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.

2611
4248

Pit, Closed-Loop System, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit
- ☒ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances

1.
Operator: **ELM RIDGE EXPLORATION COMPANY, LLC** OGRID #: **149052**
Address: **P. O. BOX 156, BLOOMFIELD, NM 87413**
Facility or well name: **BISTI GALLUP 22 #3**
API Number: **30-045-34243** OCD Permit Number: _____
U/L or Qtr/Qtr **C** Section **22** Township **25 N** Range **12 W** County: **SAN JUAN**
Center of Proposed Design: Latitude **36.39106° N** Longitude **108.10002° W** NAD: ☐1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

RECEIVED
OCT 2008
OIL CONS. DIV. DIST. 3

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness **20** mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: **9,939** bbl Dimensions: L **160'** x W **40'** x D **10'**

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

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DEC 2008
OIL CONS. DIV. DIST. 3

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

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

6.

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

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

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

☒ Alternate. Please specify minimum 36" hog wire topped with at least 1 strand of barbed wire = at least 48" high fence

7.

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

☐ Screen ☐ Netting ☐ Other_____

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

8.

Signs: Subsection C of 19.15.17.11 NMAC

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

☒ Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals and Exceptions:

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

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

☒ Administrative approval(s): Requests must be submitted to the appropriate division **district** or the Santa Fe Environmental Bureau office for consideration of approval. *See request for alternate marking on Page 2 of attachment*

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

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☐ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

11.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

12.
Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

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

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

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

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

Proposed Closure Method:
- ☐ Waste Excavation and Removal
- ☐ Waste Removal (Closed-loop systems only)
- ☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
  - ☒ In-place Burial ☐ On-site Trench Burial
- ☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

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

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

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Soil Backfill and Cover Design Specifications - - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo, Satellite image	☐ Yes ☒ No
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

18.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***
☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC *See 10. on APD Page 9 (Exhibit K)*
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☒ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19
Operator Application Certification:

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

Name (Print) **BRIAN WOOD** Title: **CONSULTANT**

Signature: _____ Date: **11-28-08**

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

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

OCD Representative Signature: _____ **Approval Date:** 12-10-08

Title: Env. Spec **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:** February 2, 2009

22.
Closure Method:

☐ Waste Excavation and Removal ☒ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

23.
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

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

☒ Site Reclamation (Photo Documentation)

☒ Soil Backfilling and Cover Installation

☒ Re-vegetation Application Rates and Seeding Technique

24
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

☒ Proof of Closure Notice (surface owner and division) see attached

☐ Proof of Deed Notice (required for on-site closure) NA

☒ Plot Plan (for on-site closures and temporary pits) see attached

☒ Confirmation Sampling Analytical Results (if applicable) see attached

☒ Waste Material Sampling Analytical Results (required for on-site closure) see attached

☐ Disposal Facility Name and Permit Number NA

☒ Soil Backfilling and Cover Installation see attached

☒ Re-vegetation Application Rates and Seeding Technique see attached

☒ Site Reclamation (Photo Documentation) see attached

On-site Closure Location: Latitude 36.39106 Longitude -108.10002 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): Amy Mackey Title: Administrative Manager

Signature: _____ Date: 10-22-09

e-mail address: _____ Telephone: 632-3476 x 201

Approved Brandon Powell NMOCD 11/3/09

Elm Ridge Exploration
Bisti Gallup 22-3
Closure Date: February 2, 2009
Project No. 03056-0156

Drill Pit Closure Checklist

1) An alternative interim marking system will be used to allow for safer and more efficient operations. A minimum 4" O.D. steel pipe will be set at least 36" deep at the center of the pit. A threaded collar will be on the top of the pipe. A minimum 12" x 12" steel plate will be welded atop the threaded collar. The top of the plate will be flush with ground level. The standard location information listed will be welded onto the plate, plus a notation that it marks an on-site buried, temporary pit. Upon plugging the well, the plate will be removed, and the pit will be marked as described in 19.15.17.13.F(1)(d).
See attached photo for on-site temporary ground-level marker. In ground marker will be replaced by a division approved four (4) foot riser upon P&A of this well location. Information welded onto the marker will include: Elm Ridge Exploration, Lease #NMNM-25449, Bisti Gallup 22-3, UL C, Sec. 22, Twn. 25N, Rng 12W, on-site burial and the date.

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

3) All free standing liquids will be removed before backfilling the pit and disposed of at an Elm Ridge Disposal Well or at Basin Disposal's evaporation pond.
Liquid was removed and disposed of at Carson WDW 242 on January 13, 2009. The rig release date for this drill pit is prior to rule 19.15.17, March 27, 2008.

4) **Due to the land being located on federal land, managed by the Bureau of Land Management (BLM), a deed notice was not applicable.**

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

6) The preferred method of closure will be on-site, in place burial, assuming all criteria outlined in 19.15.17.13 (B) are met.
The drill pit met all requirements, and was buried in-place on February 2, 2009.

7) The surface owner has been notified.
The BLM was notified on January 29, 2009. See attached BLM notification.

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

9) All liner above the mud level will be cut and removed after stabilization. Removed liner will be disposed of in a licensed disposal facility.
Liner was cut, removed, and disposed after stabilization of the drill pit contents at San Juan

County Regional Landfill, Solid Waste Facility Permit SW 05-30 (P).

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

11) A five (5)-point composite sample will be taken of the pit, and all samples will be tested per Subsection B of 19.15.17.13(B)(1)(b). If the criteria are not met, then all contents will be handled per subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13. (i.e. dig and haul). If a dig and haul is required, then the disposal facility will be Envirotech's Landfarm (NM01-0011).
Initial sampling on 1/15/09 returned results that were below the NMOCD regulatory standards for all constituents analyzed; see attached *Laboratory Results.*

Sample	Chloride	Benzene (8021)	BTEX (8021)	TPH (418.1)	DRO/GRO (8015)
NMOCD Regulatory Standards	1,000 mg/kg	0.2 mg/kg	50.0 mg/kg	2,500 mg/kg	500 mg/kg
Contents Pre-Mix	100 mg/kg	0.002 mg/kg	0.0274 mg/kg	148 mg/kg	2.2 mg/kg

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

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

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

Submit To Appropriate District Office Two Copies District I 1625 N French Dr , Hobbs, NM 88240 District II 1301 W Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Rd , Aztec, NM 87410 District IV 1220 S St Francis Dr , Santa Fe, NM 87505	State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505	Form C-105 July 17, 2008 1. WELL API NO. **30-045-34243** 2 Type of Lease ☐ STATE ☐ FEE ☒ FED/INDIAN 3 State Oil & Gas Lease No **NMNM-25449**

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4 Reason for filing

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

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

5 Lease Name or Unit Agreement Name
Bisti Gallup 22

6 Well Number
3

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

8 Name of Operator
Elm Ridge Exploration

9 OGRID
149052

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

11 Pool name or Wildcat

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

13 Date Spudded	14 Date T D Reached	15 Date Rig Released	16 Date Completed (Ready to Produce)	17 Elevations (DF and RKB, RT, GR, etc)
		March 27, 2008		

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

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

23 CASING RECORD (Report all strings set in well)

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

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25 TUBING RECORD

SIZE	DEPTH SET	PACKER SET

26 Perforation record (interval, size, and number)

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

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED

28 PRODUCTION

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

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

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

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

30 Test Witnessed By

31 List Attachments

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

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

Latitude **36.39106** Longitude **-108.10002** NAD 1927 **1983**

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

Signature
Printed Name **Ms. Amy Mackey** Title **Administrative Manager**
Date 10-22-09
E-mail Address **amackey1@elmridge.net**

INSTRUCTIONS

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

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

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

OIL OR GAS SANDS OR ZONES

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

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

IMPORTANT WATER SANDS

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

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

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

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

LITHOLOGY RECORD (Attach additional sheet if necessary)

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

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

DISTRICT II
811 South First, Artesia, N.M. 88210

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Form C-102
Revised August 15, 2000

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

2007 MAR 15 PM 1:27 AMENDED REPORT

RECEIVED
BLM
FARMINGTON, NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-045-34243	5890	BISTI LOWER - GALLUP

4 Property Code	5 Property Name	6 Well Number
36290	BISTI GALLUP 22	3

7 OGRID No.	8 Operator Name	9 Elevation
149052	ELM RIDGE EXPLORATION, LLC	6398'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	22	25N	12W		1060'	NORTH	2310'	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

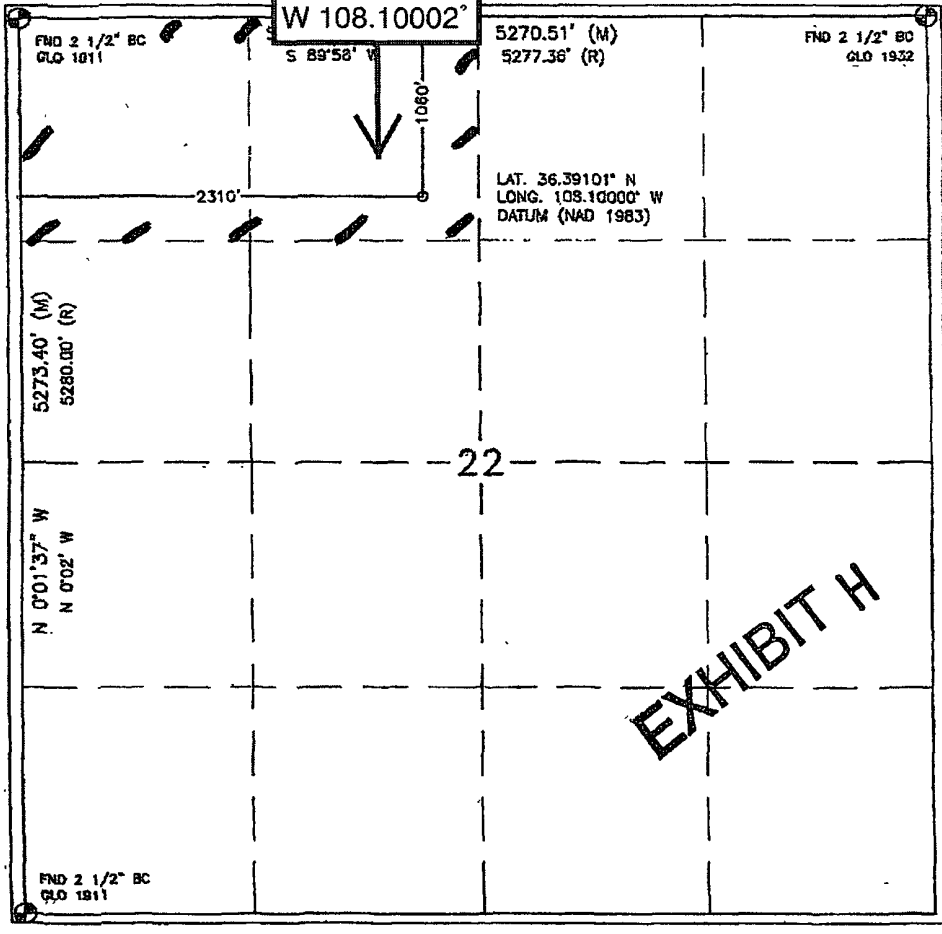
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line.	County

RCVD MAR 27 '07
OIL CONS. DIV.
DIST. 3

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
80			

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

16



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Signature: BRIAN WOOD

Printed Name: CONSULTANT

Title: MAR. 10, 2007

Date

18 SURVEYOR CERTIFICATION

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

NOVEMBER 14, 2006

Date of Survey

Signature and Seal of Professional Surveyor:

NEW MEXICO
DAVID M. RUSSELL
10201
REGISTERED PROFESSIONAL LAND SURVEYOR

DAVID RUSSELL

Certificate Number 10201

LATITUDE: 36.39101°N
LONGITUDE: 108.10000°W
DATUM: NAD 83

ELM RIDGE EXPLORATION, LLC

BISTI GALLUP 22 #3
1060' FNL & 2310' FWL
LOCATED IN THE NE/4 NW/4 OF
SECTION 22, T25N, R12W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6398', NAVD 88
FINISHED PAD ELEVATION: 6398', NAVD 88

25' 0 25' 50'
SCALE = 50'

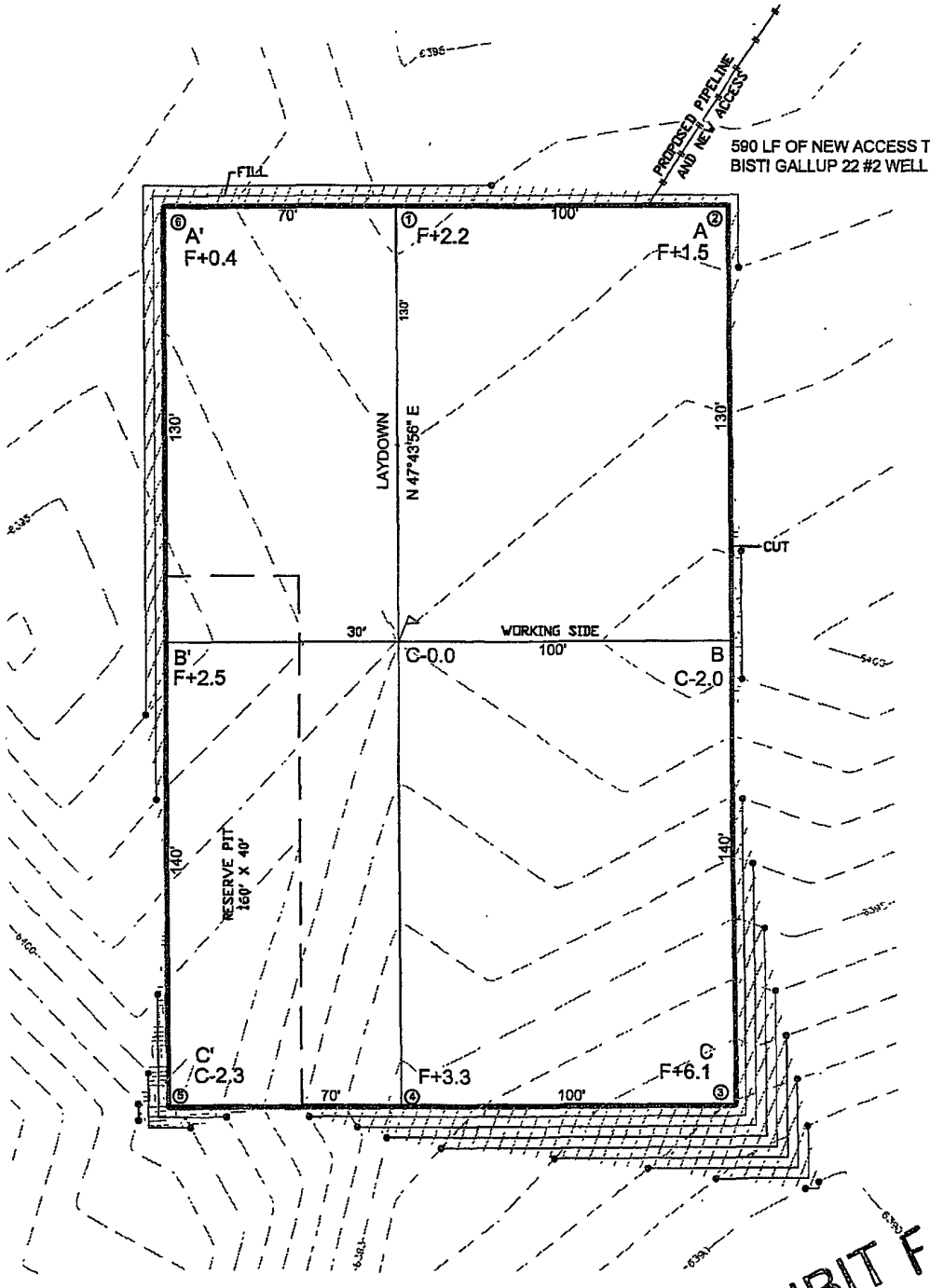


EXHIBIT F

1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERE010
DATE: 11/16/06

Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

FROM: JAMES MCDANIEL
SENT: THURSDAY, JANUARY 29, 2009 9:48 AM
TO: 'BRANDON.POWELL@STATE.NM.US'
SUBJECT: BISTI GALLUP 22-3 CLOSURE ACTIVITIES

Mr. Brandon Powell,
Please accept this email as the required notification for closure activities to be performed by Elm Ridge Exploration at the Bisti Gallup 22-3 well site located in Section 22, Township 25N, Range 12W, Unit C, San Juan County, New Mexico. The API # is 3004534243, and closure activities are scheduled to begin on Monday, February 2, 2009. The BLM has been notified as the surface owner. Thank you for your time in regards to this event.

James P McDaniel
Project Scientist
Envirotech, Inc

505-793-5392

FROM: JAMES MCDANIEL
SENT: THURSDAY, JANUARY 29, 2009 9:38 AM
TO: 'MARK KELLY (MARK_KELLY@NM.BLM.GOV)'
SUBJECT: FW: SUNDRY NOTICE, BISTI GALLUP 22-3
ATTACHMENTS: SUNDRY NOTICE EDITABLE.PDF

Mr. Mark Kelly,
Attached is a Sundry notice for closure activities that will be performed by Elm Ridge Exploration at the Bisti Gallup 22-3 well site. Closure Activities will begin on Monday, February 2, 2009.

James P McDaniel
Project Scientist
Envirotech, Inc

505-793-5392

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE – *Other instructions on page 2*

5 Lease Serial No.
NMNM-25449

6 If Indian, Allottee or Tribe Name

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

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

8 Well Name and No
Bisti Gallup 22-3

2 Name of Operator
Elm Ridge Exploration

9 API Well No
30-045-34243

3a Address
PO Box 156
Bloomfield, NM 87413

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

10 Field and Pool or Exploratory Area

4 Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
1060 FNL & 2310 FWL, C-22-25N-12W

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

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

Elm Ridge Exploration, Inc is notifying making the necessary surface notification of their intent to close the drill pit at the Bisti Gallup 22-3 well site. Closure activities will begin on Monday, February 2, 2009 and continue for the entire week

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

Title

Signature

Date

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 grantingapproval 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

ELM RIDGE EXPLORATION
BISTI GALLUP 22-3
SITE RESTORATION PHOTOGRAPHY
PROJECT NUMBER: 03056-0156
PHOTOS TAKEN: MAY 14, 2009

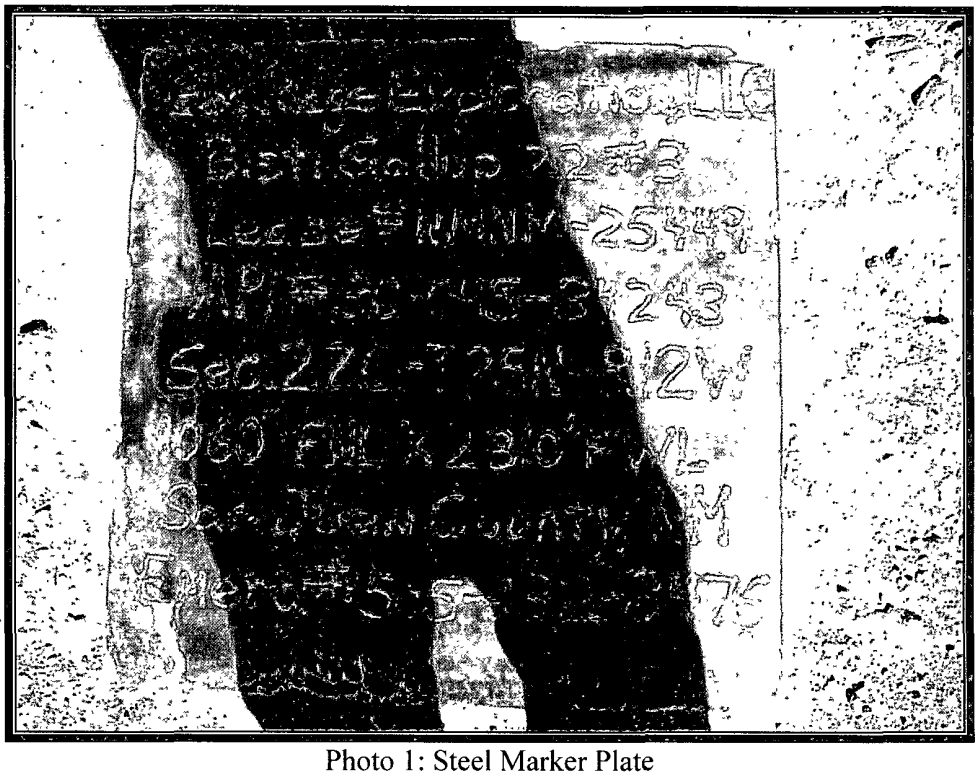


Photo 1: Steel Marker Plate

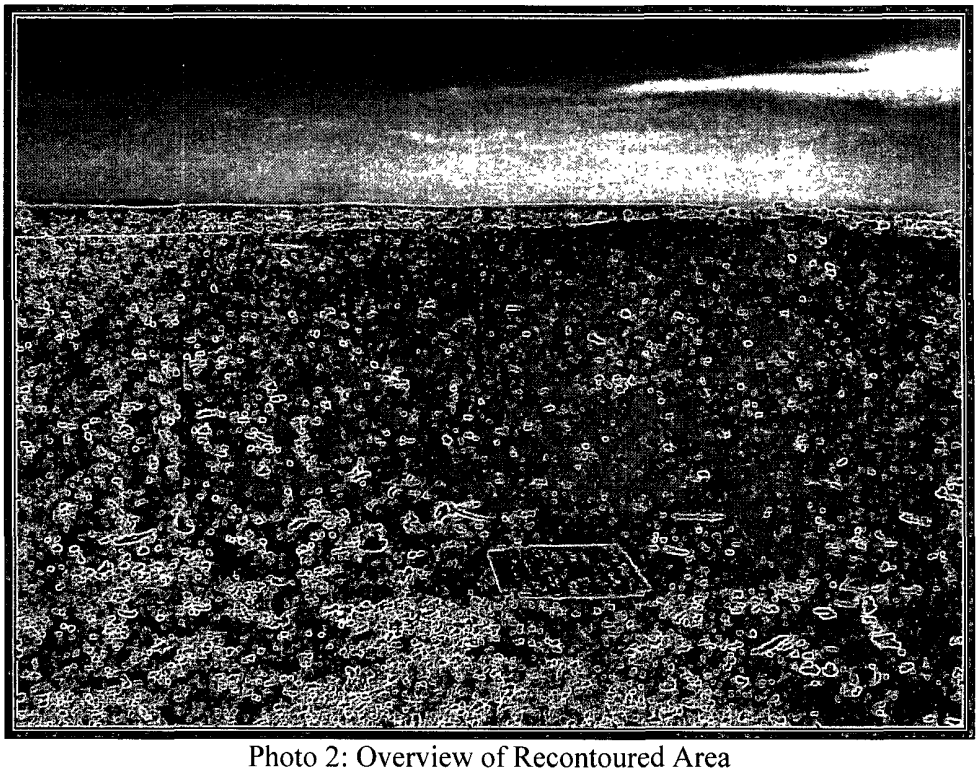


Photo 2: Overview of Recontoured Area

ELM RIDGE EXPLORATION
BISTI GALLUP 22-3
SITE RESTORATION PHOTOGRAPHY
PROJECT NUMBER: 03056-0156
PHOTOS TAKEN: MAY 14, 2009

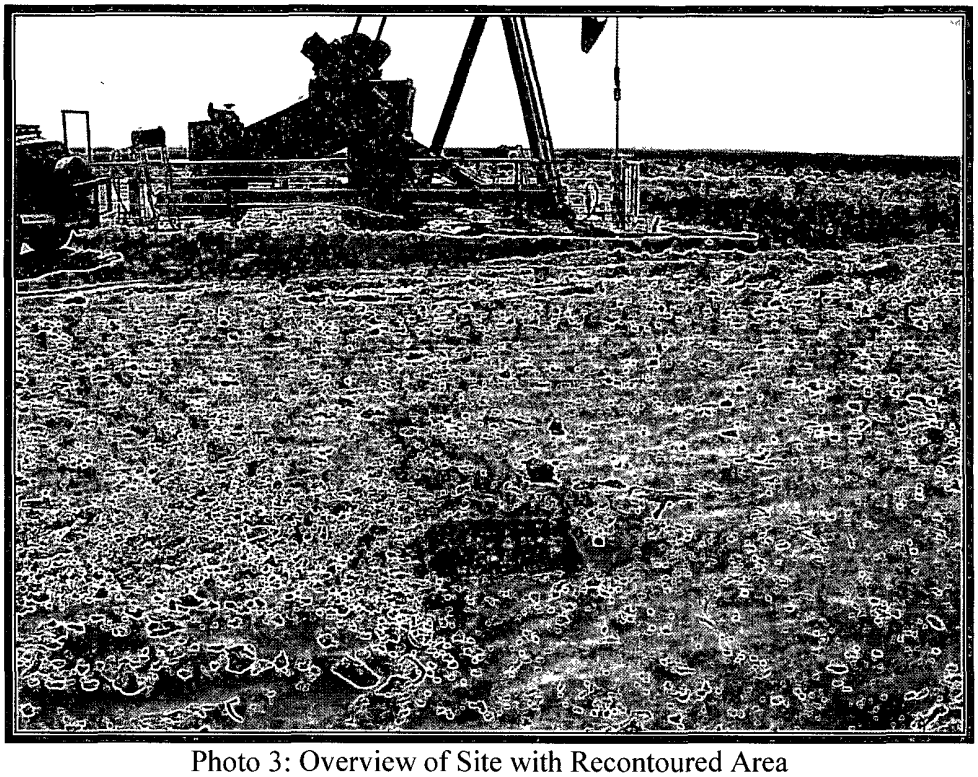


Photo 3: Overview of Site with Recontoured Area

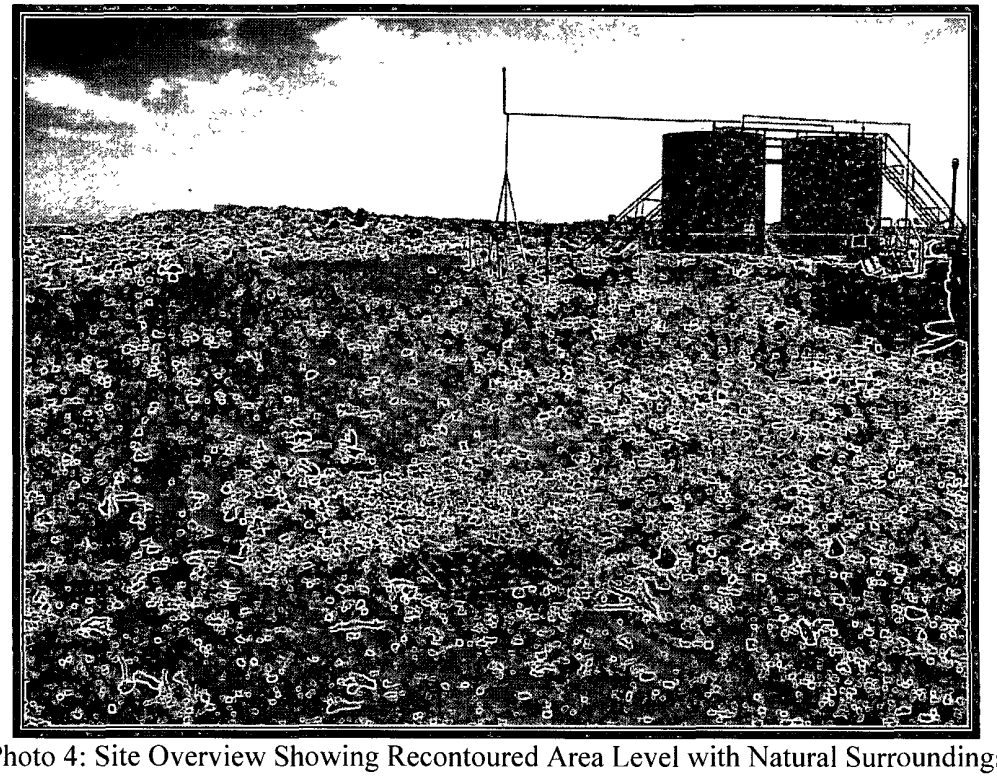


Photo 4: Site Overview Showing Recontoured Area Level with Natural Surroundings

envirotech
Analytical Laboratory

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Elmridge Res.	Project #:	03056-0156
Sample ID:	#1 Pit	Date Reported:	01-23-09
Laboratory Number:	48753	Date Sampled:	01-15-09
Chain of Custody No:	6194	Date Received:	01-15-09
Sample Matrix:	Sludge	Date Extracted:	01-19-09
Preservative:	Cool	Date Analyzed:	01-20-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**2.2**	**0.1**
Total Petroleum Hydrocarbons	**2.2**	**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: **Bisti Gallup 22 #3**

Analyst

Review

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

envirotech
Analytical Laboratory

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-20-09 QA/QC	Date Reported:	01-23-09
Laboratory Number:	48749	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-20-09
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0047E+003	1.0051E+003	**0.04%**	**0 - 15%**
Diesel Range C10 - C28	05-07-07	1.0367E+003	1.0371E+003	**0.04%**	**0 - 15%**

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

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	**ND**	**ND**	**0.0%**	**0 - 30%**
Diesel Range C10 - C28	**16.4**	**16.3**	**0.6%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**248**	**99.2%**	**75 - 125%**
Diesel Range C10 - C28	**16.4**	**250**	**262**	**98.5%**	**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 48749 - 48753, 48760, and 48771 - 48774**

Analyst

Review

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

envirotech
Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Elmridge Res.	Project #:	03056-0156
Sample ID:	#1 Pit	Date Reported:	01-23-09
Laboratory Number:	48753	Date Sampled:	01-15-09
Chain of Custody:	6194	Date Received:	01-15-09
Sample Matrix:	Sludge	Date Analyzed:	01-20-09
Preservative:	Cool	Date Extracted:	01-19-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**2.0**	**0.9**
Toluene	**5.1**	**1.0**
Ethylbenzene	**4.1**	**1.0**
p,m-Xylene	**10.1**	**1.2**
o-Xylene	**6.1**	**0.9**
Total BTEX	**27.4**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**99.0 %**
	1,4-difluorobenzene	**99.0 %**
	Bromochlorobenzene	**99.0 %**

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: **Bisti Gallup 22 #3**

Analyst

Review

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

envirotech
Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client	N/A	Project #.	N/A
Sample ID:	01-20-BT QA/QC	Date Reported:	01-23-09
Laboratory Number:	48749	Date Sampled	N/A
Sample Matrix	Soil	Date Received:	N/A
Preservative.	N/A	Date Analyzed:	01-20-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	5.4655E+005	5.4764E+005	0.2%	ND	0.1
Toluene	5 2152E+005	5.2257E+005	0.2%	ND	0.1
Ethylbenzene	7.5656E+005	7 5807E+005	0.2%	ND	0.1
p,m-Xylene	1 1786E+006	1 1810E+006	0.2%	ND	0.1
o-Xylene	5.0287E+005	5 0387E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	1.3	1.4	7.7%	0 - 30%	0.9
Toluene	13.8	13.5	2.2%	0 - 30%	1.0
Ethylbenzene	4.9	4.6	6.1%	0 - 30%	1.0
p,m-Xylene	18.2	17.0	6.6%	0 - 30%	1.2
o-Xylene	12.2	12.6	3.3%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	1.3	50.0	49.3	96.1%	39 - 150
Toluene	13.8	50.0	61.8	96.9%	46 - 148
Ethylbenzene	4.9	50.0	51.7	94.2%	32 - 160
p,m-Xylene	18.2	100	114	96.5%	46 - 148
o-Xylene	12.2	50.0	63.6	102%	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 48749 - 48753, 48760, and 48771 - 48774.**

Analyst

Review

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

envirotech
Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	Elm Ridge Res	Project #:	03056-0156
Sample ID:	#1 Pit	Date Reported:	01-21-09
Laboratory Number:	48753	Date Sampled:	01-15-09
Chain of Custody No:	6194	Date Received:	01-15-09
Sample Matrix:	Sludge	Date Extracted:	01-15-09
Preservative:	Cool	Date Analyzed:	01-15-09
Condition:	Intact	Analysis Needed:	TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**148**	**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: **Bisti Gallup 22 #3.**

Analyst

Review

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

envirotech
Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYROCARBONS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	01-19-09
Laboratory Number:	01-15-TPH.QA/QC 48707	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	01-15-09
Preservative:	N/A	Date Extracted:	01-15-09
Condition:	N/A	Analysis Needed:	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
	01-08-09	01-15-09	1,690	1,720	1.8%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	16.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
TPH	49.9	41.8	16.2%	+/- 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	49.9	2,000	1,750	85.4%	80 - 120%

ND = Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for Samples 48707 - 48709 and 48751 - 48753.**

Analyst

Review

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

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Chloride

Client:	Elm Ridge Res	Project #:	03056-0156
Sample ID:	#1 Pit	Date Reported:	01-21-09
Lab ID#:	48753	Date Sampled:	01-15-09
Sample Matrix:	Sludge	Date Received:	01-15-09
Preservative:	Cool	Date Analyzed:	01-16-09
Condition:	Intact	Chain of Custody:	6194

Parameter	Concentration (mg/Kg)
Total Chloride	**100**

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: **Bisti Gallup 22 #3.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

Client:	Project Name / Location:
[illegible] Res.	Bisti Gallup 22 #3
Client Address:	Sampler Name: #1 Pit
Client Phone No.:	Client No.: 03056-0156

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl₂	Preservative 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
#1 Pit	1/15/09	0949	48753	Soil Sludge (circled) Solid Aqueous	4				X	X	X						X	X				✓	✓
				Soil Sludge Solid Aqueous																			
				Soil Sludge Solid Aqueous																			
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Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	1/15/09	1230	[signature]	1/15/09	1230
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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