

NM2 - 3

**MONITORING
REPORTS
YEAR(S):**

2006-2003

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL

November 20, 2006

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

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Jones:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2006 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2005 through November 30, 2006 reporting period. Treatment zone monitoring is conducted quarterly and test results are submitted annually to NMOCD. Analytical test results indicate the facility met standards with each sample event.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone during quarterly monitoring. Quarterly test procedures include total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl-benzene and xylenes (BTEX). Heavy metals and major cations/anions are to be collected for at least one quarterly sample event. The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). The northeast portion of the facility (identified as 'unused cell') is used for equipment and materials storage only.

Attached are complete laboratory test reports for facility treatment zone monitoring. Presented in Table 1 on the following page is a summary of these quarterly laboratory test reports:

Table 1

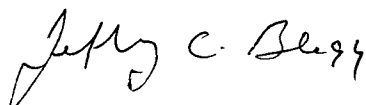
BP Crouch Mesa Waste Management Facility
2006 Annual Treatment Zone Monitoring Test Results

Treatment Cell Identification	TPH mg/Kg	Benz mg/Kg	BTEX mg/Kg	As mg/Kg	Ba mg/Kg	Cd mg/Kg	Cr mg/Kg	Pb mg/Kg	Hg mg/Kg	Se mg/Kg	Ag mg/Kg
<u>Cell No. 1</u>											
1/25/06	ND	ND	ND	0.073	0.477	0.003	0.141	0.221	ND	ND	ND
4/25/06	0.4	ND	0.122	--	--	--	--	--	--	--	--
7/18/06	ND	ND	ND	--	--	--	--	--	--	--	--
10/20/06	ND	ND	ND	11.0	4.7	ND	1.3	8.0	ND	ND	ND
<u>Cell No. 2</u>											
1/25/06	ND	ND	ND	0.071	6.06	0.004	0.126	0.290	ND	ND	ND
4/25/06	1.6	ND	0.425	--	--	--	--	--	--	--	--
7/18/06	ND	ND	ND	--	--	--	--	--	--	--	--
10/20/06	ND	ND	ND	ND	100	ND	2.1	2.7	ND	ND	ND
<u>Cell No. 5</u>											
1/25/06	ND	ND	0.0057	0.082	0.947	0.003	0.086	0.202	ND	ND	ND
4/25/06	6.1	0.024	3.250	--	--	--	--	--	--	--	--
7/18/06	ND	ND	ND	--	--	--	--	--	--	--	--
10/20/06	ND	ND	ND	3.2	16	ND	4.4	4.1	ND	ND	ND

ND = Not Detected

Questions or comments concerning the this transmittal may be directed to myself at (505)632-1199 or Kevin Hansford with BP at (505)326-9200.

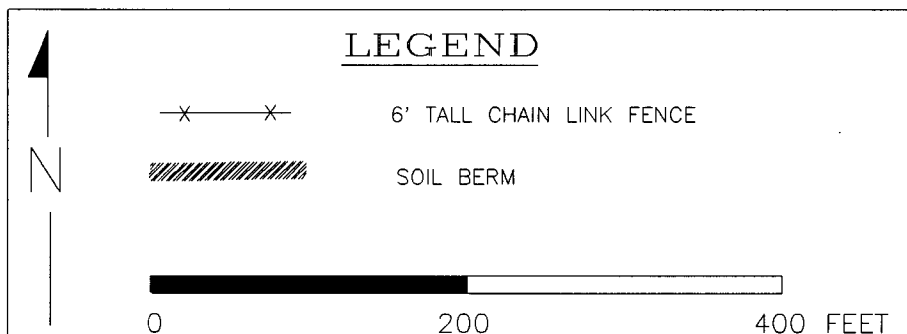
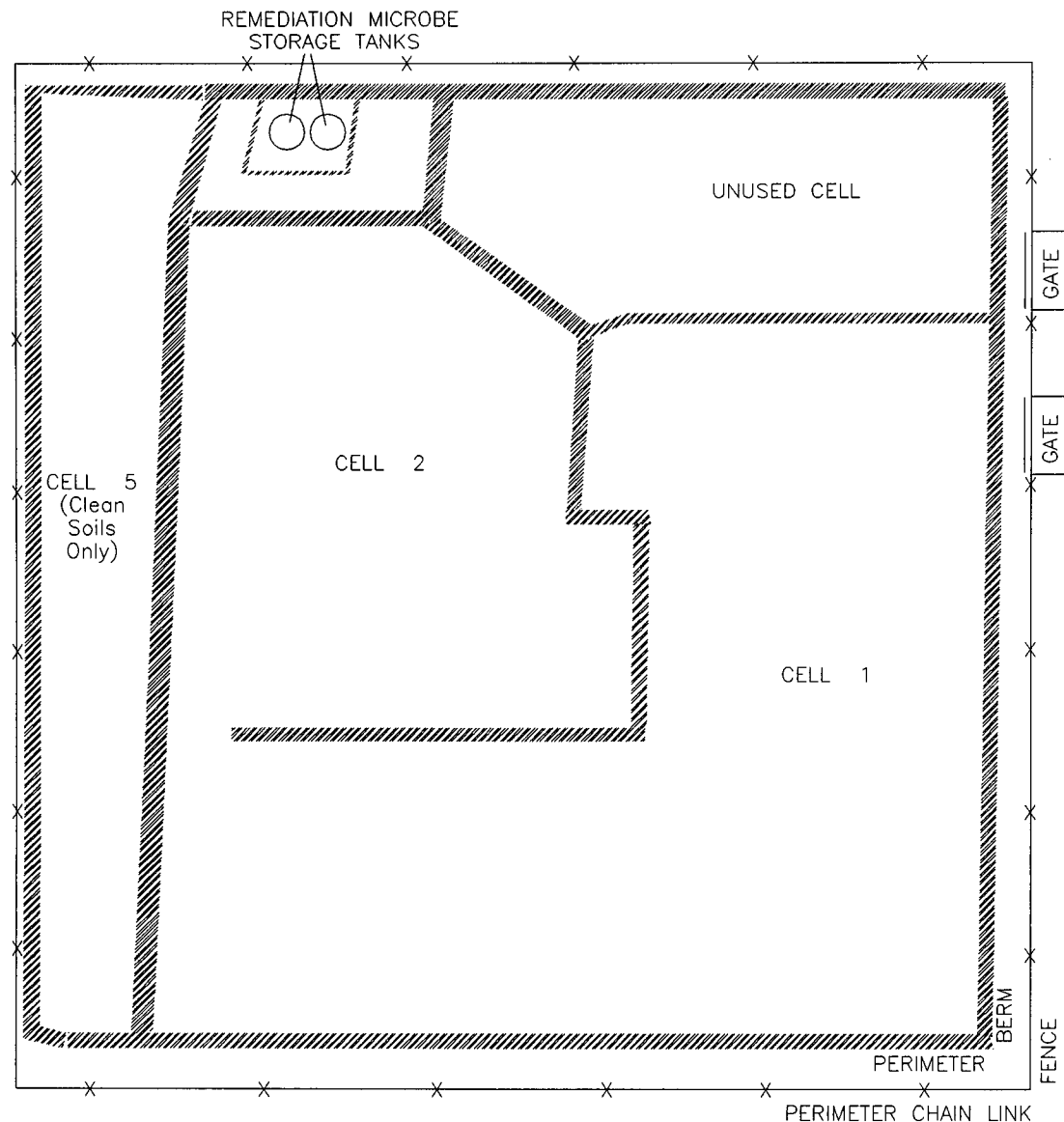
Respectfully submitted:
Blagg Engineering, Inc.



Jeffrey C. Blagg, P.E.
President

Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Brandon Powell, NMOCD Aztec District Office
Kevin Hansford, BP San Juan Operations Center
Jake Hatcher, IEI Farmington



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2006

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 1

CRMESA4

DRWN BY:
JCB

PROJ. MGR:
JCB

15429

san juan reproduction 578-129

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

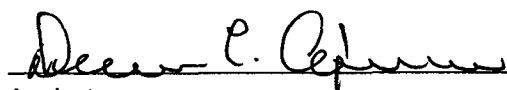
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	01-28-06
Laboratory Number:	35900	Date Sampled:	01-25-06
Chain of Custody No:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Extracted:	01-27-06
Preservative:	Cool	Date Analyzed:	01-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

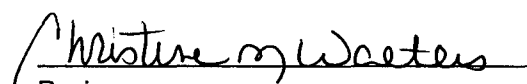
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3' Depth.**


Analyst


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

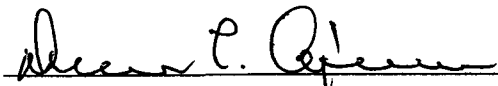
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	01-28-06
Laboratory Number:	35901	Date Sampled:	01-25-06
Chain of Custody No:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Extracted:	01-27-06
Preservative:	Cool	Date Analyzed:	01-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

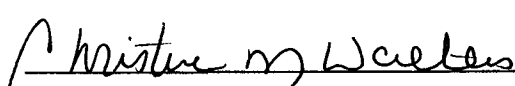
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F. 2'-3' Depth.


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

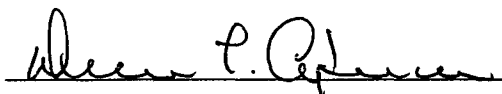
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 3	Date Reported:	01-28-06
Laboratory Number:	35902	Date Sampled:	01-25-06
Chain of Custody No:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Extracted:	01-27-06
Preservative:	Cool	Date Analyzed:	01-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

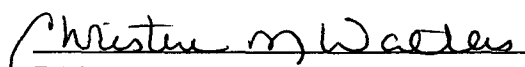
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3' Depth.**


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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:	01-28-06 QA/QC	Date Reported:	01-28-06
Laboratory Number:	35837	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-28-06
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	9.9784E+002	9.9884E+002	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.9983E+002	1.0018E+003	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

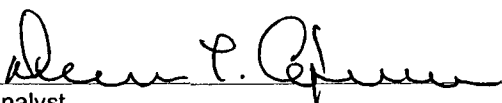
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

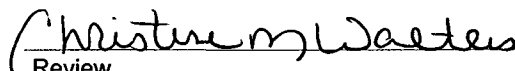
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 35837 - 35839, 35881 - 35884, 35900 - 35902.


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	01-28-06
Laboratory Number:	35900	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	Cool	Date Extracted:	01-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

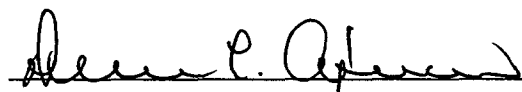
ND - Parameter not detected at the stated detection limit.

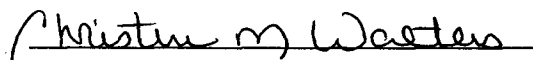
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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: Crouch Mesa L.F. 2'-3' Depth.


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Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	01-28-06
Laboratory Number:	35901	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	Cool	Date Extracted:	01-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

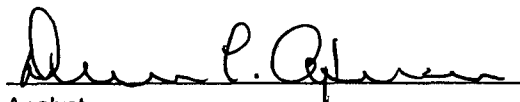
ND - Parameter not detected at the stated detection limit.

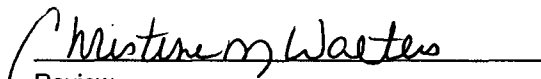
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2'-3' Depth.


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5	Date Reported:	01-28-06
Laboratory Number:	35902	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	Cool	Date Extracted:	01-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	5.7	2.2
o-Xylene	ND	1.0
Total BTEX	5.7	

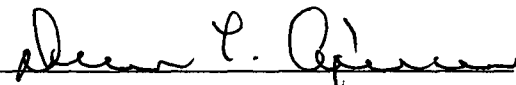
ND - Parameter not detected at the stated detection limit.

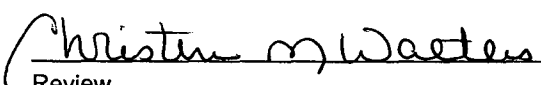
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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

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

Comments: Crouch Mesa L.F. 2'-3' Depth.


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	01-28-BTEX QA/QC	Date Reported:	01-28-06
Laboratory Number:	35881	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-28-06
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	5.1022E+007	5.1124E+007	0.2%	ND	0.2
Toluene	4.5349E+007	4.5439E+007	0.2%	ND	0.2
Ethylbenzene	3.4289E+007	3.4357E+007	0.2%	ND	0.2
p,m-Xylene	6.8628E+007	6.8766E+007	0.2%	ND	0.2
o-Xylene	3.2282E+007	3.2347E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	2.1	2.0	4.8%	0 - 30%	1.5
p,m-Xylene	5.6	5.6	0.0%	0 - 30%	2.2
o-Xylene	2.1	2.0	4.8%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	50.0	100.0%	46 - 148
Ethylbenzene	2.1	50.0	52.0	99.8%	32 - 160
p,m-Xylene	5.6	100	105	99.8%	46 - 148
o-Xylene	2.1	50.0	52.0	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 35881 - 35884. 35900 - 35902.


Analyst


Review

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	01-28-06
Laboratory Number:	35900	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	N/A	Date Digested:	01-28-06
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.073	0.001	5.0
Barium	0.477	0.001	100
Cadmium	0.003	0.001	1.0
Chromium	0.141	0.001	5.0
Lead	0.221	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

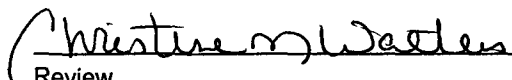
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F. 2' - 3' Depth.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	01-28-06
Laboratory Number:	35901	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	N/A	Date Digested:	01-28-06
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.071	0.001	5.0
Barium	6.06	0.001	100
Cadmium	0.004	0.001	1.0
Chromium	0.126	0.001	5.0
Lead	0.290	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

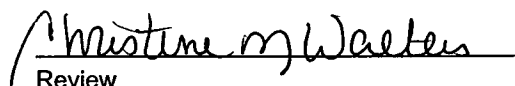
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F. 2' - 3' Depth.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5	Date Reported:	01-28-06
Laboratory Number:	35902	Date Sampled:	01-25-06
Chain of Custody:	15429	Date Received:	01-25-06
Sample Matrix:	Soil	Date Analyzed:	01-28-06
Preservative:	N/A	Date Digested:	01-28-06
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.082	0.001	5.0
Barium	0.947	0.001	100
Cadmium	0.003	0.001	1.0
Chromium	0.086	0.001	5.0
Lead	0.202	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

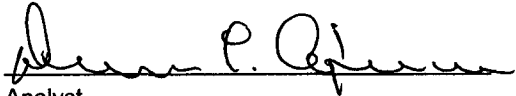
ND - Parameter not detected at the stated detection limit.

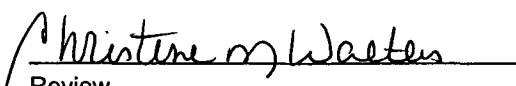
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F. 2' - 3' Depth.


Analyst


Review

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	QA/QC
Sample ID:	01-28 TM QA/QC	Date Reported:	01-28-06
Laboratory Number:	35900	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	01-28-06
Condition:	N/A	Date Digested:	01-28-06

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.073	0.075	2.7%	0% - 30%
Barium	ND	ND	0.001	0.477	0.480	0.6%	0% - 30%
Cadmium	ND	ND	0.001	0.003	0.003	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.141	0.143	1.4%	0% - 30%
Lead	ND	ND	0.001	0.221	0.224	1.4%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

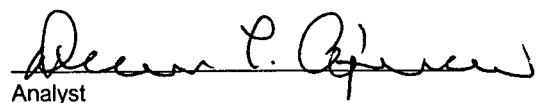
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.073	0.574	100.2%	80% - 120%
Barium	0.500	0.477	0.975	99.8%	80% - 120%
Cadmium	0.500	0.003	0.502	99.8%	80% - 120%
Chromium	0.500	0.141	0.64	99.8%	80% - 120%
Lead	0.500	0.221	0.72	99.9%	80% - 120%
Mercury	0.500	ND	0.500	100.0%	80% - 120%
Selenium	0.500	ND	0.499	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

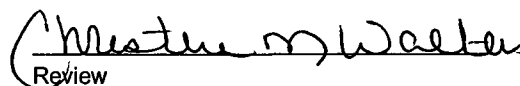
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for Samples 35900 - 35902.


Analyst


Review

15850

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

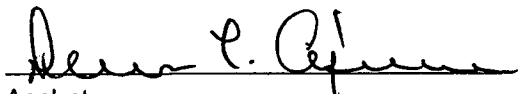
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	04-29-06
Laboratory Number:	36948	Date Sampled:	04-25-06
Chain of Custody No:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Extracted:	04-27-06
Preservative:	Cool	Date Analyzed:	04-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

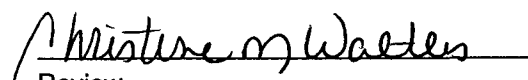
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. Vadose Zone 2'-3'.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

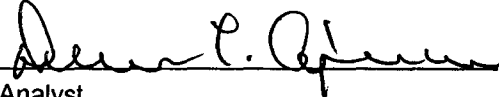
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	04-29-06
Laboratory Number:	36949	Date Sampled:	04-25-06
Chain of Custody No:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Extracted:	04-27-06
Preservative:	Cool	Date Analyzed:	04-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

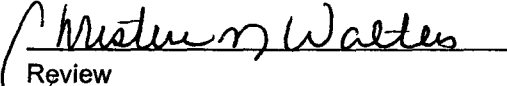
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.0	0.2
Diesel Range (C10 - C28)	0.6	0.1
Total Petroleum Hydrocarbons	1.6	0.2

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: Crouch Mesa L.F. Vadose Zone 3'-4'.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

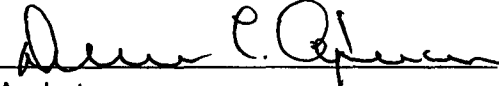
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	04-29-06
Laboratory Number:	36950	Date Sampled:	04-25-06
Chain of Custody No:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Extracted:	04-27-06
Preservative:	Cool	Date Analyzed:	04-28-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

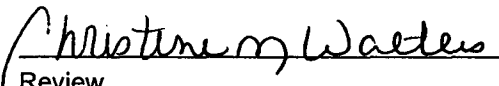
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	4.1	0.2
Diesel Range (C10 - C28)	2.0	0.1
Total Petroleum Hydrocarbons	6.1	0.2

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: **Crouch Mesa L.F. Vadose Zone 2'-3'.**


Analyst


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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:	04-28-06 QA/QC	Date Reported:	04-29-06
Laboratory Number:	36943	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-28-06
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	02-04-05	9.9930E+002	1.0003E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.9810E+002	1.0001E+003	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

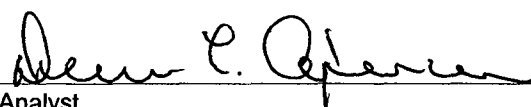
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	3.4	3.4	0.0%	0 - 30%

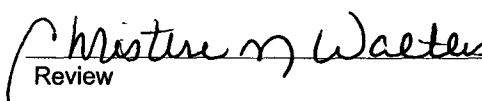
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	3.4	250	253	99.9%	75 - 125%

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 36943 - 36952.


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	04-28-06
Laboratory Number:	36948	Date Sampled:	04-25-06
Chain of Custody:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Analyzed:	04-28-06
Preservative:	Cool	Date Extracted:	04-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	17.4	1.7
Ethylbenzene	6.2	1.5
p,m-Xylene	82.0	2.2
o-Xylene	16.2	1.0
Total BTEX	122	

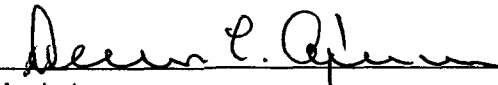
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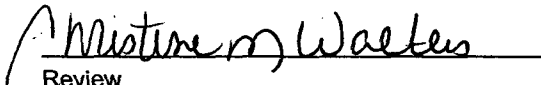
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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: Crouch Mesa L.F. Vadose Zone 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	04-28-06
Laboratory Number:	36949	Date Sampled:	04-25-06
Chain of Custody:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Analyzed:	04-28-06
Preservative:	Cool	Date Extracted:	04-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	77.2	1.7
Ethylbenzene	21.4	1.5
p,m-Xylene	262	2.2
o-Xylene	64.4	1.0
Total BTEX	425	

ND - Parameter not detected at the stated detection limit.

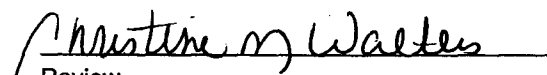
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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: Crouch Mesa L.F. Vadose Zone 3'-4'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	04-28-06
Laboratory Number:	36950	Date Sampled:	04-25-06
Chain of Custody:	15850	Date Received:	04-25-06
Sample Matrix:	Soil	Date Analyzed:	04-28-06
Preservative:	Cool	Date Extracted:	04-27-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	24.0	1.8
Toluene	610	1.7
Ethylbenzene	296	1.5
p,m-Xylene	1,770	2.2
o-Xylene	551	1.0
Total BTEX	3,250	

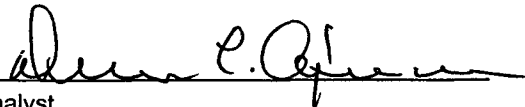
ND - Parameter not detected at the stated detection limit.

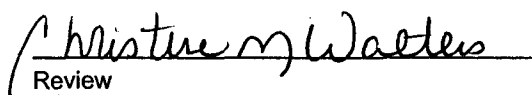
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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

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

Comments: Crouch Mesa L.F. Vadose Zone 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	04-28-BTEX QA/QC	Date Reported:	04-28-06
Laboratory Number:	36943	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-28-06
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	2.8809E+007	2.8867E+007	0.2%	ND	0.2
Toluene	1.0501E+008	1.0522E+008	0.2%	ND	0.2
Ethylbenzene	6.3751E+007	6.3879E+007	0.2%	ND	0.2
p,m-Xylene	1.9658E+008	1.9697E+008	0.2%	ND	0.2
o-Xylene	9.7067E+007	9.7262E+007	0.2%	ND	0.1

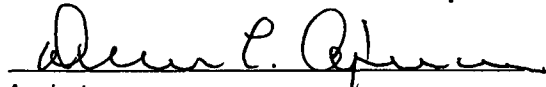
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	14.8	14.7	0.7%	0 - 30%	1.7
Ethylbenzene	2.9	2.9	0.0%	0 - 30%	1.5
p,m-Xylene	45.6	45.5	0.2%	0 - 30%	2.2
o-Xylene	12.5	12.5	0.0%	0 - 30%	1.0

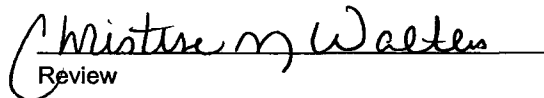
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	14.8	50.0	64.7	99.8%	46 - 148
Ethylbenzene	2.9	50.0	52.8	99.8%	32 - 160
p,m-Xylene	45.6	100	145	99.8%	46 - 148
o-Xylene	12.5	50.0	62.4	99.8%	46 - 148

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 36943 - 36952.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

Chloride

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	04-28-06
Lab ID#:	36948	Date Sampled:	04-25-06
Sample Matrix:	Soil	Date Received:	04-25-06
Preservative:	Cool	Date Analyzed:	04-27-06
Condition:	Cool and Intact	Chain of Custody:	15850

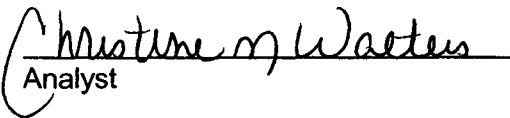
Parameter	Concentration (mg/Kg)
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Total Chloride

80.0

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

Comments: Crouch Mesa L.F. Vadose Zone 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

Chloride

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	04-28-06
Lab ID#:	36949	Date Sampled:	04-25-06
Sample Matrix:	Soil	Date Received:	04-25-06
Preservative:	Cool	Date Analyzed:	04-27-06
Condition:	Cool and Intact	Chain of Custody:	15850

Parameter

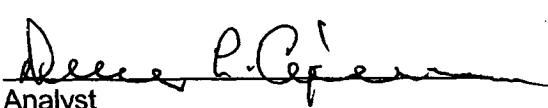
Concentration (mg/Kg)

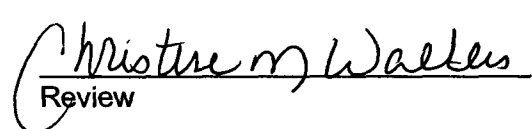
Total Chloride

208

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

Comments: Crouch Mesa L.F. Vadose Zone 3'-4'.


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

Chloride

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	04-28-06
Lab ID#:	36950	Date Sampled:	04-25-06
Sample Matrix:	Soil	Date Received:	04-25-06
Preservative:	Cool	Date Analyzed:	04-27-06
Condition:	Cool and Intact	Chain of Custody:	15850

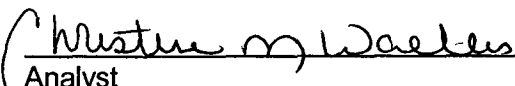
Parameter	Concentration (mg/Kg)
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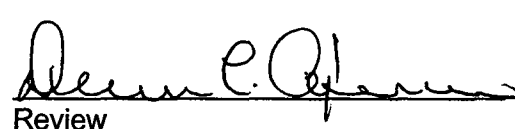
Total Chloride

234

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

Comments: Crouch Mesa L.F. Vadose Zone 2'-3'.


Analyst


Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	07-19-06
Laboratory Number:	37863	Date Sampled:	07-18-06
Chain of Custody:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Analyzed:	07-19-06
Preservative:	Cool	Date Extracted:	07-18-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

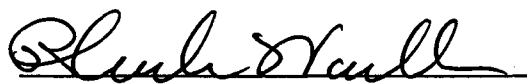
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2'


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	07-19-06
Laboratory Number:	37864	Date Sampled:	07-18-06
Chain of Custody:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Analyzed:	07-19-06
Preservative:	Cool	Date Extracted:	07-18-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

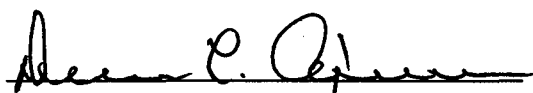
ND - Parameter not detected at the stated detection limit.

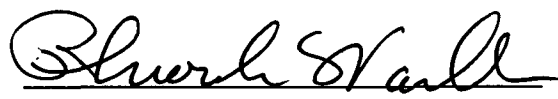
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2'


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5	Date Reported:	07-19-06
Laboratory Number:	37865	Date Sampled:	07-18-06
Chain of Custody:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Analyzed:	07-19-06
Preservative:	Cool	Date Extracted:	07-18-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

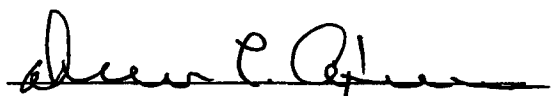
ND - Parameter not detected at the stated detection limit.

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: Crouch Mesa L.F. 2'-3'


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	07-19-BTEX QA/QC	Date Reported:	07-19-06
Laboratory Number:	37860	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-19-06
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	6.7239E+005	6.7374E+005	0.2%	ND	0.2
Toluene	9.0767E+007	9.0949E+007	0.2%	ND	0.2
Ethylbenzene	4.0658E+007	4.0739E+007	0.2%	ND	0.2
p,m-Xylene	1.5556E+008	1.5587E+008	0.2%	ND	0.2
o-Xylene	8.6379E+007	8.6552E+007	0.2%	ND	0.1

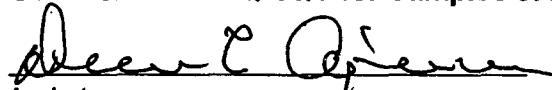
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	13.6	13.5	0.7%	0 - 30%	1.8
Toluene	76.5	76.4	0.1%	0 - 30%	1.7
Ethylbenzene	82.9	82.8	0.1%	0 - 30%	1.5
p,m-Xylene	459	458	0.2%	0 - 30%	2.2
o-Xylene	107	106	1.0%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	13.6	50.0	63.6	100.0%	39 - 150
Toluene	76.5	50.0	126	99.8%	46 - 148
Ethylbenzene	82.9	50.0	132	99.6%	32 - 160
p,m-Xylene	459	100	558	99.7%	46 - 148
o-Xylene	107	50.0	156	99.9%	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 37860 - 37861, 37863 - 37865


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

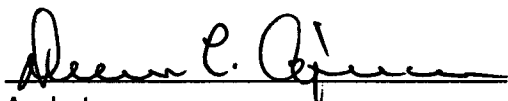
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	07-19-06
Laboratory Number:	37863	Date Sampled:	07-18-06
Chain of Custody No:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Extracted:	07-18-06
Preservative:	Cool	Date Analyzed:	07-19-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

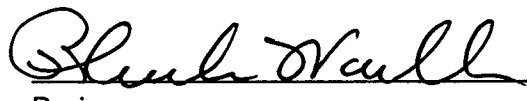
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'**


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

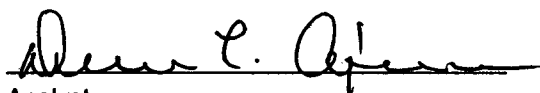
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	07-19-06
Laboratory Number:	37864	Date Sampled:	07-18-06
Chain of Custody No:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Extracted:	07-18-06
Preservative:	Cool	Date Analyzed:	07-19-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

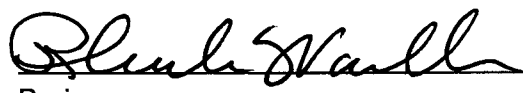
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'**


Analyst


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

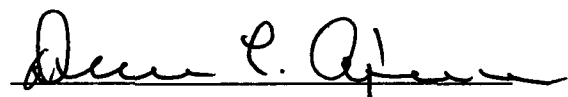
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5	Date Reported:	07-19-06
Laboratory Number:	37865	Date Sampled:	07-18-06
Chain of Custody No:	1216	Date Received:	07-18-06
Sample Matrix:	Soil	Date Extracted:	07-18-06
Preservative:	Cool	Date Analyzed:	07-19-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

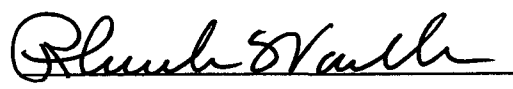
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3'**


Analyst


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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:	07-19-06 QA/QC	Date Reported:	07-19-06
Laboratory Number:	37858	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-19-06
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	9.9953E+002	1.0005E+003	0.10%	0 - 15%
Diesel Range C10 - C28	07-11-05	1.0052E+003	1.0073E+003	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

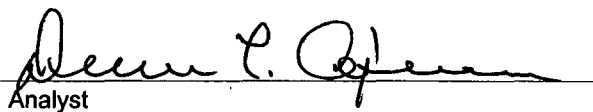
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

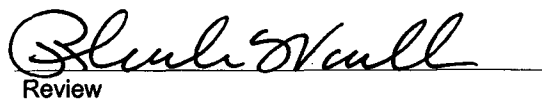
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 37858 - 37860, 37863 - 37865


Analyst


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

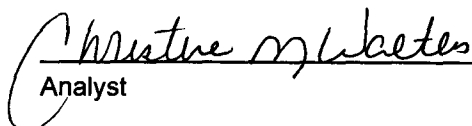
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1 @ 3'	Date Reported:	10-25-06
Laboratory Number:	38924	Date Sampled:	10-20-06
Chain of Custody No:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Extracted:	10-24-06
Preservative:	Cool	Date Analyzed:	10-25-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: Crouch Mesa L.F. Vadose Zone.


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

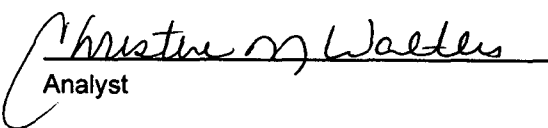
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2 @ 4'	Date Reported:	10-25-06
Laboratory Number:	38925	Date Sampled:	10-20-06
Chain of Custody No:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Extracted:	10-24-06
Preservative:	Cool	Date Analyzed:	10-25-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: Crouch Mesa L.F. Vadose Zone.


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

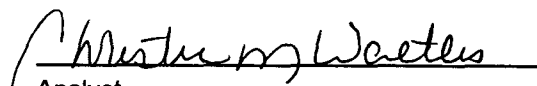
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5 @ 4'	Date Reported:	10-25-06
Laboratory Number:	38926	Date Sampled:	10-20-06
Chain of Custody No:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Extracted:	10-24-06
Preservative:	Cool	Date Analyzed:	10-25-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: Crouch Mesa L.F. Vadose Zone.


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:	10-25-06 QA/QC	Date Reported:	10-25-06
Laboratory Number:	38920	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-25-06
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	0.0000E+000	0.0000E+000	ERR	0 - 15%
Diesel Range C10 - C28	07-11-05	0.0000E+000	0.0000E+000	ERR	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

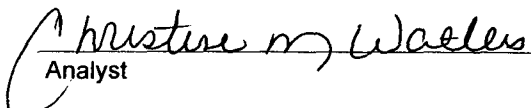
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	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 38920 - 38926.


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1 @ 3'	Date Reported:	10-25-06
Laboratory Number:	38924	Date Sampled:	10-20-06
Chain of Custody:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Analyzed:	10-25-06
Preservative:	Cool	Date Extracted:	10-24-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

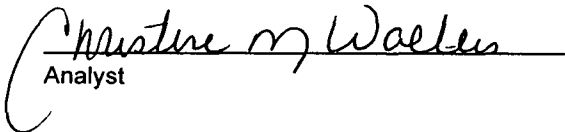
ND - Parameter not detected at the stated detection limit.

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: Crouch Mesa L.F. Vadose Zone.


Analyst


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2 @ 4'	Date Reported:	10-25-06
Laboratory Number:	38925	Date Sampled:	10-20-06
Chain of Custody:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Analyzed:	10-25-06
Preservative:	Cool	Date Extracted:	10-24-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

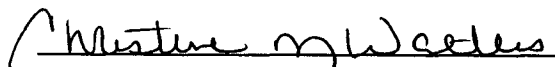
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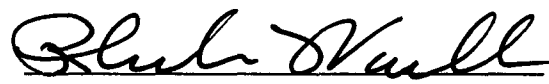
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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: Crouch Mesa L.F. Vadose Zone.


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5 @ 4'	Date Reported:	10-25-06
Laboratory Number:	38926	Date Sampled:	10-20-06
Chain of Custody:	1629	Date Received:	10-24-06
Sample Matrix:	Soil	Date Analyzed:	10-25-06
Preservative:	Cool	Date Extracted:	10-24-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

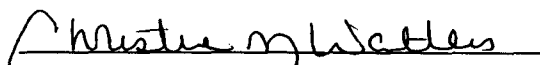
ND - Parameter not detected at the stated detection limit.

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: Crouch Mesa L.F. Vadose Zone.


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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	10-25-BTEX QA/QC	Date Reported:	10-24-06
Laboratory Number:	38924	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-25-06
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	4.0594E+007	4.0675E+007	0.2%	ND	0.2
Toluene	5.3427E+007	5.3534E+007	0.2%	ND	0.2
Ethylbenzene	2.4410E+007	2.4459E+007	0.2%	ND	0.2
p,m-Xylene	9.6337E+007	9.6530E+007	0.2%	ND	0.2
o-Xylene	4.2347E+007	4.2432E+007	0.2%	ND	0.1

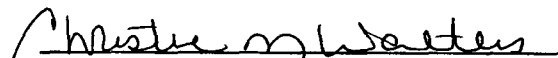
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

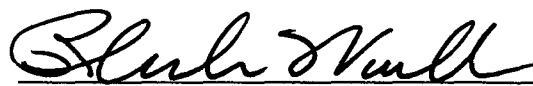
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100.0%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.0	98.0%	32 - 160
p,m-Xylene	ND	100	100	100.0%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

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 38924 - 38926


Analyst


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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / BP
Sample ID: Cell 1 @ 3'
Laboratory Number: 38924
Chain of Custody: 1629
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

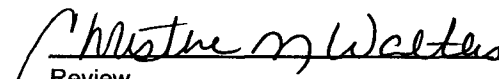
Project #: 94034-010
Date Reported: 10-25-06
Date Sampled: 10-20-06
Date Received: 10-24-06
Date Extracted: 10-24-06
Date Analyzed: 10-25-06

Parameter	Analytical Result	Units		
pH	7.50	s.u.		
Conductivity @ 25° C	2,280	umhos/cm		
Total Dissolved Solids @ 180C	1,140	mg/L		
Total Dissolved Solids (Calc)	1,055	mg/L		
SAR	0.9	ratio		
Total Alkalinity as CaCO3	13.6	mg/L		
Total Hardness as CaCO3	654	mg/L		
Bicarbonate as HCO3	13.6	mg/L	0.22	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.3	mg/L	0.02	meq/L
Nitrite Nitrogen	0.008	mg/L	0.00	meq/L
Chloride	48.0	mg/L	1.35	meq/L
Fluoride	0.74	mg/L	0.04	meq/L
Phosphate	0.7	mg/L	0.02	meq/L
Sulfate	674	mg/L	14.03	meq/L
Iron	<0.1	mg/L	0.00	meq/L
Calcium	256	mg/L	12.77	meq/L
Magnesium	4.41	mg/L	0.36	meq/L
Potassium	5.70	mg/L	0.15	meq/L
Sodium	55.4	mg/L	2.41	meq/L
Cations			15.69	meq/L
Anions			15.69	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. Vadose Zone.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

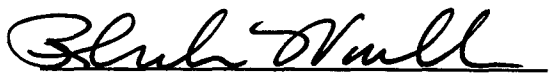
Client: Blagg / BP
Sample ID: Cell 2 @ 4'
Laboratory Number: 38925
Chain of Custody: 1629
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

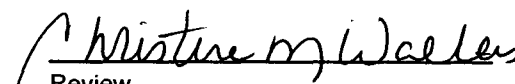
Project #: 94034-010
Date Reported: 10-25-06
Date Sampled: 10-20-06
Date Received: 10-24-06
Date Extracted: 10-24-06
Date Analyzed: 10-25-06

Parameter	Analytical Result	Units		
pH	8.63	s.u.		
Conductivity @ 25° C	395	umhos/cm		
Total Dissolved Solids @ 180C	212	mg/L		
Total Dissolved Solids (Calc)	209	mg/L		
SAR	2.7	ratio		
Total Alkalinity as CaCO3	43.2	mg/L		
Total Hardness as CaCO3	62.0	mg/L		
Bicarbonate as HCO3	43.2	mg/L	0.71	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	4.1	mg/L	0.07	meq/L
Nitrite Nitrogen	0.003	mg/L	0.00	meq/L
Chloride	44.0	mg/L	1.24	meq/L
Fluoride	<0.1	mg/L	0.00	meq/L
Phosphate	13.7	mg/L	0.43	meq/L
Sulfate	47.0	mg/L	0.98	meq/L
Iron	0.019	mg/L	0.00	meq/L
Calcium	21.8	mg/L	1.09	meq/L
Magnesium	2.20	mg/L	0.18	meq/L
Potassium	1.40	mg/L	0.04	meq/L
Sodium	48.8	mg/L	2.12	meq/L
Cations			3.43	meq/L
Anions			3.43	meq/L
Cation/Anion Difference			0.04%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. Vadose Zone.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / BP
Sample ID: Cell 5 @ 4'
Laboratory Number: 38926
Chain of Custody: 1629
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 10-25-06
Date Sampled: 10-20-06
Date Received: 10-24-06
Date Extracted: 10-24-06
Date Analyzed: 10-25-06

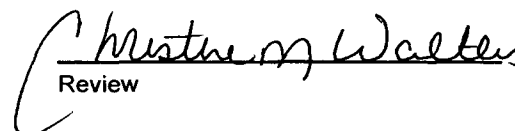
Parameter	Analytical Result	Units		
pH	9.26	s.u.		
Conductivity @ 25° C	1,970	umhos/cm		
Total Dissolved Solids @ 180C	1,060	mg/L		
Total Dissolved Solids (Calc)	1,052	mg/L		
SAR	12.7	ratio		
Total Alkalinity as CaCO3	35.8	mg/L		
Total Hardness as CaCO3	114	mg/L		
Bicarbonate as HCO3	35.8	mg/L	0.59	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.6	mg/L	0.03	meq/L
Nitrite Nitrogen	0.007	mg/L	0.00	meq/L
Chloride	176	mg/L	4.96	meq/L
Fluoride	0.23	mg/L	0.01	meq/L
Phosphate	0.4	mg/L	0.01	meq/L
Sulfate	500	mg/L	10.41	meq/L
Iron	<0.1	mg/L	0.00	meq/L
Calcium	14.2	mg/L	0.71	meq/L
Magnesium	19.1	mg/L	1.57	meq/L
Potassium	8.1	mg/L	0.21	meq/L
Sodium	311	mg/L	13.53	meq/L
Cations			16.02	meq/L
Anions			16.01	meq/L
Cation/Anion Difference			0.02%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. Vadose Zone.



Analyst



Review

Hall Environmental Analysis Laboratory, Inc.

Date: 06-Nov-06

CLIENT: Envirotech
Lab Order: 0610291
Project: Blagg/BP
Lab ID: 0610291-01

Client Sample ID: 38924
Collection Date: 10/20/2006 2:45:00 PM
Date Received: 10/26/2006
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: MAP
Mercury	ND	0.033		mg/Kg	1	10/31/2006
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	11	2.5		mg/Kg	1	10/30/2006 10:36:00 AM
Barium	4.7	0.10		mg/Kg	1	10/30/2006 10:36:00 AM
Cadmium	ND	0.10		mg/Kg	1	10/30/2006 10:36:00 AM
Chromium	1.3	0.30		mg/Kg	1	10/30/2006 10:36:00 AM
Lead	8.0	0.25		mg/Kg	1	10/30/2006 10:36:00 AM
Selenium	ND	2.5		mg/Kg	1	10/30/2006 10:36:00 AM
Silver	ND	0.25		mg/Kg	1	10/30/2006 10:36:00 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 06-Nov-06

CLIENT: Envirotech

Client Sample ID: 38925

Lab Order: 0610291

Collection Date: 10/20/2006 2:15:00 PM

Project: Blagg/BP

Date Received: 10/26/2006

Lab ID: 0610291-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: MAP
Mercury	ND	0.033		mg/Kg	1	10/31/2006
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	ND	2.5		mg/Kg	1	10/30/2006 10:40:07 AM
Barium	100	0.40		mg/Kg	4	10/30/2006 2:00:02 PM
Cadmium	ND	0.10		mg/Kg	1	10/30/2006 10:40:07 AM
Chromium	2.1	0.30		mg/Kg	1	10/30/2006 10:40:07 AM
Lead	2.7	0.25		mg/Kg	1	10/30/2006 10:40:07 AM
Selenium	ND	2.5		mg/Kg	1	10/30/2006 10:40:07 AM
Silver	ND	0.25		mg/Kg	1	10/30/2006 10:40:07 AM

Qualifiers: * Value exceeds Maximum Contaminant Level
E Value above quantitation range
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Date: 06-Nov-06

CLIENT: Envirotech
Lab Order: 0610291
Project: Blagg/BP
Lab ID: 0610291-03

Client Sample ID: 38926
Collection Date: 10/20/2006 2:30:00 PM
Date Received: 10/26/2006
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7471: MERCURY						Analyst: MAP
Mercury	ND	0.033		mg/Kg	1	10/31/2006
EPA METHOD 6010B: SOIL METALS						Analyst: NMO
Arsenic	3.2	2.5		mg/Kg	1	10/30/2006 10:44:13 AM
Barium	16	0.10		mg/Kg	1	10/30/2006 10:44:13 AM
Cadmium	ND	0.10		mg/Kg	1	10/30/2006 10:44:13 AM
Chromium	4.4	0.30		mg/Kg	1	10/30/2006 10:44:13 AM
Lead	4.1	0.25		mg/Kg	1	10/30/2006 10:44:13 AM
Selenium	ND	2.5		mg/Kg	1	10/30/2006 10:44:13 AM
Silver	ND	0.25		mg/Kg	1	10/30/2006 10:44:13 AM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
MCL Maximum Contaminant Level
RL Reporting Limit

QA/QC SUMMARY REPORT

Client: Envirotech
Project: Blagg/BP

Work Order: 0610291

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW7471									
Sample ID: 0610291-03AMSD		MSD							
Mercury	0.1611	mg/Kg	0.033	93.2	75	125	0.265	20	
Sample ID: MB-11615		MBLK							
Mercury	ND	mg/Kg	0.033						
Sample ID: LCS-11615		LCS							
Mercury	0.1620	mg/Kg	0.033	97.2	80	120			
Sample ID: 0610291-03AMS		MS							
Mercury	0.1615	mg/Kg	0.033	94.4	75	125			

Method: SW6010A									
Sample ID: MB-11596		MBLK							
Arsenic	ND	mg/Kg	2.5						
Barium	ND	mg/Kg	0.10						
Cadmium	ND	mg/Kg	0.10						
Chromium	ND	mg/Kg	0.30						
Lead	ND	mg/Kg	0.25						
Selenium	ND	mg/Kg	2.5						
Silver	ND	mg/Kg	0.25						
Sample ID: MB-11596		MBLK							
Selenium	ND	mg/Kg	2.5						
Sample ID: LCS-11596		LCS							
Arsenic	25.38	mg/Kg	2.5	102	80	120			
Barium	24.12	mg/Kg	0.10	96.2	80	120			
Cadmium	24.50	mg/Kg	0.10	97.8	80	120			
Chromium	24.79	mg/Kg	0.30	98.9	80	120			
Lead	23.64	mg/Kg	0.25	94.5	80	120			
Selenium	21.71	mg/Kg	2.5	86.8	80	120			
Silver	24.56	mg/Kg	0.25	97.9	80	120			
Sample ID: LCS-11596		LCS							
Selenium	24.33	mg/Kg	2.5	97.3	80	120			

Qualifiers:

E Value above quantitation range
J Analyte detected below quantitation limits
R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name ENV T

Date and Time Received:

10/26/2006

Work Order Number 0610291

Received by AT

Checklist completed by



10/26/06

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Not Shipped ☐

Custody seals intact on sample bottles?

Yes ☐

No ☒

N/A ☐

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Water - VOA vials have zero headspace?

No VOA vials submitted ☒

Yes ☐

No ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

Container/Temp Blank temperature?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted

Date contacted:

Person contacted

Contacted by:

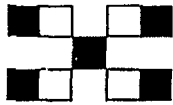
Regarding

Comments:

Corrective Action

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.3976
www.hallenvironmental.com



ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)
BTEX + MTBE + TPH (Gasoline D
TPH Method 8015B (Gas/Diesel)
TPH (Method 418.1)
EDB (Method 504.1)
EDC (Method 8021)
8310 (PNA or PAH)
RCRA 8 Metals
Anions (F, Cl, NO ₂ , NO ₃ , PO ₄ , SO ₄)
8081 Pesticides / PCB's (8082)
8260B (VOA)
8270 (Semi-VOA)
Air Bubbles or Headspace (Y or N)

Remarks:

REF PO # 5040

CHAIN-OF-CUSTODY RECORD									
QA/QC Package: ☐ Std ☐ Level 4 ☐ Other: _____									
Client: ENVIROTECH		Project Name: BLAGG/BP							
Address: 5796 US HWY 64		Project #: 94034-010							
FARMINGTON, NM		Project Manager: CHRISTINE WAITERS							
Phone #: 505 632 0651		Sampler: JEFF BLAGG							
Fax #: _____		Sample Temperature: 4°							
Email: dajerman@envirotech-inc.com		Number/Volume		Preservative		HEAL No.			
Date	Time	Matrix	Sample I.D. No.	HgCl ₂	HNO ₃				
10/20/06	1445	SOIL	38924	1-4oz. JAR					0610291
↓	1415	↓	38925	1-4oz. JAR					-1
↓	1430	↓	38926	1-4oz. JAR					-2
									-3
Date: 10/25/06		Time: 10:15		Relinquished By: (Signature) <i>Paula Stahl</i>		Time: _____		Received By: (Signature) <i>Jeff Blagg</i>	
Date: _____		Time: _____		Relinquished By: (Signature) _____		Time: _____		Received By: (Signature) _____	

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL

RECEIVED

NOV 14 2005

OIL CONSERVATION
DIVISION

November 8, 2005

Mr. Ed Martin
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Martin:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2005 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2004 through November 30, 2005 reporting period. Treatment zone monitoring is conducted quarterly and test results are submitted annually to NMOCD. Analytical test results indicate the facility met standards with each sample event.

Sampling protocol specifies collection of subsurface samples in each cell from the native ground surface below the treatment zone during quarterly monitoring. Quarterly test procedures include total petroleum hydrocarbons (TPH) and benzene, toluene, ethyl-benzene and xylenes (BTEX). Heavy metals and major cations/anions are to be collected for at least one quarterly sample event. During this reporting period, metals and cations/anions were sampled on August 25, 2005.

The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). The northeast portion of the facility (identified as 'unused cell') is used for equipment and materials storage only.

Attached are complete laboratory test reports for facility treatment zone monitoring. Presented in Table 1 on the following page is a summary of these quarterly laboratory test reports:

Table 1

**BP Crouch Mesa Waste Management Facility
2005 Annual Treatment Zone Monitoring Test Results**

Treatment Cell Identification	TPH mg/Kg	Benz mg/Kg	BTEX mg/Kg	As mg/Kg	Ba mg/Kg	Cd mg/Kg	Cr mg/Kg	Pb mg/Kg	Hg mg/Kg	Se mg/Kg	Ag mg/Kg
<u>Cell No. 1</u>											
2/17/05	ND	0.03	0.07	--	--	--	--	--	--	--	--
4/26/05	0.4	0.0065	0.15	--	--	--	--	--	--	--	--
8/25/05	ND	ND	ND	0.089	3.99	0.052	0.341	0.271	ND	0.564	0.004
10/28/05	ND	ND	0.016	--	--	--	--	--	--	--	--
<u>Cell No. 2</u>											
2/17/05	ND	0.0098	0.047	--	--	--	--	--	--	--	--
4/26/05	1.2	0.0058	0.104	--	--	--	--	--	--	--	--
8/25/05	ND	ND	ND	0.161	2.95	0.055	0.286	0.315	ND	0.624	0.007
10/28/05	ND	ND	0.0046	--	--	--	--	--	--	--	--
<u>Cell No. 5</u>											
2/17/05	ND	0.0098	0.027	--	--	--	--	--	--	--	--
4/26/05	0.3	0.0023	0.174	--	--	--	--	--	--	--	--
8/25/05	ND	ND	ND	0.122	64.6	0.049	0.237	0.359	ND	0.661	0.003
10/28/05	0.8	ND	0.0018	--	--	--	--	--	--	--	--
REGULATORY STANDARD	100	10	50	5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

ND = Not Detected

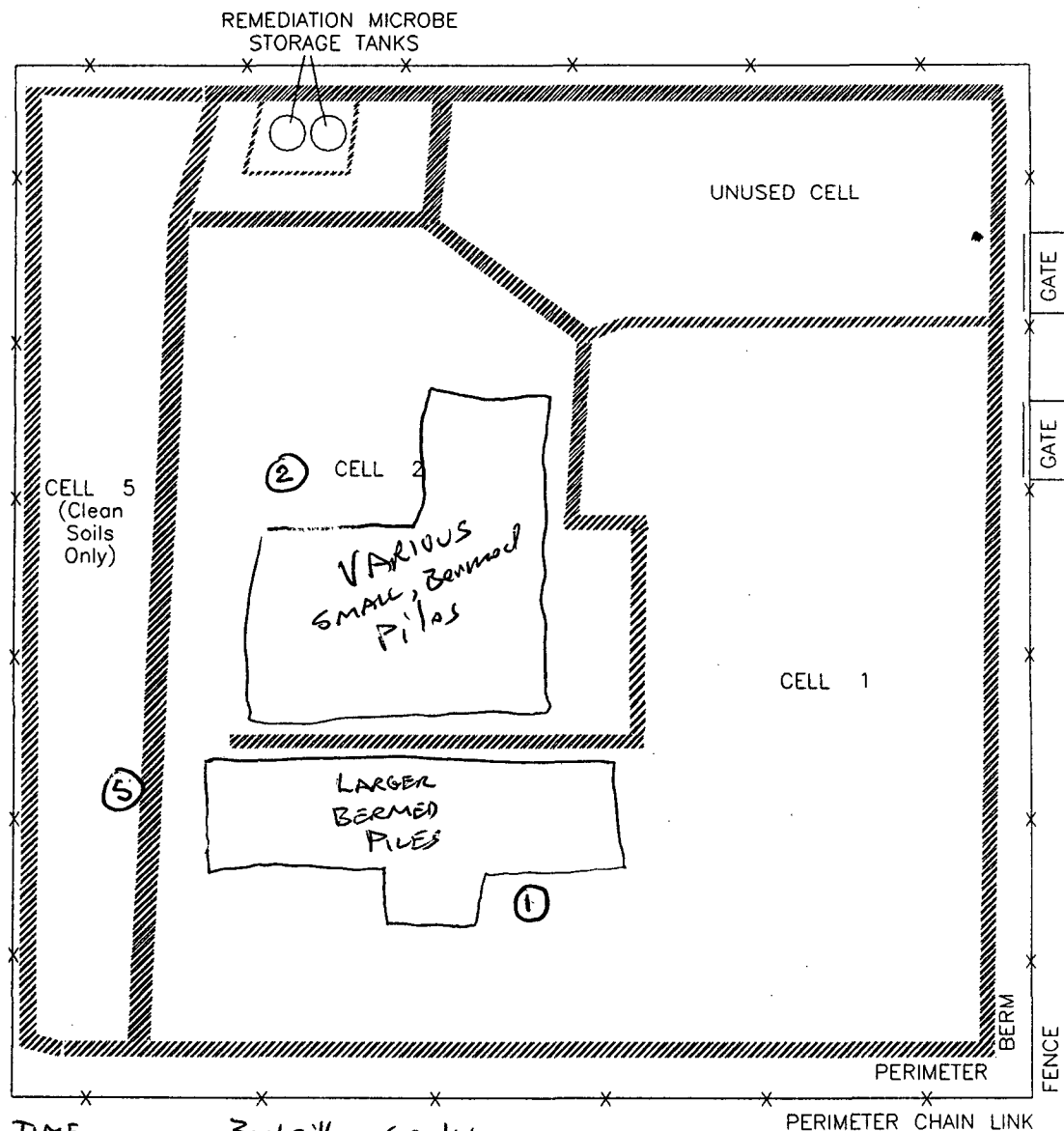
Questions or comments concerning the this transmittal may be directed to myself at (505)632-1199 or Don Brooks with BP at (505)326-9200.

Respectfully submitted:
Blagg Engineering, Inc.


Jeffrey C. Blagg, P.E.
President

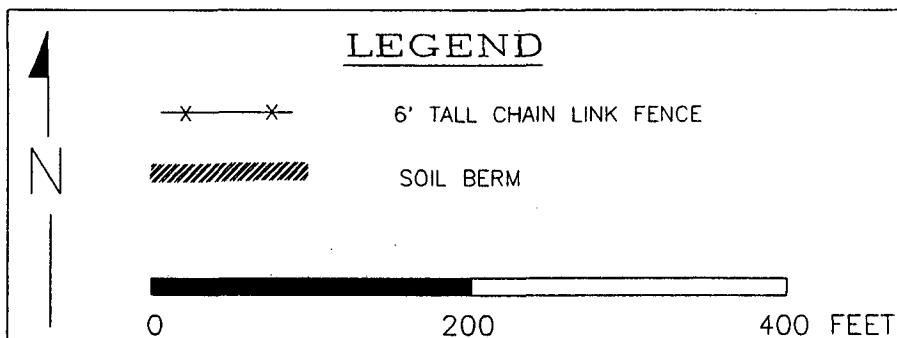
Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Denny Foust, NMOCD Aztec District Office
Don Brooks, BP San Juan Operations Center
Jake Hatcher, IEI Farmington



CELL	DEPTH	TIME	BACKFILL w/ cuttings, mixed w/ Powdered Bentonite
2	2'-3'	1100	
5	2'-3'	1120	
1	2'-3'	1145	

*J.C. Blagg
2-17-05*



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2004

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE
SCHEMATIC

FIGURE 1

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

13602

san juan reproduction 578-129

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	02-18-05
Laboratory Number:	32155	Date Sampled:	02-17-05
Chain of Custody No:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Extracted:	02-18-05
Preservative:	Cool	Date Analyzed:	02-18-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

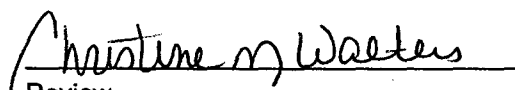
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2' - 3'.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

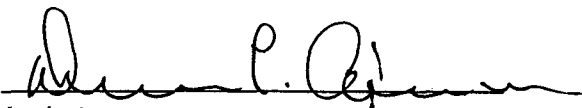
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	02-18-05
Laboratory Number:	32156	Date Sampled:	02-17-05
Chain of Custody No:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Extracted:	02-18-05
Preservative:	Cool	Date Analyzed:	02-18-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

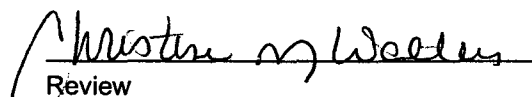
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2' - 3'**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

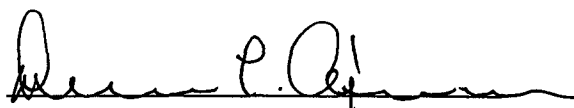
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	02-18-05
Laboratory Number:	32157	Date Sampled:	02-17-05
Chain of Custody No:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Extracted:	02-18-05
Preservative:	Cool	Date Analyzed:	02-18-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

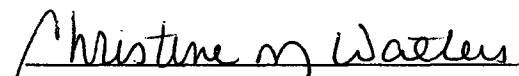
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2' - 3'**


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:	02-18-05 QA/QC	Date Reported:	02-18-05
Laboratory Number:	32151	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-18-05
Condition:	N/A	Analysis Requested:	TPH

	Cal Date	Cal RF	Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	9.8394E+002	9.8493E+002	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.4887E+002	9.5077E+002	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

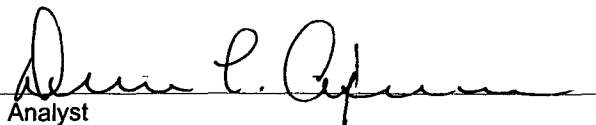
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

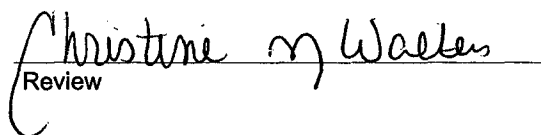
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 32151 - 32153, 32155 - 32157.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	02-18-05
Laboratory Number:	32155	Date Sampled:	02-17-05
Chain of Custody:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Analyzed:	02-18-05
Preservative:	Cool	Date Extracted:	02-18-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	30.3	2.1
Toluene	12.8	1.8
Ethylbenzene	9.2	1.7
p,m-Xylene	18.5	1.5
o-Xylene	ND	2.2
Total BTEX	70.8	

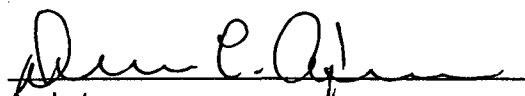
ND - Parameter not detected at the stated detection limit.

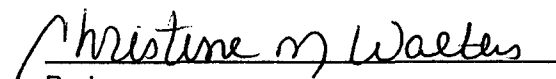
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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

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

Comments: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	02-18-05
Laboratory Number:	32156	Date Sampled:	02-17-05
Chain of Custody:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Analyzed:	02-18-05
Preservative:	Cool	Date Extracted:	02-18-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	9.8	2.1
Toluene	7.9	1.8
Ethylbenzene	9.2	1.7
p,m-Xylene	19.7	1.5
o-Xylene	ND	2.2
Total BTEX	46.6	

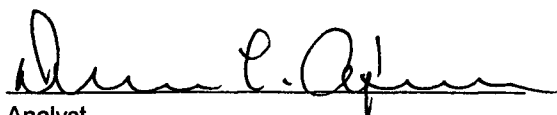
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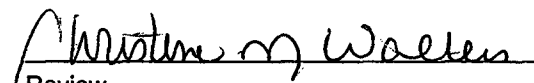
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	02-18-05
Laboratory Number:	32157	Date Sampled:	02-17-05
Chain of Custody:	13602	Date Received:	02-17-05
Sample Matrix:	Soil	Date Analyzed:	02-18-05
Preservative:	Cool	Date Extracted:	02-18-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	9.8	2.1
Toluene	7.9	1.8
Ethylbenzene	9.2	1.7
p,m-Xylene	ND	1.5
o-Xylene	ND	2.2
Total BTEX	26.9	

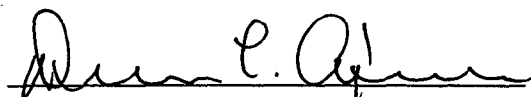
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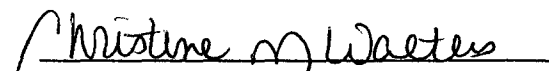
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	02-18-BTEX QA/QC	Date Reported:	02-18-05
Laboratory Number:	32151	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-18-05
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	4.5310E+006	4.5401E+006	0.2%	ND	0.2
Toluene	3.2491E+006	3.2556E+006	0.2%	ND	0.2
Ethylbenzene	2.0613E+006	2.0654E+006	0.2%	ND	0.2
p,m-Xylene	6.0729E+006	6.0851E+006	0.2%	ND	0.2
o-Xylene	2.1719E+006	2.1763E+006	0.2%	ND	0.1

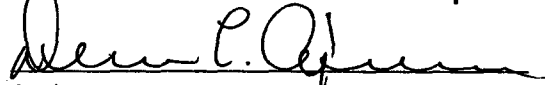
Duplicate Conc (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	20.3	19.2	5.4%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	13.1	13.0	0.8%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

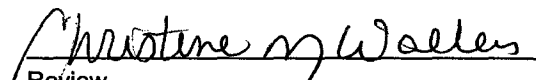
Spike Conc (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	20.3	50.0	70.2	99.9%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	13.1	100	113	99.9%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

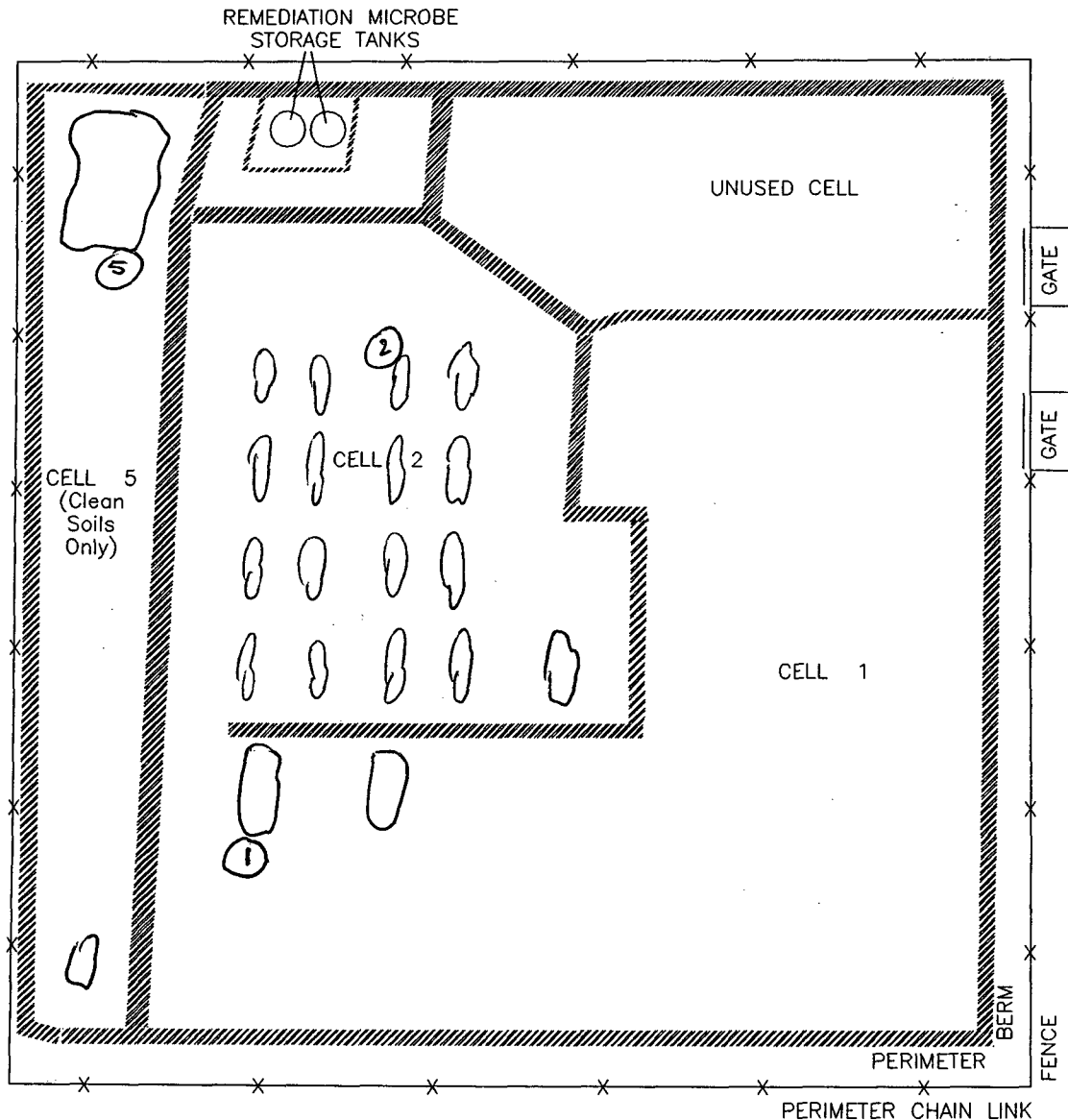
ND - Parameter not detected at the stated detection limit.

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 32151 - 32153, 32155 - 32157.


Analyst


Review

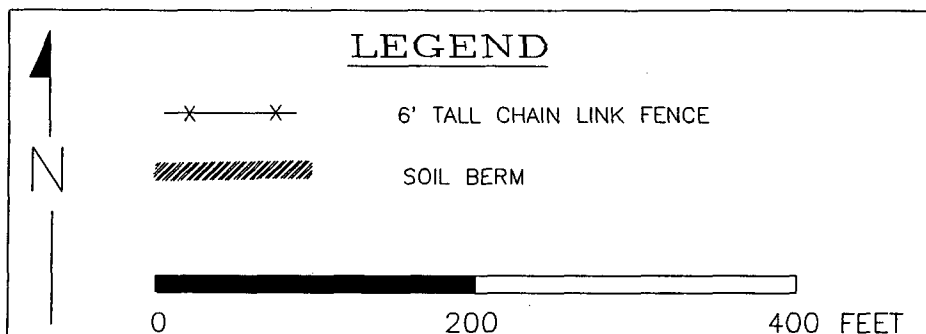


APRIL 26, 2005

CELL	DEPTH	TIME
②	2'-3'	0850
⑤	2'-3'	0910
①	2'-3'	0930

SUBMIT FOR TPH + BTEX

Backfill w/ cuttings mixed w/ Best Rellets



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2004

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 1

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

13986

san iuan reproduction 578-129

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

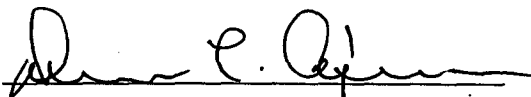
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	04-27-05
Laboratory Number:	32777	Date Sampled:	04-26-05
Chain of Custody No:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Extracted:	04-26-05
Preservative:	Cool	Date Analyzed:	04-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

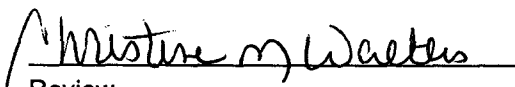
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.4	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.4	0.2

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

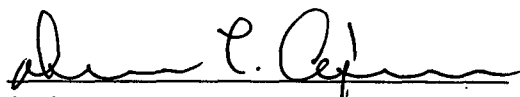
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	04-27-05
Laboratory Number:	32778	Date Sampled:	04-26-05
Chain of Custody No:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Extracted:	04-26-05
Preservative:	Cool	Date Analyzed:	04-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

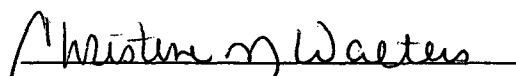
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	0.9	0.1
Total Petroleum Hydrocarbons	1.2	0.2

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: **Crouch Mesa L.F. 2' - 3'.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	04-27-05
Laboratory Number:	32779	Date Sampled:	04-26-05
Chain of Custody No:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Extracted:	04-26-05
Preservative:	Cool	Date Analyzed:	04-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

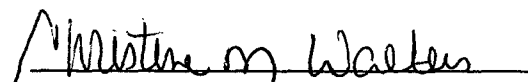
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.2

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: Crouch Mesa L.F. 2' - 3'.


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:	04-27-05 QA/QC	Date Reported:	04-27-05
Laboratory Number:	32777	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-27-05
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	1.0001E+003	1.0011E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.9915E+002	1.0011E+003	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

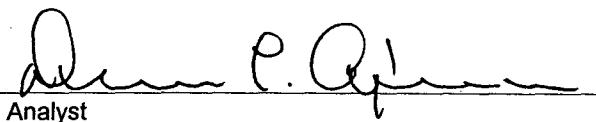
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.4	0.4	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

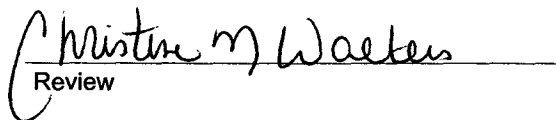
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.4	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 32777 - 32779.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	04-27-05
Laboratory Number:	32777	Date Sampled:	04-26-05
Chain of Custody:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Analyzed:	04-27-05
Preservative:	Cool	Date Extracted:	04-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	6.5	2.1
Toluene	15.5	1.8
Ethylbenzene	13.5	1.7
p,m-Xylene	67.8	1.5
o-Xylene	47.1	2.2
Total BTEX	150	

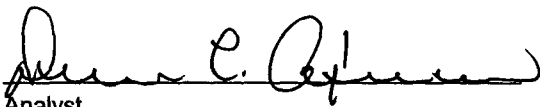
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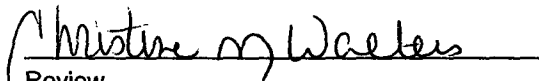
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L. F. 2' - 3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	04-27-05
Laboratory Number:	32778	Date Sampled:	04-26-05
Chain of Custody:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Analyzed:	04-27-05
Preservative:	Cool	Date Extracted:	04-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	5.8	2.1
Toluene	12.6	1.8
Ethylbenzene	9.3	1.7
p,m-Xylene	59.3	1.5
o-Xylene	17.0	2.2
Total BTEX	104	

ND - Parameter not detected at the stated detection limit.

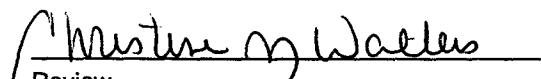
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L. F. 2' - 3'.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	04-27-05
Laboratory Number:	32779	Date Sampled:	04-26-05
Chain of Custody:	13986	Date Received:	04-26-05
Sample Matrix:	Soil	Date Analyzed:	04-27-05
Preservative:	Cool	Date Extracted:	04-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2.3	2.1
Toluene	39.6	1.8
Ethylbenzene	11.9	1.7
p,m-Xylene	97.0	1.5
o-Xylene	23.0	2.2
Total BTEX	174	

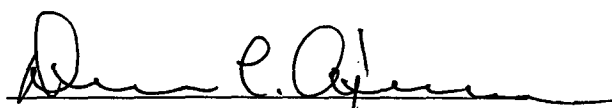
ND - Parameter not detected at the stated detection limit.

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: Crouch Mesa L. F. 2' - 3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	04-27-BTEX-QA/QC	Date Reported:	04-27-05
Laboratory Number:	32777	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-27-05
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	3.0764E+007	3.0826E+007	0.2%	ND	0.2
Toluene	2.6057E+007	2.6110E+007	0.2%	ND	0.2
Ethylbenzene	4.3812E+007	4.3900E+007	0.2%	ND	0.2
p,m-Xylene	9.1565E+007	9.1748E+007	0.2%	ND	0.2
o-Xylene	4.5810E+007	4.5902E+007	0.2%	ND	0.1

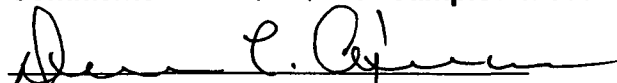
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	6.5	6.4	1.5%	0 - 30%	1.8
Toluene	15.5	15.4	0.6%	0 - 30%	1.7
Ethylbenzene	13.5	13.4	0.7%	0 - 30%	1.5
p,m-Xylene	67.8	67.7	0.1%	0 - 30%	2.2
o-Xylene	47.1	47.0	0.2%	0 - 30%	1.0

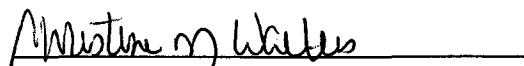
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	6.5	50.0	56.4	99.8%	39 - 150
Toluene	15.5	50.0	65.4	99.8%	46 - 148
Ethylbenzene	13.5	50.0	63.4	99.8%	32 - 160
p,m-Xylene	67.8	100	167	99.8%	46 - 148
o-Xylene	47.1	50.0	97.0	99.9%	46 - 148

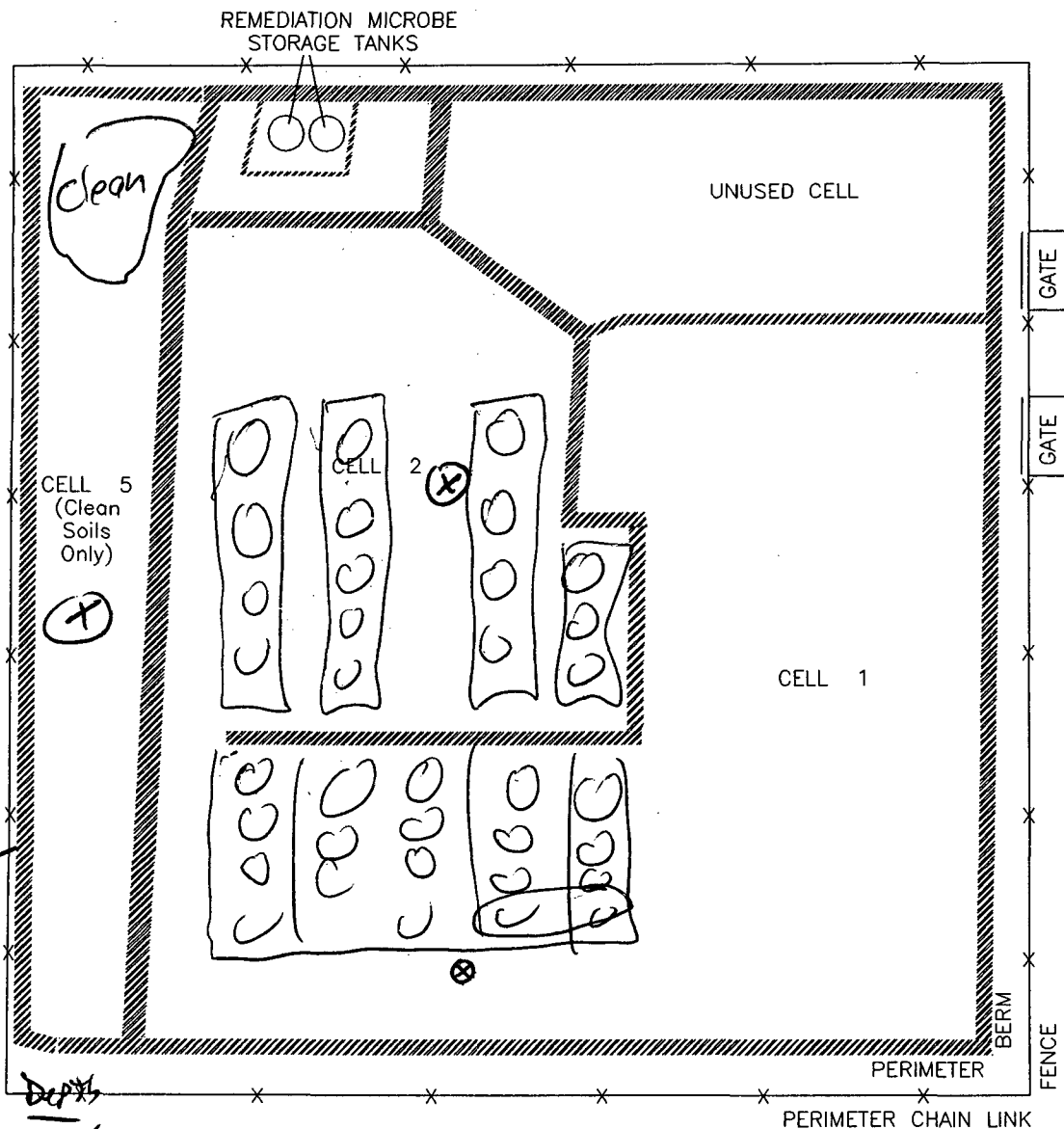
ND - Parameter not detected at the stated detection limit.

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 32777 - 32779.

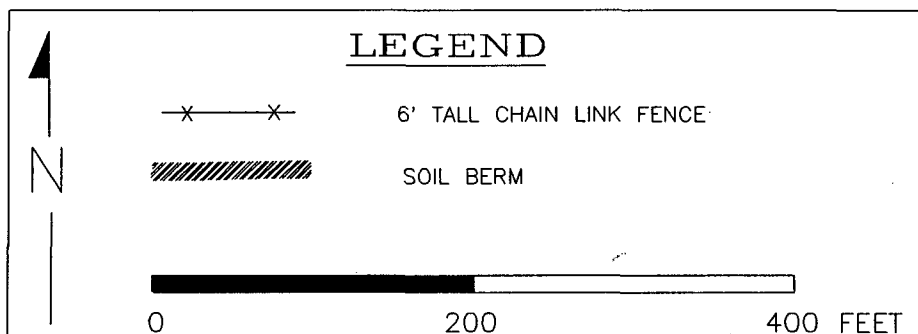

Analyst


Review



8-25-05

CELL	TIME	DEPTH
2	1110	2'-3'
5	1125	2'-3'
1	1145	2'-3'



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2004

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 1

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

CHAIN OF CUSTODY RECORD

14459

Client / Project Name		Project Location		ANALYSIS / PARAMETERS																			
Sample:		Client No.		Lab Number		Sample Time		Sample Matrix		Containers		TRH		BTEX		8-PCRA		METALS		CATION/ANION		Remarks	
BLAGG/BP		CROUCH MESA L.F.																					
9-C-3699		94034-010																					
CELL #1	8/25/05	1145	34162	SOIL		2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2-3		
CELL #2	"	1110	34163	"		2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2-3		
CELL #5	"	1125	34164	"		2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2-3		
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Time		Date		Time		Date		Time		Date		Time		Time	
9-C-3699		8/25/05		1410		MBoshardt		1410		8/25/05		1410		8/25/05		1410		8/25/05		1410		1410	
Relinquished by: (Signature)						Received by: (Signature)																	
Relinquished by: (Signature)						Received by: (Signature)																	

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt

Y	N	N/A
Received Intact		
Cool - Ice/Blue Ice		

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

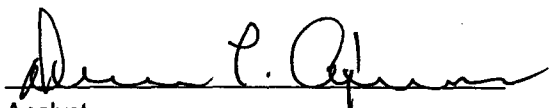
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	08-27-05
Laboratory Number:	34162	Date Sampled:	08-25-05
Chain of Custody No:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Extracted:	08-26-05
Preservative:	Cool	Date Analyzed:	08-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

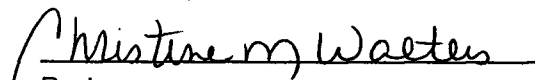
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3'.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

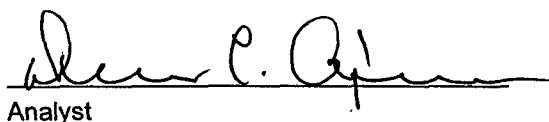
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	08-27-05
Laboratory Number:	34163	Date Sampled:	08-25-05
Chain of Custody No:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Extracted:	08-26-05
Preservative:	Cool	Date Analyzed:	08-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

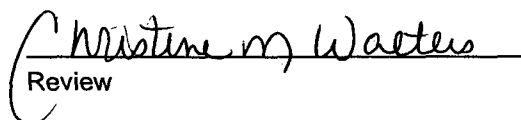
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F. 2'-3'.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

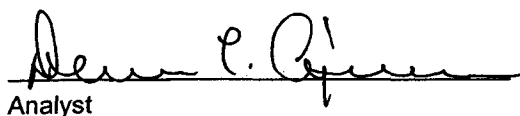
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	08-27-05
Laboratory Number:	34164	Date Sampled:	08-25-05
Chain of Custody No:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Extracted:	08-26-05
Preservative:	Cool	Date Analyzed:	08-27-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

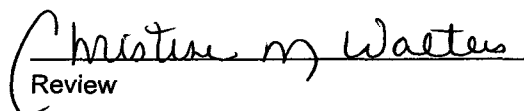
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3'.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-27-05 QA/QC	Date Reported:	08-27-05
Laboratory Number:	34149	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-27-05
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	1.0025E+003	1.0035E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.9860E+002	1.0006E+003	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

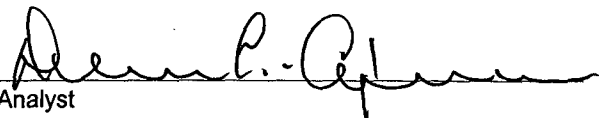
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	0.6	0.6	0.0%	0 - 30%

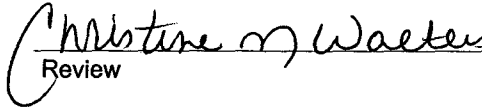
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	0.6	250	250	99.9%	75 - 125%

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 34149 - 34155, 34162 - 34164.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	08-27-05
Laboratory Number:	34162	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Extracted:	08-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	2.1
Toluene	ND	1.8
Ethylbenzene	ND	1.7
p,m-Xylene	ND	1.5
o-Xylene	ND	2.2
Total BTEX	ND	

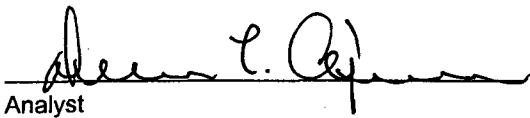
ND - Parameter not detected at the stated detection limit.

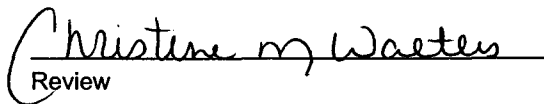
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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: Crouch Mesa L.F. 2'-3'.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	08-27-05
Laboratory Number:	34163	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Extracted:	08-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	2.1
Toluene	ND	1.8
Ethylbenzene	ND	1.7
p,m-Xylene	ND	1.5
o-Xylene	ND	2.2
Total BTEX	ND	

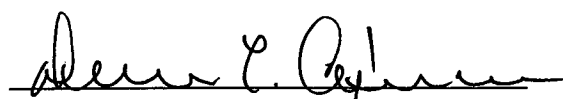
ND - Parameter not detected at the stated detection limit.

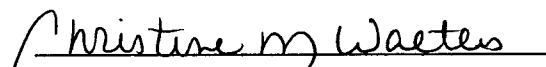
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F. 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	08-27-05
Laboratory Number:	34164	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Extracted:	08-26-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	2.1
Toluene	ND	1.8
Ethylbenzene	ND	1.7
p,m-Xylene	ND	1.5
o-Xylene	ND	2.2
Total BTEX	ND	

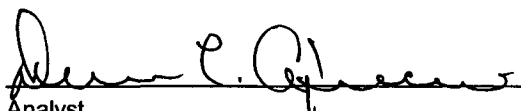
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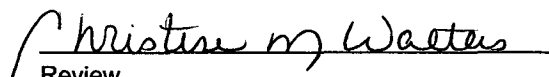
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

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: Crouch Mesa L.F. 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	08-27-BTEX QA/QC	Date Reported:	08-27-05
Laboratory Number:	34150	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-27-05
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RE	O-Cal RE	%Diff	Blank Conc	Detect Limit
		Accept Range	0 - 15%		
Benzene	1.5378E+007	1.5409E+007	0.2%	ND	0.2
Toluene	5.8897E+007	5.9015E+007	0.2%	ND	0.2
Ethylbenzene	4.6687E+007	4.6781E+007	0.2%	ND	0.2
p,m-Xylene	9.2542E+007	9.2728E+007	0.2%	ND	0.2
o-Xylene	4.6093E+007	4.6185E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	5.4	5.3	1.9%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	714	713	0.2%	0 - 30%	1.5
p,m-Xylene	710	709	0.2%	0 - 30%	2.2
o-Xylene	211	210	0.5%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	5.4	50.0	55.3	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	714	50.0	762	99.8%	32 - 160
p,m-Xylene	710	100	809	99.8%	46 - 148
o-Xylene	211	50.0	260	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 34150 - 34151, 34153, 34155, 34162 - 34164.

Analyst

Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	08-27-05
Laboratory Number:	34162	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Digested:	08-27-05
Condition:	Cool & Intact	Analysis Needed:	8 RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.089	0.001	5.0
Barium	3.99	0.001	100
Cadmium	0.052	0.001	1.0
Chromium	0.341	0.001	5.0
Lead	0.271	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.564	0.001	1.0
Silver	0.004	0.001	5.0

ND - Parameter not detected at the stated detection limit.

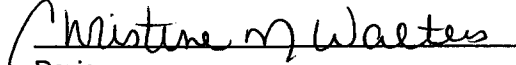
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F. 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	08-27-05
Laboratory Number:	34163	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Digested:	08-27-05
Condition:	Cool & Intact	Analysis Needed:	8 RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.161	0.001	5.0
Barium	2.95	0.001	100
Cadmium	0.055	0.001	1.0
Chromium	0.286	0.001	5.0
Lead	0.315	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.624	0.001	1.0
Silver	0.007	0.001	5.0

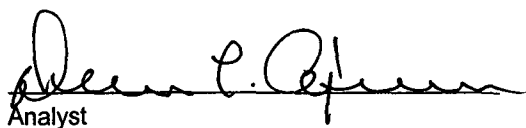
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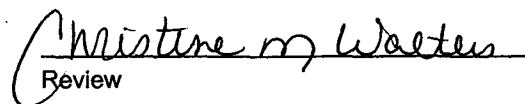
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F. 2'-3'.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	08-27-05
Laboratory Number:	34164	Date Sampled:	08-25-05
Chain of Custody:	14459	Date Received:	08-25-05
Sample Matrix:	Soil	Date Analyzed:	08-27-05
Preservative:	Cool	Date Digested:	08-27-05
Condition:	Cool & Intact	Analysis Needed:	8 RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.122	0.001	5.0
Barium	64.6	0.001	100
Cadmium	0.049	0.001	1.0
Chromium	0.237	0.001	5.0
Lead	0.359	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.661	0.001	1.0
Silver	0.003	0.001	5.0

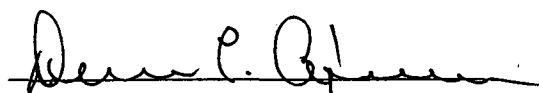
ND - Parameter not detected at the stated detection limit.

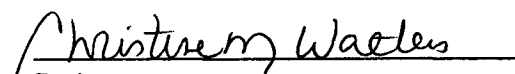
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F. 2'-3'.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-27 TM QA/AC	Date Reported:	08-27-05
Laboratory Number:	24162	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-27-05
Condition:	N/A	Date Digested:	08-27-05

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.089	0.088	1.1%	0% - 30%
Barium	ND	ND	0.001	3.99	3.97	0.5%	0% - 30%
Cadmium	ND	ND	0.001	0.052	0.053	1.9%	0% - 30%
Chromium	ND	ND	0.001	0.341	0.341	0.0%	0% - 30%
Lead	ND	ND	0.001	0.271	0.273	0.7%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.564	0.567	0.5%	0% - 30%
Silver	ND	ND	0.001	0.004	0.004	0.0%	0% - 30%

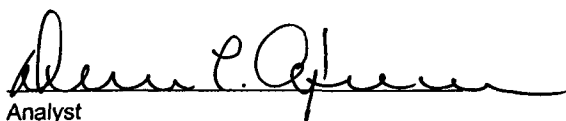
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.089	0.587	99.7%	80% - 120%
Barium	0.500	3.99	4.48	99.8%	80% - 120%
Cadmium	0.500	0.052	0.551	99.8%	80% - 120%
Chromium	0.500	0.341	0.840	99.9%	80% - 120%
Lead	0.500	0.271	0.770	99.9%	80% - 120%
Mercury	0.500	ND	0.499	99.8%	80% - 120%
Selenium	0.500	0.564	1.05	98.7%	80% - 120%
Silver	0.500	0.004	0.504	100.0%	80% - 120%

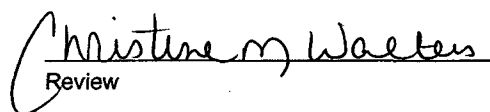
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 34162 - 34164.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Blagg / BP
Sample ID: Cell #1
Laboratory Number: 34162
Chain of Custody: 14459
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

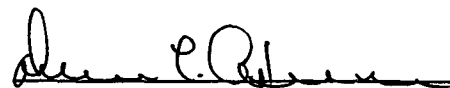
Project #: 94034-010
Date Reported: 08-30-05
Date Sampled: 08-25-05
Date Received: 08-25-05
Date Extracted: 08-28-05
Date Analyzed: 08-29-05

Parameter	Analytical Result	Units		
pH	6.90	s.u.		
Conductivity @ 25° C	379	umhos/cm		
Total Dissolved Solids @ 180C	288	mg/L		
Total Dissolved Solids (Calc)	284	mg/L		
SAR	1.7	ratio		
Total Alkalinity as CaCO3	18.6	mg/L		
Total Hardness as CaCO3	122	mg/L		
Bicarbonate as HCO3	18.6	mg/L	0.30	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	3.1	mg/L	0.05	meq/L
Nitrite Nitrogen	0.068	mg/L	0.00	meq/L
Chloride	44.8	mg/L	1.26	meq/L
Fluoride	0.66	mg/L	0.03	meq/L
Phosphate	1.2	mg/L	0.04	meq/L
Sulfate	130	mg/L	2.71	meq/L
Iron	<0.001	mg/L	0.00	meq/L
Calcium	43.0	mg/L	2.15	meq/L
Magnesium	3.52	mg/L	0.29	meq/L
Potassium	2.37	mg/L	0.06	meq/L
Sodium	43.8	mg/L	1.91	meq/L
Cations			4.40	meq/L
Anions			4.40	meq/L
Cation/Anion Difference			0.04%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. 2'-3'.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

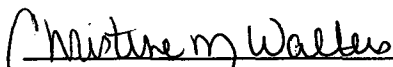
Client: Blagg / BP
Sample ID: Cell #2
Laboratory Number: 34163
Chain of Custody: 14459
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

Project #: 94034-010
Date Reported: 08-30-05
Date Sampled: 08-25-05
Date Received: 08-25-05
Date Extracted: 08-28-05
Date Analyzed: 08-29-05

Parameter	Analytical Result	Units		
pH	7.03	s.u.		
Conductivity @ 25° C	506	umhos/cm		
Total Dissolved Solids @ 180C	416	mg/L		
Total Dissolved Solids (Calc)	468	mg/L		
SAR	2.4	ratio		
Total Alkalinity as CaCO3	13.2	mg/L		
Total Hardness as CaCO3	184	mg/L		
Bicarbonate as HCO3	13.2	mg/L	0.22	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	3.3	mg/L	0.05	meq/L
Nitrite Nitrogen	0.038	mg/L	0.00	meq/L
Chloride	47.0	mg/L	1.33	meq/L
Fluoride	0.43	mg/L	0.02	meq/L
Phosphate	0.9	mg/L	0.03	meq/L
Sulfate	259	mg/L	5.39	meq/L
Iron	0.002	mg/L	0.00	meq/L
Calcium	64.8	mg/L	3.23	meq/L
Magnesium	5.27	mg/L	0.43	meq/L
Potassium	5.05	mg/L	0.13	meq/L
Sodium	74.6	mg/L	3.25	meq/L
Cations			7.04	meq/L
Anions			7.04	meq/L
Cation/Anion Difference			0.03%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. 2'-3'.


Analyst


Review

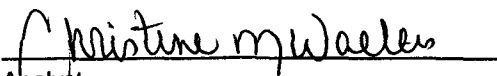
Client: Blagg / BP
 Sample ID: Cell #5
 Laboratory Number: 34164
 Chain of Custody: 14459
 Sample Matrix: Soil Extract
 Preservative: Cool
 Condition: Cool & Intact

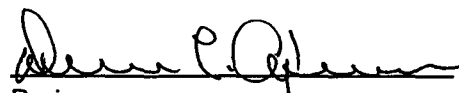
Project #: 94034-010
 Date Reported: 08-30-05
 Date Sampled: 08-25-05
 Date Received: 08-25-05
 Date Extracted: 08-28-05
 Date Analyzed: 08-29-05

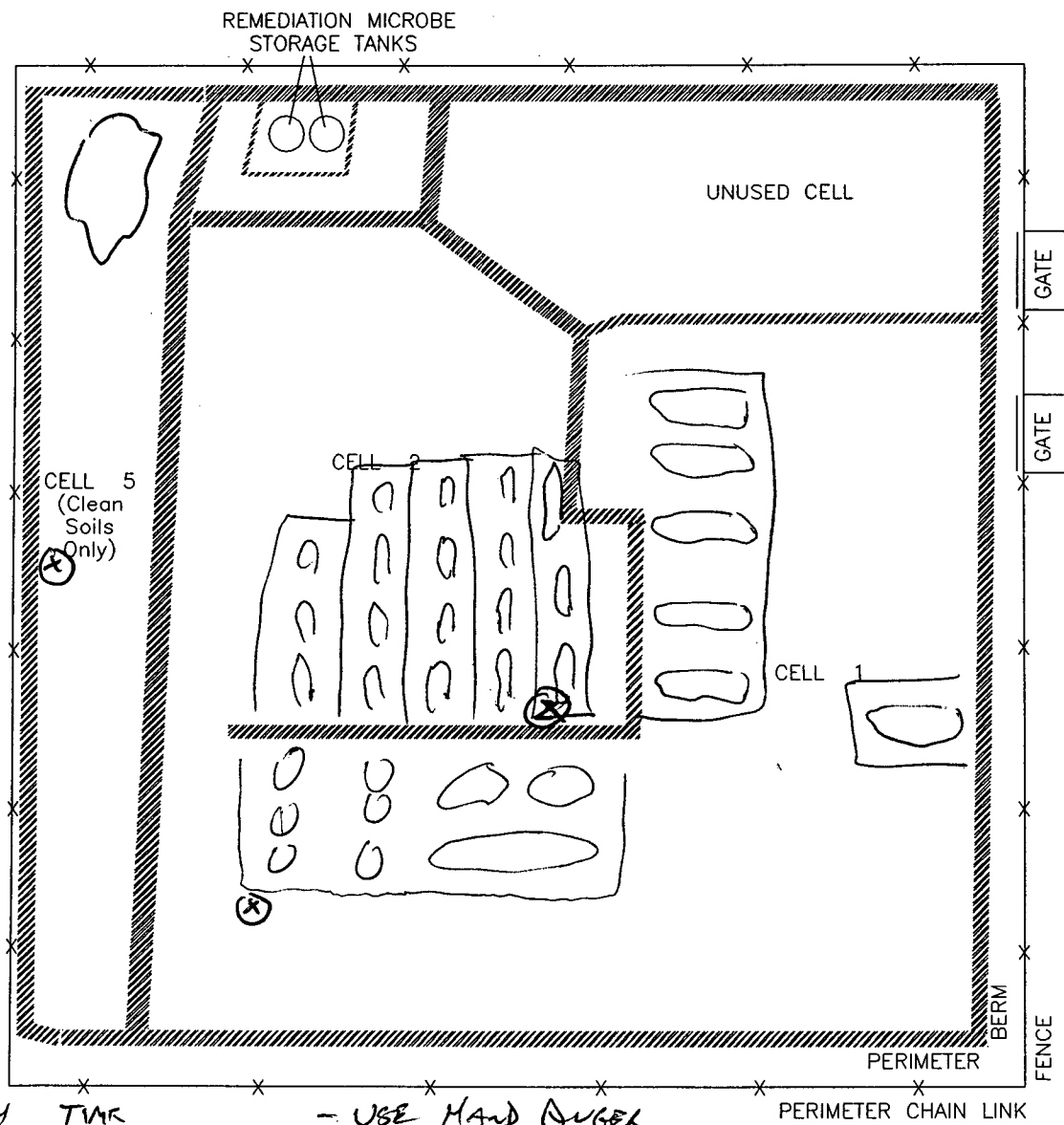
Parameter	Analytical Result	Units		
pH	8.19	s.u.		
Conductivity @ 25° C	561	umhos/cm		
Total Dissolved Solids @ 180C	464	mg/L		
Total Dissolved Solids (Calc)	477	mg/L		
SAR	9.4	ratio		
Total Alkalinity as CaCO3	40.8	mg/L		
Total Hardness as CaCO3	46.0	mg/L		
Bicarbonate as HCO3	40.8	mg/L	0.67	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	8.7	mg/L	0.14	meq/L
Nitrite Nitrogen	0.002	mg/L	0.00	meq/L
Chloride	89.4	mg/L	2.52	meq/L
Fluoride	0.72	mg/L	0.04	meq/L
Phosphate	9.0	mg/L	0.28	meq/L
Sulfate	178	mg/L	3.71	meq/L
Iron	0.066	mg/L	0.00	meq/L
Calcium	14.6	mg/L	0.73	meq/L
Magnesium	2.34	mg/L	0.19	meq/L
Potassium	1.93	mg/L	0.05	meq/L
Sodium	147	mg/L	6.39	meq/L
Cations			7.37	meq/L
Anions			7.36	meq/L
Cation/Anion Difference			0.11%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
 Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F. 2'-3'.


 Analyst


 Review



10/28/05

CELL	DEPTH	TIME
5	2'	10:00
1	2'	10:20
2	2'	10:40

- USE HAND AUGER
- Backfill w/ cuttings/best mix

LEGEND

— x — x — 6' TALL CHAIN LINK FENCE

SOIL BERM

0 200 400 FEET

BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2004

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES
P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413
PHONE: (505) 632-1199

SITE SCHEMATIC	
FIGURE 1	DRWN BY: JCB
CRMESA4	PROJ MGR: JCB

14995

can be reproduced 570 400

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

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	11-01-05
Laboratory Number:	34819	Date Sampled:	10-28-05
Chain of Custody No:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Extracted:	10-31-05
Preservative:	Cool	Date Analyzed:	10-31-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: **Crouch Mesa L.F.**

Christine M. Walters
Analyst

Mary Bruce
Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	11-01-05
Laboratory Number:	34820	Date Sampled:	10-28-05
Chain of Custody No:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Extracted:	10-31-05
Preservative:	Cool	Date Analyzed:	10-31-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: **Crouch Mesa L.F.**

Christine M. Walters
Analyst

Mary Bruce
Review

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

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	11-01-05
Laboratory Number:	34821	Date Sampled:	10-28-05
Chain of Custody No:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Extracted:	10-31-05
Preservative:	Cool	Date Analyzed:	10-31-05
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	0.8	0.1
Total Petroleum Hydrocarbons	0.8	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: **Crouch Mesa L.F.**

Christine M. Waechter
Analyst

Mary Bruce
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:	10-31-05 QA/QC	Date Reported:	11-01-05
Laboratory Number:	34807	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-31-05
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	2.1831E+003	2.1853E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	1.7175E+003	1.7209E+003	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	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	245	98.0%	75 - 125%
Diesel Range C10 - C28	ND	250	248	99.2%	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 34807 - 34808, 34813 - 34815 and 34818 - 34822.

Christine M. Walters
Analyst

Mary Bruce
Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	10-31-05
Laboratory Number:	34819	Date Sampled:	10-28-05
Chain of Custody:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Analyzed:	10-31-05
Preservative:	Cool	Date Extracted:	10-31-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	16.1	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	16.1	

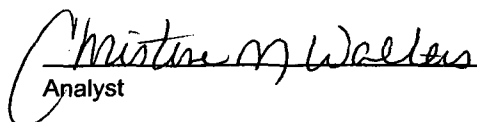
ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	10-31-05
Laboratory Number:	34820	Date Sampled:	10-28-05
Chain of Custody:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Analyzed:	10-31-05
Preservative:	Cool	Date Extracted:	10-31-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	4.6	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	4.6	

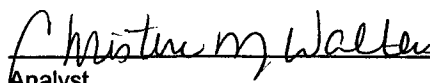
ND - Parameter not detected at the stated detection limit.

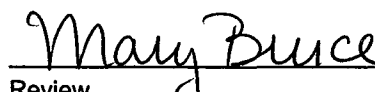
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	10-31-05
Laboratory Number:	34821	Date Sampled:	10-28-05
Chain of Custody:	14995	Date Received:	10-28-05
Sample Matrix:	Soil	Date Analyzed:	10-31-05
Preservative:	Cool	Date Extracted:	10-31-05
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	18.1	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	18.1	

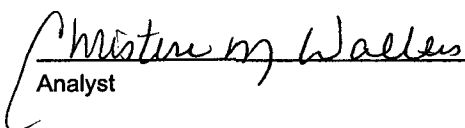
ND - Parameter not detected at the stated detection limit.

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	10-31-BTEX QA/QC	Date Reported:	10-31-05
Laboratory Number:	34808	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-31-05
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	L-Cal RF	G-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept. Range 0 - 15%			
Benzene	1.2511E+007	1.2536E+007	0.2%	ND	0.2
Toluene	4.2221E+007	4.2305E+007	0.2%	ND	0.2
Ethylbenzene	3.5397E+007	3.5468E+007	0.2%	ND	0.2
p,m-Xylene	7.3893E+007	7.4041E+007	0.2%	ND	0.2
o-Xylene	3.5279E+007	3.5350E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	373	378	1.3%	0 - 30%	1.8
Toluene	5,250	5,260	0.2%	0 - 30%	1.7
Ethylbenzene	1,860	1,900	2.2%	0 - 30%	1.5
p,m-Xylene	12,500	12,600	0.8%	0 - 30%	2.2
o-Xylene	3,430	3,440	0.3%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	373	50.0	413	97.5%	39 - 150
Toluene	5,250	50.0	5,290	99.8%	46 - 148
Ethylbenzene	1,860	50.0	1,910	100.0%	32 - 160
p,m-Xylene	12,500	100	12,600	100.0%	46 - 148
o-Xylene	3,430	50.0	3,470	99.7%	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 34808, 34813 - 34817 and 34819 - 34822.

Christine M. Walters
Analyst

Mary Bruce
Review

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL

November 11, 2004

Mr. Ed Martin
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RECEIVED

NOV 15 2004

Per. *[Signature]*

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Mr. Martin:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2004 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This report is for the December 1, 2003 through November 30, 2004 reporting period. Treatment zone monitoring is conducted quarterly and test results are submitted annually to NMOCD.

Sampling protocol specifies that a subsurface sample is to be collected in the native ground surface below the treatment zone in each cell during quarterly monitoring. Quarterly test procedures include TPH and BTEX. Heavy metals and major cations/anions are to be collected for at least one quarterly sample event. During this reporting period, metals and cations/anions were sampled on July 29, 2004.

The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). The northeast portion of the facility (identified as 'unused cell') is used for equipment and materials storage only. Manure and straw from local feedlot operations is included in this storage for future use in remedial operations.

Attached are complete laboratory test reports for facility treatment zone monitoring. Presented in Table 1 on the following page is a summary of these quarterly laboratory test reports:

Table 1

BP Crouch Mesa Waste Management Facility
2004 Annual Treatment Zone Monitoring Test Results

Treatment Cell Identification	TPH mg/Kg	Benz mg/Kg	BTEX mg/Kg	As mg/Kg	Ba mg/Kg	Cd mg/Kg	Cr mg/Kg	Pb mg/Kg	Hg mg/Kg	Se mg/Kg	Ag mg/Kg
<u>Cell No. 1</u>											
1/09/04	ND	ND	ND	--	--	--	--	--	--	--	--
4/13/04	ND	ND	ND	--	--	--	--	--	--	--	--
7/29/04	0.5	0.0042	0.478	0.006	0.246	ND	0.001	0.001	ND	0.002	ND
10/18/04	ND	ND	ND	--	--	--	--	--	--	--	--
<u>Cell No. 2</u>											
1/09/04	ND	ND	ND	--	--	--	--	--	--	--	--
4/13/04	ND	ND	ND	--	--	--	--	--	--	--	--
7/29/04	ND	ND	0.067	0.005	0.187	ND	0.001	0.001	ND	0.002	ND
10/18/04	ND	ND	ND	--	--	--	--	--	--	--	--
<u>Cell No. 5</u>											
1/09/04	ND	ND	ND	--	--	--	--	--	--	--	--
4/13/04	ND	ND	ND	--	--	--	--	--	--	--	--
7/29/04	ND	ND	0.042	0.006	0.214	ND	0.001	0.001	ND	0.003	ND
10/18/04	ND	ND	ND	--	--	--	--	--	--	--	--
REGULATORY STANDARD	100	10	50	5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

ND = Not Detected

Questions or comments concerning the this transmittal may be directed to myself at (505)632-1199 or Don Brooks with BP at (505)326-9200.

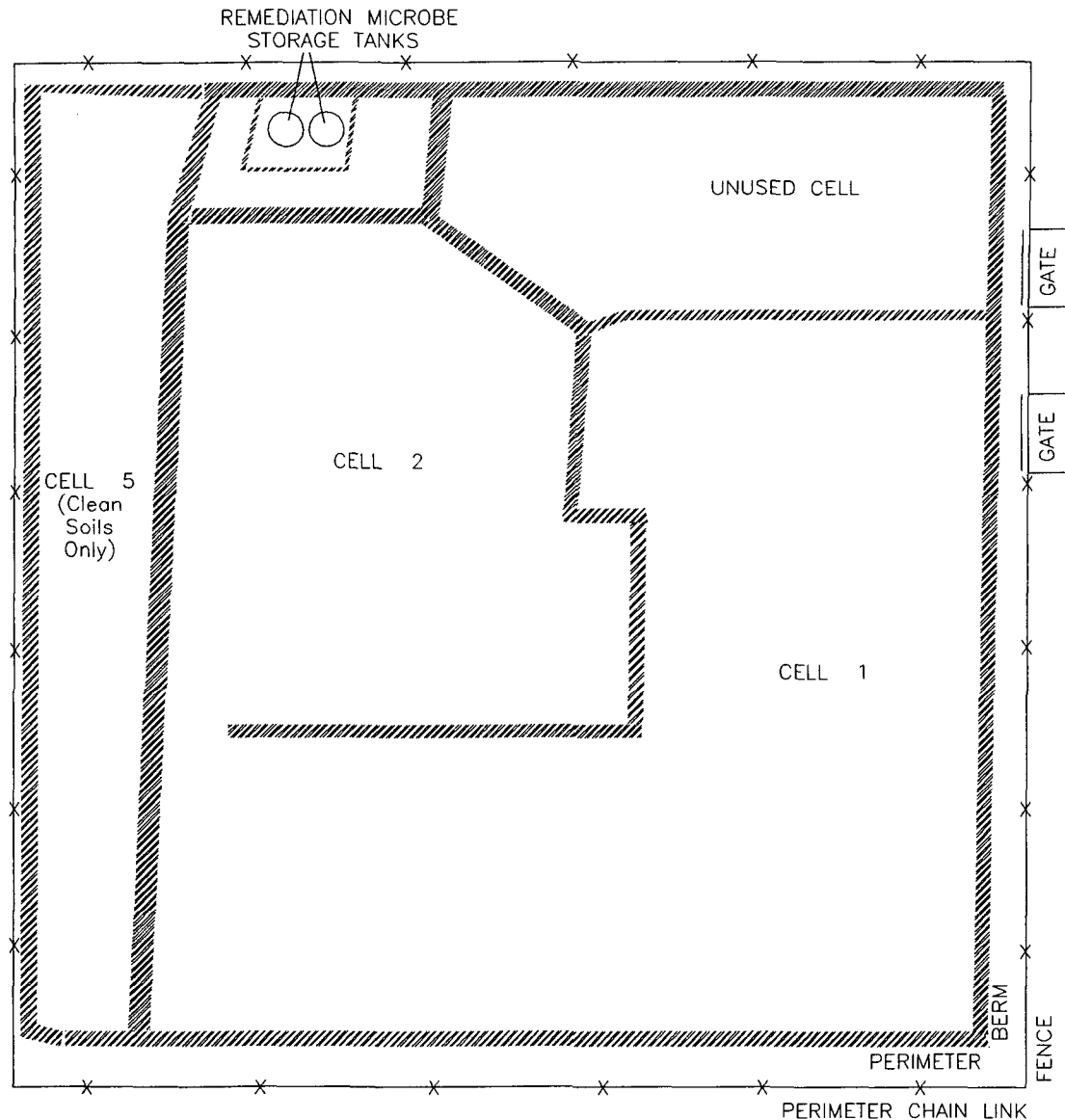
Respectfully submitted:
Blagg Engineering, Inc.

Jeffrey C. Blagg
Jeffrey C. Blagg, P.E.
President

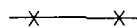


Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Denny Foust, NMOCD Aztec District Office
Don Brooks, BP San Juan Operations Center
Jake Hatcher, IEI Farmington



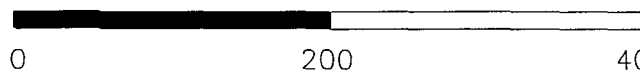
LEGEND



6' TALL CHAIN LINK FENCE



SOIL BERM



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

NOVEMBER 2004

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE
SCHEMATIC

FIGURE 1

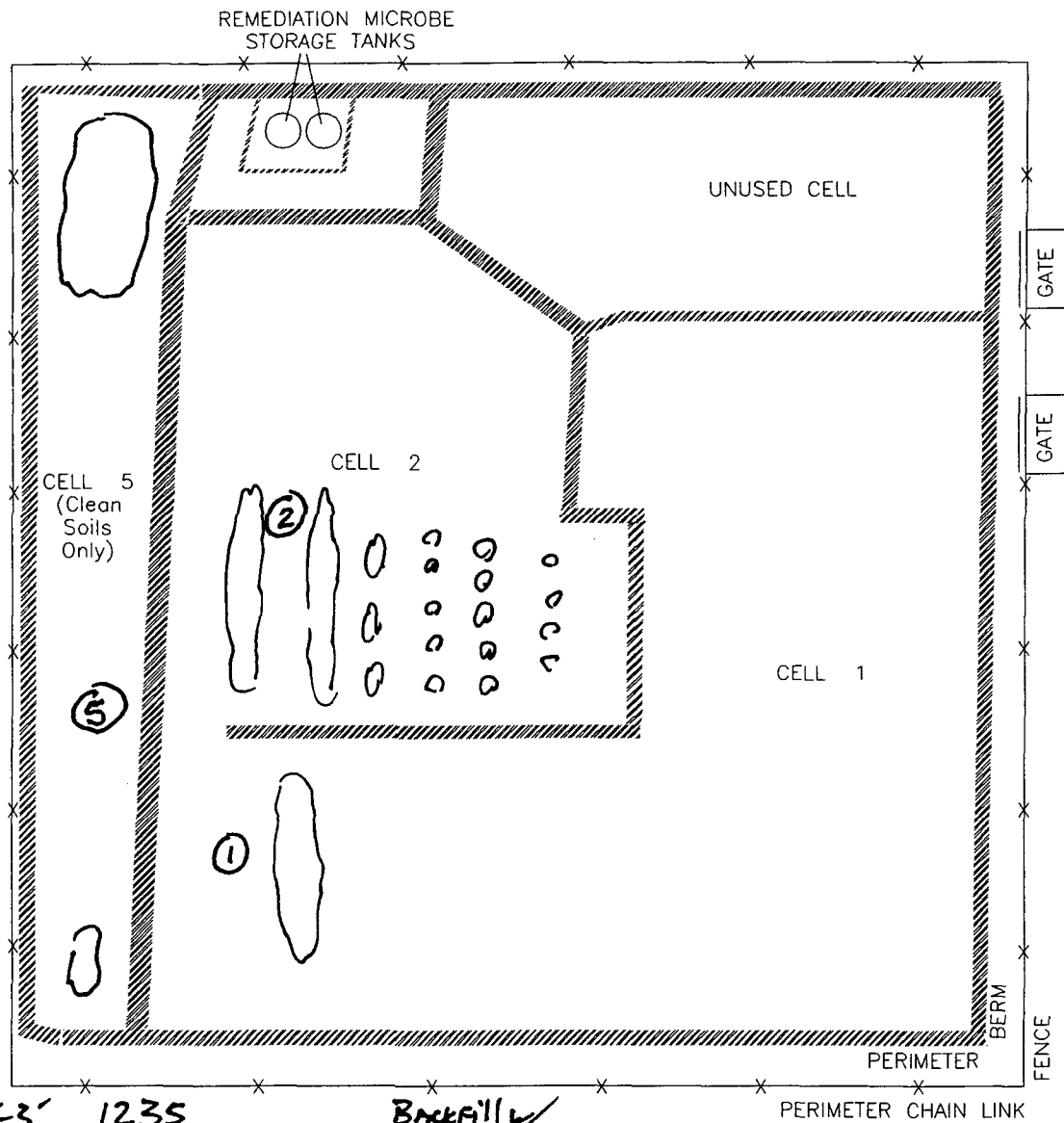
DRWN BY:
JCB

CRMESA4

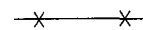
PROJ MGR:
JCB

11728

[illegible]



LEGEND



6' TALL CHAIN LINK FENCE



SOIL BERM

0

200

400 FEET

BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

QUARTERLY SAMPLING OCTOBER 2003

BLAGG ENGINEERING, INC.
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BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE
SCHEMATIC

FIGURE 2

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

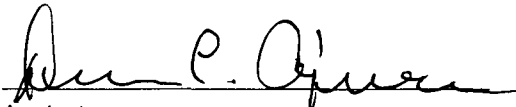
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	01-12-04
Laboratory Number:	27506	Date Sampled:	01-09-04
Chain of Custody No:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Extracted:	01-09-04
Preservative:	Cool	Date Analyzed:	01-12-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

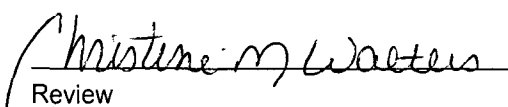
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-2½' Depth.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

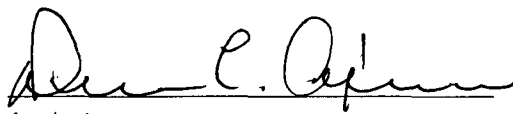
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	01-12-04
Laboratory Number:	27507	Date Sampled:	01-09-04
Chain of Custody No:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Extracted:	01-09-04
Preservative:	Cool	Date Analyzed:	01-12-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

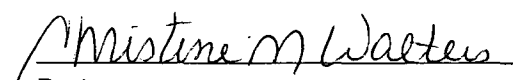
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2'-3' Depth.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

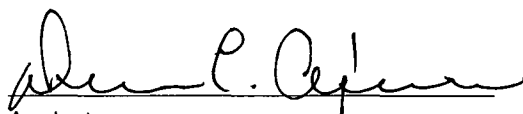
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	01-12-04
Laboratory Number:	27508	Date Sampled:	01-09-04
Chain of Custody No:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Extracted:	01-09-04
Preservative:	Cool	Date Analyzed:	01-12-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

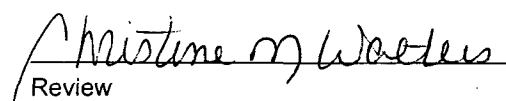
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F. 2'-3' Depth.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-12-TPH QA/QC	Date Reported:	01-12-04
Laboratory Number:	27506	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-12-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	04-29-03	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-29-03	1.5507E-002	1.5492E-002	0.10%	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

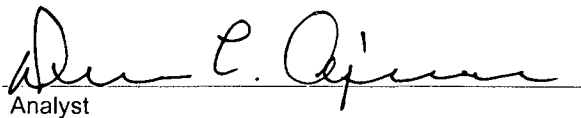
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

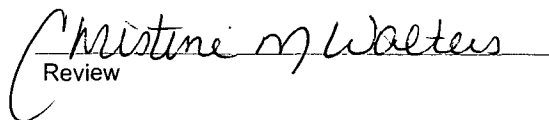
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 27506 - 27509.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1	Date Reported:	01-12-04
Laboratory Number:	27506	Date Sampled:	01-09-04
Chain of Custody:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Analyzed:	01-12-04
Preservative:	Cool	Date Extracted:	01-09-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

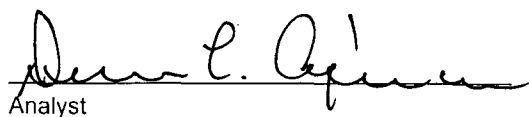
ND - Parameter not detected at the stated detection limit.

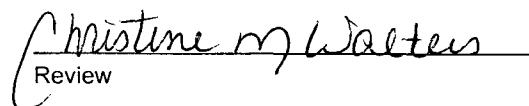
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94 %
	1,4-difluorobenzene	94 %
	Bromochlorobenzene	94 %

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: Crouch Mesa L.F. 2'-2½' Depth.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2	Date Reported:	01-12-04
Laboratory Number:	27507	Date Sampled:	01-09-04
Chain of Custody:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Analyzed:	01-12-04
Preservative:	Cool	Date Extracted:	01-09-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

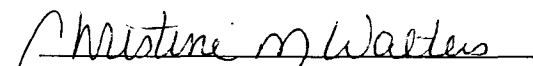
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94 %
	1,4-difluorobenzene	94 %
	Bromochlorobenzene	94 %

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: Crouch Mesa L.F. 2'-3' Depth.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5	Date Reported:	01-12-04
Laboratory Number:	27508	Date Sampled:	01-09-04
Chain of Custody:	11728	Date Received:	01-09-04
Sample Matrix:	Soil	Date Analyzed:	01-12-04
Preservative:	Cool	Date Extracted:	01-09-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

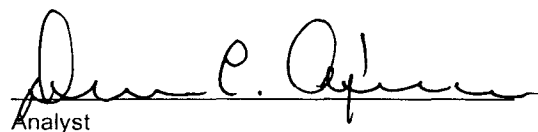
ND - Parameter not detected at the stated detection limit.

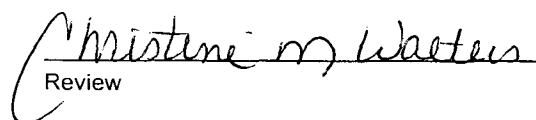
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F. 2'-3' Depth.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	01-12-BTEX QA/QC	Date Reported:	01-12-04
Laboratory Number:	27506	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-12-04
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	4.2776E-002	4.2905E-002	0.3%	ND	0.2
Toluene	4.8966E-002	4.9064E-002	0.2%	ND	0.2
Ethylbenzene	7.4036E-002	7.4259E-002	0.3%	ND	0.2
p,m-Xylene	6.8275E-002	6.8480E-002	0.3%	ND	0.2
o-Xylene	5.5866E-002	5.5978E-002	0.2%	ND	0.1

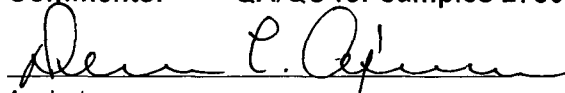
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

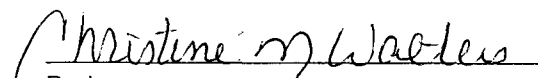
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.9	99.9%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

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 27506 - 27508.


Analyst

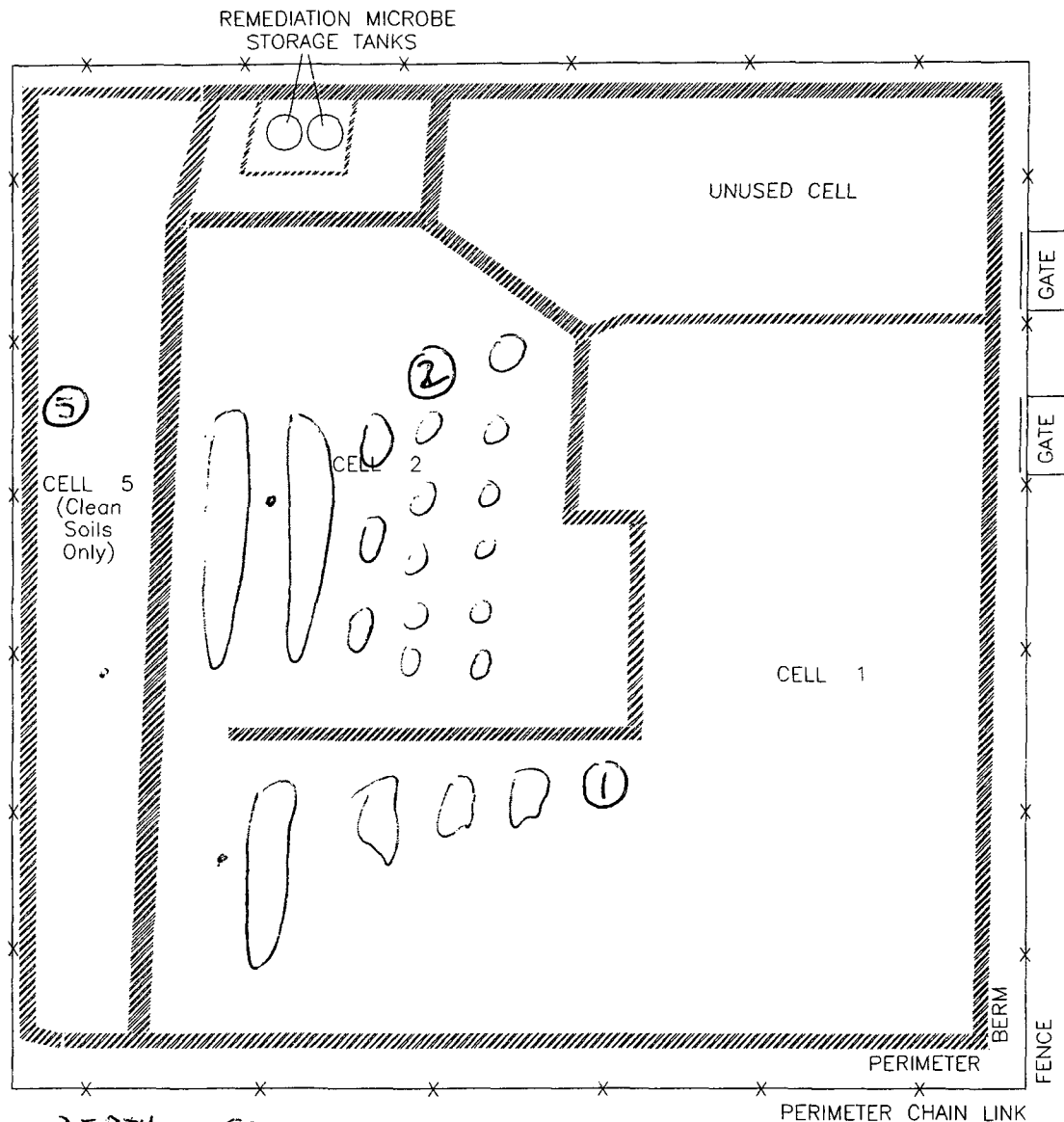

Review

CHAIN OF CUSTODY RECORD

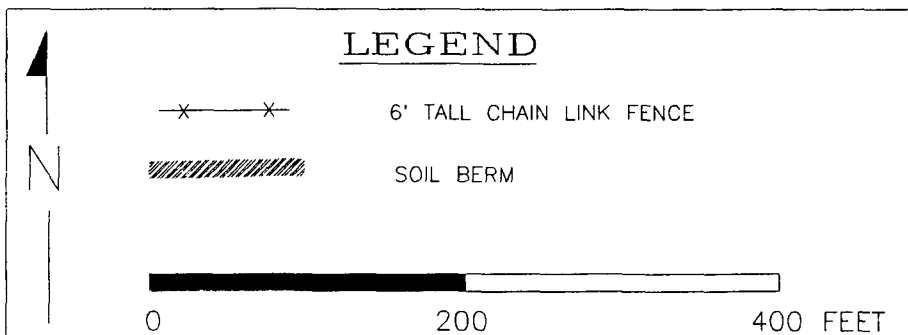
12001

Client / Project Name		Project Location		ANALYSIS / PARAMETERS																					
BLAG/BP		CROUCH MESA L.F.																							
Sampler: J.C. Blagg				Client No. 94034-010																					
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TH	8015	376x	12021	Remarks															
CELL #1 2'-3"	4/13/04	0915	28361	SOIL	1	X			X																
CELL #2 2'-3"	"	0930	28362	"	1	X			X																
CELL #3 2'-3"	"	0840	28363	"	1	X			X																
Relinquished by: (Signature) J.C. Blagg				Date	4/13/04	Time	1052	Received by: (Signature) J.C. Blagg		Date	4/13/04	Time	1052												
Relinquished by: (Signature)				Received by: (Signature)																					
Relinquished by: (Signature)				Received by: (Signature)																					
ENVIROTECH INC. 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615																									
Sample Receipt <table border="1"> <tr> <td>Y</td> <td>N</td> <td>N/A</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="3">Received Intact</td> </tr> <tr> <td colspan="3">Cool - Ice/Blue Ice</td> </tr> </table>														Y	N	N/A				Received Intact			Cool - Ice/Blue Ice		
Y	N	N/A																							
Received Intact																									
Cool - Ice/Blue Ice																									

BP
DIN
C144 - ST 64
9029
4937
330-



CELL	TIME	DEPTH	COMMENTS
⑤	0840	2'-3'	SAMPLE w/ RIG AUGER. BACKFILL w/ BEAT & CUTTINGS.
①	0915	2'-3'	"
②	0930	2'-3'	"



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

QUARTERLY SAMPLING OCTOBER 2003

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 2

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

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

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28361	Date Sampled:	04-13-04
Chain of Custody No:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Extracted:	04-14-04
Preservative:	Cool	Date Analyzed:	04-14-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

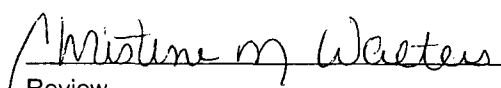
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

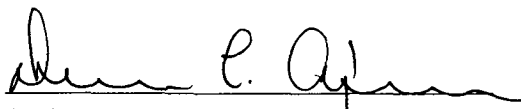
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28362	Date Sampled:	04-13-04
Chain of Custody No:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Extracted:	04-14-04
Preservative:	Cool	Date Analyzed:	04-14-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

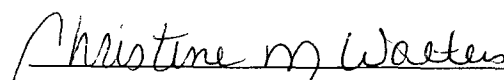
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

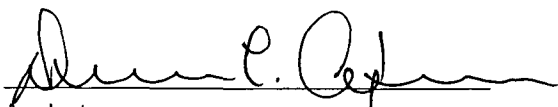
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28363	Date Sampled:	04-13-04
Chain of Custody No:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Extracted:	04-14-04
Preservative:	Cool	Date Analyzed:	04-14-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

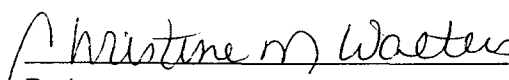
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-14-TPH QA/QC	Date Reported:	04-14-04
Laboratory Number:	28360	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-14-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5492E-002	0.10%	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

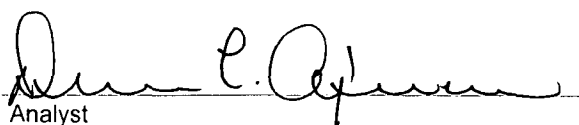
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

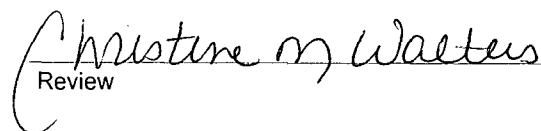
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 28360 - 28363.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28361	Date Sampled:	04-13-04
Chain of Custody:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Analyzed:	04-14-04
Preservative:	Cool	Date Extracted:	04-14-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

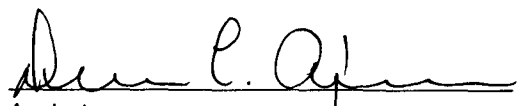
ND - Parameter not detected at the stated detection limit.

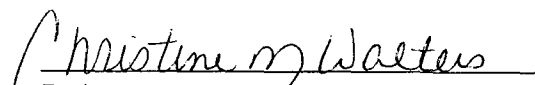
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28362	Date Sampled:	04-13-04
Chain of Custody:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Analyzed:	04-14-04
Preservative:	Cool	Date Extracted:	04-14-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

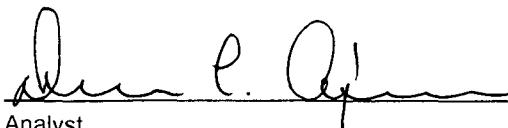
ND - Parameter not detected at the stated detection limit.

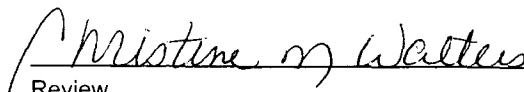
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	04-14-04
Laboratory Number:	28363	Date Sampled:	04-13-04
Chain of Custody:	12001	Date Received:	04-13-04
Sample Matrix:	Soil	Date Analyzed:	04-14-04
Preservative:	Cool	Date Extracted:	04-14-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

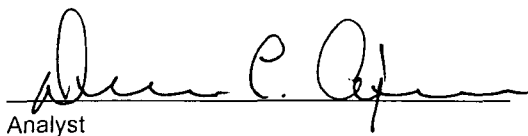
ND - Parameter not detected at the stated detection limit.

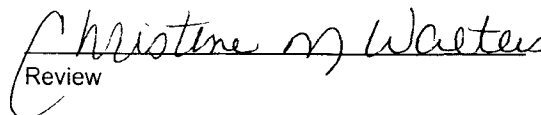
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	04-14-BTEX QA/QC	Date Reported:	04-14-04
Laboratory Number:	28360	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-14-04
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	4.2776E-002	4.2905E-002	0.3%	ND	0.2
Toluene	4.8966E-002	4.9064E-002	0.2%	ND	0.2
Ethylbenzene	7.4036E-002	7.4259E-002	0.3%	ND	0.2
p,m-Xylene	6.8275E-002	6.8480E-002	0.3%	ND	0.2
o-Xylene	5.5866E-002	5.5978E-002	0.2%	ND	0.1

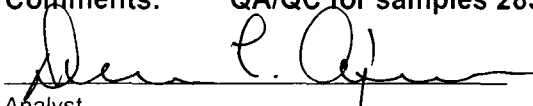
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	1.9	2.0	5.3%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	3.6	3.6	0.0%	0 - 30%	1.5
p,m-Xylene	5.3	5.5	3.8%	0 - 30%	2.2
o-Xylene	1.7	1.8	5.9%	0 - 30%	1.0

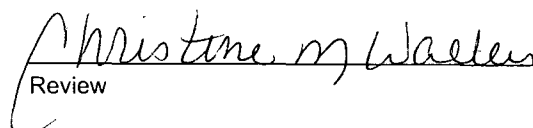
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	1.9	50.0	51.8	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	3.6	50.0	53.5	99.8%	32 - 160
p,m-Xylene	5.3	100	105	99.9%	46 - 148
o-Xylene	1.7	50.0	51.6	99.8%	46 - 148

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 28360 - 28363.

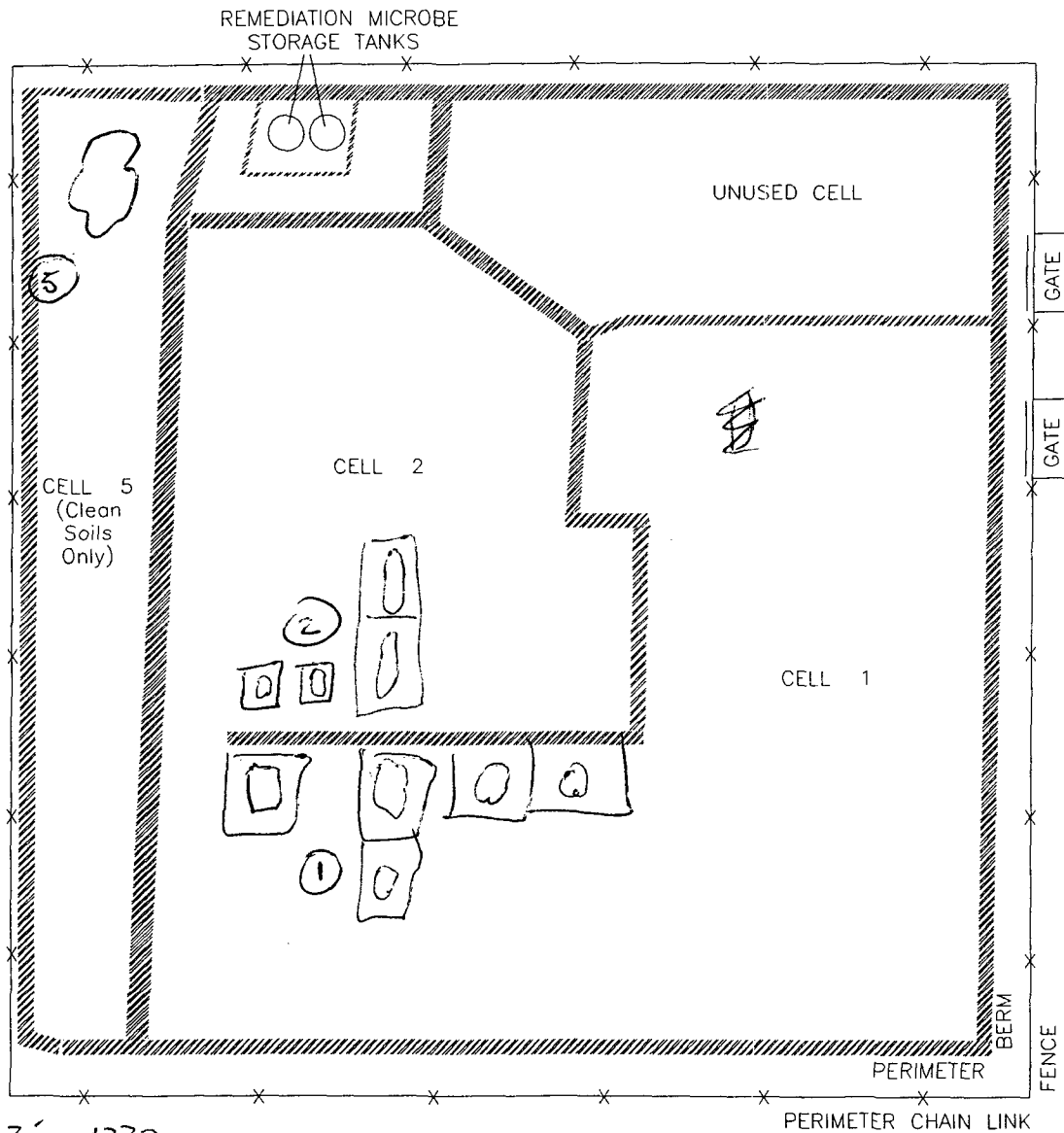

Analyst


Review

0
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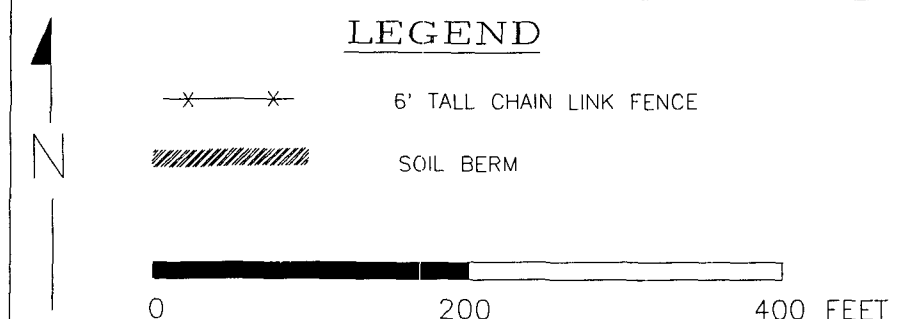
san juan reproduction 578-129

0137P



7/29/04

CELL 2 2'-3' 1330
 CELL 5 2'-3' 1400
 CELL 1 1'-2' 1420-- H+ Sandstone @ 2'



BP AMERICA PRODUCTION CO.
 CROUCH MESA WASTE MGMT FAC
 SW/4 SE/4 SEC 2 T29N R12W
 SAN JUAN CO., NEW MEXICO

QUARTERLY SAMPLING OCTOBER 2003

BLAGG ENGINEERING, INC.
 CONSULTING ENGINEERING SERVICES

P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE SCHEMATIC	
FIGURE 2	DRWN BY: JCB
CRMESA4	PROJ MGR: JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

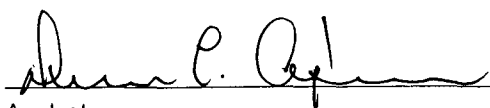
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 1'-2'	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	07-29-04
Chain of Custody No:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-30-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

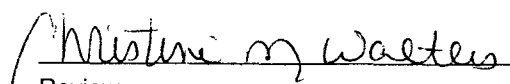
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.5	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.5	0.2

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29748	Date Sampled:	07-29-04
Chain of Custody No:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-30-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

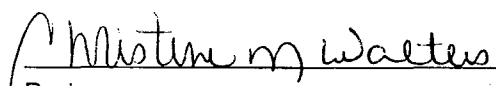
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29749	Date Sampled:	07-29-04
Chain of Custody No:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-30-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

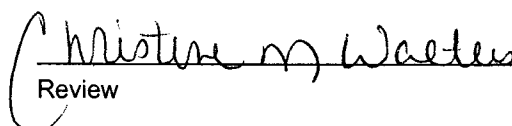
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-02-TPH QA/QC	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-02-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5492E-002	0.10%	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

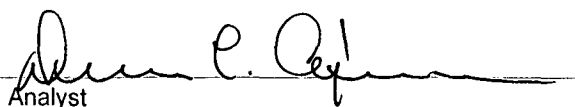
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	0.5	0.5	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

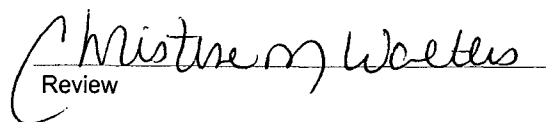
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.5	250	250	99.8%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 29747 - 29752.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 1'-2'	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Extracted:	07-30-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	42.1	1.8
Toluene	69.1	1.7
Ethylbenzene	92.3	1.5
p,m-Xylene	185	2.2
o-Xylene	89.6	1.0
Total BTEX	478	

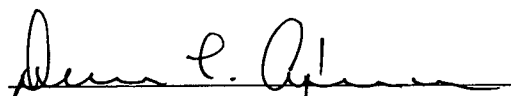
ND - Parameter not detected at the stated detection limit.

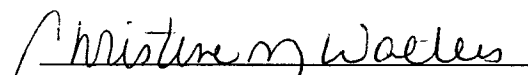
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29748	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Extracted:	07-30-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	29.8	1.7
Ethylbenzene	11.2	1.5
p,m-Xylene	9.1	2.2
o-Xylene	16.8	1.0
Total BTEX	66.9	

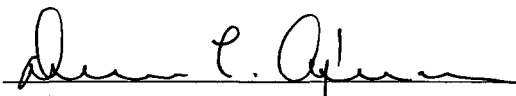
ND - Parameter not detected at the stated detection limit.

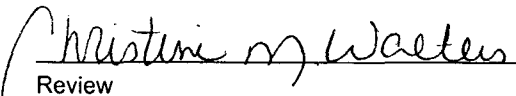
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29749	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Extracted:	07-30-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	36.0	1.7
Ethylbenzene	2.9	1.5
p,m-Xylene	ND	2.2
o-Xylene	3.1	1.0
Total BTEX	42.0	

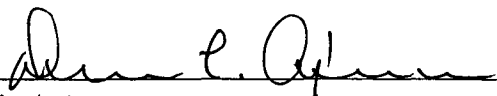
ND - Parameter not detected at the stated detection limit.

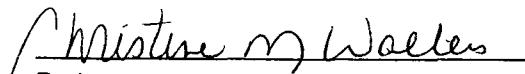
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	08-02-BTEX QA/QC	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-02-04
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	5.4845E-002	5.5010E-002	0.3%	ND	0.2
Toluene	5.1551E-002	5.1654E-002	0.2%	ND	0.2
Ethylbenzene	8.2359E-002	8.2607E-002	0.3%	ND	0.2
p,m-Xylene	8.1810E-002	8.2056E-002	0.3%	ND	0.2
o-Xylene	6.8534E-002	6.8672E-002	0.2%	ND	0.1

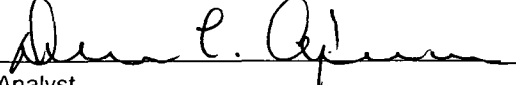
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	42.1	43.2	2.6%	0 - 30%	1.8
Toluene	69.1	67.7	2.0%	0 - 30%	1.7
Ethylbenzene	92.3	90.5	2.0%	0 - 30%	1.5
p,m-Xylene	185	189	2.7%	0 - 30%	2.2
o-Xylene	89.6	92.1	2.8%	0 - 30%	1.0

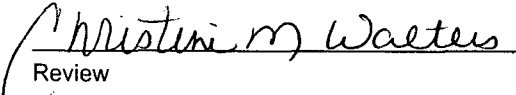
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	42.1	50.0	91.9	99.8%	39 - 150
Toluene	69.1	50.0	119	99.9%	46 - 148
Ethylbenzene	92.3	50.0	142	99.9%	32 - 160
p,m-Xylene	185	100	284	99.9%	46 - 148
o-Xylene	89.6	50.0	139	99.9%	46 - 148

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 29747 - 29752.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 1' - 2'	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Digested:	07-31-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.006	0.001	5.0
Barium	0.246	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.001	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.002	0.001	1.0
Silver	ND	0.001	5.0

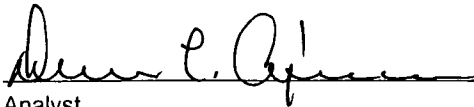
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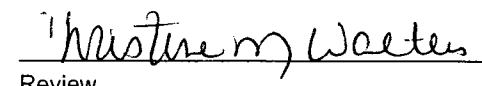
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmission
Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2' - 3'	Date Reported:	08-02-04
Laboratory Number:	29748	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Digested:	07-31-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.005	0.001	5.0
Barium	0.187	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.001	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.002	0.001	1.0
Silver	ND	0.001	5.0

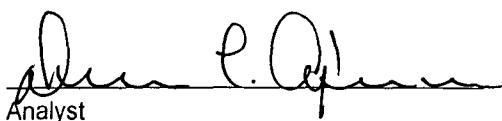
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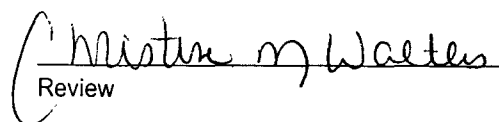
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F.**


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2' - 3'	Date Reported:	08-02-04
Laboratory Number:	29749	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Analyzed:	08-02-04
Preservative:	Cool	Date Digested:	07-31-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.006	0.001	5.0
Barium	0.214	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.001	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.003	0.001	1.0
Silver	ND	0.001	5.0

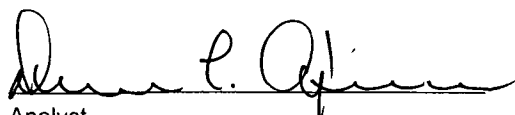
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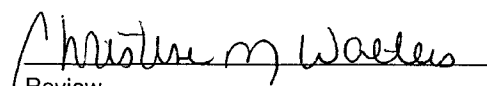
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmission
Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Crouch Mesa L.F.


Analyst


Review

TRACE METAL ANALYSIS
Quality Control /
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-02-04 QA/AC	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-02-04
Condition:	N/A	Date Digested:	07-31-04

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.006	0.006	0.0%	0% - 30%
Barium	ND	ND	0.001	0.246	0.248	0.8%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Lead	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

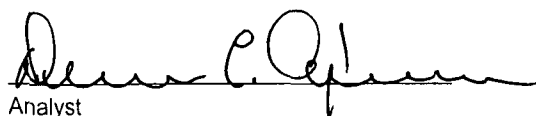
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.006	0.505	99.8%	80% - 120%
Barium	0.500	0.246	0.745	99.9%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	0.001	0.501	100.0%	80% - 120%
Lead	0.500	0.001	0.500	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	0.002	0.501	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

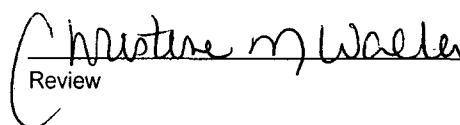
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 29747 - 29752.


Analyst

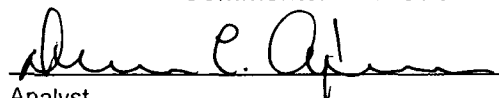

Review

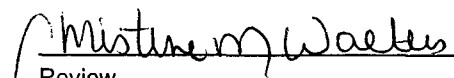
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 1'-2'	Date Reported:	08-02-04
Laboratory Number:	29747	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-31-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	5.64	s.u.		
Conductivity @ 25° C	1,250	umhos/cm		
Total Dissolved Solids @ 180C	1,390	mg/L		
Total Dissolved Solids (Calc)	1,480	mg/L		
SAR	4.1	ratio		
Total Alkalinity as CaCO3	28.3	mg/L		
Total Hardness as CaCO3	596	mg/L		
Bicarbonate as HCO3	28.3	mg/L	0.46	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	4.0	mg/L	0.06	meq/L
Nitrite Nitrogen	0.385	mg/L	0.01	meq/L
Chloride	208	mg/L	5.87	meq/L
Fluoride	0.46	mg/L	0.02	meq/L
Phosphate	1.4	mg/L	0.04	meq/L
Sulfate	770	mg/L	16.03	meq/L
Iron	0.027	mg/L	0.00	meq/L
Calcium	202	mg/L	10.08	meq/L
Magnesium	22.5	mg/L	1.85	meq/L
Potassium	24.1	mg/L	0.62	meq/L
Sodium	229	mg/L	9.96	meq/L
Cations			22.51	meq/L
Anions			22.50	meq/L
Cation/Anion Difference			0.03%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F.


Analyst

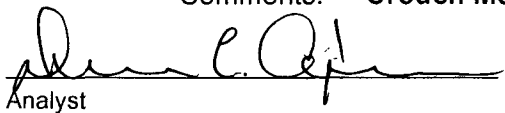

Review

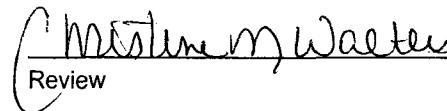
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29748	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-31-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	5.65	s.u.	
Conductivity @ 25° C	581	umhos/cm	
Total Dissolved Solids @ 180C	656	mg/L	
Total Dissolved Solids (Calc)	659	mg/L	
SAR	3.2	ratio	
Total Alkalinity as CaCO3	24.4	mg/L	
Total Hardness as CaCO3	268	mg/L	
Bicarbonate as HCO3	24.4	mg/L	0.40 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.9	mg/L	0.01 meq/L
Nitrite Nitrogen	0.078	mg/L	0.00 meq/L
Chloride	220	mg/L	6.21 meq/L
Fluoride	0.77	mg/L	0.04 meq/L
Phosphate	0.7	mg/L	0.02 meq/L
Sulfate	194	mg/L	4.04 meq/L
Iron	0.088	mg/L	0.00 meq/L
Calcium	92.8	mg/L	4.63 meq/L
Magnesium	8.79	mg/L	0.72 meq/L
Potassium	6.64	mg/L	0.17 meq/L
Sodium	119	mg/L	5.18 meq/L
Cations			10.70 meq/L
Anions			10.72 meq/L
Cation/Anion Difference			0.19%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F.


Analyst

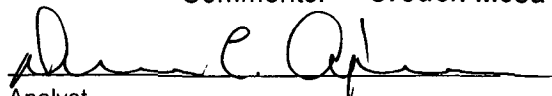

Review

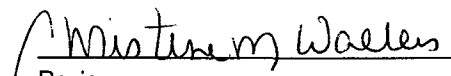
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	08-02-04
Laboratory Number:	29749	Date Sampled:	07-29-04
Chain of Custody:	12639	Date Received:	07-29-04
Sample Matrix:	Soil	Date Extracted:	07-31-04
Preservative:	Cool	Date Analyzed:	08-02-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	5.32	s.u.	
Conductivity @ 25° C	913	umhos/cm	
Total Dissolved Solids @ 180C	850	mg/L	
Total Dissolved Solids (Calc)	871	mg/L	
SAR	4.2	ratio	
Total Alkalinity as CaCO3	12.0	mg/L	
Total Hardness as CaCO3	308	mg/L	
Bicarbonate as HCO3	12.0	mg/L	0.20 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	14.5	mg/L	0.23 meq/L
Nitrite Nitrogen	0.317	mg/L	0.01 meq/L
Chloride	295	mg/L	8.32 meq/L
Fluoride	0.77	mg/L	0.04 meq/L
Phosphate	2.1	mg/L	0.07 meq/L
Sulfate	244	mg/L	5.08 meq/L
Iron	0.008	mg/L	0.00 meq/L
Calcium	114	mg/L	5.69 meq/L
Magnesium	5.86	mg/L	0.48 meq/L
Potassium	19.0	mg/L	0.49 meq/L
Sodium	168	mg/L	7.31 meq/L
Cations			13.97 meq/L
Anions			13.95 meq/L
Cation/Anion Difference			0.13%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

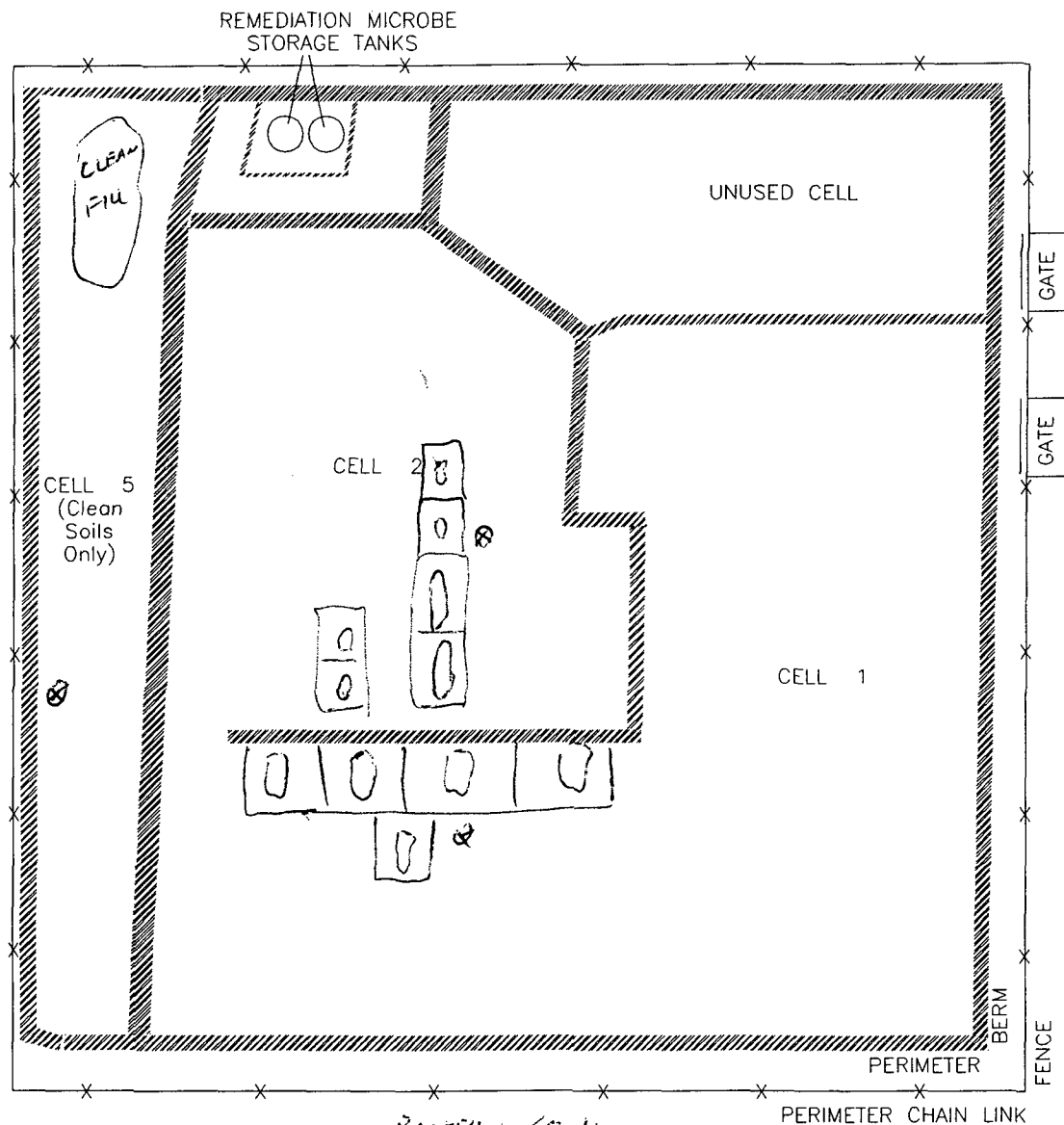
Comments: Crouch Mesa L.F.


Analyst


Review

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san juan reproduction 578-129

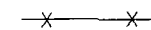


CELL 2 2'-3' 1015 AM
 CELL 5 2'-3' 1035 AM
 CELL 1 2'-3' 1055 AM

BAGGELL w/ Co. Hys
 Mixed w/ Bentonite



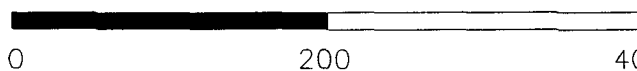
LEGEND



6' TALL CHAIN LINK FENCE



SOIL BERM



BP AMERICA PRODUCTION CO.
 CROUCH MESA WASTE MGMT FAC
 SW/4 SE/4 SEC 2 T29N R12W
 SAN JUAN CO., NEW MEXICO

QUARTERLY SAMPLING OCTOBER 2003

BLAGG ENGINEERING, INC.
 CONSULTING ENGINEERING SERVICES

P.O. BOX 87
 BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE SCHEMATIC

FIGURE 2

DRWN BY:
 JCB

CRMESA4

PROJ MGR:
 JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

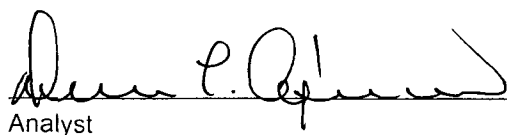
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Sample ID:	Cell 2	Date Reported:	10-20-04
Laboratory Number:	31001	Date Sampled:	10-18-04
Chain of Custody No:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Extracted:	10-20-04
Preservative:	Cool	Date Analyzed:	10-20-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

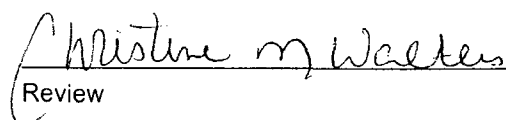
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

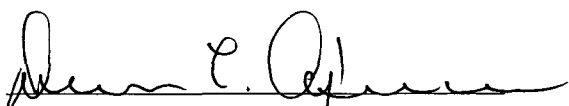
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Sample ID:	Cell 5	Date Reported:	10-20-04
Laboratory Number:	31002	Date Sampled:	10-18-04
Chain of Custody No:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Extracted:	10-20-04
Preservative:	Cool	Date Analyzed:	10-20-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

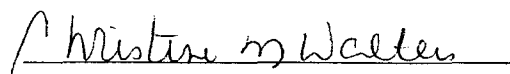
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F. 2' - 3'.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

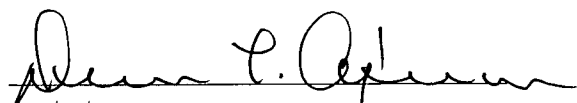
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	10-20-04
Laboratory Number:	31003	Date Sampled:	10-18-04
Chain of Custody No:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Extracted:	10-20-04
Preservative:	Cool	Date Analyzed:	10-20-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

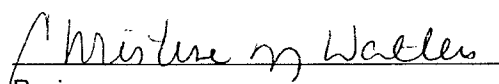
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-20-TPH QA/QC	Date Reported:	10-20-04
Laboratory Number:	30981	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-20-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5492E-002	0.10%	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

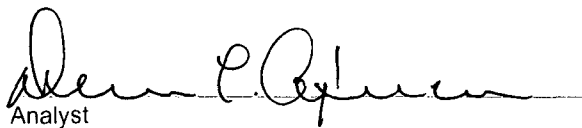
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	9.7	9.7	0.0%	0 - 30%

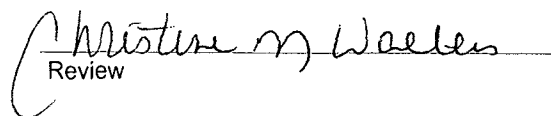
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	9.7	250	259	99.8%	75 - 125%

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 30981 - 30984, 30999 - 31003, 31007.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2	Date Reported:	10-20-04
Laboratory Number:	31001	Date Sampled:	10-18-04
Chain of Custody:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Analyzed:	10-20-04
Preservative:	Cool	Date Extracted:	10-20-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

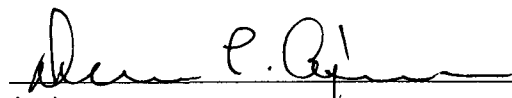
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5	Date Reported:	10-20-04
Laboratory Number:	31002	Date Sampled:	10-18-04
Chain of Custody:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Analyzed:	10-20-04
Preservative:	Cool	Date Extracted:	10-20-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

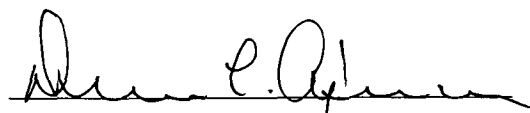
ND - Parameter not detected at the stated detection limit.

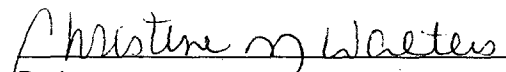
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1	Date Reported:	10-20-04
Laboratory Number:	31003	Date Sampled:	10-18-04
Chain of Custody:	13198	Date Received:	10-18-04
Sample Matrix:	Soil	Date Analyzed:	10-20-04
Preservative:	Cool	Date Extracted:	10-20-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

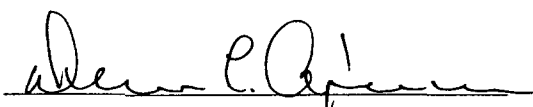
ND - Parameter not detected at the stated detection limit.

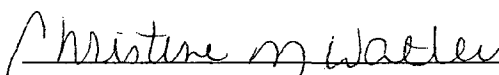
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F. 2' - 3'.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-20-BTEX QA/QC	Date Reported:	10-20-04
Laboratory Number:	30983	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-20-04
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	2.8990E-001	2.9077E-001	0.3%	ND	0.2
Toluene	2.5460E-002	2.5511E-002	0.2%	ND	0.2
Ethylbenzene	3.8451E-002	3.8567E-002	0.3%	ND	0.2
p,m-Xylene	3.2988E-002	3.3088E-002	0.3%	ND	0.2
o-Xylene	3.3333E-002	3.3400E-002	0.2%	ND	0.1

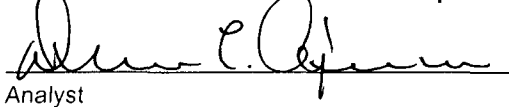
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	22.4	22.1	1.3%	0 - 30%	1.8
Toluene	35.4	34.7	2.0%	0 - 30%	1.7
Ethylbenzene	26.4	25.8	2.3%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	8.5	8.4	1.2%	0 - 30%	1.0

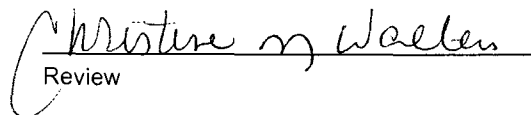
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	22.4	50.0	72.3	99.9%	39 - 150
Toluene	35.4	50.0	85.3	99.9%	46 - 148
Ethylbenzene	26.4	50.0	76.3	99.9%	32 - 160
p,m-Xylene	ND	100	99.9	99.9%	46 - 148
o-Xylene	8.5	50.0	58.5	100.0%	46 - 148

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 30983 - 30984, 31000 - 31003, 31007.


Analyst


Review

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

SENT VIA CERTIFIED MAIL

November 14, 2003

RECEIVED

NOV 17 2003

OIL CONSERVATION
DIVISION

Ms. Martyne J. Kieling
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: BP America Production Company
Crouch Mesa Waste Management Facility, Permit NM-02-003
Annual Report on Treatment Zone Monitoring

Dear Ms. Kieling:

On behalf of BP America Production Company, Blagg Engineering, Inc. (BEI) is submitting 2003 annual treatment zone monitoring test results for the Crouch Mesa Waste Management Facility pursuant to Permit NM-02-003, dated November 25, 1998. This treatment zone monitoring is conducted quarterly and test results are annually submitted to NMOCD. This report is for the December 1, 2002 through November 30, 2003 reporting period.

Sampling protocol specifies that a subsurface sample is to be collected in the native ground surface below the treatment zone in each cell during quarterly monitoring. Quarterly test procedures include TPH and BTEX. Heavy metals and major cations/anions are to be collected for at least one quarterly sample event.

The landfarm is presently configured into three (3) active cells, identified as Cell 1, Cell 2 and Cell 5 (Figure 1). Contaminated soils are placed into Cells 1 or 2 for remedial treatment. After these soils reach closure standards (<100 ppm TPH) they are stockpiled in Cell 5 for future beneficial use. The northeast portion of the facility (identified as 'unused cell') is used for equipment and materials storage only.

Included with this transmittal are the complete laboratory test reports for the facility treatment zone monitoring. Presented in Table 1 on the following page is a summary of these quarterly laboratory test reports:

MJK
12-4-03

Table 1

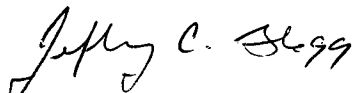
**BP Crouch Mesa Waste Management Facility
2003 Annual Treatment Zone Monitoring Test Results**

Treatment Cell Identification	TPH mg/Kg	Benz mg/Kg	BTEX mg/Kg	As mg/Kg	Ba mg/Kg	Cd mg/Kg	Cr mg/Kg	Pb mg/Kg	Hg mg/Kg	Se mg/Kg	Ag mg/Kg
<u>Cell No. 1</u>											
1/10/03	ND	ND	ND	--	--	--	--	--	--	--	--
4/16/03	ND	ND	ND	0.049	4.85	0.029	1.54	0.826	ND	0.031	ND
7/29/03	ND	ND	ND	--	--	--	--	--	--	--	--
10/6/03	ND	ND	ND	--	--	--	--	--	--	--	--
<u>Cell No. 2</u>											
1/10/03	ND	ND	ND	--	--	--	--	--	--	--	--
4/16/03	ND	ND	ND	ND	8.80	ND	0.001	0.001	ND	ND	ND
7/29/03	ND	ND	ND	--	--	--	--	--	--	--	--
10/6/03	ND	ND	ND	--	--	--	--	--	--	--	--
<u>Cell No. 5</u>											
1/10/03	ND	ND	ND	--	--	--	--	--	--	--	--
4/16/03	ND	ND	ND	0.095	19.7	0.074	2.14	1.61	ND	0.072	ND
7/29/03	ND	ND	ND	--	--	--	--	--	--	--	--
10/6/03	ND	ND	ND	--	--	--	--	--	--	--	--
REGULATORY STANDARD	100	10	50	5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

ND = Not Detected

Questions or comments concerning the this transmittal may be directed to Jeff Blagg of Blagg Engineering at (505)632-1199 or Brittany Benko with BP at (505)326-9235.

Respectfully submitted:
Blagg Engineering, Inc.



Jeffrey C. Blagg, P.E.
President

Attachments: Site Diagram
Soil Treatment Zone Monitoring Reports

cc: Denny Foust, NMOCD Aztec District Office
B.D. Benko, BP San Juan Operations Center
Jake Hatcher, IEI Farmington

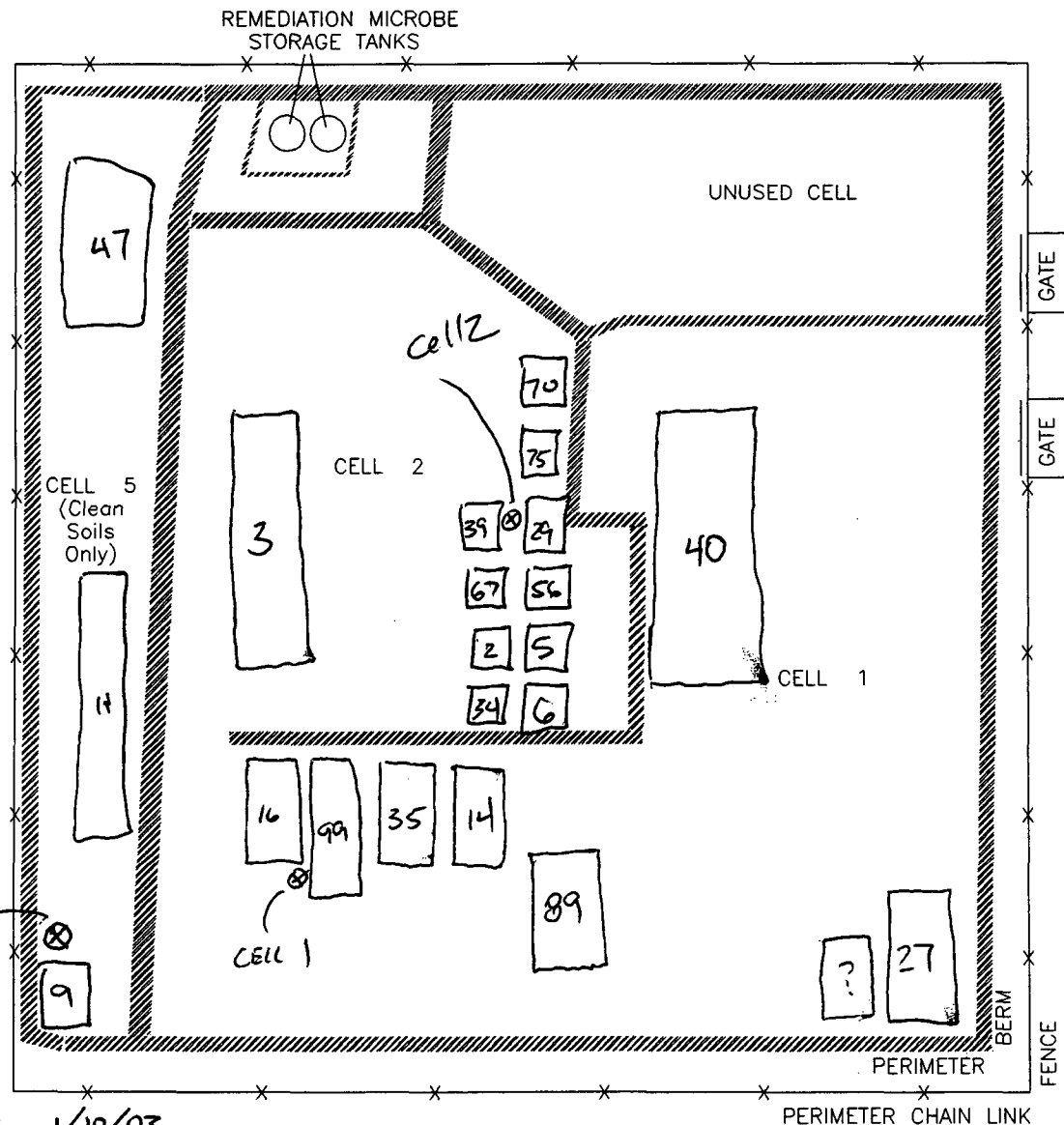
10538

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

860-3
1290

25-
561



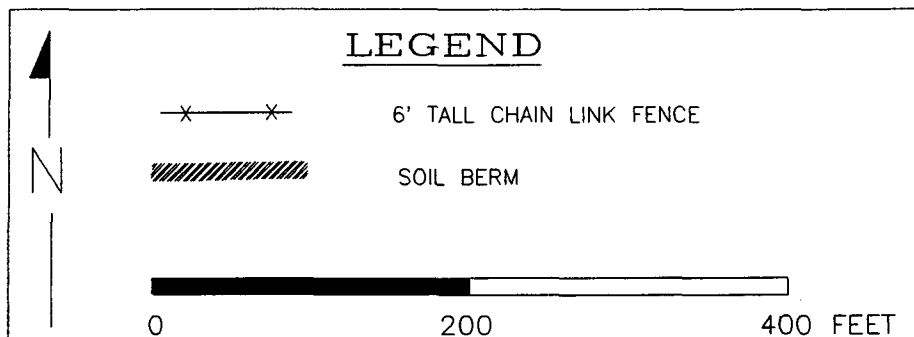
QTR SAMPLING 1/10/03

ID TIME

CELL 5 0905
2'-3'

CELL 1 0930
2'-3'

CELL 2 0955
2'-3'



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

Configuration April 02 - November 02

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 2

CRMESA4

DRWN BY:
JCB

PROJ MGR:
JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client: Blagg / BP
Sample ID: Cell 1, 2' - 3'
Laboratory Number: 24543
Chain of Custody No: 10538
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

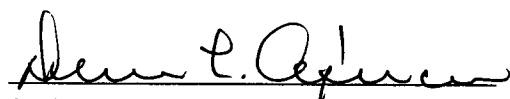
Project #: 94034-010
Date Reported: 01-13-03
Date Sampled: 01-10-03
Date Received: 01-10-03
Date Extracted: 01-10-03
Date Analyzed: 01-13-03
Analysis Requested: 8015 TPH

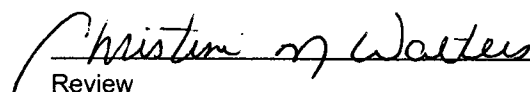
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client: Blagg / BP
Sample ID: Cell 2, 2' - 3'
Laboratory Number: 24544
Chain of Custody No: 10538
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

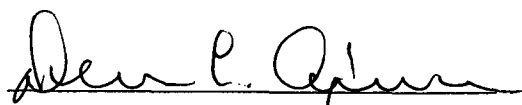
Project #: 94034-010
Date Reported: 01-13-03
Date Sampled: 01-10-03
Date Received: 01-10-03
Date Extracted: 01-10-03
Date Analyzed: 01-13-03
Analysis Requested: 8015 TPH

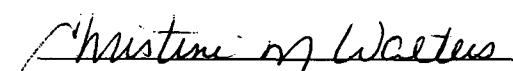
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

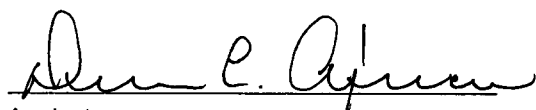
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5, 2' - 3'	Date Reported:	01-13-03
Laboratory Number:	24545	Date Sampled:	01-10-03
Chain of Custody No:	10538	Date Received:	01-10-03
Sample Matrix:	Soil	Date Extracted:	01-10-03
Preservative:	Cool	Date Analyzed:	01-13-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

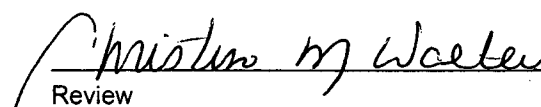
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-13-TPH QA/QC	Date Reported:	01-13-03
Laboratory Number:	24543	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-13-03
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	04-25-02	2.7355E-002	2.7328E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-25-02	2.4557E-002	2.4508E-002	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

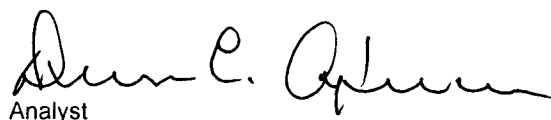
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

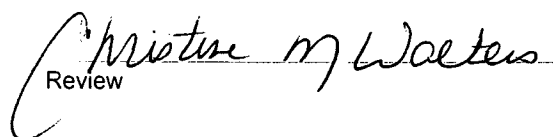
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 24543 - 24545.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1, 2' - 3'	Date Reported:	01-13-03
Laboratory Number:	24543	Date Sampled:	01-10-03
Chain of Custody:	10538	Date Received:	01-10-03
Sample Matrix:	Soil	Date Analyzed:	01-13-03
Preservative:	Cool	Date Extracted:	01-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

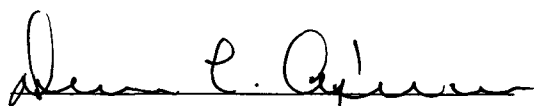
ND - Parameter not detected at the stated detection limit.

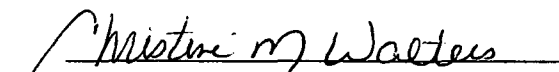
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2, 2' - 3'	Date Reported:	01-13-03
Laboratory Number:	24544	Date Sampled:	01-10-03
Chain of Custody:	10538	Date Received:	01-10-03
Sample Matrix:	Soil	Date Analyzed:	01-13-03
Preservative:	Cool	Date Extracted:	01-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

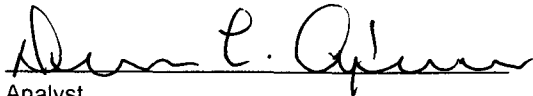
ND - Parameter not detected at the stated detection limit.

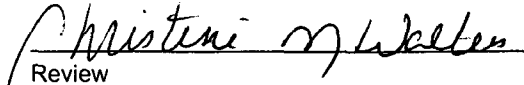
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94 %
	1,4-difluorobenzene	94 %
	Bromochlorobenzene	94 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5, 2' - 3'	Date Reported:	01-13-03
Laboratory Number:	24545	Date Sampled:	01-10-03
Chain of Custody:	10538	Date Received:	01-10-03
Sample Matrix:	Soil	Date Analyzed:	01-13-03
Preservative:	Cool	Date Extracted:	01-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

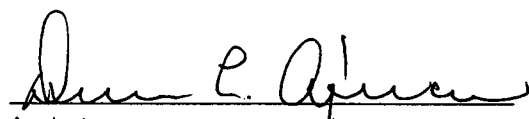
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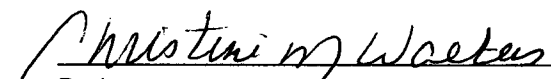
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94 %
	1,4-difluorobenzene	94 %
	Bromochlorobenzene	94 %

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client: N/A
Sample ID: 01-13-BTEX QA/QC
Laboratory Number: 24543
Sample Matrix: Soil
Preservative: N/A
Condition: N/A

Project #: N/A
Date Reported: 01-13-02
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 01-13-03
Analysis: BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
Benzene	2.6914E-002	2.6995E-002	0.3%	ND	0.2
Toluene	3.3709E-002	3.3777E-002	0.2%	ND	0.2
Ethylbenzene	5.8262E-002	5.8438E-002	0.3%	ND	0.2
p,m-Xylene	7.1891E-002	7.2107E-002	0.3%	ND	0.2
o-Xylene	5.4522E-002	5.4631E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	49.8	99.6%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.7	99.7%	46 - 148
o-Xylene	ND	50.0	49.9	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.

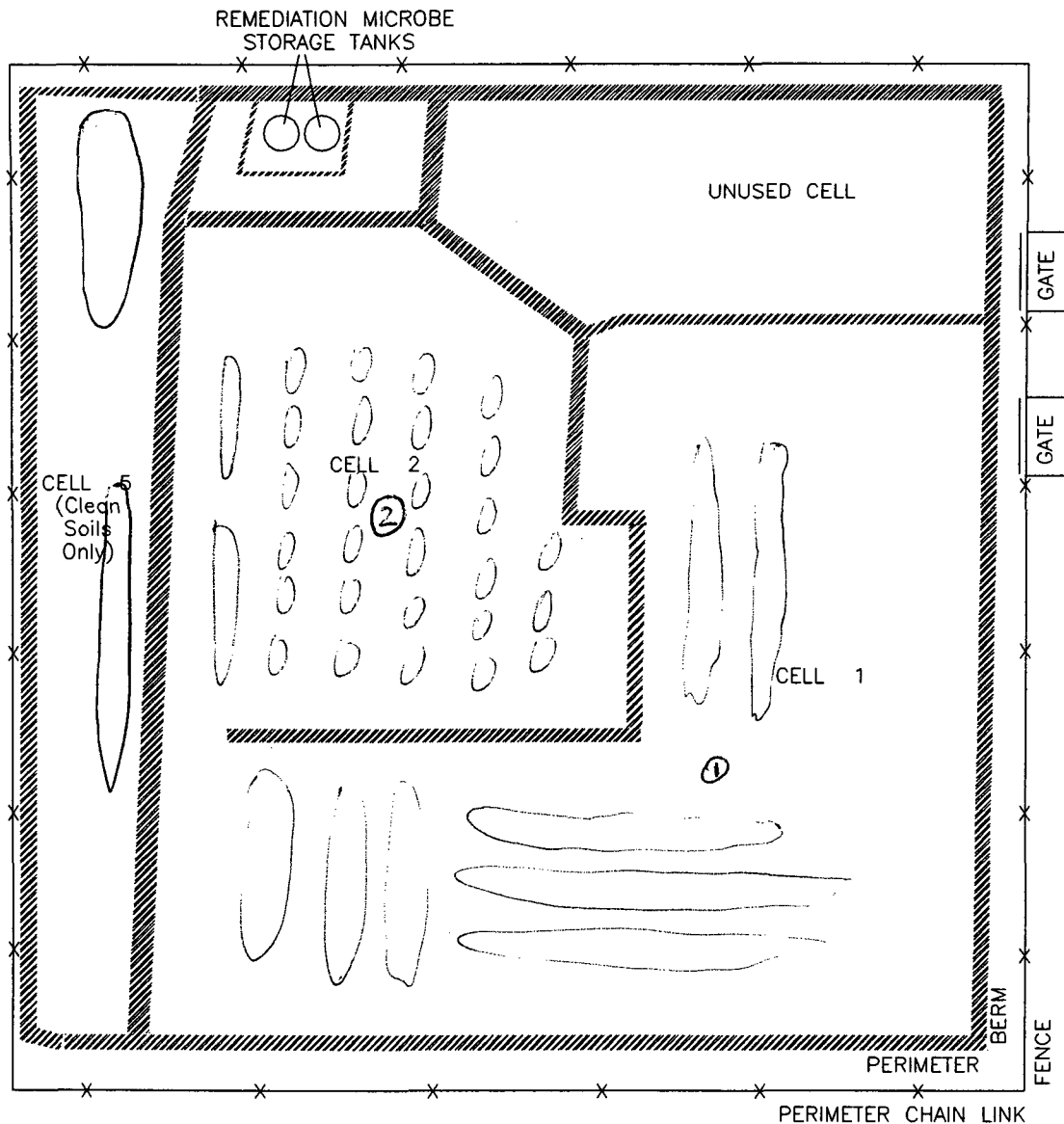
Comments: QA/QC for samples 24543 - 24545.

Analyst

Review

10830

[illegible]

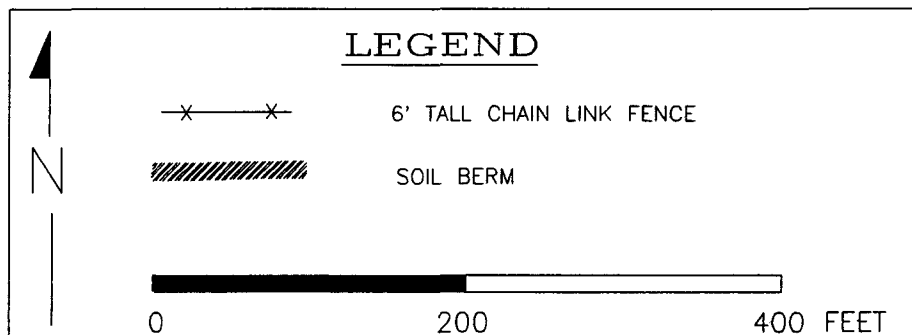


4/16/03

- ① CELL #1 2'-3' 1025
- ② CELL #2 2'-3' 1040
- ③ CELL #3 2'-3' 1100

TEST FOR TPH, BTEX, & RCRA Metals

BACKFILL w/ clays mixed w/ BSOT.



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

Configuration April 02 - November 02

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 2

CRMESA4

DRWN BY:
JCB

PROJ MGR:
JCB

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

Client: Blagg / BP
Sample ID: Cell #1 2'-3'
Laboratory Number: 25368
Chain of Custody No: 10830
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

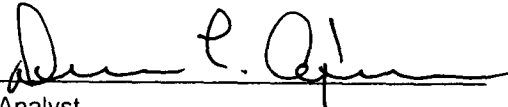
Project #: 94034-010
Date Reported: 04-18-03
Date Sampled: 04-16-03
Date Received: 04-16-03
Date Extracted: 04-17-03
Date Analyzed: 04-18-03
Analysis Requested: 8015 TPH

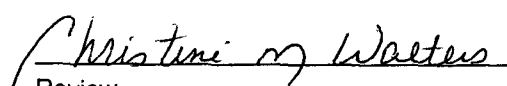
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: Crouch Mesa L.F.


Analyst


Review

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

Client: Blagg / BP
Sample ID: Cell #2 2'-3'
Laboratory Number: 25369
Chain of Custody No: 10830
Sample Matrix: Soil
Preservative: Cool
Condition: Cool and Intact

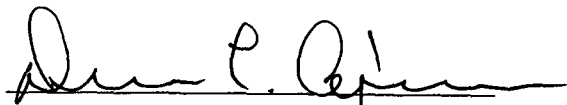
Project #: 94034-010
Date Reported: 04-18-03
Date Sampled: 04-16-03
Date Received: 04-16-03
Date Extracted: 04-17-03
Date Analyzed: 04-18-03
Analysis Requested: 8015 TPH

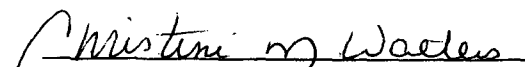
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

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

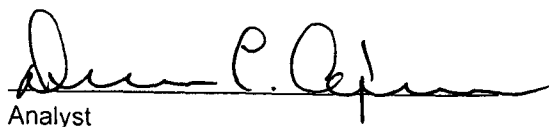
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25370	Date Sampled:	04-16-03
Chain of Custody No:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Extracted:	04-17-03
Preservative:	Cool	Date Analyzed:	04-18-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

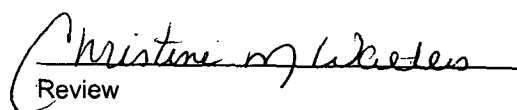
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

ENVIROTECH INC.

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:	04-18-TPH QA/QC	Date Reported:	04-18-03
Laboratory Number:	25368	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-18-03
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	04-25-02	2.7355E-002	2.7328E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-25-02	2.4557E-002	2.4508E-002	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	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

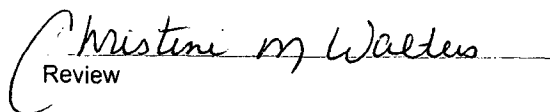
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 25368 - 25370.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25368	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Extracted:	04-17-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

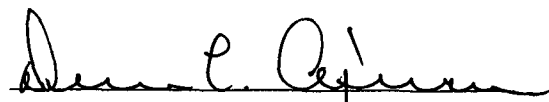
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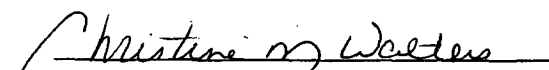
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	Bromochlorobenzene	96 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25369	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Extracted:	04-17-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

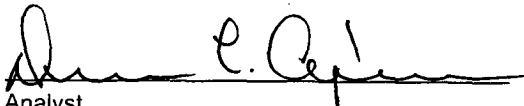
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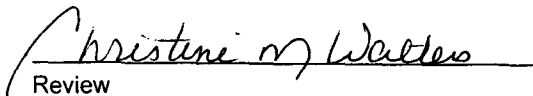
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	Bromochlorobenzene	96 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25370	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Extracted:	04-17-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

ND - Parameter not detected at the stated detection limit.

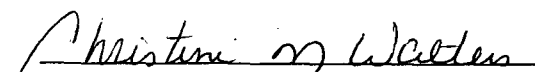
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	Bromochlorobenzene	96 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	04-18-BTEX QA/QC	Date Reported:	04-18-03
Laboratory Number:	25368	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-18-03
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	4.1274E-002	4.1398E-002	0.3%	ND	0.2
Toluene	4.8348E-002	4.8445E-002	0.2%	ND	0.2
Ethylbenzene	7.9848E-002	8.0088E-002	0.3%	ND	0.2
p,m-Xylene	7.6417E-002	7.6647E-002	0.3%	ND	0.2
o-Xylene	7.1539E-002	7.1683E-002	0.2%	ND	0.1

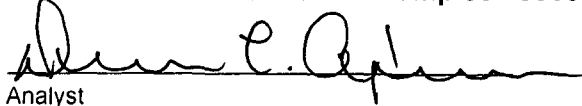
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

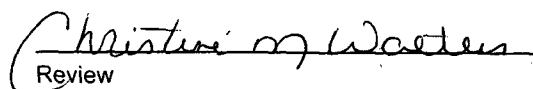
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.8	99.8%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

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 25368 - 25370.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25368	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Digested:	04-17-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.049	0.001	5.0
Barium	4.85	0.001	100
Cadmium	0.029	0.001	1.0
Chromium	1.54	0.001	5.0
Lead	0.826	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.031	0.001	1.0
Silver	ND	0.001	5.0

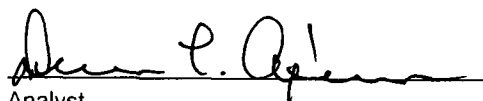
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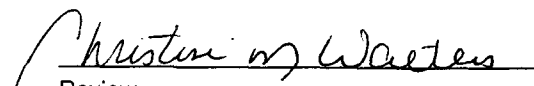
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F.**


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25369	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Digested:	04-17-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	ND	0.001	5.0
Barium	8.80	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.001	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

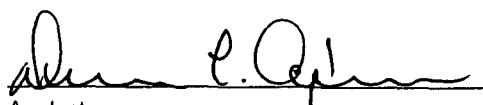
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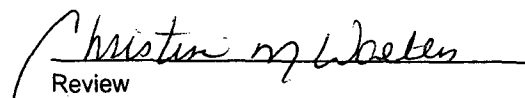
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F.**


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 2'-3'	Date Reported:	04-18-03
Laboratory Number:	25370	Date Sampled:	04-16-03
Chain of Custody:	10830	Date Received:	04-16-03
Sample Matrix:	Soil	Date Analyzed:	04-18-03
Preservative:	Cool	Date Digested:	04-17-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.095	0.001	5.0
Barium	19.7	0.001	100
Cadmium	0.074	0.001	1.0
Chromium	2.14	0.001	5.0
Lead	1.61	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.072	0.001	1.0
Silver	ND	0.001	5.0

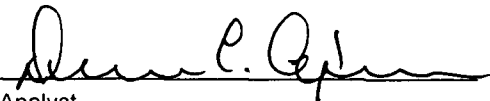
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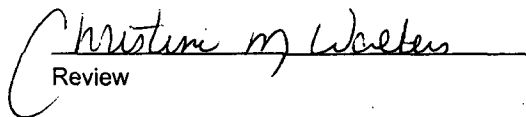
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: **Crouch Mesa L.F.**


Analyst


Review

TRACE METAL ANALYSIS
Quality Control /
Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-18-TM QA/QC	Date Reported:	04-18-03
Laboratory Number:	25368	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	04-18-03
Condition:	N/A	Date Digested:	04-17-03

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.049	0.050	2.0%	0% - 30%
Barium	ND	ND	0.001	4.85	4.83	0.4%	0% - 30%
Cadmium	ND	ND	0.001	0.029	0.029	0.0%	0% - 30%
Chromium	ND	ND	0.001	1.54	1.52	1.3%	0% - 30%
Lead	ND	ND	0.001	0.826	0.828	0.2%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.031	0.031	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

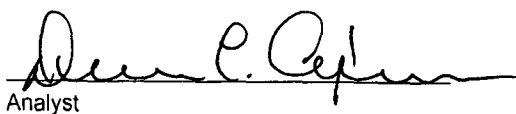
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.049	0.550	100.2%	80% - 120%
Barium	0.500	4.85	5.3	99.8%	80% - 120%
Cadmium	0.500	0.029	0.530	100.2%	80% - 120%
Chromium	0.500	1.54	2.03	99.5%	80% - 120%
Lead	0.500	0.826	1.32	99.5%	80% - 120%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.031	0.530	99.8%	80% - 120%
Silver	0.500	ND	0.499	99.8%	80% - 120%

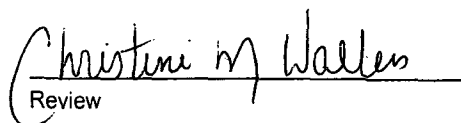
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

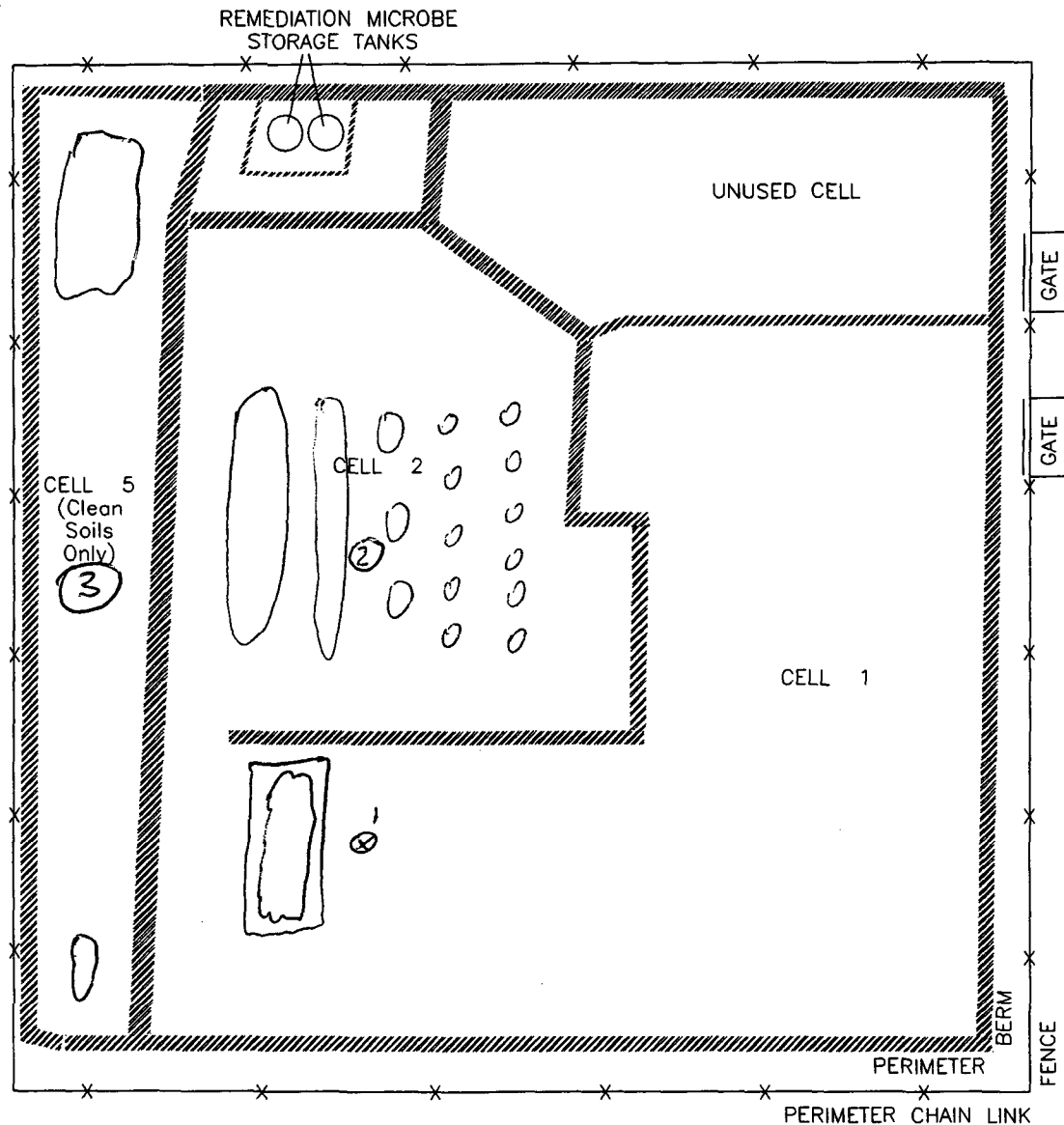
Comments: QA/QC for samples 25368 - 25370.


Analyst


Review

11187

ENVIROTECH INC.



7/29/03

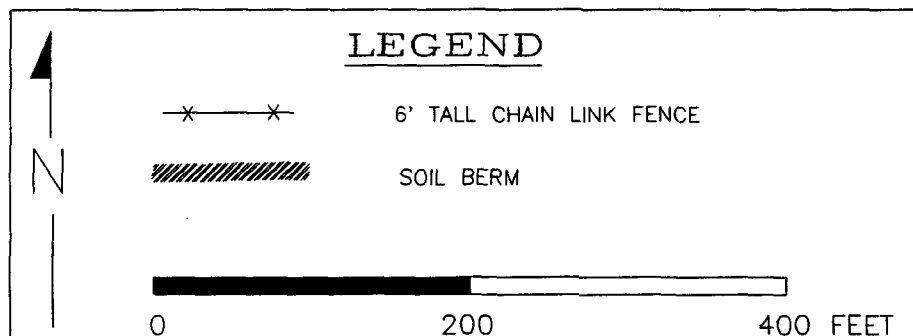
1030 cell 1 ~~1000~~ 1' - H/T S.S.

1204 cell 2 2'

1217 cell 3 3'

Backfill w/ Bent x cuttings

HAND AUGER



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

Configuration April 02 - November 02

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

SITE
SCHEMATIC

FIGURE 2

CRMESA4

DRWN BY:
JCB

PROJ MGR:
JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

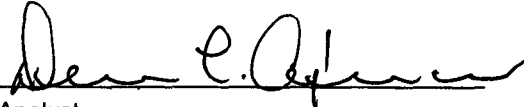
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 @ 1'	Date Reported:	07-30-03
Laboratory Number:	26203	Date Sampled:	07-29-03
Chain of Custody No:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Extracted:	07-30-03
Preservative:	Cool	Date Analyzed:	07-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

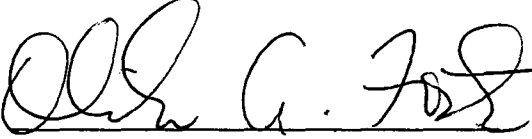
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

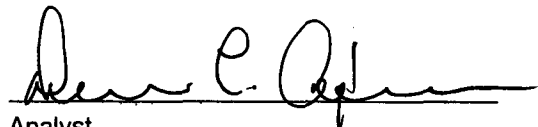
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 @ 2'	Date Reported:	07-30-03
Laboratory Number:	26204	Date Sampled:	07-29-03
Chain of Custody No:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Extracted:	07-30-03
Preservative:	Cool	Date Analyzed:	07-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

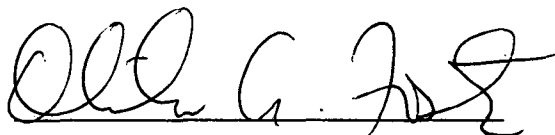
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

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

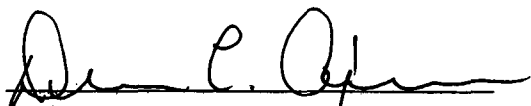
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 @ 3'	Date Reported:	07-30-03
Laboratory Number:	26205	Date Sampled:	07-29-03
Chain of Custody No:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Extracted:	07-30-03
Preservative:	Cool	Date Analyzed:	07-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

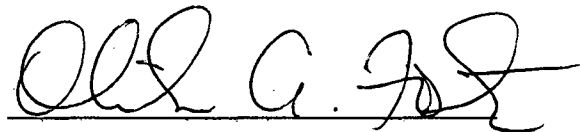
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-30-TPH QA/QC	Date Reported:	07-30-03
Laboratory Number:	26203	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-30-03
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	04-29-03	2.6312E-002	2.6286E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-29-03	2.5849E-002	2.5823E-002	0.10%	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%

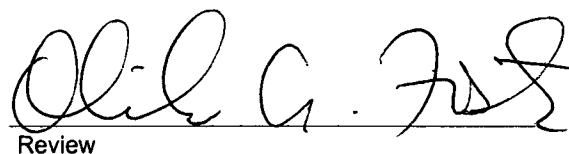
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 26203 - 26205, 26207.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #1 @ 1'	Date Reported:	07-30-03
Laboratory Number:	26203	Date Sampled:	07-29-03
Chain of Custody:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Analyzed:	07-30-03
Preservative:	Cool	Date Extracted:	07-30-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

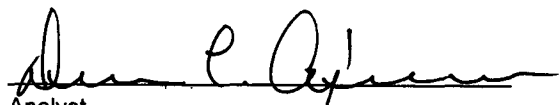
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #2 @ 2'	Date Reported:	07-30-03
Laboratory Number:	26204	Date Sampled:	07-29-03
Chain of Custody:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Analyzed:	07-30-03
Preservative:	Cool	Date Extracted:	07-30-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

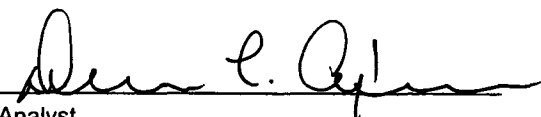
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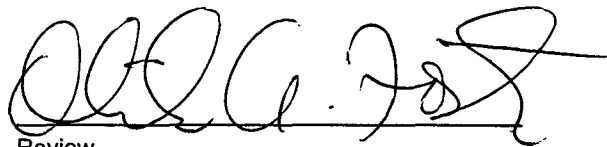
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell #5 @ 3'	Date Reported:	07-30-03
Laboratory Number:	26205	Date Sampled:	07-29-03
Chain of Custody:	11187	Date Received:	07-29-03
Sample Matrix:	Soil	Date Analyzed:	07-30-03
Preservative:	Cool	Date Extracted:	07-30-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

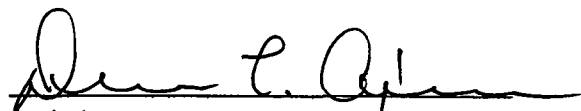
ND - Parameter not detected at the stated detection limit.

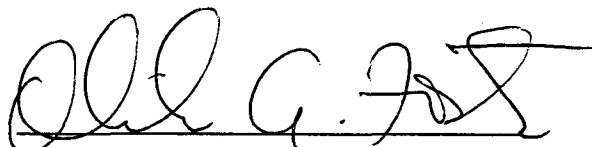
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	95 %
	1,4-difluorobenzene	95 %
	Bromochlorobenzene	95 %

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	07-30-BTEX QA/QC	Date Reported:	07-30-03
Laboratory Number:	26203	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-30-03
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	3.7241E-002	3.7353E-002	0.3%	ND	0.2
Toluene	4.4375E-002	4.4464E-002	0.2%	ND	0.2
Ethylbenzene	7.5434E-002	7.5661E-002	0.3%	ND	0.2
p,m-Xylene	6.7602E-002	6.7806E-002	0.3%	ND	0.2
o-Xylene	5.7973E-002	5.8089E-002	0.2%	ND	0.1

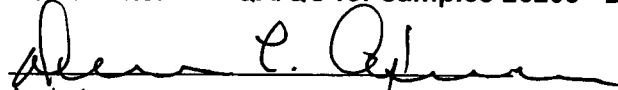
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

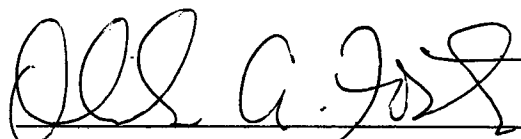
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.9	99.9%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

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.

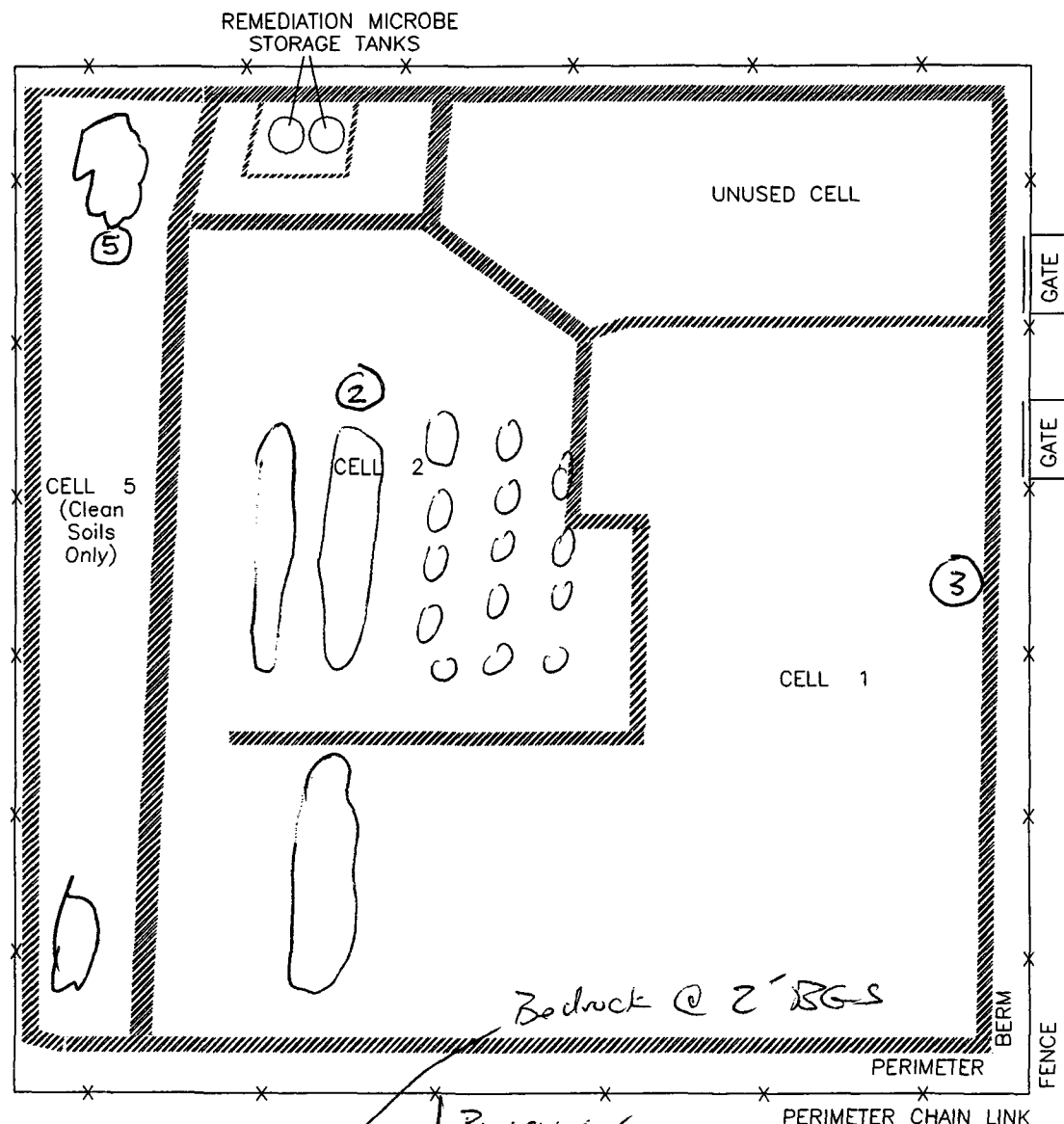
Comments: QA/QC for samples 26203 - 26205.


Analyst


Review

11425

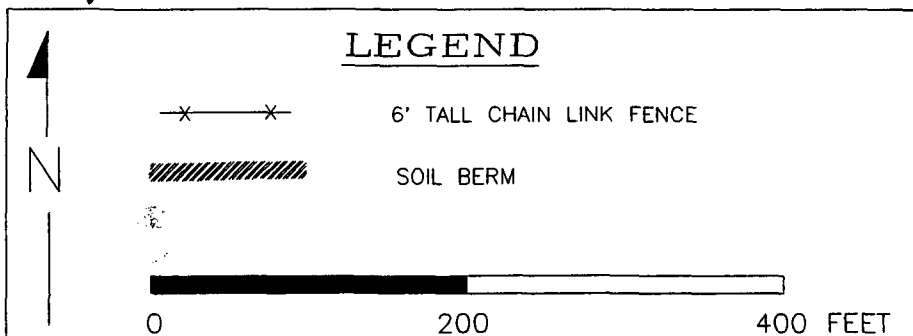
[illegible]



10/6/03

- ⑤ Cell 5 2'-3' BGS 1255
- ② Cell 2 2'-2½" 1320
- ③ Cell 1 2'-3' " 1340

BACKFILL w/
BEST Powder 3'-1'
cuttings 1'-surface



BP AMERICA PRODUCTION CO.
CROUCH MESA WASTE MGMT FAC
SW/4 SE/4 SEC 2 T29N R12W
SAN JUAN CO., NEW MEXICO

QUARTERLY SAMPLING OCTOBER 2003

BLAGG ENGINEERING, INC.
CONSULTING ENGINEERING SERVICES

P.O. BOX 87
BLOOMFIELD, NEW MEXICO 87413

PHONE: (505) 632-1199

**SITE
SCHEMATIC**

FIGURE 2

DRWN BY:
JCB

CRMESA4

PROJ MGR:
JCB

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

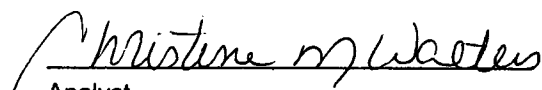
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26783	Date Sampled:	10-06-03
Chain of Custody No:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: **Crouch Mesa L.F.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

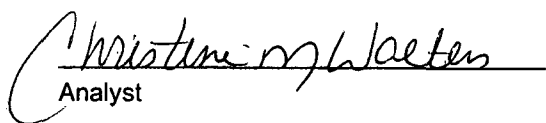
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2 2' - 2 1/2'	Date Reported:	10-08-03
Laboratory Number:	26784	Date Sampled:	10-06-03
Chain of Custody No:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	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: Crouch Mesa L.F.


Analyst


Review

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

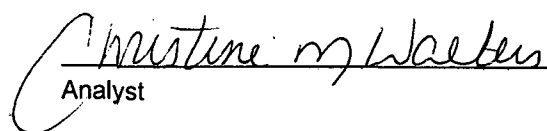
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Sample ID:	Cell 1 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26785	Date Sampled:	10-06-03
Chain of Custody No:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

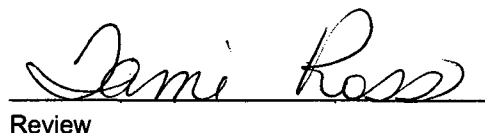
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Crouch Mesa L.F.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-08-TPH QA/QC	Date Reported:	10-08-03
Laboratory Number:	26783	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-08-03
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	04-29-03	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	04-29-03	1.5507E-002	1.5492E-002	0.10%	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

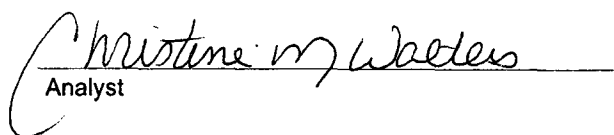
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

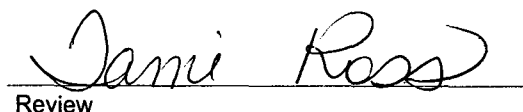
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 26783 - 26785.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26783	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Analyzed:	10-08-03
Preservative:	Cool	Date Extracted:	10-07-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

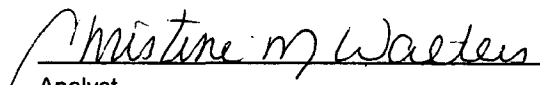
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97 %
	1,4-difluorobenzene	97 %
	Bromochlorobenzene	97 %

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: Crouch Mesa L.F.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2 2' - 2 1/2'	Date Reported:	10-08-03
Laboratory Number:	26784	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Analyzed:	10-08-03
Preservative:	Cool	Date Extracted:	10-07-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

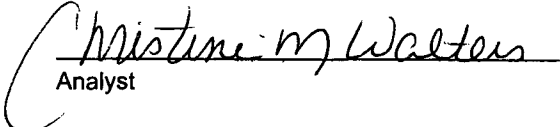
ND - Parameter not detected at the stated detection limit.

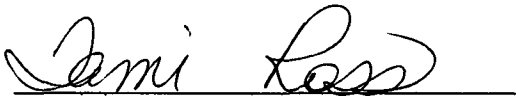
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97 %
	1,4-difluorobenzene	97 %
	Bromochlorobenzene	97 %

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: Crouch Mesa L.F.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26785	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Soil	Date Analyzed:	10-08-03
Preservative:	Cool	Date Extracted:	10-07-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	ND	1.5
p,m-Xylene	ND	2.2
o-Xylene	ND	1.0
Total BTEX	ND	

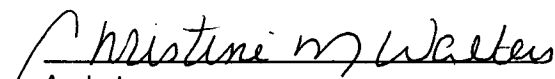
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	Bromochlorobenzene	98 %

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: Crouch Mesa L.F.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-08-BTEX QA/QC	Date Reported:	10-08-03
Laboratory Number:	26783	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-08-03
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	4.2776E-002	4.2905E-002	0.3%	ND	0.2
Toluene	4.8966E-002	4.9064E-002	0.2%	ND	0.2
Ethylbenzene	7.4036E-002	7.4259E-002	0.3%	ND	0.2
p,m-Xylene	6.8275E-002	6.8480E-002	0.3%	ND	0.2
o-Xylene	5.5866E-002	5.5978E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	54.0	108%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	100	100%	46 - 148
o-Xylene	ND	50.0	49.9	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 26783 - 26785.

Christine M. Waeter
Analyst

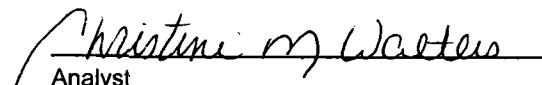
Doni Ross
Review

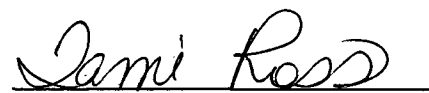
Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 5 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26783	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Water	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	6.69	s.u.	
Conductivity @ 25° C	603	umhos/cm	
Total Dissolved Solids @ 180C	442	mg/L	
Total Dissolved Solids (Calc)	439	mg/L	
SAR	2.0	ratio	
Total Alkalinity as CaCO3	22.4	mg/L	
Total Hardness as CaCO3	182	mg/L	
Bicarbonate as HCO3	22.4	mg/L	0.37 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	1.2	mg/L	0.02 meq/L
Nitrite Nitrogen	0.072	mg/L	0.00 meq/L
Chloride	18.0	mg/L	0.51 meq/L
Fluoride	0.94	mg/L	0.05 meq/L
Phosphate	0.8	mg/L	0.03 meq/L
Sulfate	267	mg/L	5.56 meq/L
Iron	0.015	mg/L	0.00 meq/L
Calcium	57.1	mg/L	2.85 meq/L
Magnesium	9.47	mg/L	0.78 meq/L
Potassium	10.0	mg/L	0.26 meq/L
Sodium	60.8	mg/L	2.64 meq/L
Cations			6.53 meq/L
Anions			6.53 meq/L
Cation/Anion Difference			0.00%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F.


Analyst


Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 2 2' - 2 1/2'	Date Reported:	10-08-03
Laboratory Number:	26784	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Water	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	6.91	s.u.		
Conductivity @ 25° C	2,270	umhos/cm		
Total Dissolved Solids @ 180C	1,670	mg/L		
Total Dissolved Solids (Calc)	1,634	mg/L		
SAR	7.4	ratio		
Total Alkalinity as CaCO3	33.6	mg/L		
Total Hardness as CaCO3	407	mg/L		
Bicarbonate as HCO3	33.6	mg/L	0.55	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	4.7	mg/L	0.08	meq/L
Nitrite Nitrogen	0.760	mg/L	0.02	meq/L
Chloride	193	mg/L	5.44	meq/L
Fluoride	0.82	mg/L	0.04	meq/L
Phosphate	0.3	mg/L	0.01	meq/L
Sulfate	875	mg/L	18.22	meq/L
Iron	0.015	mg/L	0.00	meq/L
Calcium	119	mg/L	5.94	meq/L
Magnesium	26.9	mg/L	2.21	meq/L
Potassium	50.3	mg/L	1.29	meq/L
Sodium	343	mg/L	14.92	meq/L
Cations			24.36	meq/L
Anions			24.36	meq/L
Cation/Anion Difference			0.01%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F.

Christine M. Waters
Analyst

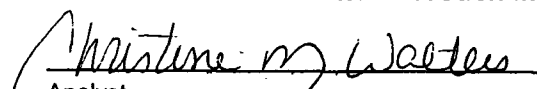
Jami Ross
Review

Client:	Blagg / BP	Project #:	94034-010
Sample ID:	Cell 1 2' - 3'	Date Reported:	10-08-03
Laboratory Number:	26785	Date Sampled:	10-06-03
Chain of Custody:	11425	Date Received:	10-06-03
Sample Matrix:	Water	Date Extracted:	10-07-03
Preservative:	Cool	Date Analyzed:	10-08-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	6.92	s.u.	
Conductivity @ 25° C	1,721	umhos/cm	
Total Dissolved Solids @ 180C	1,636	mg/L	
Total Dissolved Solids (Calc)	1,527	mg/L	
SAR	4.9	ratio	
Total Alkalinity as CaCO3	19.6	mg/L	
Total Hardness as CaCO3	520	mg/L	
Bicarbonate as HCO3	19.6	mg/L	0.32 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	4.3	mg/L	0.07 meq/L
Nitrite Nitrogen	0.219	mg/L	0.00 meq/L
Chloride	87	mg/L	2.45 meq/L
Fluoride	0.81	mg/L	0.04 meq/L
Phosphate	0.7	mg/L	0.02 meq/L
Sulfate	935	mg/L	19.47 meq/L
Iron	0.004	mg/L	0.00 meq/L
Calcium	181	mg/L	9.03 meq/L
Magnesium	16.6	mg/L	1.37 meq/L
Potassium	34.8	mg/L	0.89 meq/L
Sodium	255	mg/L	11.09 meq/L
Cations			22.38 meq/L
Anions			22.38 meq/L
Cation/Anion Difference			0.02%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Crouch Mesa L.F.


Analyst


Review