

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

Form C-144
June 1, 2004

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

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: Elm Ridge Resources Telephone: (505) 632-3476 e-mail address: amackey1@elmridge.net
Address: #20 CR 5060, Bloomfield, New Mexico, 87413
Facility or well name: Jicarilla Apache B #12 API #: 3003905327 U/L or Qtr/Qtr A Sec 30 T 24N R 5W
County: Sandoval Latitude 36.28783 Longitude -107.39714 NAD: 1927 ☒ 1983 ☐
Surface Owner: Federal ☐ State ☐ Private ☐ Indian ☒

Pit

Type: Drilling ☐ Production ☐ Disposal ☐

Workover ☐ Emergency ☐

Lined ☐ Unlined ☐

Liner type: Synthetic ☐ Thickness _____ mil Clay ☐

Pit Volume _____ bbl

Below-grade tank

Volume: 80 bbl Type of fluid: Produced Water and Incidental Oil

Construction material: Fiberglass

Double-walled, with leak detection? Yes ☐ If not, explain why not _____

Tank in place prior to Rule 50 ☐

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)	
	50 feet or more, but less than 100 feet	(10 points)	
	100 feet or more	(0 points)	10
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)	
	No	(0 points)	0
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)	
	200 feet or more, but less than 1000 feet	(10 points)	
	1000 feet or more	(0 points)	20
Ranking Score (Total Points)			30

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if you are burying in place) onsite ☐ offsite ☒ If offsite, name of facility Envirotech Landfarm #2. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface _____ ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

Approximately 420 cubic yards of contaminated soil was removed from site. Soil was hauled to Envirotech's Landfarm #2

Samples analyzed via USEPA Method 8015/8021, Lab Certificates attached

9/19/06 - West wall extended 3' and resampled

Pit sprayed with potassium permanganate

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 10/16/06

Printed Name/Title Ms. Amy Mackey, Production Technician

Signature Amy Mackey

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title Oil & Gas Inspector, DIST. #2

Signature Brandon Powell

Date: OCT 18 2006

ENVIROTECH INC

ENVIRONMENTAL SCIENTISTS & ENGINEERS
5751 U.S. HIGHWAY 84-2014
FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0215

FIELD REPORT: CLOSURE VERIFICATION

PAGE No: 1 of 1

LOCATION: NAME: Jicarilla Apache B WELL #: 12 PIT: Sep
QUAD/UNIT: A SEC: 30 TWP: 24N RNG: 5W PM: NMIPM CNTY: Ariz ST: NM
QTR/FOOTAGE: _____ CONTRACTOR: Franks

DATE STARTED: 9/13/06
DATE FINISHED: 9/19/06
ENVIRONMENTAL SPECIALIST: GWC

EXCAVATION APPROX 48 FT. x 28 FT. x 10 FT. DEEP. CUBIC YARDAGE: 400 yd³
DISPOSAL FACILITY: Envirotech LF #2 REMEDIATION METHOD: Landfarm
LAND USE: _____ LEASE: _____ FORMATION: _____

FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 100' FT. 330° FROM WELLHEAD.

DEPTH TO GROUNDWATER: 50-100' NEAREST WATER SOURCE: >1,000' NEAREST SURFACE WATER: <200'

NMCD RANKING SCORE: 30 NMCD TPH CLOSURE STD: 100 PPM

SOIL AND EXCAVATION DESCRIPTION:

CHECK ONE:

☐ PIT ABANDONED
☒ STEEL TANK INSTALLED

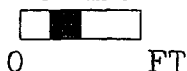
9/13/06 Strong odor from pit area, both OVM and TPH around 1,000 ppm in field. Samples collected for 8015/0021

9/19/06 Excavation continues toward west; wall resampled

FIELD 418.1 CALCULATIONS

TIME	SAMPLE I.D.	LAB No:	WEIGHT (g)	mL. FREON	DILUTION	READING	CALC. ppm

SCALE

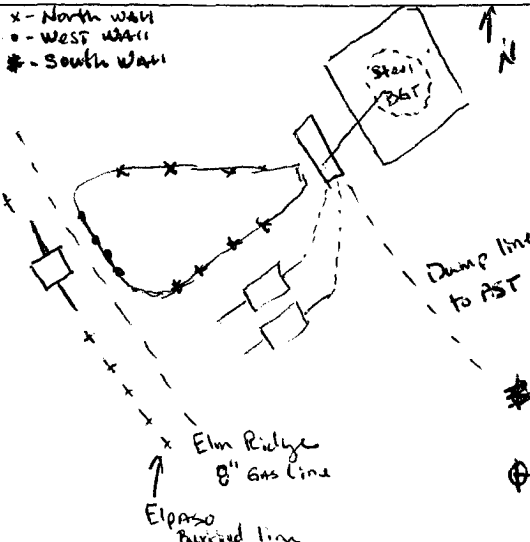


PIT PERIMETER

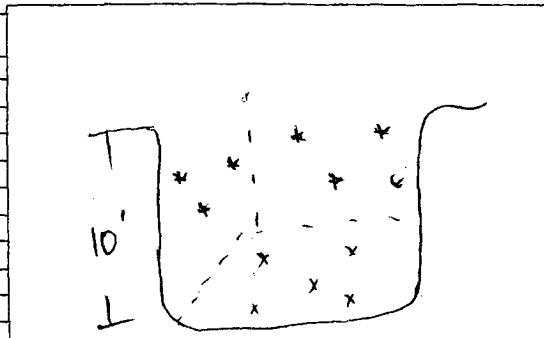
OVM RESULTS

PIT PROFILE

x - North Wall
o - West Wall
- South Wall



SAMPLE ID	FIELD HEADSPACE PID (ppm)
1 Bottom @ 10'	826
2 North Wall	1091
3 West Wall	1028
4 South Wall	930
5 West Wall 9' in	879



LAB SAMPLES

SAMPLE ID	ANALYSIS	TIME
Bottom @ 10'	8015/0021	35.6 ppm
NORTH WALL	8015/0021	86.1 ppm
WEST WALL	8015/0021	170 ppm
SOUTH WALL	8015/0021	87.6 ppm
WEST WALL 9' in	8015/0021	13.7 ppm

TRAVEL NOTES:

CALLOUT: _____

ONSITE: _____

Summary of Laboratory Results

No samples from east wall because excavation was shaped like a triangle, see Site Diagram on Field Notes

Sample Location	TPH (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl-benzene (ppb)	Total Xylenes (ppb)	Total BTEX (ppb)
Bottom @ 10'	38.6	44.4	303	141	926	1,410
North Wall	86.1	11.4	147	89.6	985	1,230
South Wall	87.6	27.6	1,100	221	1,812	3,160
West Wall	13.7	5.3	34.6	23.3	163.1	226

West Wall sample reported was sample taken on 9/18/06 after west wall was extended

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

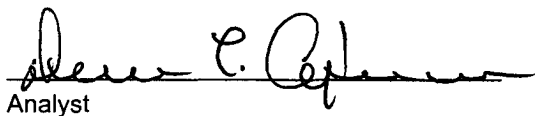
Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	Bottom @ 10'	Date Reported:	09-15-06
Laboratory Number:	38436	Date Sampled:	09-13-06
Chain of Custody No:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Extracted:	09-14-06
Preservative:	Cool	Date Analyzed:	09-15-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

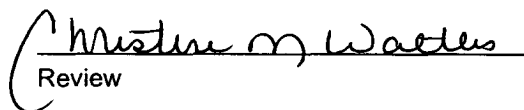
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	3.6	0.2
Diesel Range (C10 - C28)	35.0	0.1
Total Petroleum Hydrocarbons	38.6	0.2

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: **Jicarilla Apache B #12**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

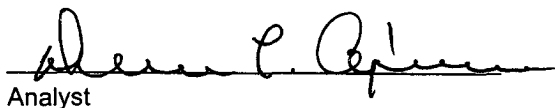
Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	North Wall	Date Reported:	09-15-06
Laboratory Number:	38437	Date Sampled:	09-13-06
Chain of Custody No:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Extracted:	09-14-06
Preservative:	Cool	Date Analyzed:	09-15-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

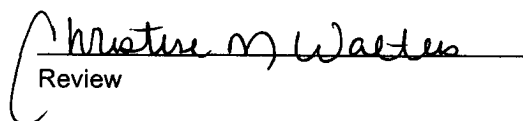
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	15.8	0.2
Diesel Range (C10 - C28)	70.3	0.1
Total Petroleum Hydrocarbons	86.1	0.2

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: **Jicarilla Apache B #12**


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

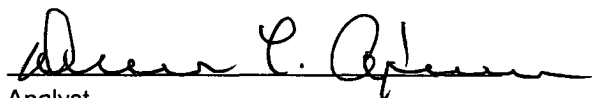
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Sample ID:	West Wall	Date Reported:	09-15-06
Laboratory Number:	38438	Date Sampled:	09-13-06
Chain of Custody No:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Extracted:	09-14-06
Preservative:	Cool	Date Analyzed:	09-15-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

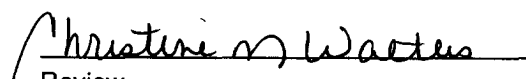
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	63.2	0.2
Diesel Range (C10 - C28)	107	0.1
Total Petroleum Hydrocarbons	170	0.2

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: **Jicarilla Apache B #12**


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

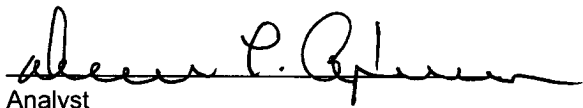
Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	South Wall	Date Reported:	09-15-06
Laboratory Number:	38439	Date Sampled:	09-13-06
Chain of Custody No:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Extracted:	09-14-06
Preservative:	Cool	Date Analyzed:	09-15-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

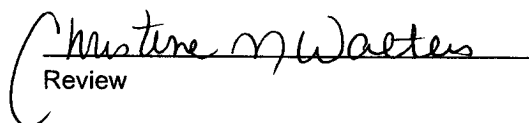
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	13.1	0.2
Diesel Range (C10 - C28)	74.5	0.1
Total Petroleum Hydrocarbons	87.6	0.2

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: **Jicarilla Apache B #12**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-15-06 QA/QC	Date Reported:	09-15-06
Laboratory Number:	38436	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-15-06
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	07-11-05	1.0060E+003	1.0070E+003	0.10%	0 - 15%
Diesel Range C10 - C28	07-11-05	3.5872E+007	3.5944E+007	0.20%	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

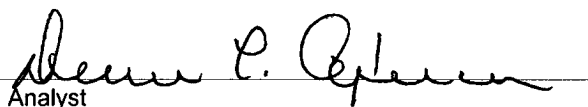
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	3.6	3.6	0.0%	0 - 30%
Diesel Range C10 - C28	35.0	34.8	0.6%	0 - 30%

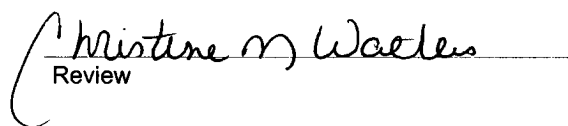
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	3.6	250	253	99.8%	75 - 125%
Diesel Range C10 - C28	35.0	250	285	99.9%	75 - 125%

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 38436 - 38439, 38442 - 38444


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	Bottom @ 10'	Date Reported:	09-15-06
Laboratory Number:	38436	Date Sampled:	09-13-06
Chain of Custody:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Analyzed:	09-15-06
Preservative:	Cool	Date Extracted:	09-14-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	44.4	1.8
Toluene	303	1.7
Ethylbenzene	141	1.5
p,m-Xylene	712	2.2
o-Xylene	214	1.0
Total BTEX	1,410	

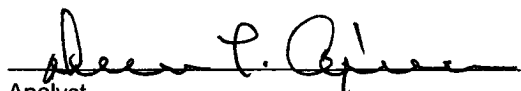
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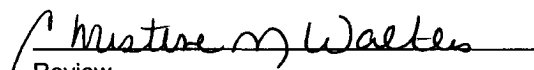
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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

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

Comments: Jicarilla Apache B #12


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	North Wall	Date Reported:	09-15-06
Laboratory Number:	38437	Date Sampled:	09-13-06
Chain of Custody:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Analyzed:	09-15-06
Preservative:	Cool	Date Extracted:	09-14-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	11.4	1.8
Toluene	147	1.7
Ethylbenzene	89.6	1.5
p,m-Xylene	775	2.2
o-Xylene	210	1.0
Total BTEX	1,230	

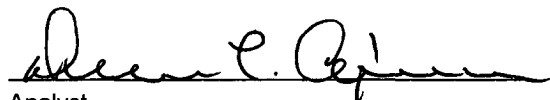
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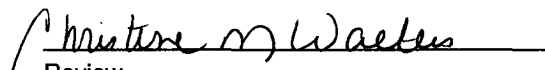
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Jicarilla Apache B #12


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	West Wall	Date Reported:	09-15-06
Laboratory Number:	38438	Date Sampled:	09-13-06
Chain of Custody:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Analyzed:	09-15-06
Preservative:	Cool	Date Extracted:	09-14-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	31.1	1.8
Toluene	326	1.7
Ethylbenzene	126	1.5
p,m-Xylene	2,100	2.2
o-Xylene	538	1.0
Total BTEX	3,120	

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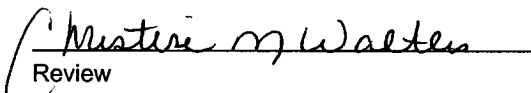
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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

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

Comments: Jicarilla Apache B #12


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Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	South Wall	Date Reported:	09-15-06
Laboratory Number:	38439	Date Sampled:	09-13-06
Chain of Custody:	1447	Date Received:	09-13-06
Sample Matrix:	Soil	Date Analyzed:	09-15-06
Preservative:	Cool	Date Extracted:	09-14-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	27.6	1.8
Toluene	1,100	1.7
Ethylbenzene	221	1.5
p,m-Xylene	1,300	2.2
o-Xylene	512	1.0
Total BTEX	3,160	

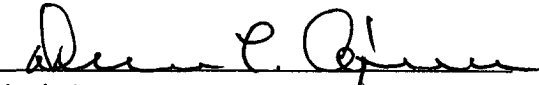
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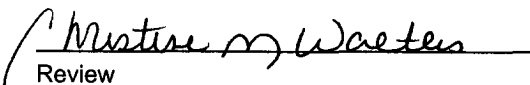
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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: Jicarilla Apache B #12


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-15-BTEX QA/QC	Date Reported:	09-15-06
Laboratory Number:	38436	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-15-06
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	6.0657E+007	6.0779E+007	0.2%	ND	0.2
Toluene	7.6670E+007	7.6824E+007	0.2%	ND	0.2
Ethylbenzene	3.4209E+007	3.4278E+007	0.2%	ND	0.2
p,m-Xylene	1.3932E+008	1.3960E+008	0.2%	ND	0.2
o-Xylene	7.0149E+007	7.0290E+007	0.2%	ND	0.1

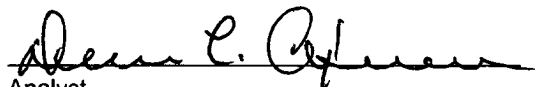
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect Limit
Benzene	44.4	44.3	0.2%	0 - 30%	1.8
Toluene	303	302	0.3%	0 - 30%	1.7
Ethylbenzene	141	140	0.7%	0 - 30%	1.5
p,m-Xylene	712	709	0.4%	0 - 30%	2.2
o-Xylene	214	213	0.5%	0 - 30%	1.0

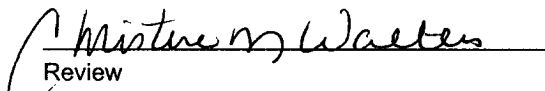
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	44.4	50.0	94.3	99.9%	39 - 150
Toluene	303	50.0	352	99.8%	46 - 148
Ethylbenzene	141	50.0	190	99.3%	32 - 160
p,m-Xylene	712	100	809	99.6%	46 - 148
o-Xylene	214	50.0	263	99.8%	46 - 148

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 38436 - 38439, 38443 - 38446


Analyst


Review

1447

san juan reproduction 578-1299

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

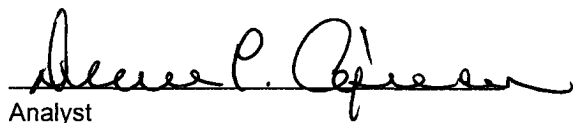
Client:	Elm Ridge Resources	Project #:	03056-040-052
Sample ID:	West Wall	Date Reported:	09-20-06
Laboratory Number:	38467	Date Sampled:	09-18-06
Chain of Custody No:	1461	Date Received:	09-18-06
Sample Matrix:	Soil	Date Extracted:	09-19-06
Preservative:	Cool	Date Analyzed:	09-20-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

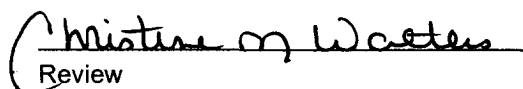
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.6	0.2
Diesel Range (C10 - C28)	13.1	0.1
Total Petroleum Hydrocarbons	13.7	0.2

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: **Jicarilla Apache B #12**


Analyst


Review

CHAIN OF CUSTODY RECORD

[illegible]