<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District III
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

* Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division

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

Form C-141

Revised October 10, 2003

1220 South St. Francis Dr. side of form Santa Fe, NM 87505

OPERATOR					
Contact: Amy Mackey					
Telephone No.: (505) 632-3476 Ext 201 Facility Type: Gas Well					
80506					
an					
Date and Hour of Occurrence: Historical Date and Hour of Discovery: NA					
If YES, To Whom?					
d 3 3					
Date and Hour If YES, Volume Impacting the Watercourse.					
een altered	i to no				
ed in the fi od 8021 ar	emoved from ield for total nd for total ng/kg BTEX				
ich may er operator of water, hu ee with any	ndanger liability man health				
<u>SION</u>					
hed 🗌					
	d: Unknown Discovery: deen altered dge' was reed in the fire od 8021 arnzene, 50 m				

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 22 COM 1
API Number: 3004528916 OCD Permit Number:
U/L or Qtr/Qtr B Section 22 Township 25N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.390518 Longitude -108.203804 NAD: ☐1927 ☑ 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
Pit: Subsection F or G of 19.15.17.11 NMAC
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 HDPE PVC Other
5. Alternative Method: Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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)	hospital,
Four foot height, four strands of barbed wire evenly spaced between one and four feet	
☐ Alternate. Please specify	
7.	
Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen Netting Other	
Monthly inspections (If netting or screening is not physically feasible)	
8. Signs: Subsection C of 19.15.17.11 NMAC	
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	
⊠ Signed in compliance with 19.15.3.103 NMAC	
9.	
Administrative Approvals and Exceptions: Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.	
Please check a box if one or more of the following is requested, if not leave blank: Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau	office for
consideration of approval.	011100 101
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 a 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 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 ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits)	_
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
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	□ 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 Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC Previously Approved Design (attach copy of design) API 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
Previously Approved Design (attach copy of design) API Number:
Previously Approved Operating and Maintenance Plan API Number:
18. 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

- 1		
	Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13. Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if facilities are required.	D NMAC) more than two
	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 ser Yes (If yes, please provide the information below) No	vice 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 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
	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 sou provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate distinguished below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate distinguished an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Just 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
	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	☐ 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
1	Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
١	Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
١	 Vithin an unstable area. Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map 	☐ Yes ☐ No
V	Vithin a 100-year floodplain FEMA map	☐ Yes ☐ No
18 <u>C</u>	On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure play 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

Operator Application Certification: Legeby certify that the information subm	itted with this application is true, accurate and complete to the best of my knowledge and belief.
Name (Print):	•
Signature:	
E-mail address:	Telephone:
OCD Approval: Permit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date:
Title:	OCD Permit Number:
21. <u>Closure Report (required within 60 days</u> Instructions: Operators are required to of The closure report is required to be submi	of closure completion): Subsection K of 19.15.17.13 NMAC btain an approved closure plan prior to implementing any closure activities and submitting the closure report. Ited to the division within 60 days of the completion of the closure activities. Please do not complete this ure plan has been obtained and the closure activities have been completed.
	☑ Closure Completion Date: 10/14/09
22. Closure Method: Waste Excavation and Removal ☐ 0 If different from approved plan, please	On-Site Closure Method
Instructions: Please indentify the facility two facilities were utilized. Disposal Facility Name: Envirotech L	
Disposal Facility Name:	
Were the closed-loop system operations and Yes (If yes, please demonstrate comp	A associated activities performed on or in areas that will not be used for future service and operations? Itiance to the items below) \(\sum \) No
Required for impacted areas which will not Site Reclamation (Photo Documental Soil Backfilling and Cover Installatio Re-vegetation Application Rates and	cion)
mark in the box, that the documents are at ☐ Proof of Closure Notice (surface own ☐ Proof of Deed Notice (required for or ☐ Plot Plan (for on-site closures and ten ☐ Confirmation Sampling Analytical Re ☐ Waste Material Sampling Analytical	ter and division) See Attached the site closure) the porary pits) the sults (if applicable) See Attached the sults (required for on-site closure) the sults (required Landfarm #2 NM-01-0011 the see Attached Seeding Technique Per BLM MOU
25.	
	chments submitted with this closure report is true, accurate and complete to the best of my knowledge and es with all applicable closure requirements and conditions specified in the approved closure plan.
Name (Print): Ms. Amy Mackey	Title: Administrative Manager
Signature:	Date: 11/19/09
E-mail address: amackev1@elmr	idge.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 22 COM 1 well site is October 14, 2009.
- 2) In accordance with Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.
 - None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximity to surface water sources and distance to groundwater.
 - None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.

 Notification was provided to Mr. Brad Jones of the NMOCD Santa Fe Office on August 4, 2009, along with a schedule of on-site activities; see attached Notification Letter.
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of 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 Navajo Nation on September 16, 2009; see attached 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 21, 2009, approximately four-hundred and twenty-two (422) cubic yards of production sludge was removed from the earthen pit and disposed of at Envirotech's NMOCD permitted soil remediation facility, Landfarm #2, Permit # NM-01-0011; see attached *Bill of Lading*.
- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.
 - All on-site equipment will be used for the continued operation of the West Bisti Coal 22 COM 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.

Due to a misunderstanding with field personnel, a closure sample was not collected at the time of excavation. On October 14, 2009, an Envirotech scientist returned to the site and collected a sample from the opened excavation. Once the sample was collected, the excavation was backfilled and recontoured. 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				
Closure Sample	< 0.0009 mg/kg	0.0293 mg/kg	160 mg/kg	40 mg/kg

- 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 22 COM 1 Earth Pit Closure Project No. 03056-0215 Closure Date: 10/14/09

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 December 14, 2009.

) = C-	AND RETAIN T	NIS COPY BE	FORE AFFIXING TO	THE PACKAGE	E, NO POUCH NEEDS	(D. ()
Seuder's Copy	Fortigue to a 10 fe.	Packages over 750 for Feder 30 oy Freight That takes of the season.	Title Other	MOD Separation of February and Separation of	Cargo Aircraft Orly odt Card Casty Check	# 8 E	519
	Folice Standard Oversight Security County (Security County) Folice Express Source The County County County The County The County County The County County The County	Feder Zivy Frankti	Box Box	Election Committee Committ	Third Party	The Decised What	Defia
	Package Sentice	K Service	Today Pake Comment of the Comment of	Notice House House		The Protogo The Walge To S / / / O s	Divot Stratus Divot Stratus and a stratus of the
	Spress Participation of the Control	4b Express Freig Feder (Day Freig Freight Freight Frei	Fred Process		7 Payment	Teaching to the second	No Sparter
8147 6355	7-9	Des Proceedings	-	6-3487	Dest-Perchanten	87525	you read.
	1919-6147-9 Proms (SeS) 632-0615		ZP 87401	mm 5051476-3487 Division	Drive Prive	NM # 87565	Office spale
M 8693	T Boot		MIN TO -Y	action J	Frencis Drive	San N/V	12 (12 (12 (12 (12 (12 (12 (12 (12 (12 (
	Sender's Folice Account Number	AY 54	Now Internal Billing Reference O 2 C C C C C C C C C C C C C C C C C C	Frank Brad Jones Man Mon Sos 476 Company N. M. Di (Conservation Division	4	Maria de la companya	Simplify No. 200 phys. Nonegry.
FedEX US Airbill Express	From Impactations of Sandra Folice. Data 804/09 Sandra Folice. Sandra Jaswes McDashie	COMPANY SNVIRDTECH Addres 3795 HIGHWAY 64	ING TON	Property Brad Jones Company N. M. Oil Cans	Rection to Address We came about the beautiful to the second about the beautiful to the second address of \$2.20 \text{ \$\int_{0}\$}.	or Santa Fe	States Annual States of the St
	Senders Jasmes	Company S.N.	DIV FARM ING TON	3 To Paciplent's A	Recipient's Address We comment salves to FA	Ŋ	



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. IN

James McDaniel

Project Scientist

incdaniel@envirotech-inc.com

ELM RIDGE EXPLORATION

Amy Mackey

Administrative Manager amackey | Weimridge net

Attachments: Closure Schedule

August 2009

Sunday	Monday	Tuesday	Med Wed	Thurs	Friday	te C
						_
2	3	4	5	9	2	8
G)	4	1	12	13	14	15
	Bisti Coal 20-2	Bisti Coel 20-2	Bisti Coal 20-2	Bisti Coal 20-2	Blett Coel 20-2	
	Bird Cost 21-1	Bird Coal 21-1	Bieti Coel 21-1	Bisti Coal 21-1	Bisti Coal 21-1	
	Bleti Coel 22-2	Blett Coal 22-2	Bisti Coel 22-2	Bisti Coal 22-2	Bisti Coal 21 COM 2	
	Bisti Coal 28-1	Bisti Coal 28-1	Bisti Coal 28-1	Bisti Coal 28-1	Bisti Coel 28-1	
16	17	18	19	20	21	22
	Bisti Coal 29-1	Bleti Coei 29-1	Blati Coel 29-1	Bleti Coel 29-1	Bisti Coal 29-1	
	Bieti Coal 29-2	Bisti Cosi 29-2	Bisti Coal 29-2	Birti Coal 29-2	Blatt Coal 29-2	
	Bisti Coal 30 COM 1	Bisti Coal 30 COM 1	Bisti Coel 30 COM 1	Bisti Coal 30 COM 1	Bisti Coal 30 COM 1	
	Bisti Coal 31-1	Bisti Coal 31-1	Bisti Coal 31-1	Bisti Coal 31-1	Bisti Coel 31-1	
	Bisti Coal 4-1	Bisti Coei 4-1	Bieti Coal 4-1	Bisti Cosi 4-1	Bisti Coal 4-1	
	Bisti Cosi 4 COM 2	Blati Coal 4 COM 2	Bisti Coal 4 COM 2	Bisti Coal 4 COM 2	Bisti Coel 4 COM 2	
	Bisti Coal 5 COM 1	Bisti Cosi 5 COM 1	Bisti Coal 5 COM 1	Bisti Coal 5 COM 1	Bistl Coal 5 COM 1	
	Bisti Coal 5K COM 2	Bisti Coel 5K COM 2	Bleti Coal 5K COM 2	Bisti Coai 6K COM 2	Bisti Coal 5K COM 2	
	Bisti Coal 16-2	Bisti Coal 16-2	Bisti Coal 16-2	Bisti Coal 16-2	Bisti Coal 16-2	
23	24	25	26	27	28	29
a ().	Bisti Coel 6-1	Bisti Coal 6-1	Bisti Coal 6-1	Bisti Coal 6-1	Bisti Coal 6-1	
	Bisti Coal 6-2	Bisti Coal 6-2	Bisti Cosi 6-2	Bisti Coal 6-2	Bisti Coal 6-2	
	Bisti Coal 7-1	Bisti Coal 7-1	Bistil Coal 7-1	Bisti Coal 7-1	Bisti Coal 7-1	
	Bisti Coel 7 COM 2	Bisti Coel 7 COM 2	Bisti Coal 7 COM 2	Bisti Coal 7 COM 2	Bisti Coal 7 COM 2	
	Bisti Coal 8 COM 1	Bisti Coel 8 COM 1	Bisti Coal 8 COM 1	Bisti Coal 8 COM 1	Bisti Coal 8 COM 1	
	Bisti Coal 8L COM 2	Bisti Cosi 8L COM 2	Bisti Coal 8L COM 2	Bistl Coal 8L COM 2	Bisti Coal 8L COM 2	
	Bisti Coal 9-1	Blstf Coal 9-1	Bisti Coal 9-1	Bistf Coal 9-1	Bisti Coal 9-1	
	Bisti Coal 9 COM 2	BIRD COR B COM Z	BISTI COSI 9 COM 2	Bisti Coal & COM Z	Bisti Coal 9 COM 2	
30	31					
	Carson 10-332					
	Buena Suerie 3 G 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 9 8 12 S Buena Suerte 32 G COM 1 Sam Jackson State COM 1 West Bisti Coal 24 COM 2 West Bisfi Coal 14 COM 1 North Bisti Coal 32M COM West Bisti Coal 11 F COM West Bistl Coal 22 COM 1 Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1 Buena Suarte 4 L COM 1 Carson Unit 15 COM 323 West Bisti Coal 25 2Y North Bistl Coal 31-1 West Bisti Coal 10-2 West Bisti Coal 15-2 West Bisti Coal 23-1 West Bisti Coal 24-1 West Bisti Coal 25-1 West Bisti Coal 11-2 West Bisti Coal 15-1 West Bistl Coal 22-2 Jicarilla Apache I-11 West Bistl Coal 13-1 West Bistl Coal 12-1 East Bisti Coal 6-1 Carson Unit 206 Carson Unit 313 Shella Hixon 1 Pete Morrow 1 Pete Morrow 2 Cerson 10-332 Friday Jeter COM 2 Sem Jackson State COM 1 West Bisii Cosi 24 COM 2 Buena Suerte 32 G COM 1 North Bisti Cosi 32M COM West Bisti Coal 11 F COM West Blstl Coal 22 COM 1 West Bisti Coal 14 COM 1 Buene Suarte 3 G COM 1 Buena Suerte 3 L COM 1 Buena Suerte 4 L COM 1 Carson Unit 15 COM 323 West Bisti Coal 25 2Y North Bisti Coal 31-1 West Bisti Coal 25-1 West Bisti Coal 15-2 West Bisti Coal 23-1 Jicarilla Apache I-11 West Bisti Coal 10-2 West Bisti Coal 15-1 West Bisti Coal 24-1 West Bird Coal 13-1 West Bisti Coal 11-2 West Bisti Coal 22-2 West Bistl Coal 12-1 East Bisti Coal 6-1 Carson Unit 206 Carson Unit 313 Carson 10-332 Pete Morrow 1 Pete Morrow 2 Shella Hixon 1 Jeter COM 2 Thurs Sem Jackson State COM 1 Buena Suarte 32 G COM 1 North Bisti Coel 32M COM West Bistl Coal 22 COM 1 West Bisti Cosi 24 COM 2 West Blsti Coal 11 F COM West Bisti Coal 14 COM 1 Buena Suerte 3 G COM 1 Buena Suerta 3 L COM 1 Buena Suerte 4 L COM 1 Carson Unit 15 COM 323 West Bisti Coal 25 2Y North Bisti Coal 31-1 West Bisti Coal 25-1 West Bisti Coal 23-1 West Bisti Coal 24-1 West Bisti Coal 11-2 West Bisti Coal 15-1 West Bisti Coal 15-2 West Bisti Coal 22-2 Jicarilla Apache 1-11 West Bisti Coal 13-1 West Bisti Coal 10-2 West Bisti Coal 12-1 East Bisti Coal 6-1 Carson Unit 206 Carson Unit 313 Pete Morrow 2 Shella Hibron 1 Pete Morrow 1 Jeter COM 2 September 2009 8 Sam Jackson State COM 1 West Bisti Coal 24 COM 2 North Bisti Coal 32M COM West Bisti Coal 11 F COM Buena Suerta 32 G COM 1 West Bisti Coal 14 COM 1 Buena Suerte 3 G COM 1 Buena Suerte 4 L COM 1 Buena Suerte 3 L COM 1 West Bisti Coal 22 COM Carson Unit 15 COM 323 West Bisti Coal 25 2Y North Bisti Coal 31-1 West Bisti Coal 24-1 Jicarilla Apache 1-11 West Bisti Coal 25-1 West Bisti Coal 11-2 West Bisti Coal 10-2 West Bisti Coal 15-1 West Bisti Coal 15-2 Nest Bisti Coal 22-2 West Bisti Coal 23-1 West Bisti Coal 12-1 West Bisti Coal 13-1 East Blat Coal 6-1 Carson Unit 208 Carson Unit 313 Shella Hixon 1 Pete Morrow 2 Carson 10-332 Pete Morrow 1 Jeter COM 2 West Bisti Coal 24 COM 2 Sem Jackson State COM 1 North Bisti Cosi 32M COM West Bisti Coel 11 F COM West Bisti Coal 14 COM 1 West Bisti Coal 22 COM 1 West Bisti Cost 25 2Y North Bisti Coal 31-1 West Bisti Coal 23-1 West Bisti Coal 24-1 West Bisti Coal 25-1 West Bisti Coal 15-1 West Bisti Coal 15-2 **Jicarilla Apache F-11** West Bisti Coal 10-2 Nest Bisti Coal 22-2 West Bisti Coal 12-1 West Bisti Coal 13-1 West Bisti Coal 11-2 Carson Unit 313 Shella Hibron 1 Pete Morrow 2 Pete Morrow 1 Jeter COM 2 28 7 27 13 ೪ 9



Home | Help | Sign in

Track & Confirm **FAQs**

Track & Confirm

Search Results

Label/Receipt Number: 7007 1490 0000 5398 9428 Service(s): Certified Mail™ Status: Delivered

Your item was delivered at 1:47 PM on September 16, 2009 in WINDOW ROCK, AZ 86515.

Track & Confirm

Enter Label/Receipt Number.

(**&+**>)

Detailed Results:

- Delivered, September 16, 2009, 1:47 pm, WINDOW ROCK, AZ 86515
 Notice Left, September 15, 2009, 10:26 am, WINDOW ROCK, AZ 86515

	-	•		-				
	Natification Option	8				U.S. Postal	Service .	
	Track & Confirm b	y email				CERTIFIE		CEIPT
	Get current event in	nformation o	r updates for ye	our item sent	to you			Coverage Provided)
						For delivery inform	iation visit our website	at www.usps.coms
****						OF	CIAL	USE
Site Map	Customer Service	Forms	Gov't Services	Careers	54 C)	Postage	s _44	Kulia
Copyright	62009 USPS. All Rights 5:4: C	s Reserved.	No FEAR Act E	EO Data Fo	6 0000 06hT 2002	Street Apr No. 11 or PO Box Mo. P.	2,30	tion EPA
				Carlonau Carlonau (Pro-S		** Form (***) A. and (***)		the Second for method or
		S	ENDER: COM	PLETE THIS	SECTIO	N 50	MPLETE THIS SECTK	IN ON DELIVERY

SENDER: COMPLETE THIS SECTION	ON COMPLETE THIS SECTION ON DE	LIVERY
Complete Birn 1 Sect Side of Sect Sect Side of Sect Sect Sect Sect Sect Sect Sect Sect	1	100 00 00 00 00 00 00 00 00 00 00 00 00
766-983	A 1 10 Kuba	
The Navajo Nation EPA P.O. Box 339 Window Rock, AZ 86515		

http://trkcnfrm1.smi.usps.com/P1



September 14, 2009

Project No. 03056-0215

Ms. Rita Whitehorse-Larsen The Navajo Nation EPA P.O. Box 339 Window Rock, AZ 86515

Phone: (928) 871-7692

RE: WEST BISTI COAL 22 COM 1 EARTH PIT CLOSURE NOTIFICATION

Dear Ms. Whitehorse-Larsen,

Please accept this letter as the necessary surface owner notification for earth pit closure activities at the West Bisti Coal 22 COM 1 well site, owned and operated by Elm Ridge Exploration. The West Bisti Coal 22 COM 1 well site is located in Unit B, Section 22, Township 25N, Range 13W, San Juan County, New Mexico. Closure activities are scheduled to begin on September 21, 2009 and continue through September 25, 2009.

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

Respectfully Submitted,

ENVIROTECH, INC.

James McDaniel Project Scientist

jmcdaniel@envirotech-inc.com

Cc:

Client File No. 03056

ELM RIDGE EXPLORATION WEST BISTI COAL 22 COM 1 SEC. 22, TWN. 25N, RNG. 13W PROJECT NO. 03056-0215

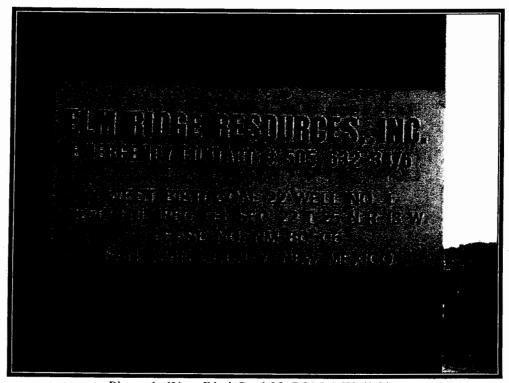


Photo 1: West Bisti Coal 22 COM 1 Well Site



Photo 2: Excavated Area after Backfilling and Recontouring



EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

Elm Ridge Exploration

Project #:

03056-0215

Sample No.:

1

Date Reported:

10/28/2009

Sample ID:

Closure Sample

10/14/2009

Sample Matrix:

Soil

Date Sampled: Date Analyzed:

10/14/2009

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

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

Total Petroleum Hydrocarbons

40

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 22 COM 1

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Toni McKnight

Printed

James McDaniel

Printed



CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM **HYDROCARBONS**

Cal. Date:

14-Oct-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
ТРН	100		
	200	201	
	500		
	1000		

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

mi Mclanght

Date

Toni McKnight

Review

James McDaniel

Print Name



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Preservative: Cool Date Extracted: 10-20-09	Client: Sample ID: Laboratory Number: Chain of Custody: Sample Matrix:	Elm Ridge Closure Sample 52110 8203 Soil	Project #: Date Reported: Date Sampled: Date Received: Date Analyzed:	03056-021 10-25-09 10-14-09 10-15-09 10-21-09
Condition: Intact Analysis Requested: BTEX	Preservative:	Cool	Date Extracted:	10-20-09

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Benzene	ND	0.9	
Toluene	4.8	1.0	
Ethylbenzene	2.5	1.0	
p,m-Xylene	19.4	1.2	
o-Xylene	2.6	0.9	
Total BTEX	29.3		

ND - Parameter not detected at the stated detection limit.

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

References:

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

December 1996.

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

USEPA, December 1996.

Comments:

West Bisti Coal 22 Com 1.

Analyst

Muster Maters



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #: Date Reported: Date Sampled: Date Received:	N/A
Sample ID:	10-21-BT QA/QC		10-25-09
Laboratory Number:	52161		N/A
Sample Matrix:	Soil		N/A
Preservative:	N/A	Date Analyzed:	10-21-09
Condition:	N/A	Analysis:	BTEX

		4		
8.7584E+005	8.7760E+005	0.2%	ND	0.1
8.0092E+005	8.0253E+005	0.2%	ND	0.1
7.2781E+005	7.2927E+005	0.2%	ND	0.1
1.7982E+006	1.8018E+006	0.2%	ND	0.1
6.8304E+005	6.8441E+005	0.2%	ND	0.1
	8.0092E+005 7.2781E+005 1.7982E+006	8.0092E+005 8.0253E+005 7.2781E+005 7.2927E+005 1.7982E+006 1.8018E+006	8.0092E+005 8.0253E+005 0.2% 7.2781E+005 7.2927E+005 0.2% 1.7982E+006 1.8018E+006 0.2%	8.0092E+005 8.0253E+005 0.2% ND 7.2781E+005 7.2927E+005 0.2% ND 1.7982E+006 1.8018E+006 0.2% ND

Benzene	6.1	6.0	1.6%	0 - 30%	0.9
Toluene	24.2	23.8	1.7%	0 - 30%	1.0
Ethylbenzene	21.8	21.7	0.5%	0 - 30%	1.0
p,m-Xylene	69.5	68.2	1.9%	0 - 30%	1.2
o-Xylene	26.3	26.0	1.1%	0 - 30%	0.9

					The second secon
Benzene	6.1	50.0	57.3	102%	39 - 150
Toluene	24.2	50.0	75.2	101%	46 - 148
Ethylbenzene	21.8	50.0	72.8	101%	32 - 160
p,m-Xylene	69.5	100	168	99.1%	46 - 148
o-Xylene	26.3	50.0	78.8	103%	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 52110, 52161- 52164, 52173, and 52180 - 52183.



Chloride

Client: Elm Ridge Project #: 03056-0215 Sample ID: 10-25-09 Closure Sample Date Reported: Lab ID#: 52110 Date Sampled: 10-14-09 Sample Matrix: Soil 10-15-09 Date Received: Preservative: Cool Date Analyzed: 10-16-09 Condition: Intact Chain of Custody: 8203

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 22Com1.

Analyst

Protun Walter



Chloride

Client: Sample ID: Lab ID#:	Elm Ridge Background 52111	Project #: Date Reported: Date Sampled:	03056-0215 10-25-09 10-14-09
Sample Matrix:	Soil	Date Received:	10-15-09
Preservative:	Cool	Date Analyzed:	10-16-09
Condition:	Intact	Chain of Custody:	8203

Parameter Concentration (mg/Kg)

Total Chloride

5

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 22Com1.

Analyst

Review Waller

CHAIN OF CUSTODY RECORD

Client:		P	Project Name / Location:	ocation													2		
5 Immidae			West Bisti Coa	子(8	e sacons	イン					ANA	LYSIS/	PARA	ANALYSIS / PARAMETERS	တ			
Client Address: 0		σV.	Sampler Name:	Ŋ				(2108											
Client Phone No.:		0 7	620520-6215	20	51		Nethod 8	s bortie	portieM)	poutel	stateM 8 Metal: NoinA \		┛\H イオiv					loo2	lutact
Sample No./	Sample Date	Sample	Lab No.	w =	Sample Matrix	No./Volume Preservative of HgQ, HG	Preservati	ा है <i>है</i> A) मधा				HCI	V GLDT	НАЧ	TPH (4			Sample	Sample
Closure Samore 1614/10, 1959	HAIN	, 1959	52110	Solid Solid	Sludge Aqueous	1-42		8			-	 		-	 			7	
Background 10/14/07 1500	101140	1500	52111	Soil	Sludge Aqueous	一地		R								×		1	7
P	-			Soil	Sludge Aqueous														
		4		Soil	Sludge Aqueous														
		-gr		Soil	Sludge														
				Soil	Sludge Aqueous													<u></u>	
				Soild	Sludge Aqueous														
				Solid	Studge														
				Soil	Sludge Aqueous														
				Soll	Sludge Aqueous														
Relinguished by: (Signature)	(eun)		9		Date	Time A ' '		Received by: (Signature)	Sign:	ature)	١.		N		لم ا		Date	- 0	Time 0844
Relinquished by: (Signature)	fure						+	Received by: (Signature	Sign:	ature					\circ		<u> </u>		7 / 2
Relinquished by: (Signature)	iture)						Rece	Received by: (Signature)	: (Sign	ature)									
					m	envirotech Analytical Laboratory	V ir	0 0	O 8 8	Section 1	C >								

PAGE NO:OF			E	005) 632-061	otec 5 (800) 362-18	379	R	IMENTAL SPECIALIST: Jory S
DATE STARTED: 9/21/			ion.		Farmington, NM (LAT:	
DATE FINISHED: 9/21							LONG:	
	FIELD F	REPORT:	BGT / P	IT CLO	SURE VE	.,,		
LOCATION: NAME: \bigcup	est Bis	and the same of the same of	WELL#:	1	TEMP PIT:		VENT PIT:2	
LEGAL ADD: UNIT:		SEC: 2	7	TWP: 2	$\mathcal{S}_{\mathcal{N}}$	1010.	SW	PM: NM(r)
QTR/FOOTAGE: 1250 F	M 18	SC' FEL	CNTY: S	.5		ST: /VM		
EXCAVATION APPROX:	20	FT. X	125	FT. X	13	FT. DEEP	CUBIC YA	ARDAGE:
DISPOSAL FACILITY:				REMEDIA	TION METH			
LAND OWNER:			API:		and the second second	BGT / PIT	tion of the same o	
CONSTRUCTION MATERIA			DOUBLE-		WITH LEAK I		(:	
LOCATION APPROXIMATE			FT.		FROM WELL	LHEAD		
DEPTH TO GROUNDWATE	The second second							
TEMPORARY PIT - GRO				NT (0015) + 5	00 # TDII /	(410.1) < 2500	males CUI	ODIDES < 500 mg/kg
BENZENE ≤ 0.2 mg/kg, B7	LEX ≤ 50 mg/	kg, GKO & DK	OFRACTIO	N (8015) ≤ 50	JU mg/kg, 1PH ((418.1) S 2500	mg/kg, CHL	OKIDES 2 300 ilig/kg
TEMPORARY PIT - GRO								
BENZENE ≤ 0.2 mg/kg, BT	$EX \le 50 \text{ mg/k}$	g, GRO & DRO	O FRACTION	V (8015) ≤ 50	0 mg/kg, TPH (4	418.1) ≤ 2500	mg/kg, CHL	ORIDES ≤ 1000 mg/kg
PERMANENT PIT OR B	GT							
BENZENE ≤ 0.2 mg/kg, BT	EX ≤ 50 mg/l	kg, TPH (418.1)) ≤ 100 mg/kg	g, CHLORIDI	ES ≤ 250 mg/kg			
				FIFI	D 418.1 ANAL	YSIS		
	TIME	SAMPLE I.D.	LAB NO.		mL FREON		READING	CALC. (mg/kg)
		200 STD		-	-		DCC	
	Olicina	Bottom	1	5.c	20	- 3 -	14	50
ļ-	Closur	维新教	3	3.0	20		10	
İ			4					
			5	27 19 19 19 19 19 19 19 19 19 19 19 19 19				
Ĺ	·		6			l		
PERIME	TER		FIELD C	HLORIDE	S RESULTS		PRO	OFILE
IMA 7		9 N	SAMPLE ID	READING	CALC. (mg/kg)		12	
		1'	C010	,	986	(1
-			13 cksrend		<27			
* *			Dotton(2)		624	1		Ka
EP			F hall		249	/		(30
7 *		MIDT	e wall		149	_		
1 1		O CI	1	PID RESUL		1		1
The L			SAMP	LE ID	RESULTS	+	25	
	101		5 4911		(ppm) Zaコ			7
	[m] [N hall		542			1/12
			Nwall	(2)	230	/		let
	,, Ø.=		ļ					
LAB SAMPLES		NOTES:	·			· · · · · · · · · · · · · · · · · · ·		
SAMPLE ID ANALYSIS	RESULTS							
BENZENE								
BTEX GRO & DRO								
CHLORIDES						,		
		WORKORDE	R#		WHO ORDER	ED		



Method 418.1 Analysis Log Total Petroleum Hydrocarbons

Date	10/14/09			Analyst	T L M			
Location	n West Bisti Coal 22 com/			Instrument	Infracal			
Job No.	03056-0215		-					
Sample No.	Sample Description	Weight (g)	mL. Freon	Dilution	Reading	Calc. TPH (ppm)	OVM (ppm)	
	Closur Sample	5.0	20	Ч	10	40	0-C	
	Infrare	d Spectroph	otometer Ca	libration				
	New Freon							
	Date Standards Prepared							
	Standar	d Concentrat	tion (ppm)					
	100 200	201		500 1000				
	I-Cal RF:			C-Cal RF:				
RSD: QA/QC Acceptance Criteria: I-Cal RSD +/- 20%			% Difference: C-Cal Difference +/- 10%					

Bill of Lading

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

MANIFEST #

DATE 7-22-0908# 0305/2-34278

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and TRK# TIME DRIVER SIGNATURE ENTERED SEP 2 4 2000 TRANSPORTING COMPANY 128/11/28/10 178 452 450 05/ 1503 178/1551 74 1156 1551 74 10 do X A COMPANY 4.4 て・カ 7-4 h - h カーカ 4,2 ナニ カート NOTES BBLS 3 んん YDS ぐん とな の の の 7 5 8.36 824 8 26 × 8 75 W 75 824 E-34 226 226 523 GRID COMPLETE DESCRIPTION OF SHIPMENT MATERIAL (00) T بر 1 LANDFARM EMPLOYEE: DESTINATION THY 7 1 # =POINT OF ORIGIN ELM ridye CHLORIDE TEST PAINT FILTER TEST 7 7 2 = RESULTS 35% LOAD 9

COMPANY EINBINGS that no additional materials have been added."

NAME

COMPANY CONTACT NO IKA

PHONE

11/2/25

DATE 9-22-69

SIGNATURE

Bill of Lading

MANIFEST #

34279

DRIVER SIGNATURE DATE 9-22-0 BB# 03056-ENTERED SEP 2 4 2009 **TRANSPORTING COMPANY** 957 95 + 128/921 TRK# TIME 1156 151 178/1158 74 46 3 COMPANY ン・ロン 4-4 ゴ・コ ナ・カ 1-6 5-6 NOTES: 5-6 B BBLS l I ١ l PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401 de, YDS 20 3 BC 30 9 Ts GRID COMPLETE DESCRIPTION OF SHIPMENT 1 Clean F.1150,C MATERIAL $\stackrel{\smile}{\sim}$ 7 7 5 DESTINATION 81541 cool LANDFARM **EMPLOYEE:** COM 22# = ೭ ي POINT OF ORIGIN ENVIROTECH CHLORIDE TEST PAINT FILTER Z RESULTS: LOAD 9

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

COMPANY CONTACT / DAGE JAME IN MCK-

PHONE

COMPANY

DATE__

9-22.09

SIGNATURE

Bill of Lading

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

34294 MANIFEST #

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added." **DRIVER SIGNATURE** Stock Brownly DATE 5-23-05 JOB# (1305/6", TRANSPORTING COMPANY 178 8:40 74 DI46 10 949/ TRK# TIME 350 ENTERED SEP 7 74 COMPANY なった 4-4 カーカ ケ・カ イン NOTES BBLS L 70 20 YDS 5 g 2 E-25 E-26 £26 12.25 C-26 824 £26 F-24 GRID COMPLETE DESCRIPTION OF SHIPMENT ٤ z ヾ Z б MATERIAL 5010 Š _ Z Z 7 DESTINATION LANDFARM EMPLOYEE: 3 7 2 Ř z Ę a 8:5+10001 22#1 く 14 Bish Coal 22# POINT OF ORIGIN CHLORIDE TEST PAINT FILTER TEST SIMPIDE ۲ C 248 ⋖ Ē, RESULTS LOAD Š. K

COMPANY ElmiRiclas

COMPANY CONTACT 1772-NAME <

322-2711 PHONE_

DATE 2-28-09

SIGNATURE

Bill of Lading

MANIFEST #

34295

DATE 9-23-0 SOB# (13056 PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

If certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added." DRIVER SIGNATURE TRANSPORTING COMPANY ENTERED SEP 2 4 2009 3:30 10 A 2501 827 197 TRK# TIME 25 930 <u>5</u> * 75 74 75 54 24 3 COMPANY Cara 4-4 ガーカ 7-7 カシカ 7.7 4-4 カ・カ NOTES: BBLS 1 1 1 8 YDS $\vec{7}$ رے 7 20 20 Q GRID COMPLETE DESCRIPTION OF SHIPMENT 10 3 J ţ ۲ MATERIAL Cons ડ بر 2 ~ 7 - B.Sticoning DESTINATION LANDFARM EMPLOYEE: 4 z z Elm R. OCE 4.05+18:5+1:20 W 7 ~ _ 2 ے ک POINT OF ORIGIN CHLORIDE TEST PAINT FILTER TEST 7 Z z~ \succeq > RESULTS: LOAD 8 lx

SIGNATURE COMPANY EIM Ridge NAME_IMSKING

COMPANY CONTACT DACK

PHONE 322-2711

DATE 9-23-09

Bill of Lading

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

MANIFEST #

34305

74 4:45 Robert Brownle DRIVER SIGNATURE DATE 9-24-09 JOB# 03056 RANSPORTING COMPANY ENTERED SEP 2 5 2009 TRK# TIME 23 12 Z Z ムグ COMPANY レーサ カーマ フ· カ 4-17 NOTES: BBLS V ١ E-25 20 0 () 20 20 YDS 70 E 25 F-25 F-25 E-25 GRID COMPLETE DESCRIPTION OF SHIPMENT ζ ζ \$ MATERIAL たらり Z Z \$ LANDFARM EMPLOYEE: DESTINATION が、大 15-M 7 ೱ کے POINT OF ORIGIN 万下下下になり 298 OHLORIDE TEST PAINT FILTER TEST J Z 3 RESULTS: LOAD Š.

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

COMPANY - COLL

COMPANY CONTACT Mack

PHONE

SIGNATURE

DATE 9/2%

Bill of Lading

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

MANIFEST #

34307

DRIVER SIGNATURE DATE 9-24-04 JOB# 03056. TRANSPORTING COMPANY ig ig 74 225 TRK# TIME 30 24 17:45 ENTERED SEP 27 74 72 COMPANY 174/1 ナイム 4-4 4-5 NOTES: BBLS 1 l Ĭ 000 YDS 20 2 20 GRID COMPLETE DESCRIPTION OF SHIPMENT 2 < Chech So.1 ረ MATERIAL ž t, Z ELMRIDSE LANDFARM EMPLOYEE: DESTINATION Ł W. Bisticala 7 12/1 کہ 2 ፈ たいしにたれ 4 2 POINT OF ORIGIN CHLORIDE TEST PAINT FILTER \$ ₹ 2. RESULTS: LOAD Š

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

DATE 4/24/69

PHONE

Source

NAME 7655

COMPANY CONTACT Mack

Bill of Lading

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

MANIFEST #

34321

JOSED #805 DATE 9-75-09

DRIVER SIGNATURE **TRANSPORTING COMPANY** ENTERED SEP 29 74 | 730 9,23 フター公 TRK# TIME 1200 056 PG 24 935 3 74 K 25 COMPANY 4.4 h-h 4-0 12-15 7, ひ・な NOTES: BBLS B (4 YDS g 20 S 20 É É GRID COMPLETE DESCRIPTION OF SHIPMENT 1 1 ₹ z MATERIAL = 可にあり 7 7 Sist COAL 23 ! LANDFARM EMPLOYEE: DESTINATION 1537 ح ૮ لح 5 POINT OF ORIGIN CHLORIDE TEST PAINT FILTER CALL. 7 RESULTS LOAD Š

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

EZM COMPANY CONTACT MACK

044E

PING PHONE

327-2711

DATE_

SIGNATURE J

60-500

District 1 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

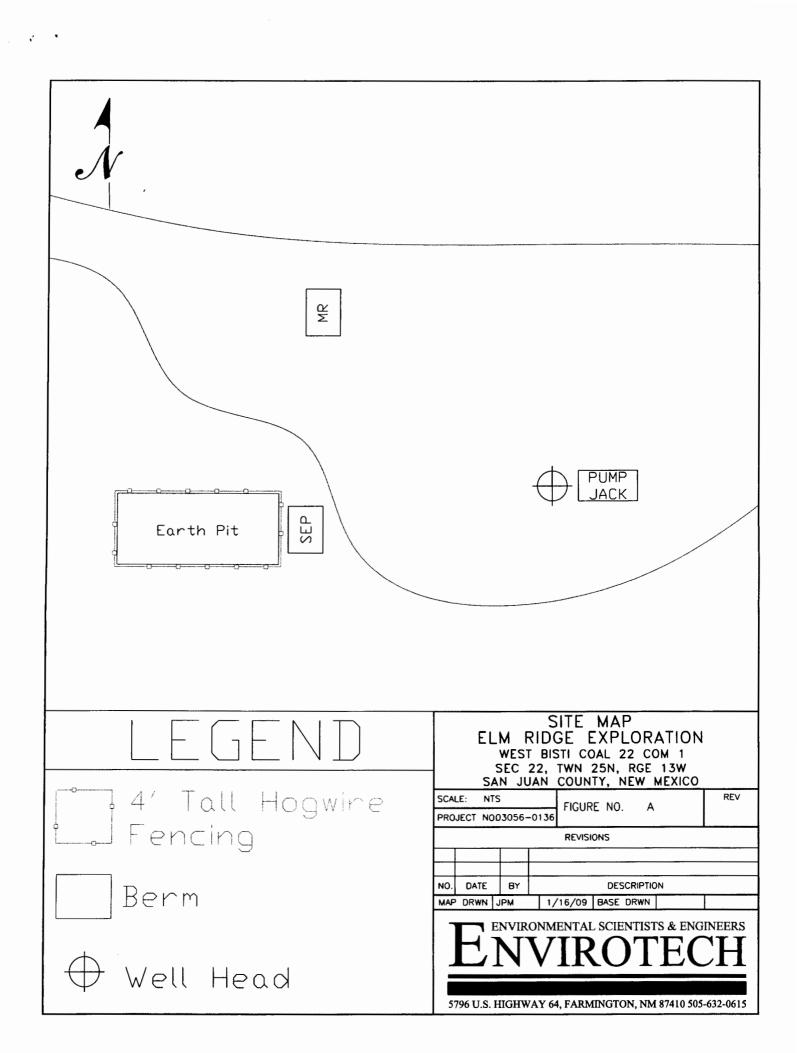
Proposed Alternative Method Permit or Closure Plan Application
Type of action: Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method Modification to an existing permit Closure plan only 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 22 COM 1
API Number: 3004528916 OCD Permit Number:
API Number: 3004528916 OCD Permit Number: U/L or Qtr/Qtr B Section 22 Township 25N Range 13W County: San Juan Center of Proposed Design: Latitude 36.390518 Longitude -108.203804 NAD: 1927 \ 1983
U/L or Qtr/Qtr B Section 22 Township 25N Range 13W County: San Juan Center of Proposed Design: Latitude 36.390518 Longitude -108.203804 NAD: □1927 □ 1983 Surface Owner: □ Federal □ State □ Private □ Tribal Trust or Indian Allotment
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
2. ☑ Pit: Subsection F or G of 19.15.17.11 NMAC Ceased emptying into in October 2008. 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 45' x W 29' 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: Thicknessmil LLDPE HDPE PVC Other Liner Seams: Welded Factory Other
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other
Lined Unlined Liner type: Thicknessmil
Lined Unlined Liner type: Thicknessmil LLDPE HDPE PVC Other

Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)						
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)						
Four foot height, four strands of barbed wire evenly spaced between one and four feet						
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						
2"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 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 approance of fice 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). - 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 	☐ Yes ☐ No ☐ NA					
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No					
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.						
Within 500 feet of a wetland.	☐ Yes ☐ No					
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					

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 Design (attach copy of design) Art Number:
above ground steet tanks or mait off ones 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 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)
15.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached. □ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC □ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC □ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) □ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC □ Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16. Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Instructions: Please indentify the facility or facilities for the disposal of liquids 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 of Yes (If yes, please provide the information below) No		
Required for impacted areas which will not be used for future service and operati Soil Backfill and Cover Design Specifications based upon the appropriat Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	te requirements of Subsection H of 19.15.17.13 NMAC n I of 19.15.17.13 NMAC	C
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 provided below. Requests regarding changes to certain siting criteria may required an exception which must be submitted to the Santa Fe Environment demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC	ire administrative approval from the appropriate distr al Bureau office for consideration of approval. Justi	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; Da	ta 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; Da	ta 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; Da	ta obtained from nearby wells	☐ Yes ☐ No☐ NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other si lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	gnificant watercourse or lakebed, sinkhole, or playa	Yes No
Within 300 feet from a permanent residence, school, hospital, institution, or churc - Visual inspection (certification) of the proposed site; Aerial photo; Satelli		Yes No
Within 500 horizontal feet of a private, domestic fresh water well or spring that le watering purposes, or within 1000 horizontal feet of any other fresh water well or - NM Office of the State Engineer - iWATERS database; Visual inspection	spring, in existence at the time of initial application.	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh wa adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written appro		☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visu	nal 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-Minin	g and Mineral Division	☐ Yes ☐ No
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geolog Society; Topographic map 	gy & Mineral Resources; USGS; NM Geological	☐ 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 by a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Construction/Design Plan of Temporary Pit (for in-place burial of a drying Protocols and Procedures - based upon the appropriate requirements of 19.1 Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Disposal Facility Name and Permit Number (for liquids, drilling fluids and Soil Cover Design - based upon the appropriate requirements of Subsection Re-vegetation Plan - based upon the appropriate requirements of Subsection Site Reclamation Plan - based upon the appropriate requirements of Subsection	quirements of 19.15.17.10 NMAC of Subsection F of 19.15.17.13 NMAC uppropriate requirements of 19.15.17.11 NMAC pad) - based upon the appropriate requirements of 19. 15.17.13 NMAC quirements of Subsection F of 19.15.17.13 NMAC of Subsection F of 19.15.17.13 NMAC drill cuttings or in case on-site closure standards cann of 19.15.17.13 NMAC 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, accura	ate and complete to the be	est of my knowledge and belief.
Name (Print): Ms. Arry Mackey	Title: A	dministrative Manager
Signature:	Date:	3-2-09
E-mail address: amackey1@elmridge.net	Telephone:	(505) 632-3476 Ext.201
OCD Approval: Permit Application (including closure plan) Closure Pl	an (only) OCD Con	aditions (see attachment)
OCD Representative Signature:		Approval Date: 2/10/10
Title: Frumme Styrie	OCD Permit Number:	
Closure Report (required within 60 days of closure completion): Subsection Instructions: Operators are required to obtain an approved closure plan prior to The closure report is required to be submitted to the division within 60 days of the section of the form until an approved closure plan has been obtained and the closure plan plan has been obtained and the closure plan plan plan plan plan plan plan plan	implementing any closuse completion of the closu	ure activities. Please do not complete this completed.
Closure Method: Waste Excavation and Removal On-Site Closure Method Alternate If different from approved plan, please explain.	ive Closure Method	Waste Removal (Closed-loop systems only)
23. Closure Report Regarding Waste Removal Closure For Closed-loop Systems Instructions: Please indentify the facility or facilities for where the liquids, drill two facilities were utilized.		
Disposal Facility Name:	Disposal Facility Permit	t Number:
Disposal Facility Name:	-	t Number:
Were the closed-loop system operations and associated activities performed on or	-	
Yes (If yes, please demonstrate compliance to the items below) No		•
Required for impacted areas which will not be used for future service and operation Site Reclamation (Photo Documentation)	ns:	
Soil Backfilling and Cover Installation		
Re-vegetation Application Rates and Seeding Technique		
Closure Report Attachment Checklist: Instructions: Each of the following itemark in the box, that the documents are attached.	ms must be attached to th	he closure report. Please indicate, by a check
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)		
	de	NAD:
25. Operator Closure Certification:		
I hereby certify that the information and attachments submitted with this closure rebelief. I also certify that the closure complies with all applicable closure requirements.		
Name (Print):	Title:	
Signature:	Date:	
E-mail address:	Telephone:	



EARTHEN PIT CLOSURE PLAN

SITE NAME:

WEST BISTI COAL 22 COM 1
UNIT LETTER B, SECTION 22, TOWNSHIP 25N, RANGE 13W
SAN JUAN COUNTY, NEW MEXICO
LATITUDE 36.390518 LONGITUDE -108.203804

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

MARCH 2009

EARTHEN PIT CLOSURE PLAN ELM RIDGE EXPLORATION WEST BISTI COAL 22 COM 1 SAN JUAN COUNTY, NEW MEXICO

TABLE OF CONTENTS

INTRODUCTION	1
SCOPE OF CLOSURE ACTIVITIES	1
REPORTING	3

Introduction

Elm Ridge Exploration would like to submit a closure plan for the earthen pit at the West Bisti Coal 22 COM I well site located in the NW ¼ NE ¼ of Section 22, 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 West Bisti Coal 22 COM 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 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 proximity 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 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 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 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 shows other evidence of a release. All samples 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.
- 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, re-contour, 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. 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

Mackey

Elm Ridge Exploration

Elm Ridge Exploration

Re-Seeding Techniques and Seed Mixture Ratios

These applied practices by Elm Ridge Exploration will at a minimum comply with the New Mexico Oil Conservation Divisions rule 19.15.17.13, Subsection I NMAC. Elm Ridge Exploration has adopted these re-seeding application techniques, ratios, and mixtures as their standard operating procedures.

- 1. The first growing season after closure of a below grade tank or pit, all areas of the well site not utilized for the production of oil and/or gas on a daily basis will be re-seeded with the specified seed mixture.
- 2. The seed mixture used will be certified with no primary or secondary noxious weeds in seed mixtures. The seed labels from each bag shall be available for inspection while seed is being sown.
- 3. The operator shall accomplish seeding by drilling on the contour whenever practical or by other division-approved methods. The operator shall obtain vegetative cover that equals 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.
- 4. Hand seeding with hydro-mulch, excelsior netting, or mulch with netting is required on the cut/fill slopes. Mulch will be spread at a rate of 2,000-3,000 pounds per acre.
- 5. Compacted areas determined by visual inspection will be ripped to a depth of 12 inches below ground surface and disked to a depth of six (6) inches before seeding. Seeding shall be done with a disk type drill with two (2) boxes for various seed sizes. The drill rows shall be eight (8) to ten (10) inches apart. Seed shall be planted at no less than one-half (1/2) inch deep or more than one (1) inch deep. The seeder shall be followed with a drag, packer, or roller to ensure uniform coverage of the seed and adequate compaction. Drilling shall be done on the contour where possible, but not up and down the slope.
- 6. Where slopes are too steep for contour drilling, a hand seeder shall be used. Seed shall be covered to the depth stated above by whatever means is practical. If the seed is unable to be covered by the means listed above, the prescribed seed mixture amount will be doubled.

7. Elm Ridge Exploration shall repeat seeding or planting until it successfully achieves the required vegetative cover of 70% of the native perennial vegetation cover.

- 8. Upon abandonment of a well site, if the retention of the access road is not considered necessary for the management and multiple uses of the natural resources, or by the surface owner, it will be ripped a minimum of 12 inches in depth. After ripping, water bars will be installed. All ripped surfaces will 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.

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

Revised October 10, 2003 Submit 2 Copies to appropriate

Form C-141

District Office in accordance with Rule 116 on back side of form

Attached

Release Notification and Corrective Action OPERATOR Initial Report Final Report Name of Company: Elm Ridge Exploration Contact: Amy Mackey Address: PO Box 156, Bloomfield, NM 87413 Telephone No.: (505) 632-3476 Ext 201 Facility Name: West Bisti Coal 22 COM 1 Facility Type: Gas Well Surface Owner: Navajo Mineral Owner: Lease No.: NM 80506 LOCATION OF RELEASE North/South Line Feet from the Unit Letter Section Township Range Feet from the East/West Line County FNL FEL. San Juan В 22 25N 13W 1250 1850 Latitude 36.390518 Longitude -108.203804 NATURE OF RELEASE Volume Recovered: Unknown Type of Release: Produced Water Volume of Release: Unknown Date and Hour of Occurrence: Date and Hour of Discovery: NA Source of Release: Earth Pit Historical If YES, To Whom? Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required Date and Hour By Whom? Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ⊠ No 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. Describe Area Affected and Cleanup Action Taken.* Blow sand was removed from the earthen pit, and approximately four-hundred and twenty-two (422) cubic 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 giren 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, MOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION Signature: Approved by District Supervisor: Printed Name: Ms. Amy Mackey Expiration Date: Title: Administrative Manager Approval Date: Conditions of Approval:

E-mail Address: amackey1@elmridge.net

Phone: 505-632-3476 Ext 201

^{*} Attach Additional Sheets If Necessary

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.

Proposed Alternative Method Parmit or Clasure Plan Application
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 22 COM 1
API Number: 3004528916 OCD Permit Number:
U/L or Qtr/Qtr B Section 22 Township 25N Range 13W County: San Juan
Center of Proposed Design: Latitude 36.390518 Longitude -108.203804 NAD: □1927 ⋈ 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
2.
☑ <u>Pit</u> : 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 25' x W 20' x D 12'
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 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
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	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
10. Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of 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 ☐ 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

Page 2 of 5

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
s. T.
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)
Maste 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 Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.1 Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if	
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 ser Yes (If yes, please provide the information below) \(\subseteq \text{No} \)	vice 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 NMA 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
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 sou provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate disting considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Just demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.	trict 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
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	☐ 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 p 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 came 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, accurately.	urate and complete to the best of my knowledge and belief.
Name (Print): Title:	
Signature:	Date:
E-mail address: Telephone:	
20. OCD Approval: Permit Application (including closure plan) Closure	Plan (only) OCD Conditions (see attachment)
OCD Representative Signature:	Approval Date:
Title:	OCD Permit Number:
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	n K of 19.15.17.13 NMAC r to implementing any closure activities and submitting the closure report. f the completion of the closure activities. Please do not complete this closure activities have been completed.
	☐ Closure Completion Date: 10/14/09
22. Closure Method: Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alter ☐ If different from approved plan, please explain.	native 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, di two facilities were utilized. Disposal Facility Name:	Disposal Facility Permit Number: NM-01-0011 Disposal Facility Permit Number: or in areas that will not be used for future service and operations?
24. 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 Logation: Latitude Long	e) NM-01-0011
Operator Closure Certification: I hereby certify that the infurmation and attachments submitted with this closure belief. I also certify that the closure complies with all applicable closure require Name (Print): Ms. Amy Mackey Signature:	ements and conditions specified in the approved closure plan. Title: Administrative Manager Date: 1149
E-mail address: <u>amackey1@elmridge.net</u>	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 22 COM 1 well site is October 14, 2009.
- 2) In accordance with Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health or the environment.
 - None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximity to surface water sources and distance to groundwater.
 - None of the earthen pits to be closed by Elm Ridge Exploration are deemed an imminent risk to the environment, public health, or to fresh or public water.
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.
 Notification was provided to Mr. Brad Jones of the NMOCD Santa Fe Office on August 4, 2009, along with a schedule of on-site activities; see attached Notification Letter.
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of 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 Navajo Nation on September 16, 2009; see attached 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 21, 2009, approximately four-hundred and twenty-two (422) cubic yards of production sludge was removed from the earthen pit and disposed of at Envirotech's NMOCD permitted soil remediation facility, Landfarm #2, Permit # NM-01-0011; see attached *Bill of Lading*.
- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.
 - All on-site equipment will be used for the continued operation of the West Bisti Coal 22 COM 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.
 - Due to a misunderstanding with field personnel, a closure sample was not collected at the time of excavation. On October 14, 2009, an Envirotech scientist returned to the site and collected a sample from the opened excavation. Once the sample was collected, the excavation was backfilled and recontoured. 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				
Closure Sample	< 0.0009 mg/kg	0.0293 mg/kg	160 mg/kg	40 mg/kg

Elm Ridge Exploration West Bisti Coal 22 COM 1 Earth Pit Closure Project No. 03056-0215 Closure Date: 10/14/09

- 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 22 COM 1 Earth Pit Closure Project No. 03056-0215 Closure Date: 10/14/09

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 December 14, 2009.

₩ 8693 8147 635 FedEX USAirbill Express

1 From name at any and	errice
O4/09 Accountlemen 1519-6147-9	Folk Phinks Overhight X Folk: Sandard Overhight Fulls: Fire Overhight Folks: Fire Overhight
Sandor's James McDarie Phone (265) 632-0615	Fedix 2Day Fedix 2Day Fedix day
Company SNVIROTECH	pht Service
Addres 5795 HIGHWAY 64	Food St. (Day Freight Food St. 20ay Freight Food St. (Day Freight Food
	5 Peckaging
Ch FARMINGTON Same NM OF 87401	N Softe Other Other Other Other
Nour Internal Billing Reference	Polici Lago Pot, and Folicit Charly Pat.
1,7	HOLD WA at Foliation NOT Avail
a servation	Marie George Company (1997)
Recipient's	Signer's Declaration. restroyers.
ow is PD, beans or PD, 20's excles.	7 Paysperit Bill ter Bear Fulls have the exhibited the below
t Francis Drive	
refer adrings box	
Janta re su /1/1 4 0 /Jan	C Ten Deciment Value
0401655191	The second section of the section of the second section of the section of the second section of the secti
	8 Residential Delivery Signetiare Options I remotes advanced these telescontained
Store your addresses at fedex.com Simplify your selection. Manage your account. Access of the mode you need.	No Synature Direct Signature Indirect Signature Routing Regulation Seminar a replace Institute and the seminar



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,

ENVIROTE@H. INC

James McDaniel
Project Scientist

jucdaniel@envirotech-inc.com

ELM RIDGE EXPLORATION

Amy Mackey

Administrative Manager

Attachments: Closure Schedule

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

August 2009

Sunday	Monday	Tuesday	Wed	Thurs	Friday	Sat
						1
2	3	4	5	9	7	8
6	10 Bisti Coal 20-2 Bisti Coal 21-1 Bisti Coal 21 COM 2 Bisti Coal 22-2 Bisti Coal 28-1	11 Bisti Coal 20-2 Bisti Coal 21-1 Bisti Coal 21 COM 2 Bisti Coal 22-2 Bisti Coal 28-1	12 Biesti Coal 20-2 Biesti Coal 21-1 Biesti Coal 21-1 Biesti Coal 21 COM 2 Biesti Coal 22-2 Biesti 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 Bisti Coal 20-2 Bisti Coal 21-1 Bisti Coal 21 COM 2 Bisti Coal 22-2 Bisti Coal 28-1	15
16	Bisti Coal 29-1 Bisti Coal 29-1 Bisti Coal 30-2 Bisti Coal 31-1 Bisti Coal 4-1 Bisti Coal 4 COM 2 Bisti Coal 5 COM 1 Bisti Coal 1 COM 2 Bisti Coal 5 COM 2	18 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 5 COM 1	Hg Bisti Coal 29-1 Bisti Coal 30-2 Bisti Coal 31-1 Bisti Coal 4-1 Bisti Coal 4 COM 2 Bisti Coal 5 COM 1 Bisti Coal 5 COM 1 Bisti Coal 5 COM 2	20 Bisti Coel 29-1 Bisti Coel 29-2 Bisti Coel 31-1 Bisti Coel 31-1 Bisti Coel 4-1 Bisti Coel 4 COM 2 Bisti Coel 5 COM 1 Bisti Coel 16-2 Bisti Coel 16-2	21 Bisti Coal 29-1 Bisti Coal 29-2 Bisti Coal 30 COM 1 Bisti Coal 4-1 Bisti Coal 4-1 Bisti Coal 5 COM 2 Bisti Coal 5 COM 1 Bisti Coal 16-2	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 Bist Coal 6-1 Bist Coal 6-2 Bist Coal 7-1 Bist Coal 7-COM 2 Bist Coal 8 COM 1 Bist Coal 9-1 Bist Coal 9 COM 2	26 Bieti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-0 Bisti Coal 8 COM 1 Bisti Coal 9-1 Bisti Coal 9-1 Bisti Coal 9-0	Bieti Coal 6-1 Bisti Coal 6-2 Bisti Coal 7-1 Bisti Coal 7-1 Bisti Coal 7 COM 2 Bisti Coal 8 COM 1 Bisti Coal 9-1 Bisti Coal 9-1	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 9-1 Bisti Coal 9 COM 2	29
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					

Sun	Monday	September 2009 Tuesday	r 2009	Thurs	Friday	Sat
		1 Carson 10-332	2 Carson 10-332	3 Carson 10-332	4 Carson 10-332	2
		Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1	Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1	Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1	Buena Suerte 3 G COM 1 Buena Suerte 3 L COM 1	
		Buena Suerte 4 L COM 1	Buena Suerte 4 L COM 1	Buena Suerte 4 L COM 1	Buena Suerte 32 G COM 1 Buena Suerte 4 L COM 1	
		East Bleti Coal 6-1 Carson Unit 15 COM 323	East Bisti Coal 6-1 Carson Unit 15 COM 323	East Bisti Coal 6-1 Carson Linit 15 COM 323	East Bisti Coal 6-1	
		Carson Unit 206	Carson Unit 206	Carson Unit 206	Carson Unit 206	
2		8	6	10	11	12
Carson Unit 313	313	Carson Unit 313	Carson Unit 313	Carson Unit 313	Carson Unit 313	
Pete Morrow 1	<u>.</u>	Pete Morrow 1	Pete Morrow 1	Pete Morrow 1	Pete Morrow 1	
North Bisti Coa	North Bisti Coal 32M COM	North Bisti Coal 32M COM	North Bisti Coal 32M COM	North Bisti Coal 32M COM	North Bisti Coal 32M COM	
8		2	7	8	8	
Sam Jackso	Sam Jackson State COM 1	Sam Jackson State COM 1	Sam Jackson State COM 1	Sam Jackson State COM 1	Sam Jackson State COM 1	
North Bish Coal 31-1	Coal 31-1	North Elist Coal 31-1	North Bisti Coal 31-1	North Bisti Coal 31-1	North Bisti Coal 31-1	
West Bisti (West Bisti Coal 11 F COM 1	West Bisti Coal 11 F COM	West Bisti Coal 11 F COM	West Bisti Coal 11 F COM	West Bisti Coal 11 F COM	
Jeter COM 2	2	Jeter COM 2	Jeter COM 2	Jeter COM 2	Jeter COM 2	
14		15	16	17	18	19
West Bisti Coal 12-1	oal 12-1	West Bisti Coal 12-1	West Bisti Coal 12-1	West Bistl Coal 12-1	West Bistl Coal 12-1	
West Bisti Coal 13-1	toel 13-1	West Bisti Coal 13-1	West Bisti Coal 13-1	West Bisti Coal 13-1	West Bisti Coal 13-1	
West Bisti Coal 11-2	oal 11-2	West Bisti Coal 11-2	West Bisti Coal 11-2	West Bisti Coal 11-2	West Bisti Coal 11-2	
West Bisti Coal 10-2	West Bisti Coal 10-2	West Bisti Coal 10-2	West Bisti Coal 10-2	West Bisti Coal 10-2	West Elisti Coal 10-2	
West Disti Coal 15-1	oal 15-1	Whet Rieti Coal 15.1	West Biet Coal 15-1	West Bleff Cost 15.1	West Disti Coal 15 1	
West Bisti Coal 15-2	oal 15-2	West Bisti Coal 15-2	West Bisfi Coal 15-2	West Bisti Coal 15-2	West Bisti Coal 15-2	
West Bisti Coal 22-2	oal 22-2	West Bisti Coal 22-2	West Bisti Coal 22-2	West Bisti Coal 22-2	West Bisti Coal 22-2	
21		22	23	24	25	26
West Bisti C	West Bisti Coal 22 COM 1	West Bisti Coal 22 COM 1	West Bistl Coal 22 COM 1	West Bisti Coal 22 COM 1	West Bisti Coal 22 COM 1	
West Bisti Coal 23-1	oal 23-1	West Bisti Coal 23-1	West Bisti Coal 23-1	West Bisti Coal 23-1	West Bisti Coal 23-1	
West Bisti Coal 24-1	oal 24-1	West Bisti Coal 24-1	West Bisti Coai 24-1	West Bisti Coal 24-1	West Bisti Coal 24-1	
West Bisti C	West Bisti Coal 24 COM 2	West Bisti Coal 24 COM 2	West Bisti Coal 24 COM 2	West Bisti Coal 24 COM 2	West Bisti Coal 24 COM 2	
West Eyeti Coall 25-1	08II 25-1	West blass Coal 25 37	West Edita Coal 25-1	West bigg Coal 25-1	West Elisti Coal 25-1	
West Bisu Coal 23 21	OBI 20 21	West Distriction 25 21	Iverilla Acade 141	West Disp Code 23 21	West bisti Coal 25 27	
Shella Hixon 1	ache Fil	Shella Hixon 1	Shella Hixon 1	Shella Hixon 1	Shella Hixon 1	
28		29	30			
	28	29	30			

UNITED STATES POSTAL SERVICE.	<u>Home (Help (</u> <u>Sign In</u>
	Track & Confirm FAQs
Track & Confirm	
Search Results	
Label/Receipt Number: 7007 1490 0000 5398 9428 Service(s): Certified Mail™ Status: Delivered	Track & Confirm Enter Label/Receipt Number.
Your item was delivered at 1:47 PM on September 16, 2009 in WINDOW ROCK, AZ 86515.	(<u>@a></u>)
Detailed Results: • Delivered, September 16, 2009, 1:47 pm, WINDOW ROCK, AZ 86515 • Notice Left, September 15, 2009, 10:26 am, WINDOW ROCK, AZ 865	
Notification Options U.S	S. Postal Service
	ERTIFIED MAIL RECEIPT
The state of the s	mestic Mail Only; No Insurance Coverage Provided
For	delivery information visit our website at www.usps.com,
	OFFICIAL USE
m ap <u>Customer Service Forms Gov't Services Careers</u> Pri 나	Postuge \$44 Kendia
Ight© 2009 USPS. All Rights Reserved. No FEAR Act EEO Data FOIA	Cartifles Fee 2, 85 Postmark
(Endor	recommend Required 2.36
Ender Fresh	icted Collvery Fee 9-14-09
+ Bis4: Con 1 22 COM 1 = TOLAN	1 Poutage & Fisca \$ 5.54
オ Bi去i Coal aa Com 1 ま Tokan 3056 - 0215 目	
3056 - 0215 Brief	ROT NO. P.O. BOX 339
- Interest	Box Ma. P.O. Box 339 Window Rock, AZ 86515
PS For	on 3900. Accord 2006 See Helders for instr
SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.	
■ Print your name and address on the rever	se VVVVVVV
so that we can return the card to you. Attach this card to the back of the malipie	
or on the front if space permits.	O to delivery deletrone different from Bern 12
1. Article Addressed to:	RECETS En delivery address below:
IVIs. Alta Whitehorse-Larser	StP 1 8 2009
The Navajo Nation EPA	30 2000
P.O. Box 339	13. Service Type Pet. Rept.
Window Rock, AZ 86515	Certified Mail Dexpress Mail
	Registered Return Receipt for M

http://trkcnfrm1.smi.usps.com/P7

Article Number
 (Transfer from service label)

7007 1490 0000 5398 9428

4. Restricted Delivery? (Extra Fee)

☐ Yes



September 14, 2009

Project No. 03056-0215

Phone: (928) 871-7692

Ms. Rita Whitehorse-Larsen The Navajo Nation EPA P.O. Box 339 Window Rock, AZ 86515

RE: WEST BISTI COAL 22 COM 1 EARTH PIT CLOSURE NOTIFICATION

Dear Ms. Whitehorse-Larsen,

Please accept this letter as the necessary surface owner notification for earth pit closure activities at the West Bisti Coal 22 COM 1 well site, owned and operated by Elm Ridge Exploration. The West Bisti Coal 22 COM 1 well site is located in Unit B, Section 22, Township 25N, Range 13W, San Juan County, New Mexico. Closure activities are scheduled to begin on September 21, 2009 and continue through September 25, 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

Cc:

Client File No. 03056

ELM RIDGE EXPLORATION WEST BISTI COAL 22 COM 1 SEC. 22, TWN. 25N, RNG. 13W PROJECT NO. 03056-0215



Photo 1: West Bisti Coal 22 COM 1 Well Site



Photo 2: Excavated Area after Backfilling and Recontouring



EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

Elm Ridge Exploration

Project #:

03056-0215

Sample No.:

1

Date Reported:

10/28/2009

Sample ID:

Closure Sample

Date Sampled:

10/14/2009

Sample Matrix:

Soil

Date Analyzed:

10/14/2009

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

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

Total Petroleum Hydrocarbons

40

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 22 COM 1

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Analyst

Toni McKnight

Printed

James McDaniel

Printed



CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Cal	Da	to:
Cal	υa	te:

14-Oct-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
ТРН	100 200 500 1000	201	

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

10ni Molanght
Analyst

10/28/09

Toni McKnight

Print Name

Review

10/28/09

James McDaniel

Print Name



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge	Project #:	03056-0215
Sample ID:	Closure Sample	Date Reported:	10-25-09
Laboratory Number:	52110	Date Sampled:	10-14-09
Chain of Custody:	8203	Date Received:	10-15-09
Sample Matrix:	Soil	Date Analyzed:	10-21-09
Preservative:	Cool	Date Extracted:	10-20-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	4.8	1.0
Ethylbenzene	2.5	1.0
p,m-Xylene	19.4	1.2
o-Xylene	2.6	0.9
Total BTEX	29.3	

ND - Parameter not detected at the stated detection limit.

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

References:

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

December 1996.

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

USEPA, December 1996.

Comments:

West Bisti Coal 22 Com 1.

Analyst

Muster Motters



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client: Sample ID:	N/A 10-21-BT QA/QC	Project #: Date Reported:	N/A 10-25-09
Laboratory Number: Sample Matrix:	52161 Soil	Date Sampled:	N/A
Preservative:	N/A	Date Received: Date Analyzed:	N /A 10-21-09
Condition:	N/A	Analysis:	BTEX

					THE THE STATE OF
Benzene	8.7584E+005	8.7760E+005	0.2%	ND	0.1
Toluene	8.0092E+005	8.0253E+005	0.2%	ND	0.1
Ethylbenzene	7.2781E+005	7.2927E+005	0.2%	ND	0.1
p,m-Xylene	1.7982E+006	1.8018E+006	0.2%	ND	0.1
o-Xylene	6.8304E+005	6.8441E+005	0.2%	ND	0.1

					erodescodemi na
Benzene	6.1	6.0	1.6%	0 - 30%	0.9
Toluene	24.2	23.8	1.7%	0 - 30%	1.0
Ethylbenzene	21.8	21.7	0.5%	0 - 30%	1.0
p,m-Xylene	69.5	68.2	1.9%	0 - 30%	1.2
o-Xylene	26.3	26.0	1.1%	0 - 30%	0.9

					Accept Range
Benzene	6.1	50.0	57.3	102%	39 - 150
Toluene	24.2	50.0	75.2	101%	46 - 148
Ethylbenzene	21.8	50.0	72.8	101%	32 - 160
p,m-Xylene	69.5	100	168	99.1%	46 - 148
o-Xylene	26.3	50.0	78.8	103%	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 52110, 52161- 52164, 52173, and 52180 - 52183.

Analyst

Review



Chloride

Elm Ridge Project #: Client: Closure Sample Date Reported: Sample ID: Lab ID#: 52110 Date Sampled: Date Received: Sample Matrix: Soil Preservative: Cool Date Analyzed: Condition: Intact

10-16-09 Chain of Custody: 8203

03056-0215

10-25-09

10-14-09

10-15-09

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 22Com1.



Chloride

Client: Elm Ridge Project #: 03056-0215 Sample ID: Background Date Reported: 10-25-09 Lab ID#: 52111 Date Sampled: 10-14-09 Sample Matrix: Soil Date Received: 10-15-09 Preservative: Cool Date Analyzed: 10-16-09 Condition: Intact Chain of Custody: 8203

Parameter Concentration (mg/Kg)

Total Chloride

5

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 22Com1.

Analyst

Noth Mall

CHAIN OF CUSTODY RECORD

			5		5)		5		ĺ			•			En. 6-)) J		
Olient:		ď	Project Name / Location:	Location:								ANA	ANAIVSIS / PARAMETERS	PARA	METE	S			
Elmidae		-	West Bisti Coch	つ ま		22 CON 2	イナ					֭֭֭֡֝֟֝֟֝֟֝֟֝֟֝	2	2	 - 	2			
Client Address: 0		σV.	Sampler Name:	5															
Client Phone No.:		0	Client No.: 620526 - 6	NI .	215			yethod 8	(Method	B Metal	noinA \		q/H djiw		(1.814	HIDE		looO a	e Intact
Sample No./ Identification	Sample Date	Sample Time	Lab No.		Sample Matrix	No./Volume Preservative of HgQ ₁ HG	Preservative			-		PCI	ТСГР	HA9		СНГОІ		Sampl	
Closure Samole Holyle, 1959	MULA	1959	52110	(B)	Sludge Aqueous	1-428	-		 	 	-				 	>		7	1
Background 10140 1500	101/40	2051	52111	Soil	Sludge Aqueous	1-480	ጲ									>		7	7
٦	, ,			Soil	Sludge Aqueous														
				Soil	Sludge														
		es V		Soil	Sludge										-			-	
				Solid	Aqueous				-	+	\perp				-			_	
				Solid	Aqueous													_	
				Soil	Sludge														
				Solid	Aqueous						-				1				
				Soil	Sludge Aqueous														
				Soil	Sludge Aqueous														
				Soil	Sludge Aqueous														
Relinguished by: (Signafure)	(eun				Date	Time	Received by: (Signature)	d by: (S	ignatu	<u>9</u>		\	(Date		Time
大路下		4	1		स्राधि	44.8				χ		12			λ	,	15/10/	, 60	6/180
Relinquished by: (Signature)	ature)		8 0.		_	l l	Received by: (Signature)	g py: (S	ignatu	Ž					h				
Relinquished by: (Signature)	ıture)						Received by: (Signature)	d by: (S	ignatu	re)									
																		-	
					m_1	envirotech Analytical Laboratory	irc		(1) or										
			9675	S Highway	/ 64 • Farmin	5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com	.01 • 505-63	2-0615	• lab@	envirot	ech-inc	шоэ				ACC	ACCENT Printing • Form 28-0807	ng • Form	28-080

•							The second secon	
PAGE NO: OF OF DATE STARTED: 9/21/09				•	OTECI (800) 362-12 arraington, FIRI 6		ENVIRON LAT: LONG:	mental specialist: Som S
FI	ELD R	EPORT:	BGT / P	IT CLOS	SURE VE	RIFICAT	TION	
LOCATION: NAME: West	13,30	-i (cal	WELL#:		TEMP PIT:		ENT PIT:	BGT:
LEGAL ADD: UNIT: QTR/FOOTAGE: 1250 F/V		SEC: 27 C' FÉL	CNTY: S	TWP: 2	SV.	RNG: /	3W	PM: NM(r)
EXCAVATION APPROX:	2C	FT. X	1925	FT. X	13	FT. DEEP	CUBIC YA	ARDAGE:
DISPOSAL FACILITY: LAND OWNER:			A DI	REMEDIA'	TION METHO		TOT YES	
CONSTRUCTION MATERIAL:	TO THE REAL PROPERTY.		API:	WALLED	VITH LEAK I	BGT / PIT V		
LOCATION APPROXIMATELY			FT.		FROM WELL			
DEPTH TO GROUNDWATER:	•		Г1.		FROM WELL	ILAD		
TEMPORARY PIT - GROU BENZENE ≤ 0.2 mg/kg, BTEX				N (8015) ≤ 50	0 mg/kg, TPH (418.1) ≤ 2500	mg/kg, CHL	ORIDES ≤ 500 mg/kg
TEMPORARY PIT - GROU BENZENE ≤ 0.2 mg/kg, BTEX	NDWATI	ER ≥100 FEE	T DEEP	` ,		-	0	
PERMANENT PIT OR BGT BENZENE ≤ 0.2 mg/kg, BTEX		g, TPH (418.1)) ≤ 100 mg/kg	, CHLORIDI	ES ≤ 250 mg/kg			
	TD CE	CAMPIEID	TARNO		D 418.1 ANAL		BEADDIG	CALC (mades)
<u> </u>	TIME	SAMPLE I.D. 200 STD	LAB NO.	WEIGHT (g	mL FREON	DILUTION -	BCC.	CALC. (mg/kg)
		Bottom	1	5. <i>c</i>	20	Ý	14	56
CI	ESUR	有题分别	3	S. c	20	7	12	48
			4					
			5					
L PERIMETE	l		EIELD C		C DECLII TO		DD.	DFILE
FERINETE				HLUKIDE:	S RESULTS		- PRO	Jrile
EP X		1 N DPI		READING PID RESULT PLE ID	CALC. (mg/kg) 926 227 624 72 346 145 TS (h/e r RESULTS (ppm)		12	- X2
			S Call N hall N wall	(2)	237 542 230			Jia
LAB SAMPLES SAMPLE ID ANALYSIS R BENZENE BTEX GRO & DRO CHLORIDES	ESULTS	NOTES:	in 4		WHO ORDER	en.		



Method 418.1 Analysis Log Total Petroleum Hydrocarbons

Date	10/14/04	Analyst	JAFraca/							
	West Bisti Coal à	12 (01	n /	Instrument	Inf	racs/				
Job No.	03036-0715		-							
Sample No.	Sample Description	Weight (g)	mL. Freon	Dilution	Reading	Calc. TPH (ppm)	OVM (ppm)			
)	Clasur Sample	5.0	20	4	10	40	0-C			
							,			
					<u> </u>					
Infrared Spectrophotometer Calibration New Freon										
Date Standards Prepared										
Standard Concentration (ppm)										
100 500										
	200	201	-	1000		-				
	I-Cal RF:		-	C-Cal RF:						
	RSD: QA/QC Acceptance Criteria: I-Cal R.	SD +/- 20%	-	% Difference:	-Cal Differen	ce +/- 10%				

Bill of Lading

34278

MANIFEST #_

7-22-090# (225) **TRANSPORTING COMPANY** DATE PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401 COMPLETE DESCRIPTION OF SHIPMENT

TRK# | TIME | DRIVER SIGNATURE ENTERED SEP 2 4 2009 15510 457 178 952 <u>|</u> 128 1158 74 1156 78/ 7-6 ひろ Ç COMPANY 7 1 4-4 h - h J refere ケーケ ケート 7 NOTES ŧ L BBLS Z 22 YDS **0** びグ N $\widetilde{\mathcal{N}}$ P 2 100 8.36 E-74 24 253 S 20 824 876 35 W 824 GRID MATERIAL (30) t ر ح 1 DESTINATION LANDFARM EMPLOYEE: THY 7 ۲ 324 POINT OF ORIGIN BIST (100 CHLORIDE TEST PAINT FILTER TEST __ 73aa RESULT LOAD NO. .ey ζ.

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

ų l
in
3
3
1
1
Ĩ,
NAN
G.ma

COMPANY CONTACT NO MEN

COMPANY Elm Rivage PHONE |

SIGNATURE

DATE 9-22-09

Bill of Lading

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

PHONE:

MANIFEST #_

なないなら うらい 3 #80・27・6 DATE.

DRIVER SIGNATURE TRANSPORTING COMPANY 1954 ログプ TRK# TIME 经一次 156 15% 155 EST ENTERED SEP 178/ 74 46 COMPANY ン・ロン 4-4 J' カ・カ 4-4 ケトル 5-6 NOTES: J BBLS l ١ l T YDS BC 200 3 な \mathcal{O} 3 B N GRID COMPLETE DESCRIPTION OF SHIPMENT J 1 Jean Filsoic MATERIAL 11 7 7 DESTINATION LANDFARM EMPLOYEE: ELMridse Bisticout COM 22# = ~ ي \geq POINT OF ORIGIN ENVIROTECH CHLORIDE TEST PAINT FILTER ~ RESULTS LOAD NO.

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

NAME I MCK.

COMPANY CONTACT DAKE

PHONE_

COMPANY

SIGNATURÉ

-22.09 DATE. ACCENT Printing • Form 28-1212

Bill of Lading

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

PHONE

MANIFEST #

5-23-05 #BOR CONS いないのよう DATE

DRIVER SIGNATURE TRANSPORTING COMPANY ENTERED SEP 2 4 2009 178 8:41 949/ 350 TRK# TIME 7 COMPANY ム・カ ゴー h · d 4-4 NOTES BBLS 7C 20 YDS 80 2 00 E-26 £26 £ 26 1.36 826 826 GRID COMPLETE DESCRIPTION OF SHIPMENT z T 7 MATERIAL Cor 201 Ž Z DESTINATION LANDFARM EMPLOYEE: 7 ? Z Ž 7 ż 7: ζ く @ 8.5+10001 22#1 14 7.56 Ceal 23#1 POINT OF ORIGIN CHLORIDE TEST PAINT FILTER <u>ر.</u> 3 20 20 RESULTS LOAD Š

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added." SIGNATURE COMPANY EINPRICES NAME J. MYK. 11.72

COMPANY CONTACT NO 12-16

PHONE 322-27/

8-38-08 DATE

Bill of Lading

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

PHONE:

MANIFEST #

34295 9-23-0 SOB# (12V) DATE_

DRIVER SIGNATURE TRANSPORTING COMPANY ENTERED SEP 2 4 2009 4:40 3:30 128/1046 74 1147 TRK# TIME X 74 930 格 24 ング 7 3 COMPANY h - h 7-7 トシカ 4-4 NOTES: カ・カ BBLS) YDS کے 20 **O** 4 20 7 2 # GRID COMPLETE DESCRIPTION OF SHIPMENT J Z \$ ۲ MATERIAL ら Ž, ~ 2 $\overline{}$ W. B. Stolewill Ü 3 DESTINATION LANDFARM EMPLOYEE: ¥ ష in to oce ۶. Ź, ? 7 ے ر <u>~</u> POINT OF ORIGIN CHLORIDE TEST PAINT FILTER جانب مي رخصون 3 ~ 1 **)** - 17E-RESULTS LOAD Š.

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

NAME_INKING

COMPANY CONTACT 1999CK

PHONE 322-2711

COMPANY EIM RICHOR

SIGNATURE

DATE 9-23-09

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

Bill of Lading

MANIFEST #_

DATE 9-24-05 JOB# 0305

LOAD		COMPLETE DESCRIPTION OF SHIPMENT	IPTION OF SHII	PMENT			TRA	TRANSPORTING COMPANY	TING CC	MPANY
Š.	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLS	COMPANY	TRK#	TIME	DRIVER SIGNATURE
7	ELMRIGE 1721	#-17	Cont Sel	E-25	29	V	h-H	74	4:45	Robert Brown
C		Ŷ W 1	4	72-3	20	1	4-4	74	93	SHR
3	3	IE-17.	2 "	E-25	20)	4-4	24	1145	Elf Par
1	4 70	W LF- TT	и и	1523	20	\	12-4	24	2/5	4/1.Best
ý(W w	#37	n	£-25	20	\	4-4	74	225	alt 13h
	- AND				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					
					00/					
	dia Novembra Chair									
	and Salahanan area									
			-							
RESULTS:						_	NOTES:	ن د ا	€7.	3400
	CHLORIDE TEST	EMPI OYFE	>		A	(MN INTERPRETATION OF THE PERSON OF THE PERSO			
	PAINT FILTER TEST		1	J		B				
ீl certify நீற்	"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and	he above location ha	ıs not been added	to or mixed	with, and is	the sam	e material received	from the	above	nentioned Generator, and
וופון נוס	Ĕ١	een added.		0	Ć.		i	ļ !	M.	41/2k
NAME.	NAME Novert LYCHAC		COMPANY TONE	1777			SIGN	SIGNATURE_	100	1111

ACCENT Printing • Form 28-1212

DATE Y/21/69

PHONE

COMPANY CONTACT Mach

Bill of Lading

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

MANIFEST #

DATE 9-24-04 JOB# 620

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 DRIVER SIGNATURE **TRANSPORTING COMPANY** 2003 CA) 18.30 TRK# TIME 225 24 11:46 24 930 ENTERED SEP 74 7 COMPANY 174/7 ナィム ゲーグ NOTES BBLS L YDS 20 200 79 GRID COMPLETE DESCRIPTION OF SHIPMENT 1 Checin 2 MATERIAL Ĵ ţ, ٦. ELM RIUSE DESTINATION T Z W. Bisticala LANDFARM EMPLOYEE: 1-125 کہ 2 کے Exalata L 7 7 POINT OF ORIGIN CHLORIDE TEST PAINT FILTER TEST <" " 1 ું SULTS OAD NO.

at no additional materials have been added."

COMPANY Bay

Bowler 1

AME 1666

DMPANY CONTACT Mad

PHONE.

SIGNATURE,

ACCENT Printing • Form 28-1212

Bill of Lading

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

PIONE:

るなる

MANIFEST #

DATE 9-75-09

JOB# (1)

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added." DRIVER SIGNATURE FRANSPORTING COMPANY 2008 ඌ 1730 18,23 = 53 1200 TRK# TIME 13 730 25 S S 75 X 2 1 ENTENED COMPANY 15-6 カーカ 4-0 12-15 **か**-か NOTES BBLS 3 (YDS Z 5 S 1 2 8 Ş GRID COMPLETE DESCRIPTION OF SHIPMENT 1 1 \$ Z MATERIAL = ことの対 7 3 1515 TY COAL 23 1 DESTINATION LANDFARM EMPLOYEE: な 2, 1800 2 ۲ アシンドウイカハト 3 کح POINT OF ORIGIN CHLORIDE TEST PAINT FILTER ي RESULTS LOAD Š

ACCENT Printing • Form 28-1212

60=586

3272711

PING PHONE

EZFIN

COMPANY CONTACT MINK

15 KG.

NAME

COMPANY (- DUR

SIGNATURE J 6

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztek, NM 87410

District IV 1220 S. St. Francis Dr. Santa Fe, NM

State of New Mexico **Energy Minerals and Natural Resources**

Form C-141 Revised October 10, 2003

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

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

			Reie	ease Notific	ation	and Co	orrective A	ction				
						OPERA	ГOR		☐ Initia	al Report		Final Repor
Name of Co	mpany: E	lm Ridge Ex	ploration			Contact: An						
		, Bloomfield					No.: (505) 632-3	3476 Ex	t 201			
Facility Nar	ne: West I	Bisti Coal 22	COM 1			Facility Typ	e: Gas Well					
Surface Ow	ner: Triba	1		Mineral O	wner:				Lease N	No.: NM-61	273	
¥			-			OF RE						
Unit Letter B	Section 22	Township 25N	Range 13W	Feet from the 1250		South Line	Feet from the 1850	1	Vest Line	County		
ь	22	2514	13 W	1230		FNL	1830	,	FEL	San Juan		
				Latitude 36.39	90519	Longitu	ıde <u>-108.20380</u>) <u>4</u>				
				NAT	URE	OF REL	EASE					
Type of Rele							Release: Unknov			Recovered:		
Source of Re	lease: Earth	ı Pit				1	Iour of Occurrence	e:	Date and	Hour of Dis	covery:	NA
Was Immedia	ate Notice (Given?				Historical If YES, To	Whom?					
was illinical	ate Notice C		Yes [No 🛛 Not Re	quired	11 123, 10	whom:					
By Whom?					1	Date and I	lour					
Was a Water	course Read	ched?					olume Impacting t	he Wate	ercourse.			
			Yes 🗵	No								
If a Watercou	irse was Im	pacted, Descr	ibe Fully.'	*							-	
Describe Are Earthen pit w results are att 418.1 and in sample return chloride stand Leaks, Spills closure stand for the Remed	a Affected as in use or ached to the Envirotech' and Release and Release ards to 1000 diation of L	and Cleanup And 11/3/08, but is document for slaboratory for hat were belowing that a rees. The site wood ppm TPH, 1 teaks, Spills and	Action Tak has not be or reference or benzence w the 0.2 p lease had was ranked 0 ppm ber and Release	ten discharged into the ten discharged into the ten and total BTEX topping benzene stand occurred at this sit a 10 due to ground the ten and 50 ppinges. All analytical researches	o since No s	November 20 zed for in the EPA Method 50 ppm BTI site was then being greater FEX. There is vere below the	08. A sample wa field for Total Pe 8021 and for total EX standard and t ranked pursuant than 50 feet but l s no closure standard	s collect etroleum I chlorid he 100 p to the N ess than lard for ds deterr	ted from the Hydrocarles via USE opm TPH, MOCD Gu 100 feet betotal chloringed for the tente of t	e earthen pit bons (TPH) CPA Method but above th idelines for elow the gro ides per the lines site.	and the via USI 4500B. e 250 p the Rer bund. T	e sample EPA Method . The pm total nediation of this set the D Guidelines
regulations al public health should their o	I operators or the envir perations h nment. In a	are required to ronment. The ave failed to addition, NMQ	o report ar acceptance dequately CD accep	e is true and completed of file certain rece of a C-141 report investigate and restance of a C-141 report and restance of a	elease no rt by the emediate	otifications a NMOCD m contaminati	nd perform correct arked as "Final R on that pose a thr	ctive acti eport" d eat to gr	ons for rel oes not rel ound wate	eases which ieve the oper r, surface wa	may en rator of iter, hui	danger liability man health
	1						OIL CON:	SERV	ATION	DIVISIO)N	
Signature:	X		, Vo								_	
Printed Name	: Ms. Amy	Mackey	re	8	- 4	Approved by	District Supervise	or:				
Title: Admini	strative Ma	nager				Approval Da	te:	I	Expiration	Date:		
E-mail Addre	ss: amacke	yl@elmridge	.net			Conditions of	Approval:			Attached		
Date:			Phone: 50	05-632-3476 Ext 2	201						_	
Attach Addit	ional Shee	ets If Necess										

FAGE NO: / OF	/		000MENT 5796 U.S	al scient s. highw <i>a</i>	CH INC 1STS & ENGI 1Y 64 - 3014		BER	MENTAL SPECIALIST:
DATE STARTED: ///3/08				•	MEXICO 8740) I		390519
DATE FINISHED: ///3	108	1	PHO	NE: (505) 6	32-0615		LONG: -/	08.2038.04
	FIELD F	REPORT:	BGT/P	PIT CLO	SURE VE	RIFICA	TION	
LOCATION: NAME: W	EST BISTI C	04L 22 COM	WELL #:	001	TEMP PIT:	PERMAN	VENT PIT: 🕨	BGT:
LEGAL ADD: UNIT: 8		SEC: 23)	TWP: 25	5 N	RNG : /3	ω	PM:
QTR/FOOTAGE: 1250 FNL	× 1850 F	EL	CNTY:	SAN JUAN	J	ST: NM		
EXCAVATION APPROX:		FT. X		FT. X	<u> </u>	FT. DEEP	CUBIC YA	RDAGE:
DISPOSAL FACILITY:	-				TION METH			
LAND OWNER:			API: 300	452891		BGT / PIT	VOLUME:	
CONSTRUCTION MATERIA	AL: EAR	rH			WITH LEAK I	DETECTION	i: -	
LOCATION APPROXIMATI	ELY:	16'	FT. 28	30°	FROM WELI	HEAD		
DEPTH TO GROUNDWATE	R:	L 100			The second secon			
TEMPORARY PIT - GE	ROUNDWAT	ER 50-100 FE	ET DEEP	<u> </u>				
BENZENE \leq 0.2 mg/kg, B	TEX ≤ 50 mg/l	kg, GRO & DR	O FRACTIO	$N(8015) \le 50$	00 mg/kg, TPH ((418.1) ≤ 2500	mg/kg, CHL	ORIDES ≤ 500 mg/kg
TEMPORARY PIT - GR BENZENE ≤ 0.2 mg/kg, B'				N (8015) ≤ 50	0 mg/kg, TPH (4	418.1)≤2500	mg/kg, CHLC	PRIDES ≤ 1000 mg/kg
PERMANENT PIT OR BENZENE ≤ 0.2 mg/kg, B		kg, TPH (418.1)) ≤ 100 mg/kg	g, CHLORID	ES ≤ 250 mg/kg			
	A STATE OF THE PARTY OF THE PAR				D 418.1 ANAL			
	TIME	The second secon	LAB NO.	WEIGHT (g	mL FREON	DILUTION		CALC. (mg/kg)
	12 30 AM	200 STD	1	5	- <i>3</i> 0	-	<i>199</i>	<i>- 28</i>
	/L SU		2		20		· · · · ·	90
			3					
			4					
			<u>5</u>					
PERIMI	ETER		FIELD C	HLORIDE	S RESULTS		PRO	FILE
)		SAMPLE ID	READING	CALC. (mg/kg)	45' x 29	'x 3' 0EP	T14
堂工	/ _							
ua'	@ 280' -4	ना		PID RESU	LTS		\	,- <
THE PARTY OF THE P			SAM	PLE ID Come	RESULTS (mg/kg)		×	×,
LAB SAMPLE SAMPLE ID ANALYSIS BENZENE BTEX GRO & DRO CHLORIDE	RESULTS	NOTES:	FR #		WHO ORDE	RED		,***



CONTINUOUS CALIBRATION EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Cal. Date:

3-Nov-08

Parameter	Standard Concentration mg/L	Concentration Reading mg/L	
ТРН	100 200 500 1000	199	

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

Analyst

2/24/69 Date

Roynell Benally

Print Name

Review

2/24/09

James McDaniel

Print Name



EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

Elm Ridge Exploration

03056-0215

Sample No.:

Project #: Date Reported:

Sample ID:

5 Point Composite

2/24/2009

Sample Matrix:

Soil

11/3/2008 Date Sampled:

Preservative:

Cool

Date Analyzed: Analysis Needed:

11/3/2008 TPH-418.1

Condition:

Cool and Intact

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

Total Petroleum Hydrocarbons

64

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 22 COM 1 Earthen Pit

Instrument calibrated to 200 ppm standard. Zeroed before each sample

Printed

Roynell Benally

Printed

James McDaniel



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elmridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 22 Com	Date Reported:	11-10-08
Laboratory Number:	48020	Date Sampled:	11-03-08
Chain of Custody:	5698	Date Received:	11-03-08
Sample Matrix:	Soil	Date Analyzed:	11-07-08
Preservative:	Cool	Date Extracted:	11-06-08
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Benzene	2.6	0.9	
Toluene	16.5	1.0	
Ethylbenzene	6.0	1.0	
p,m-Xylene	227	1.2	
o-Xylene	28.0	0.9	
Total BTEX	280		

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 Pit Samples/ 5pt Comp.

Analyst

Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	11-07-BT QA/QC	Date Reported:	11-10-08
Laboratory Number:	48015	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-07-08
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.
Benzene	4.6942E+007	4.7036E+007	0.2%	ND	0.1
Toluene	3.4897E+007	3.4967E+007	0.2%	ND	0.1
Ethylbenzene	2.6625E+007	2.6678E+007	0.2%	ND	0.1
p,m-Xylene	5.7845E+007	5.7961E+007	0.2%	ND	0.1
o-Xylene	2.6213E+007	2.6265E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample . Du	plicate	%Diff,	Accept Range	Detect, Limit
Benzene	1.2	1.3	8.3%	0 - 30%	0.9
Toluene	4.7	4.4	6.4%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	5.3	6.1	15.1%	0 - 30%	1.2
o-Xylene	6.3	6.1	3.2%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample Amo	unt Spiked Spik	red Sample	% Recovery	Accept Range
Benzene	1.2	50.0	50.2	98.0%	39 - 150
Toluene	4.7	50.0	52.4	95.8%	46 - 148
Ethylbenzene	ND	50.0	48.0	96.0%	32 - 160
p,m-Xylene	5.3	100	102	97.1%	46 - 148
o-Xylene	6.3	50.0	53.3	94.7%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

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

December 1996

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 48015 - 48018, 48020, 48021, 48023, 48024, 48041 and 48042.

Analyst

Review



Chloride

Client: Elm Ridge Project #: 03056-0136 West Bisti Coal 22 Com 001 Date Reported: 11-11-08 Sample ID: Lab ID#: 48020 Date Sampled: 11-03-08 Date Received: 11-03-08 Sample Matrix: Soil Date Analyzed: 11-11-08 Preservative: Cool Chain of Custody: 5698 Condition: Intact

Parameter

Concentration (mg/Kg)

Total Chloride

455

Reference:

U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.

Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

Earth Pit Samples / 5 pt Comp.

Analyst

Mistle of Le Review

CHAIN OF CUSTODY RECORD

)											
Client:		<u> </u>	Project Name / Location:	ocation:	***						1	NALYS	ANALYSIS / PARAMETERS	RAME	TERS			
SAME NOTE		+-1	TARTH DIT	SAMPLES.		Sor Camp	د ک				•) i			
. Client Address:		S	∣ ਲ		+-			(5	-	10		-		-				
		•	technim	}	C			108										
Client Phone No.:		O	Client No.:	+	0305	03056-0136	35	por	thod:	Netal	noin			(r.			<u> </u>	ool
			0350	\$	P		ſ	tteN			Α/		uıım	814	ala			O e
Sample No./	Sample	Sample	40	Ss	Sample	No./Volume Preservative	Preservativ	_			uoi							
Identification	Date	Time	Lab No.	Σ	Matrix	of Containers	HgC, HCI	ر IPT			Cat	OH.	ວ ເ IA9					
Sign Bist	~				Sludge	(۱)		L	┢						>			Ž
100 - 21 - 00 - 12 - 00 -	10/3/00	10 30 ft	2/084	Solid	Aqueous	7.07	_	×	<						<			,
Several Property of the Proper	P La	10.36 ATM	48017	Solid Solid	Sludge			<u>×</u>	X				···	×	×			7
المري الموجد المريد		,		(%)	Sludge			:	,				-		:			1
١٤ ء		4:30 pm	81036	Solid	Aqueous			<u>×</u>	<u> </u>						×			ر ح
ingthe Black Contract		\$ (5). Q	000	Ø	Sludge			>										7
		20	6086	Solid	Aqueous			<	-			_	_	_				
1 100 200 100 100 100 100 100 100 100 10		12:36.00	COST Mode: 6	3	Sludge				×						×			7
CAN CAST NOT			- 1		spoophy			-		-		-	+	-			-	+
		1:50 pm	1.50 mm 48021		Sludge				\prec						~			7
A. 866		10:59 A	CCCXD MM 65:01		Sludge			×				<u> </u>	-	 				1/2
ご節と でんこうき		7			Sludge				×			-			×			/
		200	7000	Dillo	snoanhy		+		<u> </u>			1	-	_			-	1
				Solid	Sludge Aqueous													
				Soil	Sludge Aqueous													
Relinquished by: (Signature)	ature)				Date	Time	Receiv	Received by:	(Signature)	(e)						٠۵	Date	Time
12 - C					10/3/0x	5,30pm	3	1		N	1	(11/3/	20/	17:30
Relinquished by: (Sighature)	ature)				,			B	Received by (Signature)	(e)		6						
	,																	
Relinquished by: (Signature)	ature)						Receiv	ød by:	Received by: (Signature)	(e)								
						AIDCTECH INC]										
						5	ノ		ا	_ IF								

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505-632-0615