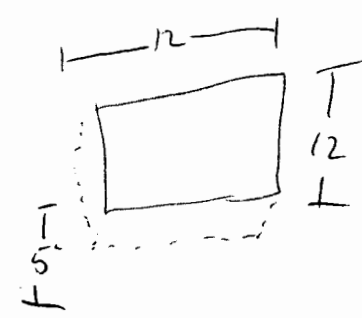
PROFILE



| SAMPLE ID | READING | CALC. (mg/kg) |
|-----------|---------|---------------|
| STD       | 599.9   |               |
| 1         | 0.0     |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |

PID RESULTS

| SAMPLE ID | RESULTS (ppm) |
|-----------|---------------|
| STD       | 99.9          |
| 1         | 0.0           |
|           |               |
|           |               |
|           |               |
|           |               |
|           |               |
|           |               |
|           |               |
|           |               |





# Bill of Lading

34180

MANIFEST #

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 9-3-09 JOB# 03056-0197

| LOAD NO. | COMPLETE DESCRIPTION OF SHIPMENT     |                    |                     |        |     |      | TRANSPORTING COMPANY |      |       |                    |
|----------|--------------------------------------|--------------------|---------------------|--------|-----|------|----------------------|------|-------|--------------------|
|          | POINT OF ORIGIN                      | DESTINATION        | MATERIAL            | GRID   | YDS | BBLs | COMPANY              | TRK# | TIME  | DRIVER SIGNATURE   |
| 1        | ELM RIDGE C#1<br>AND East Blvd Local | LF-II              | cont                | F-22   | 12  | —    | 4-4                  | 78   | 9:15  | <i>[Signature]</i> |
| 2        | "                                    | "                  | "                   | F-22   | 20  | —    | 4-4                  | 74   | 9:51  | <i>[Signature]</i> |
| 3        | "                                    | "                  | "                   | F-23   | 20  | —    | 4-4                  | 75   | 10:24 | <i>[Signature]</i> |
| 4        | "                                    | "                  | "                   | F-21   | 12  | —    | 4-4                  | 78   | 12:45 | <i>[Signature]</i> |
|          |                                      |                    |                     |        | 64  |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
|          |                                      |                    |                     |        |     |      |                      |      |       |                    |
| RESULTS: |                                      | LANDFARM EMPLOYEE: |                     | NOTES: |     |      |                      |      |       |                    |
| 328/268  | CHLORIDE TEST                        | 4                  | <i>[Signature]</i>  |        |     |      |                      |      |       |                    |
|          | PAINT FILTER TEST                    | 4                  | ENTERED SEP 09 2009 |        |     |      |                      |      |       |                    |

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME John McKinney COMPANY Elm Ridge SIGNATURE John McKinney

COMPANY CONTACT Mark PHONE 327-2711 DATE 9-3-09





# Bill of Lading

34181

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

MANIFEST #

DATE 9-3-05 JOB# 03056-0197

[illegible]RESULTS: *NA*

**CHLORIDE TEST**

**PAINT FILTER**

LANDFARM  
EMPLOYEE:

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME John McKamey

COMPANY Elm Ridge

**SIGNATURE**

COMPANY CONTACT WPC

PHONE 322-2711

DATE 9-3-02



# Bill of Lading

7842

MANIFEST #

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 9-04-09 JOB# 0366-0197

[illegible]

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

NAME John McKinney COMPANY EMERGE SIGNATURE 

COMPANY CONTACT Mr. K PHONE 327-2711 DATE 9.04.09

**Elm Ridge Exploration  
East Bisti Coal 6-1  
Sec 6, Twn 25N, Rge 11W  
Project No. 03056-0197**



Photo 1: East Bisti Coal 6-1 Well Site



Photo 2: Excavated Area After Backfilling, Recontouring, and Re-seeding



March 8, 2010

Project No. 03056-0197

Mr. Brad Jones  
New Mexico Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Phone (505) 476-3487

**RE: C-141 RELEASE NOTIFICATION FORM FOR THE EAST BISTI COAL 6-1 WELL SITE**

Dear Mr. Jones,

Enclosed please find the modified C-141 Release Notification Form and additional supporting closure documentation for the East Bisti Coal 6-1 well site owned and operated by Elm Ridge Exploration. All closure activities from this point forward will comply with Rule 29 with the district office of the OCD.

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.**

A handwritten signature in black ink, appearing to read 'J. McDaniel', written over a horizontal line.

James McDaniel  
Project Scientist  
[jmcdaniel@envirotech-inc.com](mailto:jmcdaniel@envirotech-inc.com)

RECEIVED OCD  
2010 JUN 18 A 11:16

Enclosure: Modified C-141 Release Notification Form  
Modified Closure Checklist

Cc: Client File No. 03056

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☐ Final Report

|   |                                       |
|---|---------------------------------------|
| Name of Company: Elm Ridge Exploration    | Contact: Amy Mackey                   |
| Address: PO Box 156, Bloomfield, NM 87413 | Telephone No.: (505) 632-3476 Ext 201 |
| Facility Name: East Bisti Coal 6-1        | Facility Type: Gas Well               |

|                        |                |                        |
|------------------------|----------------|------------------------|
| Surface Owner: Federal | Mineral Owner: | Lease No.: SF-078062-A |
|------------------------|----------------|------------------------|

### LOCATION OF RELEASE

|                  |              |                 |              |                      |                         |                       |                       |                    |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|
| Unit Letter<br>A | Section<br>6 | Township<br>25N | Range<br>11W | Feet from the<br>830 | North/South Line<br>FNL | Feet from the<br>1300 | East/West Line<br>FEL | County<br>San Juan |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|

Latitude: 36.435066 Longitude: -108.040664

### NATURE OF RELEASE

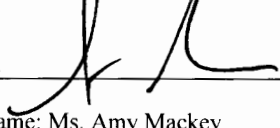
|  |  |                                |
|--|--|--------------------------------|
| Type of Release: Produced Water  | Volume of Release: Unknown                 | Volume Recovered: Unknown      |
| Source of Release: Earth Pit   | Date and Hour of Occurrence:<br>Historical | Date and Hour of Discovery: NA |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                           |                                |
| By Whom?   | Date and Hour                              |                                |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.  |                                |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*  
Produced Water from gas well at the mentioned location formerly discharged into an earthen pit on location. The well has been altered to no longer drain into an earthen pit.

Describe Area Affected and Cleanup Action Taken.\*  
Blow sand was removed from the earthen pit, and approximately sixty-four (64) cubic yards of 'production sludge' was removed from the earthen pit. Sludge was taken to Envirotech's NMOCD permitted soil remediation facility, Landfarm #2. A 5-point composite sample was collected from approximately one (1) foot below the earthen pit once it was removed. The sample was analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and in Envirotech's laboratory for benzene and BTEX via USEPA Method 8021 and for total chlorides via USEPA Method 4500B. The sample returned results below the 'Pit Rule' standards of 100 mg/kg TPH, 0.2 mg/kg benzene and 50 mg/kg BTEX, but above the 250 mg/kg total chloride standard, confirming that a release had occurred. Elm Ridge Exploration will comply with Rule 29 from this point forward with the local division of the OCD.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|  |  |                                   |                  |
|--|--|-----------------------------------|------------------|
| Signature:  |  | <u>OIL CONSERVATION DIVISION</u>  |                  |
| Printed Name: Ms. Amy Mackey   |  | Approved by District Supervisor:  |                  |
| Title: Administrative Manager  |  | Approval Date:                    | Expiration Date: |
| E-mail Address: amackey1@elmridge.net  |  | Conditions of Approval:           |                  |
| Date: 6-15-10 Phone: 505-632-3476 Ext 201  |  | Attached <input type="checkbox"/> |                  |

\* Attach Additional Sheets If Necessary

**Earthen Pit Closure Checklist**

- 1) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close all former earthen pits prior to the closure date agreed upon by the New Mexico Oil Conservation Division (NMOCD) of December 31, 2009.  
**Closure date for the earth pit located at East Bisti Coal 6-1 well site is September 4, 2009.**
- 2) In accordance with Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximity to surface water sources and distance to groundwater.  
**None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.**
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.  
**Notification was provided to Mr. Brad Jones of the NMOCD Santa Fe Office on August 4, 2009, along with a schedule of on-site activities; see attached Notification Letter.**
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of on-site activities, 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 an earthen pit. 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 earth pit 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 will receive notice at least 24 hours prior to the beginning of closure activities.  
**Notification was provided to the Bureau of Land Management on August 26, 2009; see attached Sundry Notice and Return Receipt.**



- 6) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all liquids and/or sludge, to visual extents, prior to closure sampling. 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 C Paragraph (1) NMAC .

**On August 31, 2009 through September 4, 2009, approximately 64 cubic yards of production sludge was removed from the earthen pit and disposed of at Envirotech's NMOCD permitted soil remediation facility, Landfarm #2, Permit # NM-01-0011; see attached *Bill of Lading*.**

- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.

**All on-site equipment will be used for the continued operation of the East Bisti Coal 6-1 well site; see attached *Field Sheet* and *Site Photographs*.**

- 8) Once the earthen pit is removed to visual extents of contamination, a five (5)-point composite sample will be collected from directly below the liner(s) or at native soil. Additional discrete samples will be collected from any area that is wet, discolored, or show 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 C Paragraph (3) NMAC.

**On September 4, 2009, a five (5)-point composite sample was collected of native soil beneath the earthen pit and analyzed in the field for total petroleum hydrocarbons (TPH) via USEPA Method 418.1, and analyzed in the laboratory for benzene and BTEX via USEPA Method 8021B and for total chlorides via USEPA Method 4500B. The sample returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard and the 50 mg/kg BTEX standard, but above the 250 mg/kg total chloride standard, confirming that a release did occur. Elm Ridge Exploration will comply with Rule 29 from this point forward with the local division of the OCD.**

| NAME                        | Benzene        | BTEX         | Chlorides | TPH       |
|-----------------------------|----------------|--------------|-----------|-----------|
| Pit Rule Standard           | 0.2 mg/kg      | 50 mg/kg     | 250 mg/kg | 100 mg/kg |
| Earth Pit Comp 1' Below Pit | < 0.0009 mg/kg | 0.0282 mg/kg | 300 mg/kg | 16 mg/kg  |
| Background                  | NS             | NS           | 145 mg/kg | NS        |

- 9) Depending on soil sample results the area will be either backfilled or the area will be excavated.
- 1) 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 C Paragraph (3) 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 (4) of Subsection C of 19.15.17.13 NMAC.

**Completed Form C-141 is attached for your review.**

- 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 (1) 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.

**Elm Ridge Exploration has backfilled the excavated area with non-waste containing earthen material, and installed a soil cover of at least one (1) foot thick of suitable material to establish vegetation at this site. The soil cover has been graded in such a way that it conforms to the grade of the natural surroundings, and will prevent ponding of water and erosion of the cover material; see *Site Photographs*.**

- 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 been re-seeded and when it has achieved successful re-vegetation.

**Elm Ridge Exploration has restored, recontoured and re-seeded the excavated area in accordance with BLM standards as outlined in the Memorandum of Understanding (MOU).**

- 2) If soil samples exceed the regulatory standards stated above:

- 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 (4) of Subsection C of 19.15.17.13 NMAC.

**The five (5)-point composite sample of native soil beneath the earthen pit returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard and the 50 mg/kg BTEX standard, but above the 250 mg/kg total chloride standard, confirming that a release did occur. Elm Ridge Exploration will comply with Rule 29 from this point forward with the local division of the OCD.**



- 10) Elm Ridge Exploration will submit a closure report within 60 days following the earthen pit closure. The closure 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.  
**Elm Ridge Exploration will submit the above referenced closure documents to the local division of the OCD.**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

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

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

RECEIVED  
2009 MAY 18 PM 2 39

**Release Notification and Corrective Action**

**OPERATOR**

☒ Initial Report ☐ Final Report

|   |                                       |
|---|---------------------------------------|
| Name of Company: Elm Ridge Exploration    | Contact: Amy Mackey                   |
| Address: PO Box 156, Bloomfield, NM 87413 | Telephone No.: (505) 632-3476 Ext 201 |
| Facility Name: East Bisti Coal 6-1        | Facility Type: Gas Well               |

|                        |                |                          |
|------------------------|----------------|--------------------------|
| Surface Owner: Federal | Mineral Owner: | Lease No.: SF 078062 - A |
|------------------------|----------------|--------------------------|

**LOCATION OF RELEASE**

|                  |              |                 |              |                      |                         |                       |                       |                    |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|
| Unit Letter<br>A | Section<br>6 | Township<br>25N | Range<br>11W | Feet from the<br>830 | North/South Line<br>FNL | Feet from the<br>1300 | East/West Line<br>FEL | County<br>San Juan |
|------------------|--------------|-----------------|--------------|----------------------|-------------------------|-----------------------|-----------------------|--------------------|

Latitude 36.435066 Longitude -108.040664

**NATURE OF RELEASE**

|  |  |                                |
|--|--|--------------------------------|
| Type of Release: Produced Water  | Volume of Release: Unknown                 | Volume Recovered: Unknown      |
| Source of Release: Earth Pit   | Date and Hour of Occurrence:<br>Historical | Date and Hour of Discovery: NA |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                           |                                |
| By Whom?   | Date and Hour                              |                                |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  | If YES, Volume Impacting the Watercourse.  |                                |

If a Watercourse was Impacted, Describe Fully.\*

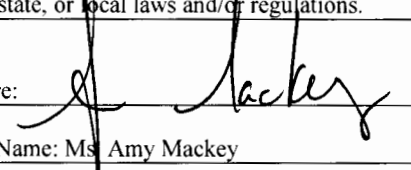
Describe Cause of Problem and Remedial Action Taken.\*

Produced Water from gas well at the mentioned location formerly discharged into an earthen pit on location. The well has been altered to no longer drain into an earthen pit, but instead into an Above Ground Storage Tank (AST).

Describe Area Affected and Cleanup Action Taken.\*

Earthen pit was in use on 9/29/08, but has not been discharged into since November 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed in the field for Total Petroleum Hydrocarbons (TPH) via USEPA Method 418.1 and in Envirotech's laboratory for benzene and total BTEX via USEPA Method 8021, TPH via USEPA Method 8015, and for total chlorides via USEPA Method 4500B. The sample returned results that were below the 0.2 ppm benzene and the 50 ppm BTEX standards, but above the 100 ppm TPH standard via USEPA Method 418.1 and the 250 ppm total chloride standard, confirming that a release had occurred at this site. The site was then ranked pursuant to the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The site was ranked a 10 due to groundwater being greater than 50 feet below ground surface, but less than 100 feet. This set the closure standards to 1000 ppm TPH, 10 ppm benzene and 50 ppm total BTEX. There is no closure standard for total chlorides per the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. All analytical results were below the closure standards determined for this site. TPH was below the 1000 ppm closure standard via USEPA Method 8015.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

|  |  |                                   |                  |
|--|--|-----------------------------------|------------------|
| Signature:  |  | <b>OIL CONSERVATION DIVISION</b>  |                  |
| Printed Name: Ms. Amy Mackey   |  | Approved by District Supervisor:  |                  |
| Title: Administrative Manager  |  | Approval Date:                    | Expiration Date: |
| E-mail Address: amackey1@elmridge.net  |  | Conditions of Approval:           |                  |
| Date: Phone: 505-632-3476 Ext 201  |  | Attached <input type="checkbox"/> |                  |

\* Attach Additional Sheets If Necessary

|  |   |  |
|--|---|--|
| PAGE NO: <u>1</u> OF <u>1</u><br>DATE STARTED: <u>9/29/06</u><br>DATE FINISHED: <u>9/29/08</u> | <b>ENVIROTECH INC</b><br>ENVIRONMENTAL SCIENTISTS & ENGINEERS<br>5796 U.S. HIGHWAY 64 - 3014<br>FARMINGTON, NEW MEXICO 87401<br>PHONE: (505) 632-0615 | ENVIRONMENTAL SPECIALIST:<br><u>J. M.</u><br>LAT: <u>36.435066</u><br>LONG: <u>-108.040664</u> |
|--|---|--|

### FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

|              |                              |                  |                 |                         |                 |
|--------------|------------------------------|------------------|-----------------|-------------------------|-----------------|
| LOCATION:    | NAME: <u>East Bisti Coal</u> | WELL #: <u>1</u> | TEMP PIT:       | PERMANENT PIT: <u>X</u> | BGT:            |
| LEGAL ADD:   | UNIT: <u>A</u>               | SEC: <u>6</u>    | TWP: <u>25N</u> | RNG: <u>11W</u>         | PM: <u>NMPM</u> |
| QTR/FOOTAGE: | <u>830' FNL 1300' FEL</u>    |                  | CNTY: <u>SJ</u> | ST: <u>NM</u>           |                 |

|                        |                        |              |   |                              |                  |
|------------------------|------------------------|--------------|---|------------------------------|------------------|
| EXCAVATION APPROX:     | — FT. <u>X</u> —       | FT. <u>X</u> | —   | FT. DEEP                     | CUBIC YARDAGE: — |
| DISPOSAL FACILITY:     | REMEDICATION METHOD: — |              |   |                              |                  |
| LAND OWNER:            | <u>Federal</u>         |              | API: <u>3004527871</u>                        | BGT / PIT VOLUME: <u>N/A</u> |                  |
| CONSTRUCTION MATERIAL: | <u>Earth Pit</u>       |              | DOUBLE-WALLED, WITH LEAK DETECTION: <u>NA</u> |                              |                  |

|                         |                |           |               |
|-------------------------|----------------|-----------|---------------|
| LOCATION APPROXIMATELY: | <u>65</u> FT.  | <u>0°</u> | FROM WELLHEAD |
| DEPTH TO GROUNDWATER:   | <u>7100 ft</u> |           |               |

|  |  |
|--|--|
| TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP<br>BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 500 mg/kg |  |
| TEMPORARY PIT - GROUNDWATER ≥ 100 FEET DEEP<br>BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, GRO & DRO FRACTION (8015) ≤ 500 mg/kg, TPH (418.1) ≤ 2500 mg/kg, CHLORIDES ≤ 1000 mg/kg |  |
| <u>X</u> PERMANENT PIT OR BGT<br>BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/kg, TPH (418.1) ≤ 100 mg/kg, CHLORIDES ≤ 250 mg/kg  |  |

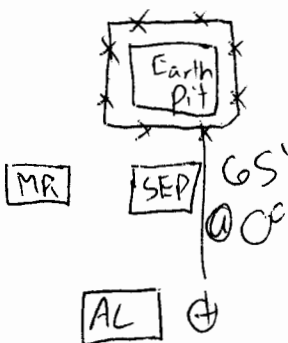
#### FIELD 418.1 ANALYSIS

| TIME        | SAMPLE I.D.     | LAB NO.  | WEIGHT (g) | mL FREON  | DILUTION | READING     | CALC. (mg/kg) |
|-------------|-----------------|----------|------------|-----------|----------|-------------|---------------|
| <u>1210</u> | <u>200 STD</u>  |          | <u>-</u>   | <u>-</u>  | <u>-</u> | <u>-</u>    | <u>197</u>    |
| <u>1245</u> | <u>Spt Comp</u> | <u>1</u> | <u>SC</u>  | <u>20</u> | <u>4</u> | <u>1236</u> | <u>4944</u>   |
|             |                 | <u>2</u> |            |           |          |             |               |
|             |                 | <u>3</u> |            |           |          |             |               |
|             |                 | <u>4</u> |            |           |          |             |               |
|             |                 | <u>5</u> |            |           |          |             |               |
|             |                 | <u>6</u> |            |           |          |             |               |

#### PERIMETER

#### FIELD CHLORIDES RESULTS

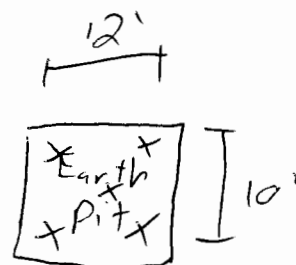
#### PROFILE



| SAMPLE ID | READING | CALC. (mg/kg) |
|-----------|---------|---------------|
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |
|           |         |               |

| PID RESULTS     |                 |
|-----------------|-----------------|
| SAMPLE ID       | RESULTS (mg/kg) |
| <u>100 Std</u>  | <u>96</u>       |
| <u>Spt Comp</u> | <u>1410</u>     |
|                 |                 |
|                 |                 |
|                 |                 |
|                 |                 |
|                 |                 |



T = Sample Points

| LAB SAMPLES     |                      |         |
|-----------------|----------------------|---------|
| SAMPLE ID       | ANALYSIS             | RESULTS |
| <u>Spt Comp</u> | <u>BENZENE</u>       |         |
| <u>Spt Comp</u> | <u>BTEX</u>          |         |
|                 | <u>GRO &amp; DRO</u> |         |
| <u>Spt Comp</u> | <u>CHLORIDES</u>     |         |
|                 |                      |         |
|                 |                      |         |

NOTES: Earth Pit Still in use

WORKORDER #

WHO ORDERED

Elm Ridge

| Client: Elm Ridge   |                           | ENVIROTECH INC<br>ENVIRONMENTAL SCIENTISTS & ENGINEERS<br>5796 U.S. HIGHWAY 64 - 3014<br>FARMINGTON, NEW MEXICO 87401<br>PHONE: (505) 632-0615   |            | Location No:<br><br>C.O.C. No:       |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---------------------------|--|------------|--------------------------------------|---------------------------|---------|-------------|----------------|------------|----------|----------|---------|-----------|------|---------|---|---|---|---|---|-----|------|-----------|---|----|----|---|------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| FIELD REPORT: SPILL CLOSURE VERIFICATION  |                           |  |            | PAGE NO: 1 OF 1                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LOCATION: NAME: East Bisti Coal Co WELL #: 1  |                           |  |            | DATE STARTED: 9/29/08                |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| QUAD/UNIT: SEC: 6 TWP: 25N RNG: 11W PM: NMPM CNTY: SS ST: NM  |                           |  |            | DATE FINISHED:                       |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| QTR/FOOTAGE: 830' FNL 1310' FEL CONTRACTOR: NA  |                           |  |            | ENVIRONMENTAL SPECIALIST: S McDaniel |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EXCAVATION APPROX: FT. X FT. X FT. DEEP CUBIC YARDAGE:  |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DISPOSAL FACILITY: REMEDIATION METHOD:  |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LAND USE: Federal APT LEASE 30045 27871 LAND OWNER: Federal   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CAUSE OF RELEASE: Earth Pit METERAIL RELEASED: Produced Water   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SPILL LOCATED APPROXIMATELY: 65 FT. 0" FROM well head   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DEPTH TO GROUNDWATER: 7100 ft NEAREST WATER SOURCE: 72,000 NEAREST SURFACE WATER: 71000   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NMOCD RANKING SCORE: 0 NMOCD TPH CLOSURE STD: 5000 PPM  |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SOIL AND EXCAVATION DESCRIPTION:<br><br>Earth Pit in Use  |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <table><tr><th>TIME</th><th>SAMPLE I.D.</th><th>LAB NO.</th><th>WEIGHT (g)</th><th>mL FREON</th><th>DILUTION</th><th>READING</th><th>CALC. ppm</th></tr><tr><td>1210</td><td>200 STD</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>197</td></tr><tr><td>1245</td><td>Soil Comp</td><td>1</td><td>50</td><td>20</td><td>4</td><td>1236</td><td>4944</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> |                           |  |            |                                      |                           | TIME    | SAMPLE I.D. | LAB NO.        | WEIGHT (g) | mL FREON | DILUTION | READING | CALC. ppm | 1210 | 200 STD | - | - | - | - | - | 197 | 1245 | Soil Comp | 1 | 50 | 20 | 4 | 1236 | 4944 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TIME  | SAMPLE I.D.               | LAB NO.  | WEIGHT (g) | mL FREON                             | DILUTION                  | READING | CALC. ppm   |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1210  | 200 STD                   | -  | -          | -                                    | -                         | -       | 197         |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1245  | Soil Comp                 | 1  | 50         | 20                                   | 4                         | 1236    | 4944        |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SPILL PERIMETER   |                           | OVM RESULTS  |            | SPILL PROFILE                        |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           | <table><tr><th>SAMPLE ID</th><th>FIELD HEADSPACE PID (ppm)</th></tr><tr><td>100 STD</td><td>96</td></tr><tr><td>Soil Comp</td><td>1410</td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr><tr><td> </td><td> </td></tr></table>     |            | SAMPLE ID                            | FIELD HEADSPACE PID (ppm) | 100 STD | 96          | Soil Comp      | 1410       |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE ID   | FIELD HEADSPACE PID (ppm) |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100 STD   | 96                        |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Soil Comp   | 1410                      |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           | LAB SAMPLES  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           | <table><tr><th>SAMPLE ID</th><th>ANALYSIS</th><th>TIME</th></tr><tr><td>Soil Comp</td><td>8021 Phosphate</td><td>1245</td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td></tr></table> |            | SAMPLE ID                            | ANALYSIS                  | TIME    | Soil Comp   | 8021 Phosphate | 1245       |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SAMPLE ID   | ANALYSIS                  | TIME   |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Soil Comp   | 8021 Phosphate            | 1245   |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TRAVEL NOTES:      CALLED OUT:      ONSITE:   |                           |  |            |                                      |                           |         |             |                |            |          |          |         |           |      |         |   |   |   |   |   |     |      |           |   |    |    |   |      |      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

|                |                       |                  |            |
|----------------|-----------------------|------------------|------------|
| Client:        | Elm Ridge Exploration | Project #:       | 03056-0197 |
| Sample No.:    | 1                     | Date Reported:   | 2/11/2009  |
| Sample ID:     | 5 Point Composite     | Date Sampled:    | 9/29/2008  |
| Sample Matrix: | Soil                  | Date Analyzed:   | 9/29/2008  |
| Preservative:  | Cool                  | Analysis Needed: | TPH-418.1  |
| Condition:     | Cool and Intact       |                  |            |

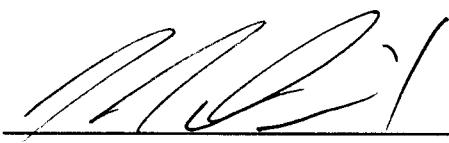
| Parameter                    | Concentration<br>(mg/kg) | Det.<br>Limit<br>(mg/kg) |
|------------------------------|--------------------------|--------------------------|
| Total Petroleum Hydrocarbons | 4,940                    | 5.0                      |

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **East Bisti Coal 6-1 Earth Pit**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
\_\_\_\_\_  
Analyst

James McDaniel

Printed

\_\_\_\_\_  
Review

Greg Crabtree

Printed

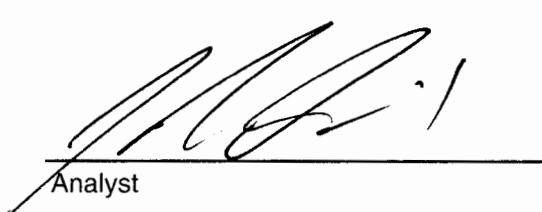


CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 29-Sep-08

| Parameter | Standard<br>Concentration<br>mg/L | Concentration<br>Reading<br>mg/L |
|-----------|-----------------------------------|----------------------------------|
| TPH       | 100                               |                                  |
|           | 200                               | 197                              |
|           | 500                               |                                  |
|           | 1000                              |                                  |

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

  
\_\_\_\_\_  
Analyst

James McDaniel

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Review

Greg Crabtree

\_\_\_\_\_  
Print Name

2/11/09  
\_\_\_\_\_  
Date

\_\_\_\_\_  
Date



EPA METHOD 8015 Modified  
Nonhalogenated Volatile Organics  
Total Petroleum Hydrocarbons

|                      |                        |                     |            |
|----------------------|------------------------|---------------------|------------|
| Client:              | Elmridge               | Project #:          | 03056-0136 |
| Sample ID:           | East Bisti Coal 6 #001 | Date Reported:      | 11-04-08   |
| Laboratory Number:   | 47932                  | Date Sampled:       | 10-29-08   |
| Chain of Custody No: | 5654                   | Date Received:      | 10-29-08   |
| Sample Matrix:       | Soil                   | Date Extracted:     | 10-31-08   |
| Preservative:        | Cool                   | Date Analyzed:      | 11-03-08   |
| Condition:           | Intact                 | Analysis Requested: | 8015 TPH   |

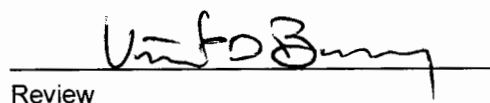
| Parameter                    | Concentration<br>(mg/Kg) | Det.<br>Limit<br>(mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10)    | ND                       | 0.2                      |
| Diesel Range (C10 - C28)     | ND                       | 0.1                      |
| Total Petroleum Hydrocarbons | ND                       | 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: **Earth Pit Samples, 5pt Comp.**

  
Analyst

  
Review

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

### Quality Assurance Report

|                    |                    |                     |          |
|--------------------|--------------------|---------------------|----------|
| Client:            | QA/QC              | Project #:          | N/A      |
| Sample ID:         | 10-03-08 QA/QC     | Date Reported:      | 10-06-08 |
| Laboratory Number: | 47520              | Date Sampled:       | N/A      |
| Sample Matrix:     | Methylene Chloride | Date Received:      | N/A      |
| Preservative:      | N/A                | Date Analyzed:      | 10-03-08 |
| 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   | 9.8263E+002 | 9.8302E+002 | 0.04%        | 0 - 15%       |
| Diesel Range C10 - C28  | 05-07-07   | 9.8770E+002 | 9.8810E+002 | 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 | ND     | ND        | 0.0%         | 0 - 30%       |
| Diesel Range C10 - C28  | ND     | ND        | 0.0%         | 0 - 30%       |

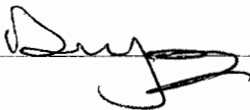
| Spike Conc. (mg/Kg)     | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | ND     | 250         | 249          | 99.6%      | 75 - 125%     |
| Diesel Range C10 - C28  | ND     | 250         | 245          | 98.0%      | 75 - 125%     |

ND - Parameter not detected at the stated detection limit.

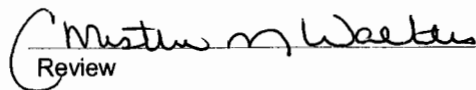
References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 47520 and 47525 - 47528.

Analyst



Review





|                    |                       |                     |            |
|--------------------|-----------------------|---------------------|------------|
| Client:            | Elmridge              | Project #:          | 03056-0136 |
| Sample ID:         | East Bisti Coal 6-001 | Date Reported:      | 11-04-08   |
| Laboratory Number: | 47932                 | Date Sampled:       | 10-29-08   |
| Chain of Custody:  | 5654                  | Date Received:      | 10-29-08   |
| Sample Matrix:     | Soil                  | Date Analyzed:      | 11-03-08   |
| Preservative:      | Cool                  | Date Extracted:     | 10-31-08   |
| Condition:         | Intact                | Analysis Requested: | BTEX       |

| Parameter    | Concentration<br>(ug/Kg) | Det.<br>Limit<br>(ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene      | ND                       | 0.9                      |
| Toluene      | 3.8                      | 1.0                      |
| Ethylbenzene | 3.4                      | 1.0                      |
| p,m-Xylene   | 4.8                      | 1.2                      |
| o-Xylene     | 2.0                      | 0.9                      |
| Total BTEX   | 14.0                     |                          |

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.

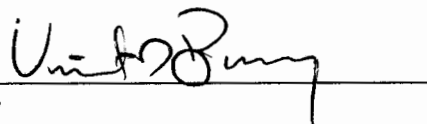
Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Earth Pit Samples, 5pt Comp.

Analyst



Review





EPA METHOD 8021  
AROMATIC VOLATILE ORGANICS

|                    |                |                |          |
|--------------------|----------------|----------------|----------|
| Client:            | N/A            | Project #:     | N/A      |
| Sample ID:         | 11-03-BT QA/QC | Date Reported: | 11-04-08 |
| Laboratory Number: | 47923          | Date Sampled:  | N/A      |
| Sample Matrix:     | Soil           | Date Received: | N/A      |
| Preservative:      | N/A            | Date Analyzed: | 11-03-08 |
| Condition:         | N/A            | Analysis:      | BTEX     |

| Calibration and<br>Detection Limits (ug/L) | I-Cal RF:   | C-Cal RF:             | %Diff. | Blank<br>Conc | Detect.<br>Limit |
|--|-------------|-----------------------|--------|---------------|------------------|
|  |             | Accept. Range 0 - 15% |        |               |                  |
| Benzene                                    | 4.3065E+007 | 4.3151E+007           | 0.2%   | ND            | 0.1              |
| Toluene                                    | 3.3071E+007 | 3.3137E+007           | 0.2%   | ND            | 0.1              |
| Ethylbenzene                               | 2.5284E+007 | 2.5335E+007           | 0.2%   | ND            | 0.1              |
| p,m-Xylene                                 | 2.5284E+007 | 2.5335E+007           | 0.2%   | ND            | 0.1              |
| o-Xylene                                   | 2.4071E+007 | 2.4119E+007           | 0.2%   | ND            | 0.1              |

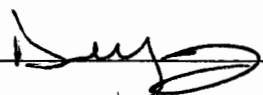
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|--------|--------------|---------------|
| Benzene                 | 1.4    | 1.3       | 7.1%   | 0 - 30%      | 0.9           |
| Toluene                 | 16.9   | 17.0      | 0.6%   | 0 - 30%      | 1.0           |
| Ethylbenzene            | 56.3   | 56.1      | 0.4%   | 0 - 30%      | 1.0           |
| p,m-Xylene              | 179    | 181       | 0.9%   | 0 - 30%      | 1.2           |
| o-Xylene                | 86.6   | 86.2      | 0.5%   | 0 - 30%      | 0.9           |

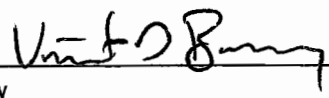
| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene             | 1.4    | 50.0          | 50.4          | 98.1%      | 39 - 150     |
| Toluene             | 16.9   | 50.0          | 64.6          | 96.6%      | 46 - 148     |
| Ethylbenzene        | 56.3   | 50.0          | 104           | 98.0%      | 32 - 160     |
| p,m-Xylene          | 179    | 100           | 276           | 98.7%      | 46 - 148     |
| o-Xylene            | 86.6   | 50.0          | 133           | 97.7%      | 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 47923 - 47926, 47928, 47930, 47932, 47933, 47942, and 47943.

Analyst 

Review 



## Chloride

|                |                        |                   |            |
|----------------|------------------------|-------------------|------------|
| Client:        | Elmridge               | Project #:        | 03056-0136 |
| Sample ID:     | East Bisti Coal 6 #001 | Date Reported:    | 11-04-08   |
| Lab ID#:       | 47932                  | Date Sampled:     | 10-24-08   |
| Sample Matrix: | Soil Extract           | Date Received:    | 10-29-08   |
| Preservative:  | Cool                   | Date Analyzed:    | 11-04-08   |
| Condition:     | Intact                 | Chain of Custody: | 5654       |

### Parameter

### Concentration (mg/L)

**Total Chloride**

**1,320**

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: **Earth Pit Samples, 5pt Comp.**

Analyst

A handwritten signature in black ink, appearing to read 'D. J. ...', written over a horizontal line.

Review

A handwritten signature in black ink, appearing to read 'V. ...', written over a horizontal line.

100

# ENVROTECH INC.

# CHAIN OF CUSTODY RECORD

5415

| Client: <u>Elm Ridge</u>     |                    |             |         | Project Name / Location: <u>Earth</u> |                          | ANALYSIS / PARAMETERS                                |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|------------------------------|--------------------|-------------|---------|---------------------------------------|--------------------------|--|--------------------------|--------------------|-------------------|---------------|----------------|-----|---------------|-----|-------------|----------|--|-------------|---------------|
| Client Address:              |                    |             |         | Sampler Name: <u>SPM / SLA</u>        |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
| Client Phone No.:            |                    |             |         | Client No.: <u>03056-0136</u>         |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
| Sample No./ Identification   | Sample Date        | Sample Time | Lab No. | Sample Matrix                         | No./Volume of Containers | Preservatives<br>H <sub>2</sub> O <sub>2</sub> , HCl | 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 |
| Bisti Coal 12-19/29/06       | 9/29/06            | 1400        | 47519   | Soil Solid                            | 1/402                    |  | X                        | X                  |                   |               |                |     |               |     |             | X        |  | ✓           | ✓             |
| East Bisti Coal Co-1         | 9/29/06            | 1245        | 47520   | Soil Solid                            | 1/402                    |  | X                        | X                  |                   |               |                |     |               |     |             | X        |  | ✓           | ✓             |
| Pete Morrow #1               | 9/29/06            | 1445        | 47521   | Soil Solid                            | 1/402                    |  | X                        | X                  |                   |               |                |     |               |     |             | X        |  | ✓           | ✓             |
| Buena Suerte 42 COM #1       | 9/29/06            | 1125        | 47522   | Soil Solid                            | 1/402                    |  | X                        | X                  |                   |               |                |     |               |     |             | X        |  | ✓           | ✓             |
| Buena Suerte 32 G COM #1     | 9/29/06            | 0900        | 47523   | Soil Solid                            | 1/402                    |  | X                        | X                  |                   |               |                |     |               |     |             | X        |  | ✓           | ✓             |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
|                              |                    |             |         | Soil Solid                            |                          |  |                          |                    |                   |               |                |     |               |     |             |          |  |             |               |
| Relinquished by: (Signature) | <u>[Signature]</u> |             |         |                                       | Date<br>9/29/06          | Time<br>1700   | Received by: (Signature) |                    |                   |               |                |     |               |     |             |          |  |             |               |
| Relinquished by: (Signature) | <u>[Signature]</u> |             |         |                                       |                          |  | Received by: (Signature) |                    |                   |               |                |     |               |     |             |          |  |             |               |
| Relinquished by: (Signature) |                    |             |         |                                       |                          |  | Received by: (Signature) |                    |                   |               |                |     |               |     |             |          |  |             |               |

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