

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

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

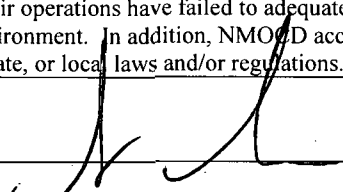
Name of Company: Elm Ridge Exploration	Contact: Amy Mackey	
Address: PO Box 156, Bloomfield, NM 87413	Telephone No.: (505) 632-3476 Ext 201	
Facility Name: Buena Suerte 32 G COM 1	Facility Type: Gas Well	
Surface Owner: State	Mineral Owner:	Lease No.:

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	32	26N	11W	1830	FNL	2130	FEL	San Juan

Latitude 36.446769 Longitude -108.025742

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: Unknown	Volume Recovered: Unknown	
Source of Release: Earth Pit	Date and Hour of Occurrence: Historical	Date and Hour of Discovery: NA	
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?		
By Whom?	Date and Hour		
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.		
If a Watercourse was Impacted, Describe Fully.*			
Describe Cause of Problem and Remedial Action Taken.* Produced Water from a gas well at the mentioned location formerly discharged into an earthen pit on location. The well has been altered to no longer drain into an earthen pit, but instead into an Above Ground Storage Tank (AST).			
Describe Area Affected and Cleanup Action Taken.* On September 30, 2009, samples were collected beneath an AST that was placed on top of the former location of an earthen pit; see attached Analytical Results . Using a hand auger, a sample was collected approximately four (4) feet below ground surface (BGS) beneath the AST. The sample was analyzed in the field for 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 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard and the 50 mg/kg total BTEX standard. The sample returned chloride results of 335 mg/kg, confirming that a release has occurred at the above mentioned site; see attached Analytical Results . Excavation of the earthen pit could not be performed due to on-site well equipment. Elm Ridge Exploration will comply with Rule 29 from this point forward with the district office of the OCD.			
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.			
Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Ms. Amy Mackey		Approved by District Supervisor:	
Title: Administrative Manager		Approval Date:	Expiration Date:
E-mail Address: amackey1@elmridge.net		Conditions of Approval:	
Date: <u>6-15-10</u> Phone: 505-632-3476 Ext 201		Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary



March 4, 2010

Project No. 03056-0191

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

Phone (505) 476-3487

**RE: C-141 RELEASE NOTIFICATION FORM FOR THE BUENA SUERTE 32 G COM 1
WELL SITE**

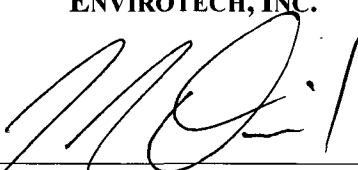
Dear Mr. Jones,

Please find enclosed a C-141 Release Notification Form and additional supporting closure documentation for the Buena Suerte 32 G COM 1 well site owned and operated by Elm Ridge Exploration.

The previous additional 'Closure Plan' submitted by Envirotech, Inc. for Elm Ridge Exploration was a remediation plan, and was not intended to be an alternative closure plan. All closure activities from this point forward will comply with Rule 29 with the district office of the OCD.

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

Respectfully Submitted,
ENVIROTECH, INC.



James McDaniel
Project Scientist
jmcdaniel@envirotech-inc.com

Enclosure: C-141 Release Notification Form
Proof of Notification

Cc: Client File No. 03056

RECEIVED OCD
2010 JUN 18 A 11:15



**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client:	Elm Ridge Exploration	Project #:	03056-0189
Sample No.:	1	Date Reported:	10/27/2009
Sample ID:	3' Below Ground Surface	Date Sampled:	9/30/2009
Sample Matrix:	Soil	Date Analyzed:	9/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	24	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.

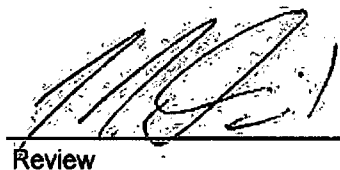
Comments: **Buena Suerte 32 G COM 1**

Instrument calibrated to 200 ppm standard. Zeroed before each sample



Analyst

Toni McKnight
Printed



Review

James McDaniel
Printed



**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client:	Elm Ridge Exploration	Project #:	03056-0189
Sample No.:	2	Date Reported:	10/27/2009
Sample ID:	4' Below Ground Surface	Date Sampled:	9/30/2009
Sample Matrix:	Soil	Date Analyzed:	9/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

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

Total Petroleum Hydrocarbons	16	5.0
-------------------------------------	-----------	------------

ND = Parameter not detected at the stated detection limit.

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

Comments: **Buena Suerte 32 G COM 1**

Instrument calibrated to 200 ppm standard. Zeroed before each sample



Analyst

Toni McKnight

Printed



Review

James McDaniel

Printed



CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 30-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	207
	500	
	1000	

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

Toni McKnight
Analyst

10/27/09
Date

Toni McKnight
Print Name

James McDaniel
Review

10/27/09
Date

James McDaniel
Print Name



envirotech

Analytical Laboratory

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ElmRidge	Project #:	03056-0191
Sample ID:	4' BGS (1' BGS of Pit)	Date Reported:	10-06-09
Laboratory Number:	51916	Date Sampled:	09-30-09
Chain of Custody:	8094	Date Received:	09-30-09
Sample Matrix:	Soil	Date Analyzed:	10-05-09
Preservative:	Cool	Date Extracted:	10-02-09
Condition:	Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: Earth Pit Closures/ Buena Suerte 32G Com 1

Analyst

Review



envirotech

Analytical Laboratory

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	10-05-BT QA/QC	Date Reported:	10-06-09
Laboratory Number:	51915	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-05-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	Lab. RE	C-Cal. RE	%Diff	Blank Conc	Detect Limit
			Accept. Range 0 - 15%		
Benzene	9.9244E+005	9.9443E+005	0.2%	ND	0.1
Toluene	9.1152E+005	9.1335E+005	0.2%	ND	0.1
Ethylbenzene	8.1841E+005	8.1805E+005	0.2%	ND	0.1
p,m-Xylene	2.0292E+006	2.0332E+006	0.2%	ND	0.1
o-Xylene	7.7188E+005	7.7342E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept. Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept. Range
Benzene	ND	50.0	49.6	99.2%	39 - 150
Toluene	ND	50.0	49.7	99.4%	46 - 148
Ethylbenzene	ND	50.0	46.6	93.2%	32 - 160
p,m-Xylene	ND	100	97.3	97.3%	46 - 148
o-Xylene	ND	50.0	48.0	96.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 51915, 51916, 51919, 51921 - 51926, and 51937.

Analyst

Review



envirotech
Analytical Laboratory

Chloride

Client:	Elm Ridge	Project #:	03056-0191
Sample ID:	4' BGS (1' BGS of Pit)	Date Reported:	10-07-09
Lab ID#:	51916	Date Sampled:	09-30-09
Sample Matrix:	Soil	Date Received:	09-30-09
Preservative:	Cool	Date Analyzed:	10-01-09
Condition:	Intact	Chain of Custody:	8094

Parameter

Concentration (mg/Kg)

Total Chloride

335

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 Closures / Buena Suerte 32G Com 1.**

Analyst

Review

8094

5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com



envirotech

Analytical Laboratory

Chloride

Client:	Elm Ridge	Project #:	03056-0191
Sample ID:	Background	Date Reported:	10-19-09
Lab ID#:	52109	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:	8201

Parameter	Concentration (mg/Kg)
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Total Chloride

10

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: Buena Suerte 32G Com1.


Analyst


Review

8201

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August 24, 2009

Project No. 03056-0191

Mr. Thaddeus Kostrubala
New Mexico State Land Office
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504

Phone: (505) 827-5760

RE: BUENA SUERTE 32 G COM 1 EARTH PIT CLOSURE NOTIFICATION

Dear Mr. Kostrubala,

Please accept this letter as the necessary surface owner notification for earth pit closure activities at the Buena Suerte 32 G COM 1 well site, owned and operated by Elm Ridge Exploration. The Buena Suerte 32 G COM 1 well site is located in Unit G, Section 32, Township 26N, Range 11W, San Juan County, New Mexico. Closure activities are scheduled to begin on August 24, 2009 and continue through September 4, 2009.

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

Respectfully Submitted,
ENVIROTECH, INC.


James McDaniel
Project Scientist

jmcdaniel@envirotech-inc.com

Cc: Client File No. 03056

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

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Elm Ridge Exploration	Contact: Amy Mackey
Address: PO Box 156, Bloomfield, NM 87413	Telephone No.: (505) 632-3476 Ext 201
Facility Name: Buena Suerte 32 G COM 1	Facility Type: Gas Well

Surface Owner: State	Mineral Owner:	Lease No.:
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LOCATION OF RELEASE

Unit Letter G	Section 32	Township 26N	Range 11W	Feet from the 1830	North/South Line FNL	Feet from the 2130	East/West Line FEL	County Sant Juan
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Latitude 36.446769 Longitude -108.025742

NATURE OF RELEASE

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

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

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

Describe Area Affected and Cleanup Action Taken.*

On September 30, 2009, samples were collected beneath an AST that was placed on top of the former location of an earthen pit; see attached **Analytical Results**. Using a hand auger, a sample was collected approximately four (4) feet below ground surface (BGS) beneath the AST. The sample was analyzed in the field for 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 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard and the 50 mg/kg total BTEX standard. The sample returned chloride results of 325 mg/kg above background, confirming that a release has occurred at the above mentioned site; see attached **Analytical Results**. Excavation of the earthen pit could not be performed due to on-site well equipment. Please reference the attached Buena Suerte 32 G COM 1 Closure Plan for Elm Ridge Exploration's proposed course of action concerning this release.

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

Signature:	OIL CONSERVATION DIVISION		
Printed Name: Ms. Amy Mackey	Approved by District Supervisor:		
Title: Administrative Manager	Approval Date:	Expiration Date:	
E-mail Address: amackey1@elmridge.net	Conditions of Approval:		Attached <input type="checkbox"/>
Date: <u>11/20/09</u>	Phone: 505-632-3476 Ext 201		

* Attach Additional Sheets If Necessary

RELEASE CLOSURE PLAN

SITE NAME:

**BUENA SUERTE 32 G COM 1
UNIT LETTER G, SECTION 32, TOWNSHIP 26N, RANGE 11W
SAN JUAN COUNTY, NEW MEXICO
LATITUDE 36.446769 LONGITUDE -108.025742**

SUBMITTED TO:

**MR. BRAD JONES
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**

SEPTEMBER 2009

INTRODUCTION

The purpose of this release closure plan is to provide the details of activities involved in the closure of the confirmed release from the former earthen pit located at the Buena Suerte 32 G COM 1 well site located in Unit G, Section 32, Township 26N, Range 11W, San Juan County, New Mexico. On September 30th, 2009, a sample was collected beneath an above ground storage tank (AST) onsite to determine the extent of contamination in a historical earthen pit located beneath the AST. Two (2) samples were collected from beneath the AST. One (1) sample was collected from approximately three (3) feet BGS, and one (1) sample was collected from approximately four (4) feet BGS. Each of these pit samples were analyzed in the field for TPH via USEPA Method 418.1 with each sample returning results below the 100 mg/kg standard required by the 'Pit Rule'. The sample collected from four (4) feet BGS was then collected into four (4)-ounce glass jars, capped headspace free, and transported with ice, under chain of custody to Envirotech's laboratory to be analyzed for benzene and BTEX via USEPA Method 8021 and for total chlorides via USEPA Method 4500B. The sample returned results below the 100 mg/kg TPH standard, the 0.2 mg/kg benzene standard, and the 50 mg/kg BTEX standard. The sample returned results above the 250mg/kg above background total chlorides standard at 325 mg/kg above background for total chlorides; see attached *Analytical Results*. A background sample was collected at this location at approximately two (2) feet below ground surface and analyzed in Envirotech's laboratory for total chlorides via USEPA Method 4500B. The background sample returned results of 10 mg/kg total chlorides. The sample results indicate that a release had occurred at the Buena Suerte 32 G COM 1 well site.

Closure Plan

Elm Ridge Exploration is proposing to remove the remainder of the chloride contamination during the plugging and abandoning of this well site, due to the fact that the remaining chloride contamination is directly beneath the location of the separator and the above ground storage tank; see attached *Figure 2, Site Map*. Elm Ridge Exploration proposes that the remaining chloride contamination does not pose an immediate threat to the environment or human health.

REPORTING

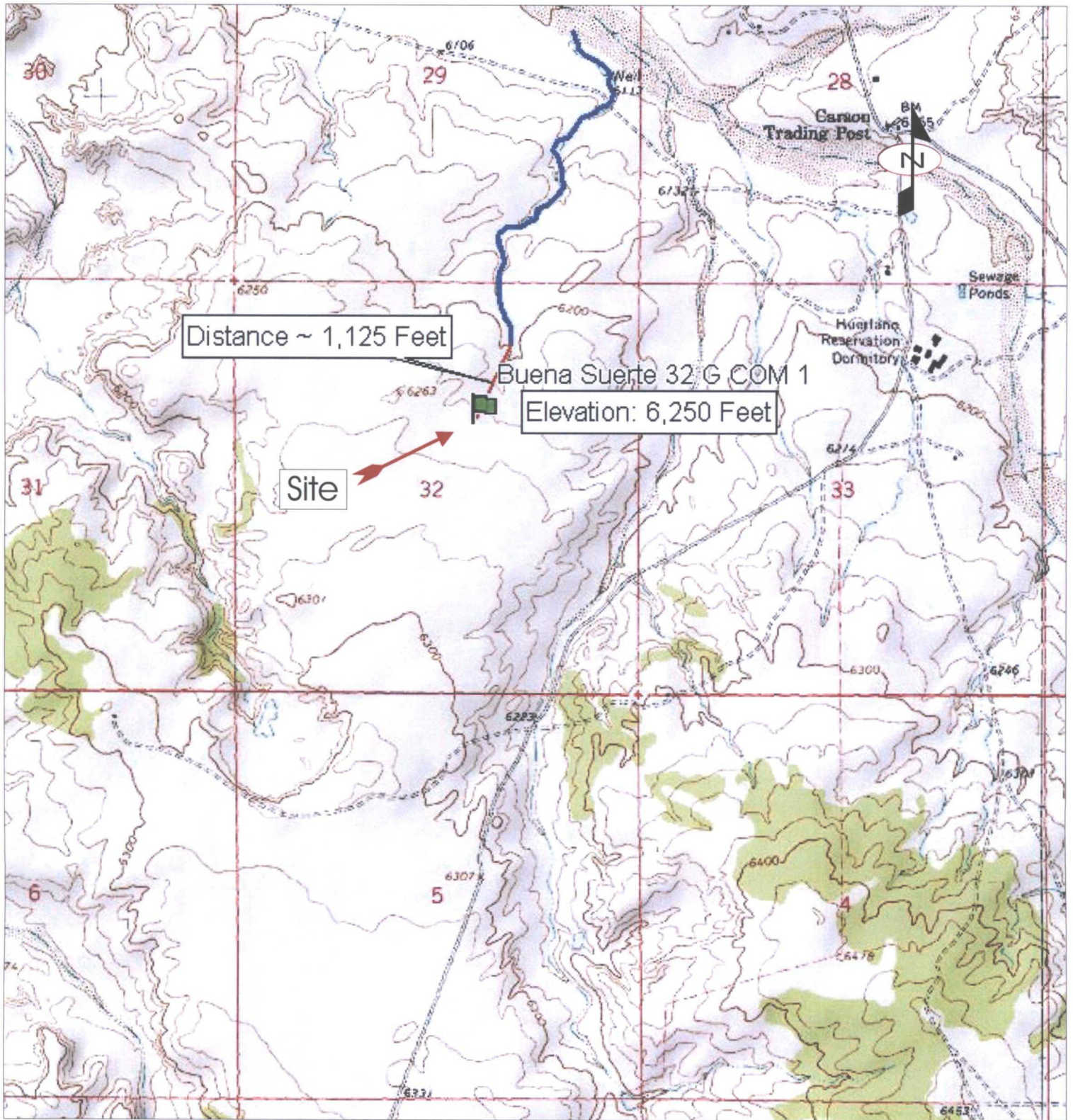
Elm Ridge Exploration will submit a closure report within 60 days following the earthen pit final closure. The closure report will consist of a form C-144 with all supporting data. The supporting data will include proof of closure notice to the surface owner and the OCD, confirmation sampling analytical 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 contact our office at (505) 632-3476 Ext. 201.

Respectfully Submitted:
Elm Ridge Exploration



Amy Mackey
Elm Ridge Exploration



Source: Bloomfield, New Mexico 7.5 Minute U.S.G.S. Topographic Quadrangle Map
 Scale: 1:24,000 1" = 2000'

Elm Ridge Exploration
 Buena Suerte 32 G COM 1
 Section 32, Township 26N, Range 11W
 San Juan County, New Mexico

PROJECT No 03056-0191 Date Drawn: 10/27/09

ENVIROTECH INC.

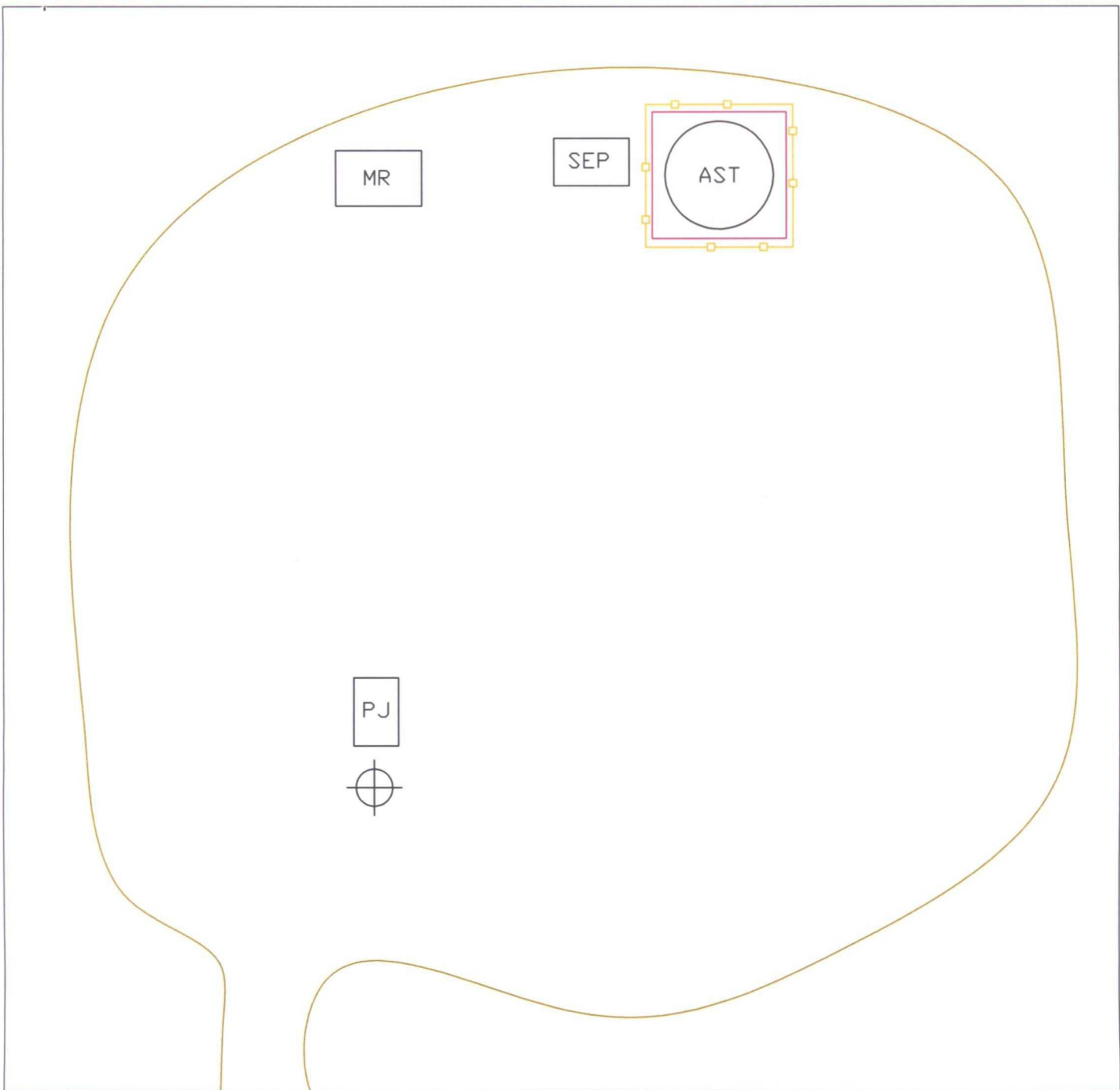
ENVIRONMENTAL SCIENTISTS & ENGINEERS
 5796 U.S. HIGHWAY 64
 FARMINGTON, NEW MEXICO 87401
 PHONE (505) 632-0615

Vicinity Map

Figure 1

DRAWN BY:
 James McDaniel

PROJECT MANAGER:
 James McDaniel



LEGEND

-  Well Head
-  Berm
-  Fencing

Site Map

Elm Ridge Exploration
Buena Suerte 32 G COM 1
Section 32, Township 26N, Range 11W

SCALE: NTS		FIGURE NO. 2	REV
PROJECT NO.D3056-0191			
REVISIONS			
NO.	DATE	BY	DESCRIPTION
MAP	DRWN	JPM	DATE 10/27/09



5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Exploration	Project #:	03056-0189
Sample No.:	1	Date Reported:	10/27/2009
Sample ID:	3' Below Ground Surface	Date Sampled:	9/30/2009
Sample Matrix:	Soil	Date Analyzed:	9/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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Total Petroleum Hydrocarbons	24	5.0
------------------------------	----	-----

ND = Parameter not detected at the stated detection limit.

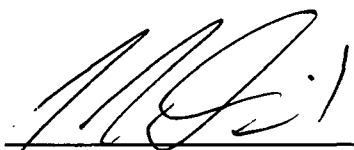
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Buena Suerte 32 G COM 1

Instrument calibrated to 200 ppm standard. Zeroed before each sample


Analyst

Toni McKnight
Printed


Review

James McDaniel
Printed



EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Client:	Elm Ridge Exploration	Project #:	03056-0189
Sample No.:	2	Date Reported:	10/27/2009
Sample ID:	4' Below Ground Surface	Date Sampled:	9/30/2009
Sample Matrix:	Soil	Date Analyzed:	9/30/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

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

Total Petroleum Hydrocarbons	16	5.0
------------------------------	----	-----

ND = Parameter not detected at the stated detection limit.


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

Comments: **Buena Suerte 32 G COM 1**

Instrument calibrated to 200 ppm standard. Zeroed before each sample


Analyst

Toni McKnight
Printed


Review

James McDaniel
Printed



CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 30-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	207
	200	
	500	
	1000	

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

Toni McKnight
Analyst

10/27/09
Date

Toni McKnight

Print Name

James McDaniel
Review

10/27/09
Date

James McDaniel

Print Name



envirotech

Analytical Laboratory

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	ElmRidge	Project #:	03056-0191
Sample ID:	4' BGS (1' BGS of Pit)	Date Reported:	10-06-09
Laboratory Number:	51916	Date Sampled:	09-30-09
Chain of Custody:	8094	Date Received:	09-30-09
Sample Matrix:	Soil	Date Analyzed:	10-05-09
Preservative:	Cool	Date Extracted:	10-02-09
Condition:	Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: Earth Pit Closures/ Buena Suerte 32G Com 1

Analyst

Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	10-05-BT QA/QC	Date Reported:	10-06-09
Laboratory Number:	51915	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-05-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
			Accept. Range 0 - 15%		
Benzene	9.9244E+005	9.9443E+005	0.2%	ND	0.1
Toluene	9.1152E+005	9.1335E+005	0.2%	ND	0.1
Ethylbenzene	8.1641E+005	8.1805E+005	0.2%	ND	0.1
p,m-Xylene	2.0292E+006	2.0332E+006	0.2%	ND	0.1
o-Xylene	7.7188E+005	7.7342E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

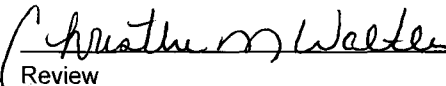
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.6	99.2%	39 - 150
Toluene	ND	50.0	49.7	99.4%	46 - 148
Ethylbenzene	ND	50.0	46.6	93.2%	32 - 160
p,m-Xylene	ND	100	97.3	97.3%	46 - 148
o-Xylene	ND	50.0	48.0	96.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 51915, 51916, 51919, 51921 - 51926, and 51937.

Analyst 

Review 



Client:	Elm Ridge	Project #:	03056-0191
Sample ID:	4' BGS (1' BGS of Pit)	Date Reported:	10-07-09
Lab ID#:	51916	Date Sampled:	09-30-09
Sample Matrix:	Soil	Date Received:	09-30-09
Preservative:	Cool	Date Analyzed:	10-01-09
Condition:	Intact	Chain of Custody:	8094

Parameter

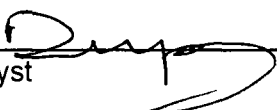
Concentration (mg/Kg)

Total Chloride

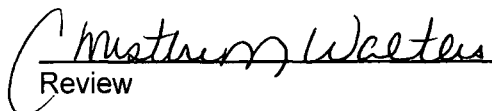
335

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 Closures / Buena Suerte 32G Com 1.**



Analyst



Review

CHAIN OF CUSTODY RECORD

8094

Client: Elm Ridge			Project Name / Location: Buena Suerte Earth Pit Closure / 326 Com 1			ANALYSIS / PARAMETERS																																													
Client Address:			Sampler Name: Tom. McKnight			<table border="1"> <tr> <th>TPH (Method 8015)</th> <th>BTEX (Method 8021)</th> <th>VOC (Method 8260)</th> <th>RCRA 8 Metals</th> <th>Cation / Anion</th> <th>RCI</th> <th>TCLP with H/P</th> <th>PAH</th> <th>TPH (418.1)</th> <th>CHLORIDE</th> <th></th> <th></th> <th></th> <th></th> <th>Sample Cool</th> <th>Sample Intact</th> </tr> <tr> <td>✓</td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td>✓</td> </tr> </table>														TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact	✓	✓								✓					✓	✓
TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI															TCLP with H/P	PAH	TPH (418.1)	CHLORIDE					Sample Cool	Sample Intact																						
✓	✓								✓					✓	✓																																				
Client Phone No.:			Client No.: 03056-0191																																																
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl Co ₂																																													
4' BGS (1' BGS of pit)	9/30/09	10:45	57916	Soil Solid	1/402																																														
Background	9/30/09	11:00	57917	Soil Solid	1/402																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
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				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
				Soil Solid	Sludge Aqueous																																														
Relinquished by: (Signature) Tom. McKnight			Date 9/30/09	Time 12:45	Received by: (Signature) Kendall Angeli			Date 9/30/09	Time 12:45																																										
Relinquished by: (Signature)					Received by: (Signature)																																														
Relinquished by: (Signature)					Received by: (Signature)																																														



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Client:	Elm Ridge	Project #:	03056-0191
Sample ID:	Background	Date Reported:	10-19-09
Lab ID#:	52109	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:	8201

Parameter	Concentration (mg/Kg)
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Total Chloride

10

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.

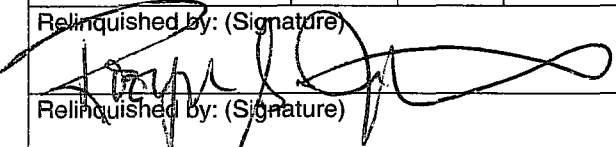

Comments: **Buena Suerte 32G Com1.**

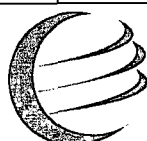
Analyst

Review

CHAIN OF CUSTODY RECORD

8201

Client: Elmridge			Project Name / Location: Buena Suerte 32G COM			ANALYSIS / PARAMETERS																		
Client Address:			Sampler Name: R. Jones																					
Client Phone No.:			Client No.: 03056-0191																					
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative HgCl ₂ HCl		TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact		
Background	10/14/09	1300	52109	Soil Solid	Sludge Aqueous	1-4oz												X				✓	✓	
				Soil Solid	Sludge Aqueous																			
				Soil Solid	Sludge Aqueous																			
				Soil Solid	Sludge Aqueous																			
				Soil Solid	Sludge Aqueous																			
				Soil Solid	Sludge Aqueous																			
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				Soil Solid	Sludge Aqueous																			
				Soil Solid	Sludge Aqueous																			
Relinquished by: (Signature) 			Date	Time	Received by: (Signature) 			Date	Time															
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Relinquished by: (Signature)					Received by: (Signature)																			



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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. Santa Fe Dr., Santa Fe, NM 87505
2009 FEB 2 PM 1 08

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

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

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

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

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

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

Operator: <u>Elm Ridge Exploration</u>	OGRID #: <u>149052</u>
Address: <u>P.O. Box 156; Bloomfield, NM 87413</u>	
Facility or well name: <u>Buena Suerte 32 G COM 1</u>	
API Number: <u>33004528693</u>	OCD Permit Number:
U/L or Qtr/Qtr <u>G</u> Section <u>32</u> Township <u>26N</u> Range <u>11W</u> County: <u>San Juan</u>	
Center of Proposed Design: Latitude <u>36.446878</u> Longitude <u>-108.025866</u> NAD: <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983	
Surface Owner: <input type="checkbox"/> Federal <input checked="" type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment	

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC Ceased discharging into October 2008
Temporary: ☐ Drilling ☐ Workover
☒ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☒ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L 10' x W 10' x D 2'

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

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

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

6.

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

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate. Please specify 4' tall hogwire fencing with pipe railing

7.

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

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

8.

Signs: Subsection C of 19.15.17.11 NMAC

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

9.

Administrative Approvals and Exceptions:

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

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

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

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

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

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

☐ Yes ☐ No

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

☐ 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.

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

11.

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

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

12.

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

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

13.

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Climatological Factors Assessment
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Quality Control/Quality Assurance Construction and Installation Plan
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

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

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

15.

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

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

16.

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

17.

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

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

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

☐ Yes ☐ No
☐ NA

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

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

☐ Yes ☐ No
☐ NA

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

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

☐ Yes ☐ No
☐ NA

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 500 feet of a wetland.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

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

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

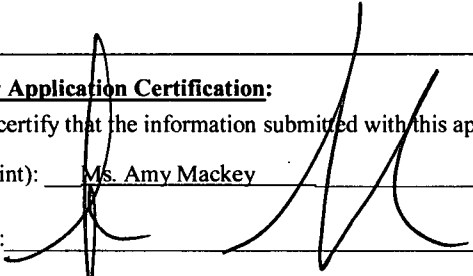
18.

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

19.

Operator Application Certification:

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

Name (Print): Ms. Amy MackeyTitle: Administrative ManagerSignature: Date: 1-28-09E-mail address: amackey1@elmridge.com

Telephone: _____

20.

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

OCD Representative Signature:  Approval Date: 2/19/2009Title: Environmental Engineer

OCD Permit Number: _____

21.

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

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

☐ Closure Completion Date: _____

22.

Closure Method:

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

23.

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

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

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

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

- ☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.

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

- ☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

25.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____

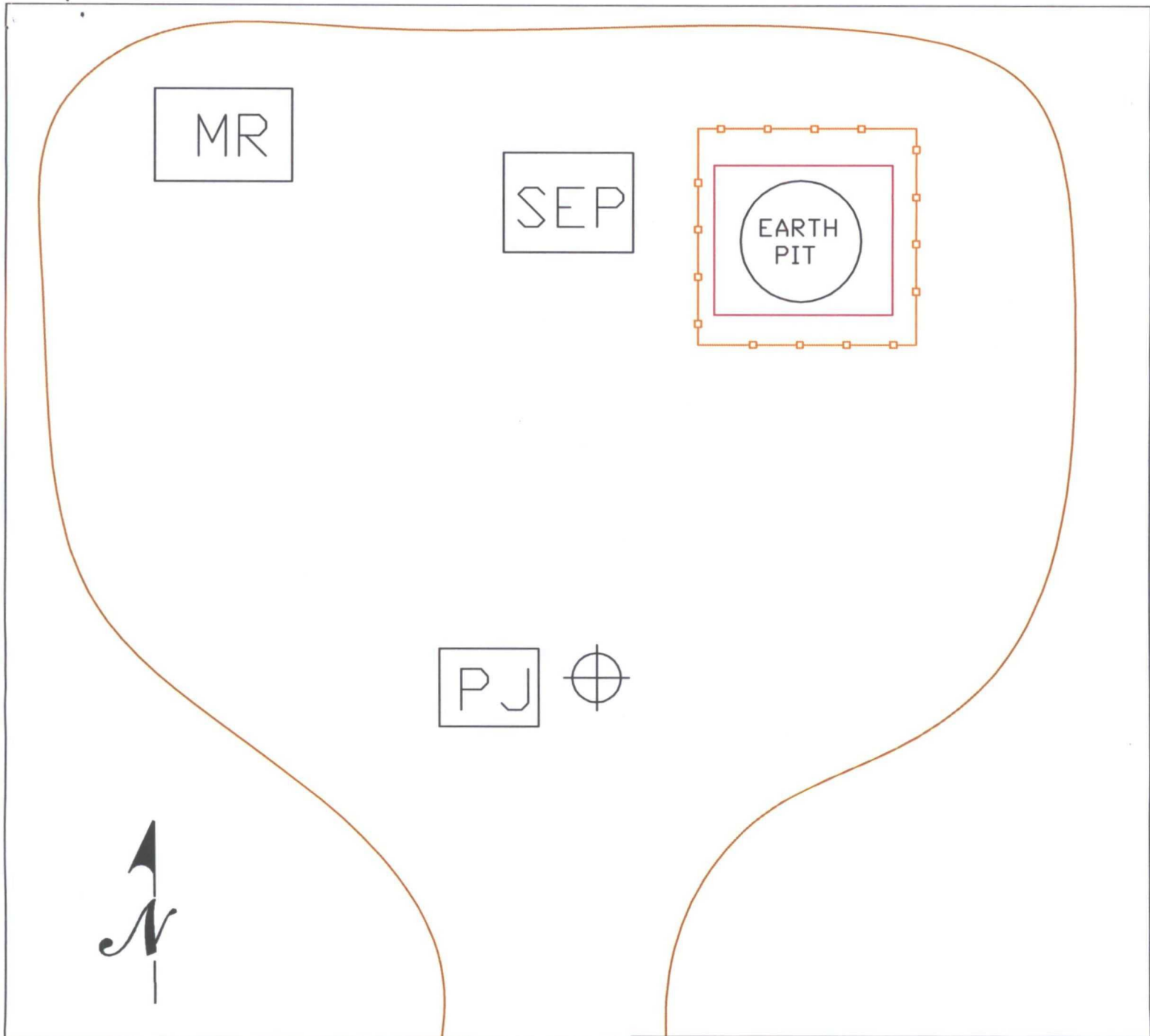
Title: _____

Signature: _____

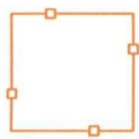
Date: _____

E-mail address: _____

Telephone: _____



LEGEND



4' Tall Hogwire
Fencing



Berm



Well Head

SITE MAP ELM RIDGE EXPLORATION BUENA SUERTE 32G COM 1 SEC 32 TWN 26N RGE 11W SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS

PROJECT N003056-0136

FIGURE NO. A

REV

REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	MDD	11/17/08	BASE DRWN

ENVIRONMENTAL SCIENTISTS & ENGINEERS
ENVIROTECH

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

EARTHEN PIT CLOSURE PLAN

SITE NAME:

**BUENA SUERTE 32G COM 1
UNIT LETTER G, SECTION 32, TOWNSHIP 26N, RANGE 11W
SAN JUAN COUNTY, NEW MEXICO
LATITUDE 36.446878 LONGITUDE -108.025866**

SUBMITTED TO:

**MR. WAYNE PRICE
NEW MEXICO OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DRIVE
SANTA FE, NEW MEXICO 87505
(505) 476-3490**

SUBMITTED BY:

**MS. AMY MACKEY
ELM RIDGE EXPLORATION
P.O. BOX 156
BLOOMFIELD, NEW MEXICO 87413
(505) 632-3476 EXT. 201**

JANUARY 2009

**EARTHEN PIT CLOSURE PLAN
ELM RIDGE EXPLORATION
BUENA SUERTE 32G COM 1
SAN JUAN COUNTY, NEW MEXICO**

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INTRODUCTION

Elm Ridge Exploration would like to submit a closure plan for the earthen pit at the Buena Suerte 32G COM 1 well site located in the SW ¼ NE ¼ of Section 32, Township 26N, Range 11W, San Juan County, New Mexico. This closure plan has been prepared in conformance with the closure requirements of 19.15.17.13 NMAC.

SCOPE OF CLOSURE ACTIVITIES

The purpose of this closure plan is to provide the details of activities involved in the closure of the permanent unlined pit at the Buena Suerte 32G 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 of Subsection A of 19.15.17.13 NMAC, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close any earthen pits at a date the division requires because of imminent danger to fresh water, public health, or the environment.
- 3) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will close earthen pits first which seem to pose a greater risk to fresh water, public health, or the environment. This will be determined by the locations proximately to surface water sources and distance to groundwater.
- 4) No less than 60 days prior to any earthen pit closure activities, Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the Santa Fe NMOCD office as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (3) NMAC.
- 5) No less than 24 hours and no greater than one (1) week prior to earthen pit removal Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will provide written notification to the appropriate surface owner as well as a schedule of on-site activities, as in accordance with 19.15.17.13 Subsection J Paragraph (1) NMAC. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will notify the surface owner by certified mail, return receipt requested, that the operator plans to close 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 BGT closure activities. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement. Closure activities that will take place on tribal land will have notifications sent by certified mail, return receipt requested, to the appropriate tribal office. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will notify the Bureau of Land Management (BLM) of closure activities for wells located on federal land per a Sundry Notice, as in accordance with 19.15.17.13 Subsection J Paragraph (1) NMAC. All notices will be sent in such a way that the surface owner received notice at least 24 hours prior to the beginning of

closure activities.

- 6) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all liquids, and/or sludge, to visual extents, prior to closure sampling. Material will be disposed of at Envirotech's Landfarm #2, Permit # NM-01-0011, TNT Environmental Inc. Landfarm, Permit # NM-01-0008, Industrial Ecosystems Inc. (IEI) Landfarm, Permit # NM-01-0010B or Basin Disposal, Permit # NM-01-0005, depending on the consistence of the material removed, as in accordance with 19.15.17.13 Subsection C Paragraph (1) NMAC .
- 7) Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will remove all on-site equipment associated with this earthen pit unless it is required for some other purpose, as in accordance with 19.15.17.13 Subsection C Paragraph (2) NMAC. The equipment that meets the requirements of 19.15.9.712 Subsection A NMAC and 19.15.9.712 Subsection D Paragraph (1) will be disposed of at San Juan County Regional Landfill. Waste that is classified by 19.15.9.712 Subsection D Paragraph (2) will be sampled accordingly to determine acceptance of this material at the San Juan County Regional Landfill. Waste that is unable to be accepted at the San Juan County Regional Landfill will be submitted to the OCD on a case-by-case basis in accordance with Paragraph (3) of Subsection D of 19.15.9.712.
- 8) Once the earthen pit is removed to visual extents of contamination, a five (5)-point composite sample will be collected from directly below the liner(s) or at native soil. Additional discrete samples will be collected from any area that is wet, discolored, or show other evidence of a release. All samples being collected will be analyzed for benzene, and total BTEX via USEPA Method 8021B, TPH via USEPA Method 418.1, and chlorides via USEPA 300.1, as in accordance with 19.15.17.13 Subsection C Paragraph (3) NMAC.
- 9) Depending on soil sample results the area will be either backfilled or the area will be excavated.
 - a. If soil samples do not exceed the regulatory standards of 0.2 mg/kg benzene, 50 mg/kg BTEX, 100 mg/kg TPH, and 250 mg/kg or background concentration of chlorides, as in accordance with 19.15.17.13 Subsection C Paragraph (3) NMAC.
 - i. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, shall submit a Form C-141 with the laboratory results so that the division may review the results to determine if additional delineation is required in accordance with Paragraph (4) of Subsection C of 19.15.17.13 NMAC.
 - ii. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will backfill the excavation or impacted area with non-waste containing, earthen material, in accordance with 19.15.17.13 Subsection E Paragraph (6) NMAC. A soil cover shall be installed for all backfilled excavations consisting of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater in accordance with Subsections H of 19.15.17.13 NMAC. The operator shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.
 - iii. All areas of the well site that are no longer utilized on a day to day basis for the production of oil and/or gas, Elm Ridge Exploration, or a

contractor acting on behalf of Elm Ridge Exploration, will substantially restore, 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.

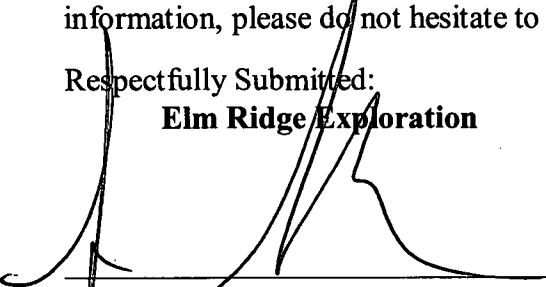
REPORTING

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) 632-6476 Ext. 201.

Respectfully Submitted:

Elm Ridge Exploration



Amy Mackey
Elm Ridge Exploration

Elm Ridge Exploration

Re-Seeding Techniques and Seed Mixture Ratios

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

1. The first growing season after closure of a below grade tank or pit, all areas of the well site not utilized for the production of oil and/or gas on a daily basis will be re-seeded with the specified seed mixture.
2. The seed mixture used will be certified with no primary or secondary noxious weeds in seed mixtures. The seed labels from each bag shall be available for inspection while seed is being sown.
3. The operator shall accomplish seeding by drilling on the contour whenever practical or by other division-approved methods. The operator shall obtain vegetative cover that equals 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.
4. Hand seeding with hydro-mulch, excelsior netting or mulch with netting is required on the cut/fill slopes. Mulch will be spread at a rate of 2,000-3,000 pounds per acre.
5. Compacted areas determined by visual inspection will be ripped to a depth of twelve (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 twelve (12) inches in depth. After ripping, water bars will be installed. All ripped surfaces are to be protected from vehicular travel by construction of a dead end ditch and earthen barricade at the entrance to these ripped areas. Re-seeding of areas affected by the ditch and barriers will be re-seeded if necessary.
9. Elm Ridge Exploration, or a contractor acting on behalf of Elm Ridge Exploration, will inform the division once successful re-vegetation has occurred.