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

						OPERA'	ГOR		Initi	al Report	\boxtimes	Final Report
		lm Ridge Ex				Contact: Amy Mackey						
		, Bloomfield		113		Telephone No.: (505) 632-3476 Ext 201						
Facility Nar	ne: West E	Bisti Coal 13	<u>-1</u>			Facility Type: Gas Well						
Surface Ow	ner: Feder	al		Mineral C)wner:			L	ease 1	No.: NM 58	138	
				LOCA	OITA	OF RE	LEASE					
Unit Letter A	Section 13	Township 25N	Range 13W	Feet from the 790	3	South Line FNL	Feet from the 790	East/West FEL	Line	County San Juan		
				Latitude <u>36.4</u>	06272	Longitu	ıde <u>-108.16430</u>	08				
				NAT	URE	OF REL						
Type of Rele						Volume of Release: Unknown Volume Recovered: Unknown Date and Hour of Occurrence: Date and Hour of Discovery: NA						
Source of Re	lease: Earth	Pit			<u>. </u>	Historical	lour of Occurrenc	e: Da	te and	Hour of Disc	overy:	NA
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required If YES, To Whom?												
				Date and Hour								
Was a Watercourse Reached? ☐ Yes ☒ 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 a gas well at the above 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.* Blow sand was removed from the earthen pit, and approximately thirty-nine (39) yards of 'production sludge' was removed from the earthen pit. A five (5)-point composite sample was collected from beneath the 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.												
OIL CONSERVATION DIVISION Signature:												
Printed Name	: Ms. Arry	/ Mackey			A	Approved by	District Superviso	or:				
Title: Adminis	strative Mar	nager			A	Approval Date	: :	Expir	ation I	Date:		
E-mail Addres	ss: amackey	1@elmridge.	net		c	Conditions of	Approval:			Attached		
Date:	177	8	Phone: 50	5-632-3476 Ext 2	01							

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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

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: West Bisti Coal 13-1
API Number: 3004528388 OCD Permit Number:
U/L or Qtr/Qtr A Section 13 Township 25N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.406272 Longitude -108.164308 NAD: □1927 ☑ 1983
Surface Owner: M Federal M State M 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: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L_15' x W_13' 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: Thicknessmil ☐ 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: Thicknessmil
s. Alternative Method:

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

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, institution or church) Four foot height, four strands of barbed wire evenly spaced between one and four feet Alternate. Please specify	hospital,
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	
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 consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for
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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the approoffice or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dry above-grade tanks associated with a closed-loop system.	priate district pproval.
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).0. - 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) (Yes No
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	
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 ☐ NA
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.	5 5
Within the area overlying a subsurface mine.	☐ 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
	☐ Yes ☐ No
	☐ Yes ☐ No

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: or Permit Number:
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)
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 ₂ 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
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)
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 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 G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	С				
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				
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				
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				
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					
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					
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				
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan 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 19.15.17.13 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 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 G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	15.17.11 NMAC				

Operator Application Certification: I hereby certify that the information submitted with this application is true, ac	curate and complete to the best of my knowledge and belief.
Name (Print): Title:	
Signature:	Date:
E-mail address: Telephone:	
OCD Approval: Permit Application (including closure plan) Closure	e Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date:
Title:	OCD Permit Number:
Closure Report (required within 60 days of closure completion): Subsection Instructions: Operators are required to obtain an approved closure plan prior The closure report is required to be submitted to the division within 60 days of section of the form until an approved closure plan has been obtained and the	or to implementing any closure activities and submitting the closure report. If the completion of the closure activities. Please do not complete this
	☐ Closure Completion Date: 9/15/09
22. Closure Method: Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alte ☐ If different from approved plan, please explain.	rnative Closure Method Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-loop System Instructions: Please indentify the facility or facilities for where the liquids, at two facilities were utilized. Disposal Facility Name: Envirotech Landfarm #2 Disposal Facility Name: Were the closed-loop system operations and associated activities performed on Yes (If yes, please demonstrate compliance to the items below) No	Disposal Facility Permit Number: NM-01-0011 Disposal Facility Permit Number:
Required for impacted areas which will not be used for future service and open Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	ations:
Closure Report Attachment Checklist: Instructions: Each of the following 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 □ Soil Backfilling and Cover Installation See Attached □ Re-vegetation Application Rates and Seeding Technique Per BLM MO □ Site Reclamation (Photo Documentation) See Attached □ On-site Closure Location: Latitude □ Long) NM-01-0011
Operator Closure Certification: I hereby certify that the information and attachments submitted with this closure belief. I also certify that the closure comples with all applicable closure require	
Name (Print): Ms. Aphy Mackey Signature:	Title: Administrative Manager Date: 11 11 09
E-mail address: amackey 1@elmridge.net	Telephone: (505) 632-3476 ext. 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 the West Bisti Coal 13-1 well site is September 15, 2009.
- 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 proximately 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 onsite 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 the earthen 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 September 11, 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 September 15, 2009, approximately thirty-nine (39) cubic yards of production sludge were 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 West Bisti Coal 13-1 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.

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	ТРН
Pit Rule	0.2 mg/kg	50 mg/kg	250 mg/kg	100 mg/kg
Standard				
Earth Pit Bottom	0.0013 mg/kg	0.0518 mg/kg	160 mg/kg	20 mg/kg
Composite				

- 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 attached 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 samples 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 total chloride standard, confirming that a release did NOT occur.

Elm Ridge Exploration West Bisti Coal 13-1 Earth Pit Closure Project No. 03056-0210 Closure Date: 9/15/09

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 15, 2009.

7 Perpendit Affice. Inscriber in a Control in the Control in Podby Fred Ownight Sender's Copy Dry los Drives X Cargo Aircraft Only Tend Decisered Value 0.7 M 8693 8147 6355 Prom (505) 476-3487 Phone (565) 632-0615 Market Barner 0401655191 300 NM 20 87505 1519-6147-9 COMPANY N. M. Dil CASENOLION Division Sam NM 2P 87401 Addres 1220 S. St. Francis Drive 2 Your Internal Billing Beforence 03056-072 (4) Senter James Mc Darie Sender's FedEx Account Number The Brad Jones Admis 3795 HIGHWAY 64 FedEX US Airbill Express COMPANY ENVIROTECH * Santa Fe Recipients
Address
We cannot defect in P.D. benes or P.D. ZP socies. 1 from 1 100 109 S FARMINGTON



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

ames McDaniel **Project Scientist**

imedaniel@envirotech-inc.com

Amy Mackey Administrative Manager amackey lacimridge.net

Attachments: Closure Schedule

4 97401 Db (505)622-0615 Fr (900)262-1970 Fr (505) 627-1965 into@omiratesh in----

August 2009

Sunday	Monday	Tuesday	Wed	Thurs	Friday	Sat
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23	24 Bisti Coel 6-1 Bisti Coel 6-2 Bisti Coel 7-1 Bisti Coel 7 COM 2 Bisti Coel 8 COM 1 Sisti Coel 9 COM 2 Bisti Coel 9 COM 2	Bisti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-1 Bisti Coal 8 COM 1 Bisti Coal 8 COM 2 Bisti Coal 9-1 Bisti Coal 9 COM 2	26 Bieti Coal 6-1 Bieti Coal 6-2 Bieti Coal 7-1 Bieti Coal 7-COM 2 Bieti Coal 8 COM 1 Bieti Coal 9 COM 2 Bieti Coal 9 COM 2	Bieti Coal 6-1 Bieti Coal 6-2 Bieti Coal 7-1 Bieti Coal 7-CM 2 Bieti Coal 8 COM 1 Bieti Coal 9-1 Bieti Coal 9-1 Bieti Coal 9 COM 2	28 Bisti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7 COM 2 Bisti Coal 8 COM 1 Bisti Coal 9 COM 2 Bisti Coal 9 COM 2	58
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September 8, 2009

Project No. 03056-0210

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

Phone: (505) 599-8900

RE: WEST BISTI COAL 13-1 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 West Bisti Coal 13-1 well site, owned and operated by Elm Ridge Exploration. The West Bisti Coal 13-1 well site is located in Unit A, Section 13, Township 25N, Range 13W, San Juan County, New Mexico. Closure activities are scheduled to begin on September 14, 2009 and continue through September 18, 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

imcdaniel@envirotech-inc.com

Enclosure:

Sundry Notice

Cc:

Client File No. 03056

Form 3160-5 (August 2007)

I. Type of Well

Oil Well

2. Name of Operator Elm Ridge Exploration

3a. Address PO Box 156 Bloomfield, NM 87413

Gas Well

UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

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

5. Lease Serial No. NM-58138

8. Well Name and No. West Bisti Coei 13-1

9. API Well No. 30-045-28388

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.

Other

SUBMIT IN TRIPLICATE - Other instructions on page 2.

6. If Indian, Allottee or Tribe Name

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

10. Field and Pool or Exploratory Area

4. Location of Well (Foolage, Sec., T., 790 FNL 790 FEL, A-13-25N-13W, Lat. 36.40	R.,M., or Survey Description) 5272 long106.164308		San Juan County, i	~
12. CHE	CK THE APPROPRIATE BOX(ES) TO INDICATE NATU	RE OF NOTICE, REPORT OR OTH	IER DATA
TYPE OF SUBMISSION		T	YPE OF ACTION	
Notice of Intent	Acidize Alter Casing	Deepen Fracture Treat	Production (Start/Resume) Reclamation	Water Shut-Off Well Integrity
Subsequent Report	Casing Repair Change Plans	New Construction Plug and Abandon	Recomplete Temporarity Abandon	Other Closure of en Earth Pit
Final Abandonment Notice	Convert to Injection	Piug Back	Water Disposal	
the proposal is to deepen direction Attach the Bond under which the following completion of the involve	ally or recomplete horizontally, g work will be performed or provid red operations. If the operation r Abandonment Notices must be fi	give subsurface locations an e the Bond No. on file with esults in a multiple completi	ed starting date of any proposed word measured and true vertical depths of BLM/BIA. Required subsequent rejion or recompletion in a new intervalnts, including reclamation, have been	ports must be filed within 30 days l, a Form 3160-4 must be filed once
Elm Ridge Exploration plans to beg Closure activities are scheduled to I				tifications have been made.
14. I hereby certify that the foregoing is to	Name (Printed/Ty	ned)		
Ms. Amy Mackey	/[/(strative Manager	
Signature		Date 09/08/2	009	
01	THIS SPACE FO	R FEDERAL OR ST	ATE OFFICE USE	
Approved by Conditions of approval, if any, are attached that the applicant holds legal or equitable the applicant to conduct operations to conduct operations.	tle to those rights in the subject les			Date
Title 18 U.S.C. Section 1001 and Title 43 fectitious or fraudulent statements or repre			and willfully to make to any departmen	nt or agency of the United States any false,
(Instructions on page 2)				

3b. Phone No. (include area code)

(505) 632-3476

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, 3162.3-4.

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 WEST BISTI COAL 13-1 SEC. 13, TWN. 25N, RNG. 13W PROJECT NO. 03056-0210



Photo 1: West Bisti Coal 13-1 Well Site



Photo 2: Excavated Area After Backfilling and Recontouring



EPA METHOD 418.1 TOTAL PETROLEUM **HYDROCARBONS**

Client:

Elm Ridge Exploration

Project #:

03056-0210

Sample No.:

1

Date Reported:

10/12/2009

Sample ID:

Earth Pit Composite

Sample Matrix:

Soil

Date Sampled: Date Analyzed: 9/15/2009

Preservative:

Cool

Analysis Needed:

9/15/2009 TPH-418.1

Condition:

Cool and Intact

	The state of the s	Det.
	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

20

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:

West Bisti Coal 13-1

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Robyn Jones

Printed

James McDaniel

Printed



CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Cal. Date:

15-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
TPH	100		
	200 500 1000	206	

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

Analyst / Analyst

Robyn Jones

Print Name

Review

James McDaniel

Print Name

10-12-00

Date

10/13/09

Date



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ElmRidge	Project #:	03056-0210
Sample ID:	Composite 5' Below Pit	Date Reported:	09-21-09
Laboratory Number:	51717	Date Sampled:	09-15-09
Chain of Custody:	7997	Date Received:	09-17-09
Sample Matrix:	Soil	Date Analyzed:	09-18-09
Preservative:	Cool	Date Extracted:	09-17-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.3	0.9
Toluene	10.2	1.0
Ethylbenzene	5.0	1.0
p,m-Xylene	24.5	1.2
o-Xylene	10.8	0.9
Total BTEX	51.8	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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:

West Bisti Coal 13-1

Analyst

Misthen Wedles
Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-18-BT QA/QC	Date Reported:	09-21-09
Laboratory Number:	51680	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-18-09
Condition:	N/A	Analysis:	BTEX

Benzene	1.1778E+006	1.1802E+006	0.2%	ND	0.1	
Toluene	1.0723E+006	1.0744E+006	0.2%	ND	0.1	
Ethylbenzene	9.5649E+005	9.5840E+005	0.2%	ND	0.1	
p,m-Xylene	2.4071E+006	2.4119E+006	0.2%	ND	0.1	
o-Xylene	9.0247E+005	9.0428E+005	0.2%	ND	0.1	

				Maria mare I at the arm and the literature is a second	
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
-					

			- Commence of the Commence of		And the second s
Benzene	ND	50.0	49.6	99.2%	39 - 150
Toluene	ND	50.0	48.0	96.0%	46 - 148
Ethylbenzene	ND	50.0	44.0	88.0%	32 - 160
p,m-Xylene	ND	100	96.0	96.0%	46 - 148
o-Xylene	ND	50.0	47.0	94.0%	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 51680 - 51684, 51699, 51714, 51715, 51717, and 51718.

Analyst

Review

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Chloride

Client:

Elm Ridge

Project #:

03056-0210

Sample ID:

Composite 5' Below Pit

Date Reported:

10-12-09

Lab ID#:

51717

Date Sampled:

09-15-09

Sample Matrix: Preservative:

Soil Cool

Date Received:

09-17-09

Condition:

Intact

Date Analyzed: Chain of Custody: 09-18-09 7997

Parameter

Concentration (mg/Kg)

Total Chloride

160

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:

West Bisti Coal 13-1.

Analyst

(FOE) 622 OCHE F- (900) 262 1970 Ev (FOE) 622 1865 | Jah@anvirotoch inc com anvirotoch inc com

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Project Name / Location:	必 4 Bish	Sampler Name:	Client No.:	0305/0-	Lab No.	F1412													,			2796 U
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Client:	CIM KILL	Client Address: ()	Client Phone No.:		Sample No./	Canocate S'Bampt C.	77											Relinquished by: (Signardie)	Relinquished by: (Signature)	Relinquished by: (Signature)		

AGE NO: OF			rotec		ENVIRON	IMENTAL SPECIALIST
ATE STARTED: 9/15/159 ATE FINISHED:			15 (800) 362-1 , Farmington, NM		LAT: LONG:	
FIELD F	REPORT: BGT /	PIT CLO	SURE VE	ERIFICA	TION	
OCATION: NAME: West Bisti	Coal WELL#	12-1	TEMP PIT:	PERMA	NENT PIT:	BGT:
EGAL ADD: UNIT:	SEC: 1.3	TWP:	25N	RNG:	3W	PM:
TR/FOOTAGE: 7961F NL 79	O'FEL CNTY:	87		ST: NM		
CAVATION APPROX: 15	FT. X	2FT. X	5	FT. DEEP	CUBIC YA	ARDAGE:
SPOSAL FACILITY: FOUTER	7 7		ATION METH	OD:		
AND OWNER:	API:			BGT / PIT		
ONSTRUCTION MATERIAL:	DOUBLE	E-WALLED,	WITH LEAK	The state of the s	٧:	
CATION APPROXIMATELY:	FT.		FROM WEL	LHEAD		
3PTH TO GROUNDWATER: TEMPORARY PIT - GROUNDWAT	PD 50 100 FEET DEED					· · · · · · · · · · · · · · · · · · ·
BENZENE $\leq 0.2 \text{ mg/kg}$, BTEX $\leq 50 \text{ mg/kg}$			500 mg/kg, TPH	(418.1)≤250) mg/kg, CHL	ORIDES ≤ 500 mg/kg
TEMPORARY PIT - GROUNDWAT BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/k	ER ≥100 FEET DEEP					
PERMANENT PIT OR BGT BENZENE ≤ 0.2 mg/kg, BTEX ≤ 50 mg/l		, ,			0 0	• •
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TIME	SAMPLE I.D. LAB NO	. WEIGHT (READING	CALC. (mg/kg)
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LAB SAMPLES	NOTES:					
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BENZENE	NM 58	130				
BTEX						
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	WORKORDER #		WHO ORDER	ED		,

Senvirotech

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

34235

MANIFEST #

DATE 9.15 - 0308# 03056-0210

OAD		COMPLETE DESCRIPTION OF SHIPMENT	TION OF SHIF	WENT.			/ 41	ANSPOR	TING CO	TRANSPORTING COMPANY
SO.	POINT OF ORIGIN	DESTINATION	MATERIAL	GIND	YDS	BBLS	COMPANY	TRK#	TIME	DRIVER SIGNATURE
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IESULTS:	LTS: CHLORIDE TEST	LANDFARM	Con/R.				NOTES.	THE PERSONAL SERVICES	B 1	
Second States	PAINT FILTER TEST					8				
certii	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	ne above location ha	s not been added	to or mixed	with, and	is the san	ne material receive	d from th	e above	mentioned Generator, and

COMPANY SIMMINE lat no additional materials have been added."

OMPANY CONTACT 1000

PHONE 222

SIGNATURE

ACCENIT Drinking Enem 30 4347

<u>District I</u> 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

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 Per	mit or Closure Plan Application

Troposed Alternative Wethod Fernit of Closure Flan 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: West Bisti Coal 13 -1							
API Number: 3004528388 OCD Permit Number:							
Facility or well name: West Bisti Coal 13 -1 API Number: 3004528388 OCD Permit Number: U/L or Qtr/Qtr A Section 13 Township 25N Range 13W County: San Juan							
Center of Proposed Design: Latitude 36.406213 Longitude -108.164205 NAD: ☐1927 ☐ 1983							
Center of Proposed Design: Latitude 36.406213 Longitude -108.164205 NAD: 1927 1983 Surface Owner: Federal State Private Tribal Trust or Indian Allotment							
2.							
Temporary: Drilling Workover							
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A							
☐ Lined ☑ Unlined Liner type: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other							
☐ String-Reinforced							
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L 8' x W 5' x D 3'							
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: Manufacturer:							
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: Thicknessmil							
5.							
Alternative Method:							

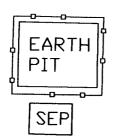
Fencing: Subsection D of 19.15.17.11 NMAC (A _{r.c.} ites to permanent pits, temporary pits, and below-gr. tanks) Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, the strands of	hospital
institution or church) Four foot height, four strands of barbed wire evenly spaced between one and four feet	rospital,
☐ Alternate. Please specify 4' tall 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 of consideration of approval.	office for
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to dryit above-grade tanks associated with a closed-loop system.	priate district pproval.
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	☐ Yes ☐ No
 lake (measured from the ordinary high-water mark).0. 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. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) 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 ☐ NA
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.	
 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
	☐ Yes ☐ No
	☐ Yes ☐ No

Temporary Pits, Emergency Pits, and Below-g & Tanks Permit Application Attachment Checkl. 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:
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: 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 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 ₂ S, Prevention Plan Emergency Response Plan Oil Field Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Erosion Control 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
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)
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 G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Syste	
Disposal Facility Name: Disposal Facility Permit Number:	
Disposal Facility Name: Disposal Facility Permit Number: 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 ser Yes (If yes, please provide the information below) \(\subseteq \) 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	С
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 sour provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate dist considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justi demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	rict office or may be
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
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan 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. 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 cann 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 G of 19.15.17.13 NMAC	15.17.11 NMAC

Page 4 of 5

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: Date: 3-2-09
e-mail address: amackey1@elmridge.net Telephone: (505) 632-3476 Ext. 201
20. OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature: Approval Date: 2/10/10
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) \square 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 Cleaner Legation, Legitude NAD: 1927 1993
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:
Tide.
Signature: Date:
e-mail address: Telephone:
v attait want voo.



MR





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4' Tall Hogwire
Fencing

Berm

🕀 Well Head

SITE MAP ELM RIDGE EXPLORATION WEST BISTI COAL 13-1 SEC 13 TWN 25N RGF 13W

SEC 13 TWN 25N RGE 13W SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS
PROJECT NO03056-0136

REVISIONS

NO. DATE BY DESCRIPTION

MAP DRWN MDD 11/17/08 BASE DRWN

ENVIRONMENTAL SCIENTISTS & ENGINEERS ENVIROPECH

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

EARTHEN PIT CLOSURE PLAN

SITE NAME:

WEST BISTI COAL 13-1
UNIT LETTER A, SECTION 13, TOWNSHIP 25N, RANGE 13W
SAN JUAN COUNTY, NEW MEXICO
LATITUDE 36.406213 LONGITUDE -108.164205

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 WEST BISTI COAL 13-1 SAN JUAN COUNTY, NEW MEXICO

TABLE OF CONTENTS

<u>INTRODUCTION</u>	. 1
SCOPE OF CLOSURE ACTIVITIES	. 1
REPORTING	.3

INTRODUCTION

Elm Ridge Exploration would like to submit a closure plan for the earthen pit at the West Bisti Coal 13-1 well site located in the NE ¼ NE ¼ of Section 13, Township 25N, Range 13W, San Juan County, New Mexico. This closure plan has been prepared in conformance with the closure requirements of 19.15.17.13 NMAC.

SCOPE OF CLOSURE ACTIVITIES

The purpose of this closure plan is to provide the details of activities involved in the closure of the permanent unlined pit at the well site West Bisti Coal 13-1 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 Closure activities that will take place on tribal land will have requirement. notifications sent by certified mail, return receipt requested, to the appropriate tribal 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.

- 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.
- 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

Release Notification and Corrective Action

						OPERA	ΓOR		Initia	al Report	\boxtimes	Final R	eport
Name of Co	mpany: El	lm Ridge Ex	ploration			Contact: An	ny Mackey						
Address: PC	Box 156,	, Bloomfield	, NM 874	413		Telephone No.: (505) 632-3476 Ext 201							
Facility Nan	ne: West E	Bisti Coal 13	-1			Facility Type: Gas Well							
Surface Ow	ner: Feder	al		Mineral C)wner:				Lease N	lo.: NM 58	138		
				LOCA	TIO	V OE DE	EACE						
III-it I attan	C4'	T1:	D			N OF RE		F ./7		0 .			
Unit Letter A	Section 13	Township 25N	Range 13W	Feet from the 790	North	South Line FNL	Feet from the 790		Vest Line FEL	County San Juan			
Α	13	231	13 W	730		FNL	790		ret	San Juan			
				Latitude 36.4	06272	Longitu	ıde <u>-108.16430</u>	<u>)8</u>					
				NAT	URE	OF REL	EASE						
Type of Relea	ase: Produc	ced Water				Volume of	Release: Unknov	vn	Volume F	Recovered:	Unknov	vn	
Source of Re	lease: Earth	Pit					lour of Occurrenc	æ:	Date and	Hour of Dis	covery:	NA	
<u> </u>						Historical							
Was Immedia	ate Notice (Vaa 🗆	No ⊠ Not Re		If YES, To	Whom?						
			res _	I NO M NOT RE	equirea								
By Whom?			Date and H										
Was a Watercourse Reached? ☐ Yes ☒ No			If YES, Volume Impacting the Watercourse.										
If a Watercourse was Impacted, Describe Fully.*													
If a Watercou	irse was Im	pacted, Descr	ibe Fully.	1									
Produced war longer drain i	ter from a g nto an earth	hen pit, but ins	above men	ntioned location for an above ground s			nto an earthen pit	on locat	ion. The w	ell has been	altered	l to no	
Blow sand war (5)-point community hydrocarbons USEPA Meth	Describe Area Affected and Cleanup Action Taken.* Blow sand was removed from the earthen pit, and approximately thirty-nine (39) yards of 'production sludge' was removed from the earthen pit. A five (5)-point composite sample was collected from beneath the 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 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.												
regulations al public health should their of or the environ	l operators or the envi operations r nment. In	are required fromment. The ave failed to a	report ar acceptance adequately OCD accep	t is true and comp nd/or file certain re- ce of a C-141 report investigate and re- partition of a C-141	elease nort by the emediat	otifications a e NMOCD m e contaminati	nd perform correct arked as "Final Roon that pose a three	ctive act eport" deat to gr	ions for rele loes not reli ound water	eases which leve the oper r, surface wa	may er rator of ater, hu	ndanger Tliability man healt	lth
				OIL CONSERVATION DIVISION									
Signature:													
Printed Name	: Ms. Any	Mackey				Approved by District Supervisor:							
Title: Admini	strative Ma	ınager				Approval Da	te:		Expiration	Date:			
E-mail Addre	ess: amacke	y1@elmridge		05-632-3476 Ext 2		Conditions of	f Approval:			Attached			
Attach Addit	ional Shee	ets If Necess	arv							•			

Form C-144 July 21, 2008

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

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: West Bisti Coal 13-1
API Number: 3004528388 OCD Permit Number:
U/L or Qtr/Qtr A Section 13 Township 25N Range 13W County: San Juan
Center of Proposed Design: Latitude <u>36.406272</u> Longitude <u>-108.164308</u> NAD: □1927 ☑ 1983
Surface Owner: X Federal X 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: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
☐ String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L 15' x W 13' 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: Thicknessmil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other
Liner Seams: Welded Factory Other
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: Thicknessmil
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.

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, institution or church) Four foot height, four strands of barbed wire evenly spaced between one and four feet Alternate. Please specify	nospital,
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	
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 of consideration of approval. Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for
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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying above-grade tanks associated with a closed-loop system.	priate district oproval.
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).0. - 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) (☐ 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	
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 ☐ NA
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.	
Within the area overlying a subsurface mine.	☐ 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
	☐ Yes ☐ No
	☐ Yes ☐ No

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 19.15.17.12 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: or Permit Number:
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)
above ground steer tanks or nationally one and propose to implement waste removal for closure)
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 ₂ S, Prevention Plan Cilimatological Factors Assessment Diagraphysiological Factors Assessment
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)
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

16. Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.1 Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment	
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 and Yes (If yes, please provide the information below) No	re service and operations?
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 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	NMAC
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 provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriations considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	te district office or may be
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 p lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	laya 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	
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinal adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	nce 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	al Yes No
Within a 100-year floodplain FEMA map	Yes No
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the close 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 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 or in case on-site closure standard 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 G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC	c of 19.15.17.11 NMAC AC

Operator Application Certification: I hereby certify that the information submitted with this application is true, accur	ate 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 P	lan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date:
Title:	OCD Permit Number:
Closure Report (required within 60 days of closure completion): Subsection Instructions: Operators are required to obtain an approved closure plan prior. The closure report is required to be submitted to the division within 60 days of section of the form until an approved closure plan has been obtained and the complete the compl	to implementing any closure activities and submitting the closure report. The completion of the closure activities. Please do not complete this
	☐ Closure Completion Date: 9/15/09
22. Closure Method: Waste Excavation and Removal ☐ On-Site Closure Method ☐ Altern. If different from approved plan, please explain.	ative Closure Method Waste Removal (Closed-loop systems only)
Closure Report Regarding Waste Removal Closure For Closed-loop Systems Instructions: Please indentify the facility or facilities for where the liquids, drift two facilities were utilized. Disposal Facility Name: Envirotech Landfarm #2 Disposal Facility Name: Were the closed-loop system operations and associated activities performed on one Yes (If yes, please demonstrate compliance to the items below) No Required for impacted areas which will not be used for future service and operated Site Reclamation (Photo Documentation) Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique	Disposal Facility Permit Number: NM-01-0011 Disposal Facility Permit Number: ni areas that will not be used for future service and operations?
	IM-01-0011
Operator Closure Certification:	
I hereby certify that the information and attachments submitted with this closure belief. I also certify that the closure comples with all applicable closure requires	
Name (Print): Ms. Amy Mackey	Title:Administrative Manager
Signature:	Date:
E-mail address: <u>amackey l@elmridge.net</u>	Telephone: (505) 632-3476 ext. 201

Elm Ridge Exploration West Bisti Coal 13-1 Earth Pit Closure Project No. 03056-0210 Closure Date: 9/15/09

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 the West Bisti Coal 13-1 well site is
 - Closure date for the earth pit located at the West Bisti Coal 13-1 well site is September 15, 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 proximately 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 onsite 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 the earthen 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 September 11, 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 September 15, 2009, approximately thirty-nine (39) cubic yards of production sludge were 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 West Bisti Coal 13-1 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.

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	ТРН
Pit Rule	0.2 mg/kg	50 mg/kg	250 mg/kg	100 mg/kg
Standard				
Earth Pit Bottom	0.0013 mg/kg	0.0518 mg/kg	160 mg/kg	20 mg/kg
Composite				

- 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 attached 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 samples 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 total chloride standard, confirming that a release did NOT occur.

Elm Ridge Exploration West Bisti Coal 13-1 Earth Pit Closure Project No. 03056-0210 Closure Date: 9/15/09

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 15, 2009.

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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,

ENVIROTEGH. INC

James McDaniel **Project Scientist**

incomicl@enviroreh-inc.com

Amy Mackey

Administrative Manager amackey l@churidge.net

Closure Schedule Attachments:

August 2009

Sunday	Monday	Augus	August 2003	Thurs	Friday	Sat
						1
2	3	4	5	9	7	8
O.	10 Bisti Coel 20-2 Bisti Coel 21-1 Bisti Coel 21-1 Bisti Coel 22-2 Bisti Coel 28-1	11 Bisti Cosi 20-2 Bisti Cosi 21-1 Bisti Cosi 21 COM 2 Bisti Cosi 22-2 Bisti Cosi 28-1	12 Bisti Coal 20-2 Bisti Coal 21-1 Bisti Coal 21 COM 2 Bisti Coal 22-2 Bisti Coal 28-1	13 Bisti Coal 20-2 Bisti Coal 21-1 Bisti Coal 21 COM 2 Bisti Coal 22-2 Bisti Coal 28-1	14 Bleti Coal 20-2 Bleti Coal 21-1 Bleti Coal 21 COM 2 Bleti Coal 22-2 Bleti Coal 28-1	15
16	Histi Coal 29-1 Bisti Coal 29-1 Bisti Coal 29-2 Bisti Coal 30 COM 1 Bisti Coal 4-1 Bisti Coal 4 COM 2 Bisti Coal 5 COM 1 Bisti Coal 5 COM 2 Bisti Coal 5 COM 2	18 Blest Coal 29-1 Blest Coal 29-2 Blest Coal 30-COM 1 Blest Coal 31-1 Blest Coal 4-1 Blest Coal 4-COM 2 Blest Coal 5COM 1 Blest Coal 5COM 2 Blest Coal 5COM 2	Hg Bist Coel 29-1 Bist Coel 30-2 Bist Coel 31-1 Bist Coel 4-1 Bist Coel 4 COM 2 Bist Coel 5 COM 1 Bist Coel 5 COM 1	20 Bisti Coel 29-1 Bisti Coel 29-2 Bisti Coel 30 COM 1 Bisti Coel 4-1 Bisti Coel 4-1 Bisti Coel 5 COM 1 Bisti Coel 5 COM 1	21 Blisti Coel 29-1 Bristi Coel 29-2 Bristi Coel 30 COM 1 Bristi Coel 4-1 Bristi Coel 4 COM 2 Bristi Coel 5 COM 1 Bristi Coel 5 COM 1	22
23	24 Bisti Coel 6-1 Bisti Coel 6-2 Bisti Coel 7-1 Bisti Coel 7 COM 2 Bisti Coel 8 COM 1 Bisti Coel 9-1 Bisti Coel 9 COM 2	25 Bisti Coal 6-1 Bisti Coal 6-2 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-COM 2 Bisti Coal 8-COM 1 Bisti Coal 9-1 Bisti Coal 9-1	26 Bieti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-COM 2 Bisti Coal 8-COM 1 Bisti Coal 9-1 Bisti Coal 9-COM 2	Bisti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-0 Bisti Coal 7-0M 2 Bisti Coal 8-0M 1 Bisti Coal 9-1 Bisti Coal 9-00M 2	28 Bieti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7 COM 2 Bisti Coal 8 COM 1 Bisti Coal 9-1 Bisti Coal 9 COM 2	59
30	31 Carson 10-332 Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1 Buena Suerte 32 G COM 1 Buena Suerte 4 L COM 1 East Bisti Coal 6-1 Carson Unit 15 COM 323 Carson Unit 206					

Sat	က	12	19	26	
Friday	Carson 10-332 Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1 Buena Suerte 3 L COM 1 Buena Suerte 4 L COM 1 East Bisti Coal 6-1 Carson Unit 15 COM 323 Carson Unit 206	Carson Unit 313 Pete Morrow 1 Pete Morrow 2 North Bisti Coal 32M COM 2 Sam Jackson State COM 1 North Bisti Coal 31-1 West Bisti Coal 11 F COM 1 Jeter COM 2	18 West Bistl Coal 12-1 West Bistl Coal 13-1 West Bistl Coal 11-2 West Bistl Coal 10-2 West Bistl Coal 14 COM 1 West Bistl Coal 15-1 West Bistl Coal 15-2 West Bistl Coal 22-2	25 West Bisti Coal 22 COM 1 West Bisti Coal 23-1 West Bisti Coal 24-1 West Bisti Coal 24 COM 2 West Bisti Coal 25-1 West Bisti Coal 25-7 Jicarilla Apache I-11 Shella Hixon 1	
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03056-0213	PS Form 3500, Aurus 1,7006 See Reverse for Instructional

West Bisti Coal 15-1 03056-0212 West Bisti Coal 10-2 03056-0206 West Bisti Coal

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SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
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- 1. Article Addressed to:

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

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September 8, 2009

Project No. 03056-0210

Phone: (505) 599-8900

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

RE: WEST BISTI COAL 13-1 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 West Bisti Coal 13-1 well site, owned and operated by Elm Ridge Exploration. The West Bisti Coal 13-1 well site is located in Unit A, Section 13, Township 25N, Range 13W, San Juan County, New Mexico. Closure activities are scheduled to begin on September 14, 2009 and continue through September 18, 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,

/// 7

James McDaniel Project Scientist

imcdaniel@envirotech-inc.com

ENVIROTECH, INC.

Enclosure:

Sundry Notice

Cc:

Client File No. 03056

Form 3160-5 (August 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 201

5. Lease Serial No. NM-58138

Do not use this f	orm for proposals t	to drill or to re	enter an		6. If Indian, Allottee o	r Tribe Name
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Do not use this form for proposals to dril abandoned well. Use Form 3160-3 (APD) for SUBMIT IN TRIPLICATE — Other instruction. Type of Well Oil Well Gas Well Other Name of Operator				8. Well Name and No. West Bisti Coel 13-1		
				9. API Well No. 30-045-28388		
3a. Address PO Box 156 Bioomfield, NM 87413		3b. Phone No. (in:	clude area cod	e)	10. Field and Pool or I	Exploratory Area
4. Location of Well (Footage, Sec., T., 790 FNL 790 FEL, A-13-25N-13W, Lat. 36.406	R.,M., or Survey Description 272 long108.154308)			11. Country or Parish, San Juan County, N	
12. CHEC	K THE APPROPRIATE BO	OX(ES) TO INDICA	TE NATURE	OF NOTIC	CE, REPORT OR OTH	ER DATA
TYPE OF SUBMISSION			TYP	E OF ACT	ION	
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Subsequent Report		=		=	•	
Final Abandonment Notice	_			= .		t Bisti Coel 13-1 TWELL No. 45-28388 ield and Pool or Exploratory Area fountry or Parish, State Juan County, NM SPORT OR OTHER DATA (Start/Resume)
Elm Ridge Exploration plans to begin Closure activities are scheduled to the scheduled to t	n closure activities for an eaing on Monday, Septem	ber 14, 2009 and				ifications have been made.
Ms. Amy Mackey	rue and correct. Name (Printe		ide Administ	rative Man	ager	
Signature	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. 7. If Unit					
	THIS SPACE	FOR FEDER	AL OR ST	ATE OF	FICE USE	
Approved by	TANK ALL					
Challe and the same of the sam			Title			Date
Conditions of approval, if any, are attache that the applicant holds legal or equitable entitle the applicant to conduct operations	title to those rights in the subje					

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.

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 WEST BISTI COAL 13-1 SEC. 13, TWN. 25N, RNG. 13W PROJECT NO. 03056-0210



Photo 1: West Bisti Coal 13-1 Well Site



Photo 2: Excavated Area After Backfilling and Recontouring



EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

Elm Ridge Exploration

Project #:

03056-0210

Sample No.:

1

Date Reported:

10/12/2009

Sample ID:

Earth Pit Composite

Date Sampled:

9/15/2009

Sample Matrix:

Soil

Date Analyzed:

9/15/2009

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

		Det.
	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

20

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:

West Bisti Coal 13-1

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst (\

Robyn Jones

Printed

James McDaniel

Printed



CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Cal. Date:

15-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
TPH	100	-	
	200	206	
	500		
	1000		

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

Robyn Jones

Print Name

Review

James McDaniel

Print Name

10-12-00

Date

10/13/09

Date



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ElmRidge	Project #:	03056-0210
Sample ID:	Composite 5' Below Pit	Date Reported:	09-21-09
Laboratory Number:	51717	Date Sampled:	09-15-09
Chain of Custody:	7997	Date Received:	09-17-09
Sample Matrix:	Soil	Date Analyzed:	09-18-09
Preservative:	Cool	Date Extracted:	09-17-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.3	0.9
Toluene	10.2	1.0
Ethylbenzene	5.0	1.0
p,m-Xylene	24.5	1.2
o-Xylene	10.8	0.9
Total BTEX	51.8	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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:

West Bisti Coal 13-1

Analyst

Mester Weelers
Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-18-BT QA/QC	Date Reported:	09-21-09
Laboratory Number:	51680	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-18-09
Condition:	N/A	Analysis:	BTEX

			. Blank	Detect.
		Compa	Conc	Limit
1.1778E+006	1.1802E+006	0.2%	ND	0.1
1.0723E+006	1.0744E+006	0.2%	ND	0.1
9.5649E+005	9.5840E+005	0.2%	ND	0.1
2.4071E+006	2.4119E+006	0.2%	ND	0.1
9.0247E+005	9.0428E+005	0.2%	ND	0.1
	1.0723E+006 9.5649E+005 2.4071E+006	1.0723E+006 1.0744E+006 9.5649E+005 9.5840E+005 2.4071E+006 2.4119E+006	1.0723E+006 1.0744E+006 0.2% 9.5649E+005 9.5840E+005 0.2% 2.4071E+006 2.4119E+006 0.2%	1.1778E+006

				Actent Renge	Detect Link
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

Cities and the state of the sta	www.in					Acces Rose
Benzene		ND	50.0	49.6	99.2%	39 - 150
Toluene		ND	50.0	48.0	96.0%	46 - 148
Ethylbenzene		ND	50.0	44.0	88.0%	32 - 160
p,m-Xylene		ND	100	96.0	96.0%	46 - 148
o-Xylene		ND	50.0	47.0	94.0%	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 51680 - 51684, 51699, 51714, 51715, 51717, and 51718.

Analyst

Review

CHAIN OF CUSTODY RECORD

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	sation:	n	C	Sar	Solid	Soil	Soil	Soil	Soil	Soil	Soil	Solid	Solid	Soil	Soil					5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com
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				Sample Date	ion?? C											(are)	(eun	ure)		,
		ilent Address:	Ollent Phone No.:	Sample No./ Identification	Concolle 5 Byon 4 C	ent.										Relinquished by: (Signature)	Relinquished by: (Signature)	Relinquished by: (Signature)		



Chloride

Client: Elm Ridge Project #: 03056-0210 Sample ID: Composite 5' Below Pit Date Reported: 10-12-09 Lab ID#: 51717 Date Sampled: 09-15-09 Sample Matrix: Soil Date Received: 09-17-09 Preservative: Cool Date Analyzed: 09-18-09 Condition: Intact Chain of Custody: 7997

Parameter Concentration (mg/Kg)

Total Chloride 160

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: West Bisti Coal 13-1.

nalyst Review

Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

CHAIN OF CUSTODY RECORD

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						envirotech Analytical Laboratory	Nirotech Analytical Laboratory	+ 5	(1)											
			5796 US	S Highway	5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com	ton, NM 8740	1 • 505-63	22-0615	• lab@	enviro	tech-inc					¥	ACCENT Printing • Form 03-0807	inding • F	en ca	080

PAGE NO: 1 OF /		(5	•	OTEC 7 (800) 362-18 Farmington, NW 6		LAT:	MENTAL SPECIALIST:
DATE FINISHED:				2000 0000		LONG:	
FIEI	D REPORT	: BGT / P	IT CLO	SURE VE	RIFICAT	LION	A
LOCATION: NAME: LIPST PA		WELL#:	THE RESERVE THE PARTY OF THE PA	TEMP PIT:	PERMAN	-	Ø BGT:
LEGAL ADD: UNIT:	SEC: Y3		TWP: 3	25N		3W	PM:
QTR/FOOTAGE: 7961ENL	790'FEL	CNTY:	00		ST: NM		
	5 FT. X	The second secon	3FT. X	5	FT. DEEP	CUBIC YA	ARDAGE:
DISPOSAL FACILITY: LAND OWNER:	Virotech La	fm# 2 API:	REMEDIA	TION METHO	OD: BGT / PIT v	ZOLIBAE.	
CONSTRUCTION MATERIAL:			WALLED.	WITH LEAK I			
LOCATION APPROXIMATELY:		FT.	***************************************	FROM WELI			
DEPTH TO GROUNDWATER:				TROW WELL		, , , , , , , , , , , , , , , , , , , 	
TEMPORARY PIT - GROUND							
BENZENE ≤ 0.2 mg/kg, BTEX ≤ 5	50 mg/kg, GRO & D	RO FRACTIO	$0N(8015) \le 5$	00 mg/kg, TPH ((418.1) ≤ 2500	mg/kg, CHL	ORIDES ≤ 500 mg/kg
TEMPORARY PIT - GROUND							
BENZENE $\leq 0.2 \text{ mg/kg}$, BTEX ≤ 5	0 mg/kg, GRO & D	RO FRACTIO	$N(8015) \le 50$	00 mg/kg, TPH (4	418.1) ≤ 2500	mg/kg, CHL0	ORIDES ≤ 1000 mg/kg
PERMANENT PIT OR BGT							
BENZENE ≤ 0.2 mg/kg, BTEX ≤ 3	50 mg/kg, TPH (418	$(1) \le 100 \text{ mg/kg}$	g, CHLORID	ES ≤ 250 mg/kg			
T	ME SAMPLE I.I	AL LABAIO		D 418.1 ANAL	YSIS DILUTION	DEADNIC	CALC (ma/ka)
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envirotech

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

Bill of Lading

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LANDFARM EMPLOYEE:

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CHLORIDE TEST PAINT FILTER ACCENT Printing • Form 28-1212

envirotech

Bill of Lading

MANIFEST #__

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

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ACCENT Printing • Form 28-1212

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

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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

Name of Company: Elm Ridge Exploration							OPERA	ΓOR	Initi	al Report		Final Repo
Surface Owner: Federal												
Lease No.: NM-58138					413				476 Ext 201			
Location of Release Unit Letter Section 13 Township 25N Range 13W Feet from the P90 North/South Line Feet from the FEL San Juan Latitude 36.406272 Longitude 108.164308 NATURE OF RELEASE Volume of Release: Unknown Volume Recovered: Unknown Volume Recovered: Unknown Date and Hour of Occurrence: Historical Historical Historical Historical Historical Hyperoperation of Pyes No Not Required By Whom? Was Immediate Notice Given? Date and Hour of Occurrence: Historical Hyperoperation of Pyes No Not Required By Whom? Was a Watercourse Reached? Pees 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.* 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.* 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.* 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 dry, and has not been discharged into since prior to June 16, 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed for in th	Facility Nan	ne: West I	Bisti Coal 13	-1			Facility Typ	e: Gas Well				
Latitude 36.406272 Longitude -108.164308	Surface Ow	ner: Feder	al		Mineral C	wner:			Lease 1	No.: NM-58	3138	
Latitude 36.406272 Longitude -108.164308					LOCA	TIO	N OF REI	LEASE				
Type of Release: Produced Water Volume of Release: Unknown Volume Recovered: Unknown	Unit Letter	Section	Township	Range					East/West Line	County		
NATURE OF RELEASE Type of Release: Produced Water Source of Release: Earth Pit Date and Hour of Occurrence: Date and Hour of Discovery: NA Historical Was Immediate Notice Given? Yes No Not Required By Whom? Date and Hour of Discovery: NA Historical By Whom? Date and Hour Was a Watercourse Reached? If YES, To Whom? Was 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 dry, and has not been discharged into since prior to June 16, 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed for 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 and for total chlorides via USEPA Method 4500B. The sample was total results that were below the 0.2 ppm benzene standard, the 50 ppm BTEX standard and the 250 ppm total Chlorides standard, but above the 100 ppm TPH standard via USEPA Method 418.1, 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 greaten has 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. There be not greaten and the surface, but less than 100 feet. This set the closure standards to 1000 ppm TPH, 10 p	A	13	25N	13W	790		FNL	790	FEL	San Juan		
Type of Release: Produced Water Date and Hour of Occurrence: Historical Date and Hour of Discovery: NA					Latitude 36.4	06272	Longitu	ide <u>-108.16430</u>	<u> </u>			
Source of Release: Earth Pit Was Immediate Notice Given? Yes No Not Required By Whom? Date and Hour of Occurrence: Historical If YES, To Whom? Date and Hour Was a Watercourse Reached? Yes No 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, but instead into an Above Ground Storage Tank (AST). Describe Area Affected and Cleanup Action Taken.* Earthen pit was dry, and has not been discharged into since prior to June 16, 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed for 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 and for total chlorides via USEPA Method 418.0 In an in Envirotech's laboratory for benzene and total BTEX via USEPA Method 8021 and for total chloride standard, but above the 100 ppm TPH standard via USEPA Method 418.1, 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. 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. I hereby certify that the information giv					NAT	URE	OF RELI	EASE				
Was Immediate Notice Given? Yes No Not Required If YES, To Whom?												
Was Immediate Notice Given?	Source of Rel	lease: Earth	Pit				1	our of Occurrence	e: Date and	Hour of Dis	covery	: NA
By Whom? Was a Watercourse Reached? If Yes No Date and Hour If YES, Volume Impacting the Watercourse. If Was 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 dry, and has not been discharged into since prior to June 16, 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed for 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 and for total chlorides via USEPA Method 4500B. The sample returned results that were below the 0.2 ppm benzene standard, the 50 ppm BTEX standard and the 250 ppm total chloride standard, but above the 100 ppm TPH standard via USEPA Method 418.1, 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 standards for total chlorides per the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. All analytical results were below the closure standards to 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. 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 by report an	Was Immedia	ate Notice (iven?					Whom?				
Was a Watercourse Reached? Yes No If YES, Volume Impacting the Watercourse.				Yes [No 🛛 Not Re	equired	11 725, 10					
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Printed Name: Ms. Amy Mackey Approved by District Supervisor:	regulations al public health should their o or the environ	l operators or the envir perations h ment. In a	are required to comment. The ave failed to a dition, NMC	report and acceptance	nd/or file certain re ce of a C-141 report investigate and re	elease nort by the emediate	otifications ar e NMOCD ma e contaminati	nd perform correct arked as "Final Re on that pose a thre	tive actions for releport" does not releat to ground water	eases which ieve the oper r, surface wa	may er rator of ater, hu	ndanger f liability man health
Printed Name: Ms. Amy Mackey Approved by District Supervisor:		X						OIL CONS	SERVATION	DIVISIO	<u>N</u>	
Printed Name: Ms. Amy Mackey	Signature:	/_	1 02	//	,							
Title: Administrative Manager Approval Date: Expiration Date:	Printed Name	: Ms. Amy	Mackey	```	\$		Approved by	District Superviso	or:			
	Title: Admini	strative Ma	nager				Approval Dat	e:	Expiration	Date:		
E-mail Address: amackey1@elmridge.net Conditions of Approval: Attached	E-mail Addre	ss: amacke	y1@elmridge	.net			Conditions of	Approval:		Attached		
Date: Phone: 505-632-3476 Ext 201 Attach Additional Sheets If Necessary					05-632-3476 Ext 2	201						

PAGE NO: OF OF			CONMENTA 5796 U.S	AL SCIENT S. HIGHWA	CH INC ISTS & ENGI Y 64 - 3014		8-6	NMENTAL SPECIALIST:
DATE STARTED: //) / A DATE FINISHED: //) //	7108	<u> </u>		ON, NEW 1 NE: (505) 6	MEXICO 8740 32- 0615	11		6.406272 108 164308
	EIEI D B	EPORT.			SURE VE	'RIFICA'		100 101 100
10130				7 CLO	TEMP PIT:		VENT PIT:	BGT:
LOCATION: NAME: () LEGAL ADD: UNIT: /	SE BIOTI	<u>Coal 13</u> sec: 13	WELL #:	TWP: 2			3W	PM: N/M PM
QTR/FOOTAGE: '190' #	746 X 7	90 Fel	CNTY: S	anJu		ST: All	Ú	11121 / 5/10/10/10
EXCAVATION APPROX:		FT. X		FT. X		FT, DEEP	CUBIC YA	ARDAGE:
DISPOSAL FACILITY:	,	F1. A	-		TION METHO		CODIC 17	MOAGE.
LAND OWNER:	Fede	ral	API: <	24528		BGT / PIT	VOLUME:	B'X 18' X3'
CONSTRUCTION MATERIA	The second secon				WITH LEAK I			·
LOCATION APPROXIMATE	LY:	132	FT. 2100	0	FROM WELI	LHEAD		
DEPTH TO GROUNDWATE			\$ 50 C	100 ft				
TEMPORARY PIT - GR				NI (0015) ~ 50	00 mg/kg TDU ((A10 1\ < 2500	malka CUI	ODIDES < 500 mg/kg
BENZENE ≤ 0.2 mg/kg, B	• -	-		14 (0013) 23	оо шужу, тгп (T10.1) 2 2300	nigarg, UHL	OVIDER 2 200 HIS/KB
TEMPORARY PIT - GR BENZENE ≤ 0.2 mg/kg, BT				v (8015) < 50	0 mg/kg TPH (4	418 1) < 2500	mo/ko CHL	ORIDES < 1000 mg/kg
	_	g, one w Dre	7110101101	((0015) = 50	o mg mg, 1111 (110.17 = 2500	mg ng, chi	2111223 2 1000 mg ng
PERMANENT PIT OR E BENZENE ≤ 0.2 mg/kg, B'		kg. TPH (418.1)) ≤ 100 mg/kg	. CHLORID	ES ≤ 250 mg/kg			
DEITERNO 2 0.2 mg kg, B	. Dit 2 00 mg		, = 100 mg mg	-	D 418.1 ANAL			
	TIME	SAMPLE I.D.	LAB NO.	WEIGHT (g		DILUTION	READING	CALC. (mg/kg)
	3177	200 STD	1	- K	30	-	133	532
	2:55	Spt Comp	2		ac	4	133	D34
			3					
			5			 		
			6			L		
PERIME	ETER		FIELD C	HLORIDE	S RESULTS		PRO	OFILE
M			SAMPLE ID	READING	CALC. (mg/kg)	18' X 18	'X3'0	
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132								
XXX				I PID RESU	 TC		7	
COTT TO THE PARTY OF THE PARTY			-	PLE ID	RESULTS (mg/kg)			+
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	, (•				-	(+	# _ + / ·
LAB SAMPLE SAMPLE ID ANALYSIS		NOTES:		Angelonia de Anne e estado e de Angelonia de				
BENZENE	<u> </u>	4						
BTEX GRO & DRO								·r=
CHLORIDE								
		WORKORD	ED#		WHO ORDE	DED		

Client EUN Ridy	Rosewx		RONMENTA 5796 U.S FARMINGT	IROTEC AL SCIENTIS S. HIGHWAY ON, NEW MI NE: (505) 632	TS & ENG 64 - 3014 EXICO 874		Location : W B ₁ S ₁	ti Coal 13 #1	
FIELD REPORT: SI	PILL CLO	SURE VI					PAGE NO		
LOCATION: NAME: (4) QUAD/UNIT: A QTR/FOOTAGE: 190' F/	BST, COA SEC: 13 UL X 790	L 13 TWP:25M O'FEL	WELL#: RNG: Bu	I PM:NIMIM CTOR: —	CNTYS	ST: NA		NISHED: 10 10 108 NMENTAL IST: 8 Oct	
EXCAVATION APPROX: DISPOSAL FACILITY: LAND USE:	×	FT. X	LEASE: {	FT. X REMEDIAT	ION METH	FT. DEEP OD: LAND OW			tal Ci
CAUSE OF RELEASE: FOR SPILL LOCATED APPROXI DEPTH TO GROUNDWATE	MATELY: /	32′ O NEAREST V	ft. <i>Q4</i>	METERAIL 00°	RELEASEI FROM OOO	D: Water NEAREST	J. Well	hoad	gancub]
NMOCD RANKING SCORE SOIL AND EXCAVATION D		1:	NMOCD T	PH CLOSUR	E STD:	1000	PPM	-	1
·	TIME 10': 00 2:55	SAMPLE I.D.	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING 13つ	CALC. ppm	
									- - -
SPILL PERIMETER OVM SPILL PROFILE RESULTS									
N THE			SAMPLE ID	FIELD HEAI (pp) B'X	8'X=	deep	
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SEP TO THE PERSON OF THE PERSO			SAMPLE ID	ANALYSIS	TIME	(+	+/(
TRAVEL NOTES:	CALLED OUT	Γ:	<u>.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		ONSITE:				



TOTAL PETROLEUM HYDROCARBONS

Cal. Date:

2-Oct-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
TPH	100		
	200	180	
	500		
	1000		

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

Analyst

Sharon Putt

Greg Crabtree

Print Name



EPA METHOD 418.1 TOTAL PETROLEUM **HYDROCARBONS**

Client:

Elm Ridge Exploration

03056-0210

Sample No.:

Project #: Date Reported:

2/23/2009

Sample ID:

5 Point Composite

10/2/2008

Sample Matrix:

Soil

Date Sampled: Date Analyzed:

10/2/2008

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

		Det.
	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

532

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:

West Bisti Coal 13-1 Earthen Pit

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Sharon Putt

Printed

Printed

Greg Crabtree



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-0136
Sample ID:	W. Bisti Coal 13-1	Date Reported:	10-14-08
Laboratory Number:	47602	Date Sampled:	10-02-08
Chain of Custody:	5469	Date Received:	10-02-08
Sample Matrix:	Soil	Date Analyzed:	10-09-08
Preservative:	Cool	Date Extracted:	10-09-08
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.3	0.9
Toluene	6.5	1.0
Ethylbenzene	2.7	1.0
p,m-Xylene	7.3	1.2
o-Xylene	3.6	0.9
Total BTEX	21.4	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
· · · · · · · · · · · · · · · · · · ·	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

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 Pits, 5pt Composite.

Analyst

Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

	·		
Client:	N/A	Project #:	N/A
Sample ID:	10-09-BT QA/QC	Date Reported:	10-14-08
Laboratory Number:	47601	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-09-08
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF; Accept. Rang	%Diff. je 0 - 15%	Blank Conc	Detect. Limit
Benzene	4.7485E+007	4.7580E+007	0.2%	ND	0.1
Toluene	3.9324E+007	3.9403E+007	0.2%	ND	0.1
Ethylbenzene	3.2218E+007	3.2283E+007	0.2%	ND	0.1
p,m-Xylene	6.8987E+007	6.9125E+007	0.2%	ND	0.1
o-Xylene	3.2538E+007	3.2603E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample Du	plicate	%Diff.	Accept Range	Detect. Limit
Benzene	1.6	1.5	6.3%	0 - 30%	0.9
Toluene	6.0	6.2	3.3%	0 - 30%	1.0
Ethylbenzene	2.7	2.8	3.7%	0 - 30%	1.0
p,m-Xylene	6.8	7.1	4.4%	0 - 30%	1.2
o-Xylene	3.8	3.6	5.3%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked Spik	ked Sample	% Recovery	Accept Range
Benzene	1.6	50.0	50.6	98.1%	39 - 150
Toluene	6.0	50.0	51.0	91.1%	46 - 148
Ethylbenzene	2.7	50.0	50.7	96.2%	32 - 160
p,m-Xylene	6.8	100	98.8	92.5%	46 - 148
o-Xylene	3.8	50.0	50.8	94.4%	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,

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 47601 - 47608, 47618, and 47628.

Review



Chloride

Client: 03056-0136 Elm Ridge Resources Project #: Sample ID: W. Bisti Coal 13-1 10-14-08 Date Reported: Lab ID#: 47602 10-02-08 Date Sampled: Date Received: Sample Matrix: Soil Extract 10-02-08 Preservative: 10-09-08 Cool Date Analyzed: Condition: Chain of Custody: 5469 Intact

Parameter Concentration (mg/L)

Total Chloride 240

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 Pits, 5pt Composite.

alyst Review

CHAIN OF CUSTODY RECORD

		9£æ	Cool looO Intact	Sample	2	× ×	×	>> >> >> >> >> >> >> >> >> >> >> >> >>							Date Time	10/2 5:00	5		-	
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