

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

RECEIVED
2008 MAY 18 PM 2 39

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Elm Ridge Exploration	Contact: Amy Mackey
Address: PO Box 156, Bloomfield, NM 87413	Telephone No.: (505) 632-3476 Ext 201
Facility Name: West Bisti Coal 15-1	Facility Type: Gas Well

Surface Owner: Federal	Mineral Owner:	Lease No.: NM-80506
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LOCATION OF RELEASE

Unit Letter G	Section 15	Township 25N	Range 13W	Feet from the 1830	North/South Line FNL	Feet from the 2510	East/West Line FEL	County San Juan
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Latitude 36.403439 Longitude -108.206064

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.*

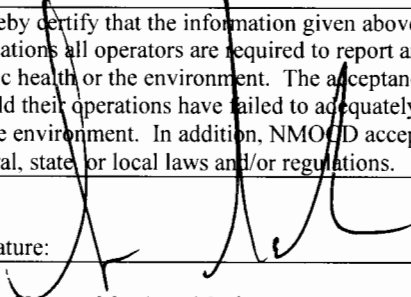
Describe Cause of Problem and Remedial Action Taken.*

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

Describe Area Affected and Cleanup Action Taken.*

Earthen pit was in use on 11/3/08, but has not been discharged into since November 2008. A sample was collected from the earthen pit and the sample results are attached to this document for reference. The sample was analyzed for in the field for Total Petroleum Hydrocarbons (TPH) via USEPA Method 418.1 and in Envirotech's laboratory for TPH via USEPA Method 8015, benzene and BTEX via USEPA Method 8021 and total chlorides via USEPA Method 4500B. The sample returned results that were below the 10 ppm benzene and 50 ppm BTEX standards, but above the 100 ppm TPH standard via USEPA Method 418.1 and USEPA Method 8015 and the 250 ppm total chloride standard, confirming that a release had occurred at this site. The site was then ranked pursuant to the NMOCD Guidelines for the Remediation of Leaks, Spills and Releases. The site was ranked a 10 due to groundwater being greater than 50 feet below ground surface, but less than 100 feet. This set the closure standards to 1000 ppm TPH, 10 ppm benzene and 50 ppm total BTEX. This earthen pit will need to be excavated and resampled in order to close. A soil pile was observed on the site as well near the earthen pit. It appears to have been dug from the pit. Sample results are attached. The soil pile is also above the 1,000 ppm TPH standard determined for this site. It will be disposed of at a NMOCD permitted soil remediation facility.

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:	Phone: 505-632-3476 Ext 201		

* Attach Additional Sheets If Necessary

PAGE NO: <u>1</u> OF <u>1</u>	ENVIROTECH INC ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 - 3014 FARMINGTON, NEW MEXICO 87401 PHONE: (505) 632-0615	ENVIRONMENTAL SPECIALIST: <u>P. BENALLY</u>
DATE STARTED: <u>11/3/08</u>		LAT: <u>36.403439</u>
DATE FINISHED: <u>11/3/08</u>		LONG: <u>-106.206064</u>

FIELD REPORT: BGT / PIT CLOSURE VERIFICATION

LOCATION: NAME: <u>West Bisti Coal 15</u>	WELL #: <u>081</u>	TEMP PIT: <u>PERMANENT PIT: <input checked="" type="checkbox"/> BGT:</u>
LEGAL ADD: UNIT: <u>G</u>	SEC: <u>15</u>	TWP: <u>25 N</u> RNG: <u>13 W</u> PM: <u></u>
QTR/FOOTAGE: <u>1830 FNL X 2510 FEL</u>	CNTY: <u>SAN JUAN COUNTY</u>	ST: <u>NM</u>
EXCAVATION APPROX: <u> </u> FT. <u>X</u>	<u> </u> FT. <u>X</u>	FT. DEEP CUBIC YARDAGE: <u> </u>
DISPOSAL FACILITY: <u> </u>	REMEDIAL METHOD: <u> </u>	
LAND OWNER: <u> </u>	API: <u>304528389</u>	BGT / PIT VOLUME: <u> </u>
CONSTRUCTION MATERIAL: <u>EARTH</u>	DOUBLE-WALLED, WITH LEAK DETECTION: <u> </u>	
LOCATION APPROXIMATELY: <u>60</u> FT. <u>350°</u>	FROM WELLHEAD	
DEPTH TO GROUNDWATER: <u>750 ± 100</u>		

TEMPORARY PIT - GROUNDWATER 50-100 FEET DEEP

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

TEMPORARY PIT - GROUNDWATER ≥100 FEET DEEP

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

PERMANENT PIT OR BGT

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

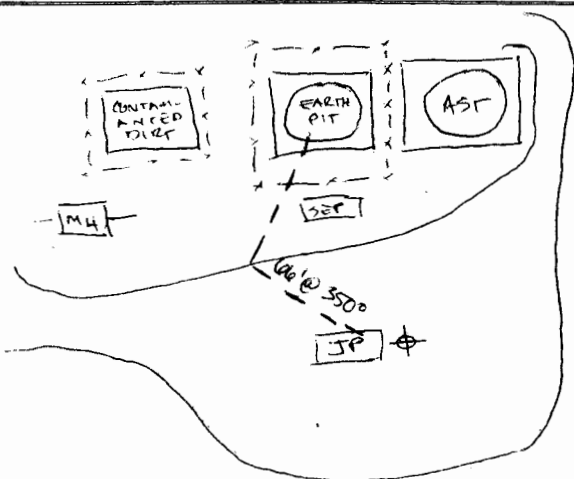
FIELD 418.1 ANALYSIS

TIME	SAMPLE ID	LAB NO.	WEIGHT (g)	mL FREON	DILUTION	READING	CALC. (mg/kg)
	200 STD		-	-	-	199	
9:20 AM	501 Camp	1	5	20	4	1992	19968
	7	2					
		3					
		4					
		5					
		6					

PERIMETER

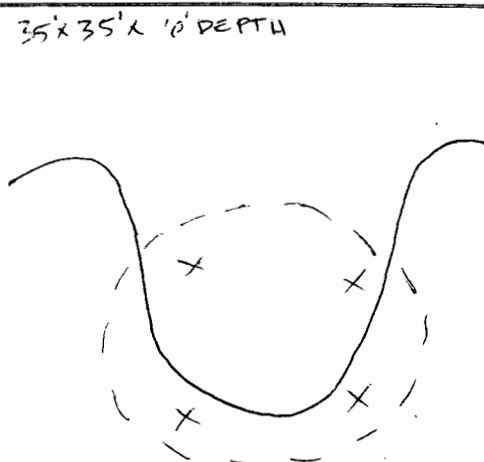
FIELD CHLORIDES RESULTS

PROFILE



SAMPLE ID	READING	CALC. (mg/kg)

PID RESULTS	
SAMPLE ID	RESULTS (mg/kg)
501 Camp	195.0 ppm
Scal Pile	344



LAB SAMPLES

NOTES:

SAMPLE ID	ANALYSIS	RESULTS
	BENZENE	
	BTEX	
	GRO & DRO	
	CHLORIDES	

NMOC Ranking 10 = Closure = 1000 ppm TPH

WORKORDER #

WHO ORDERED



**EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS**

Client:	Elm Ridge Exploration	Project #:	03056-0212
Sample No.:	1	Date Reported:	2/23/2009
Sample ID:	5 Point Composite	Date Sampled:	11/3/2008
Sample Matrix:	Soil	Date Analyzed:	11/3/2008
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		

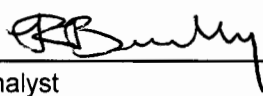
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	20,000	5.0

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 15-1 Earthen Pit**

Instrument calibrated to 200 ppm standard. Zeroed before each sample



Analyst

Roynell Benally

Printed



Review

James McDaniel

Printed

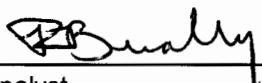


CONTINUOUS CALIBRATION
EPA METHOD 418.1
TOTAL PETROLEUM
HYDROCARBONS

Cal. Date: 3-Nov-08

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

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



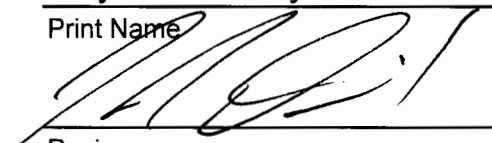
Analyst

2/23/09

Date

Roynell Benally

Print Name



Review

2/23/09

Date

James McDaniel

Print Name

Client:	Elm Ridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-11-08
Laboratory Number:	48017	Date Sampled:	11-03-08
Chain of Custody No:	5698	Date Received:	11-03-08
Sample Matrix:	Soil	Date Extracted:	11-06-08
Preservative:	Cool	Date Analyzed:	11-06-08
Condition:	Intact	Analysis Needed:	TPH-418.1

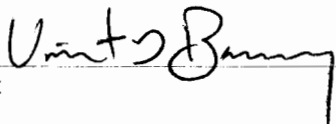
Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	68,200	50.0

ND = Parameter not detected at the stated detection limit.

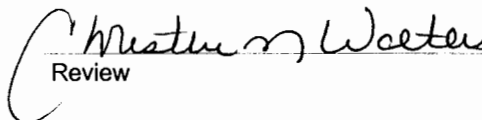
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Earth Pit Samples / 5 pt Comp.**

Analyst



Review



Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	11-10-08
Laboratory Number:	11-06-TPH.QA/QC 48017	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	11-06-08
Preservative:	N/A	Date Extracted:	11-06-08
Condition:	N/A	Analysis Needed:	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
	11-03-08	11-06-08	1,420	1,540	8.5%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	5.0

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
TPH	68,200	55,700	18.3%	+/- 30%

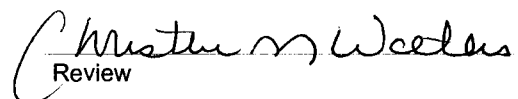
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	68,200	2,000	61,400	87.5%	80 - 120%

ND = Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for Samples 48017, 48024, 48041, 48042 and 48054.**


Analyst


Review



**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

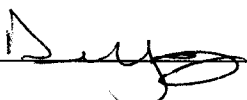
Client:	Elmridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-10-08
Laboratory Number:	48016	Date Sampled:	11-03-08
Chain of Custody No:	5698	Date Received:	11-03-08
Sample Matrix:	Soil	Date Extracted:	11-06-08
Preservative:	Cool	Date Analyzed:	11-07-08
Condition:	Intact	Analysis Requested:	8015 TPH

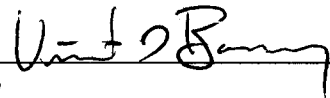
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	160	0.2
Diesel Range (C10 - C28)	1,350	0.1
Total Petroleum Hydrocarbons	1,510	0.2

ND - Parameter not detected at the stated detection limit.

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

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


Analyst


Review

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-07-08 QA/QC	Date Reported:	11-10-08
Laboratory Number:	48015	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-07-08
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0047E+003	1.0051E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9713E+002	9.9753E+002	0.04%	0 - 15%

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

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

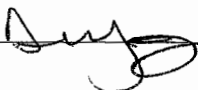
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	246	98.4%	75 - 125%
Diesel Range C10 - C28	ND	250	240	96.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

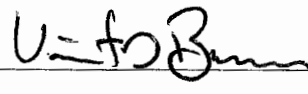
References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 48015 - 48019, 48022 and 48024.

Analyst



Review



Client:	Elmridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-10-08
Laboratory Number:	48016	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	13.4	0.9
Toluene	56.4	1.0
Ethylbenzene	40.7	1.0
p,m-Xylene	789	1.2
o-Xylene	232	0.9
Total BTEX	1,130	

ND - Parameter not detected at the stated detection limit.

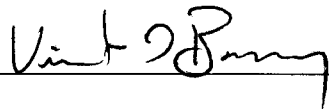
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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

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

Comments: Earth Pit Samples/ 5pt Comp.

Analyst 

Review 

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:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
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	Duplicate	%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	Amount Spiked	Spiked 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

Client:	Elm Ridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-11-08
Lab ID#:	48016	Date Sampled:	11-03-08
Sample Matrix:	Soil	Date Received:	11-03-08
Preservative:	Cool	Date Analyzed:	11-11-08
Condition:	Intact	Chain of Custody:	5698

Parameter**Concentration (mg/Kg)****Total Chloride****400**

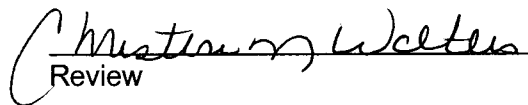
Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Earth Pit Samples / 5 pt Comp.**

Analyst



Review





EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

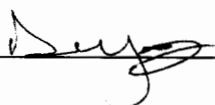
Client:	Elmridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-10-08
Laboratory Number:	48017	Date Sampled:	11-03-08
Chain of Custody No:	5698	Date Received:	11-03-08
Sample Matrix:	Soil	Date Extracted:	11-06-08
Preservative:	Cool	Date Analyzed:	11-07-08
Condition:	Intact	Analysis Requested:	8015 TPH

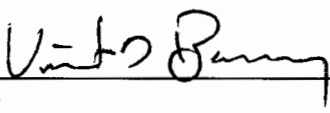
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	683	0.2
Diesel Range (C10 - C28)	12,200	0.1
Total Petroleum Hydrocarbons	12,900	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Earth Pit Samples, 5pt Comp, Contaminated Stock Pile**


Analyst


Review

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	11-07-08 QA/QC	Date Reported:	11-10-08
Laboratory Number:	48015	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	11-07-08
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	1.0047E+003	1.0051E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9713E+002	9.9753E+002	0.04%	0 - 15%

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

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

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	246	98.4%	75 - 125%
Diesel Range C10 - C28	ND	250	240	96.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

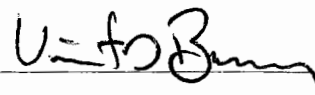
References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 48015 - 48019, 48022 and 48024.

Analyst



Review



Client:	Elmridge	Project #:	03056-0136
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-10-08
Laboratory Number:	48017	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	40.6	0.9
Toluene	267	1.0
Ethylbenzene	98.1	1.0
p,m-Xylene	2,060	1.2
o-Xylene	820	0.9
Total BTEX	3,290	

ND - Parameter not detected at the stated detection limit.

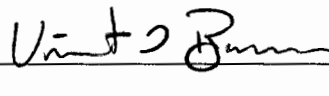
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

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, Contaminated Stockpile

Analyst 

Review 

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:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
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	Duplicate	%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

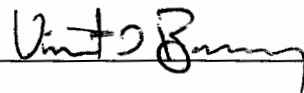
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	1.2	50.0	50.2	98.0%	39 - 150
Toluene	4.7	50.0	52.4	95.8%	46 - 148
Ethylbenzene	ND	50.0	48.0	96.0%	32 - 160
p,m-Xylene	5.3	100	102	97.1%	46 - 148
o-Xylene	6.3	50.0	53.3	94.7%	46 - 148

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
Sample ID:	West Bisti Coal 15-001	Date Reported:	11-11-08
Lab ID#:	48017	Date Sampled:	11-03-08
Sample Matrix:	Soil	Date Received:	11-03-08
Preservative:	Cool	Date Analyzed:	11-11-08
Condition:	Intact	Chain of Custody:	5698

Parameter

Concentration (mg/Kg)

Total Chloride

195

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 Contaminated Stock Pile.**

Analyst

Review

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