

NM1 - 9

MONITORING REPORTS

YEAR(S):

2002-1997



RECEIVED

FEB 05 2002

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

January 28, 2002 Fourth Quarter 2001

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

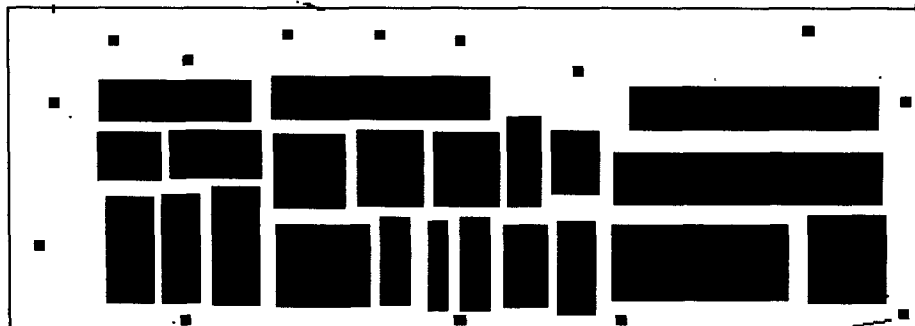
If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

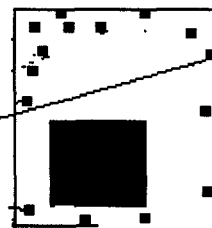
cc: Mr. Stone
Mr. Foust

01-28-02



Cell #2 Sample Area

Cell #1 Sample
Area



NORTH

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 21, 2002

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-001

Dear Mr. Talovich,

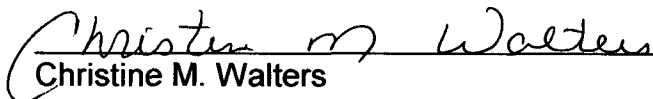
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service designated personnel on 01/15/02, and received by the Envirotech laboratory on 01/15/02 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 8907 and assigned Laboratory Nos. 21810 (Cell #1) and 21811 (Cell #2) for tracking purposes.

The samples were analyzed on 01/17/02 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	01-17-02
Laboratory Number:	21810	Date Sampled:	01-15-02
Chain of Custody:	8907	Date Received:	01-15-02
Sample Matrix:	Soil	Date Analyzed:	01-17-02
Preservative:	Cool	Date Extracted:	01-17-02
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	

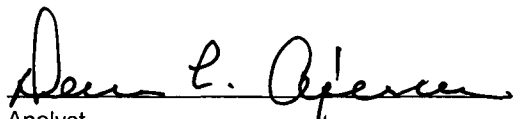
ND - Parameter not detected at the stated detection limit.

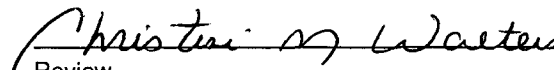
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	01-17-02
Laboratory Number:	21811	Date Sampled:	01-15-02
Chain of Custody:	8907	Date Received:	01-15-02
Sample Matrix:	Soil	Date Analyzed:	01-17-02
Preservative:	Cool	Date Extracted:	01-17-02
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	

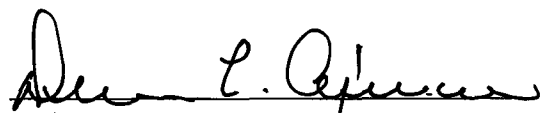
ND - Parameter not detected at the stated detection limit.

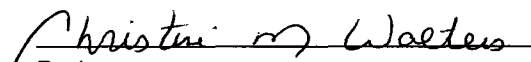
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	94 %
	1,4-difluorobenzene	94 %
	Bromochlorobenzene	94 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	01-17-BTEX QA/QC	Date Reported:	01-17-02
Laboratory Number:	21810	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-17-02
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	1.7143E-001	1.7195E-001	0.3%	ND	0.2
Toluene	9.4693E-002	9.4883E-002	0.2%	ND	0.2
Ethylbenzene	1.2284E-001	1.2321E-001	0.3%	ND	0.2
p,m-Xylene	1.0810E-001	1.0843E-001	0.3%	ND	0.2
o-Xylene	9.2106E-002	9.2290E-002	0.2%	ND	0.1

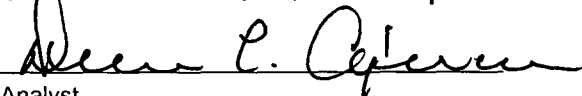
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

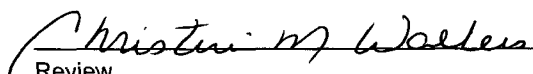
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	ND	50.0	49.9	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	100	100.0%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

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 21810 - 21811 and 21823 - 21827.


Analyst


Review

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

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	01-18-02
Laboratory Number:	21810	Date Sampled:	01-15-02
Chain of Custody No:	8907	Date Received:	01-15-02
Sample Matrix:	Soil	Date Extracted:	01-17-02
Preservative:	Cool	Date Analyzed:	01-17-02
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

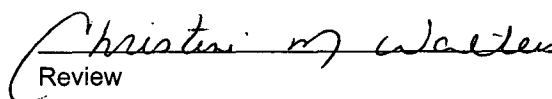
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

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

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	01-18-02
Laboratory Number:	21811	Date Sampled:	01-15-02
Chain of Custody No:	8907	Date Received:	01-15-02
Sample Matrix:	Soil	Date Extracted:	01-17-02
Preservative:	Cool	Date Analyzed:	01-17-02
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

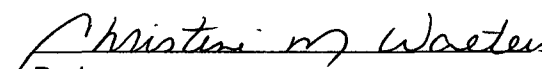
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-17-TPH QA/QC	Date Reported:	01-17-02
Laboratory Number:	21810	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-17-02
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	01-07-02	2.5028E-002	2.5003E-002	0.10%	0 - 15%
Diesel Range C10 - C28	01-07-02	1.2696E-002	1.2671E-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

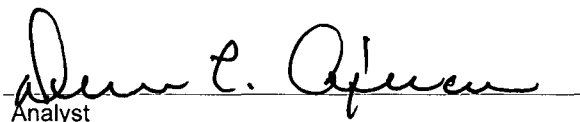
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

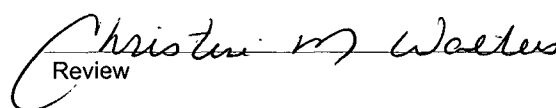
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 21810 - 21811 and 21823 - 21827.


Analyst


Review

08907

ENVIROTECH INC.

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



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

RECEIVED

NOV 19 2001

Environmental Bureau
Oil Conservation Division

November 12, 2001 Third Quarter

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

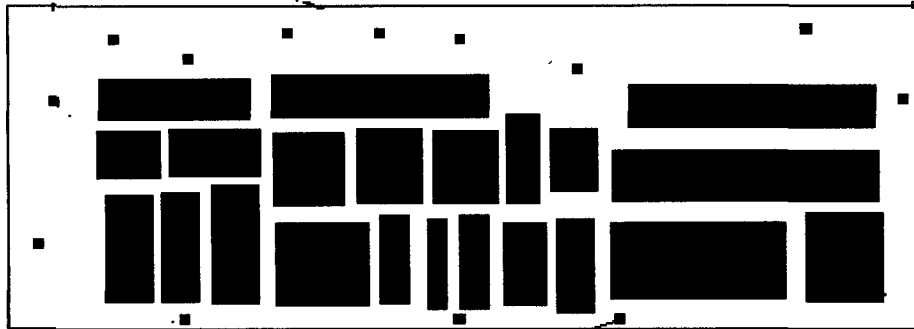
Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

cc: Mr. Stone
Mr. Foust

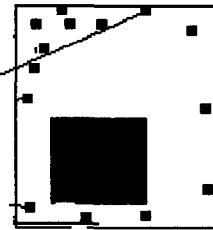
MT
11-13-01

November 12, 2001



Cell #2 Sample Area

Cell #1 Sample Area



NORTH

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

October 18, 2001

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-001

Job No.: 806501

Dear Mr. Talovich,

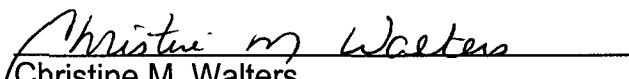
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service designated personnel on 10/11/01, and received by the Envirotech laboratory on 10/11/01 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA 8021

The samples were documented on Envirotech Chain of Custody No. 9583. The samples were assigned Laboratory Nos. 21240 (Cell #1) and 21241 (Cell #2) for tracking purposes.

The samples were analyzed on 10/16/01 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

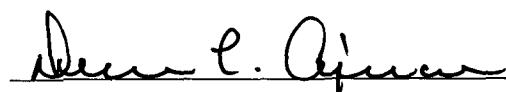
Client:	Key Energy Serv.	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	10-16-01
Laboratory Number:	21240	Date Sampled:	10-11-01
Chain of Custody No:	9583	Date Received:	10-11-01
Sample Matrix:	Soil	Date Extracted:	10-16-01
Preservative:	Cool	Date Analyzed:	10-16-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

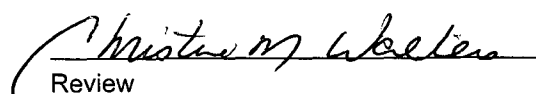
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Key Energy Serv.	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	10-16-01
Laboratory Number:	21241	Date Sampled:	10-11-01
Chain of Custody No:	9583	Date Received:	10-11-01
Sample Matrix:	Soil	Date Extracted:	10-16-01
Preservative:	Cool	Date Analyzed:	10-16-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

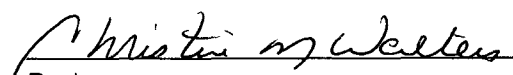
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-16-TPH QA/QC	Date Reported:	10-16-01
Laboratory Number:	21240	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-16-01
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	08-22-01	1.2571E-002	1.2559E-002	0.10%	0 - 15%
Diesel Range C10 - C28	08-22-01	8.3733E-003	8.3565E-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

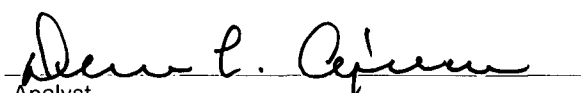
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

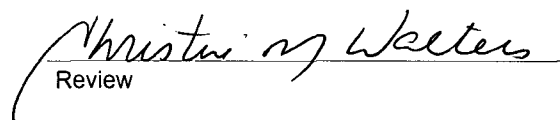
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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 21240 - 21241 and 21252 - 21257.


Analyst


Review

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	10-16-01
Laboratory Number:	21240	Date Sampled:	10-11-01
Chain of Custody:	9583	Date Received:	10-11-01
Sample Matrix:	Soil	Date Analyzed:	10-16-01
Preservative:	Cool	Date Extracted:	10-16-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2.4	1.8
Toluene	ND	1.7
Ethylbenzene	11.1	1.5
p,m-Xylene	25.3	2.2
o-Xylene	12.4	1.0
Total BTEX	51.2	

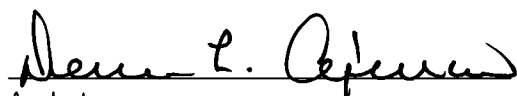
ND - Parameter not detected at the stated detection limit.

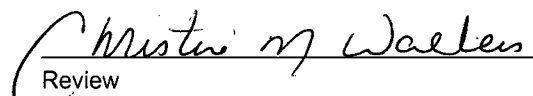
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	Bromochlorobenzene	98 %

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: Landfarm.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Key Energy	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	10-16-01
Laboratory Number:	21241	Date Sampled:	10-11-01
Chain of Custody:	9583	Date Received:	10-11-01
Sample Matrix:	Soil	Date Analyzed:	10-16-01
Preservative:	Cool	Date Extracted:	10-16-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	ND	1.7
Ethylbenzene	7.8	1.5
p,m-Xylene	71.0	2.2
o-Xylene	14.0	1.0
Total BTEX	92.8	

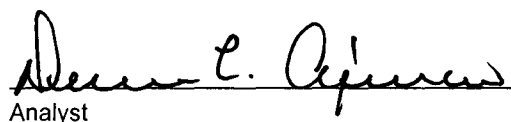
ND - Parameter not detected at the stated detection limit.

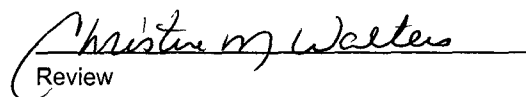
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-16-BTEX QA/QC	Date Reported:	10-16-01
Laboratory Number:	21240	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-16-01
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	1.7143E-001	1.7195E-001	0.3%	ND	0.2
Toluene	9.4693E-002	9.4883E-002	0.2%	ND	0.2
Ethylbenzene	1.2284E-001	1.2321E-001	0.3%	ND	0.2
p,m-Xylene	1.0810E-001	1.0843E-001	0.3%	ND	0.2
o-Xylene	9.2106E-002	9.2290E-002	0.2%	ND	0.1

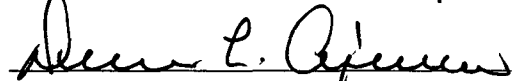
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	2.4	2.4	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	11.1	11.1	0.0%	0 - 30%	1.5
p,m-Xylene	25.3	25.4	0.4%	0 - 30%	2.2
o-Xylene	12.4	12.5	0.8%	0 - 30%	1.0

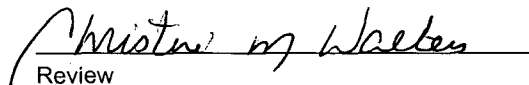
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	2.4	50.0	52.4	100.0%	39 - 150
Toluene	ND	50.0	50.0	100.0%	46 - 148
Ethylbenzene	11.1	50.0	61.0	99.8%	32 - 160
p,m-Xylene	25.3	100	125	99.9%	46 - 148
o-Xylene	12.4	50.0	62.3	99.8%	46 - 148

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 21240 - 21241 and 21252 - 21254.


Analyst


Review

09583

[illegible]



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

August 2, 2001 Second Quarter

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

Best Regards:

A handwritten signature in black ink, appearing to read "Michael Talovich".

Michael Talovich
Disposal Manager
Key Energy Services

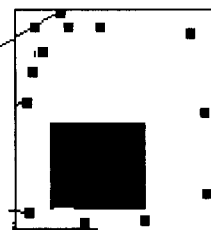
cc: Mr. Stone
Mr. Foust

August 2, 2001



Cell #2 Sample Area

Cell #1 Sample Area



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

July 26, 2001

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-001

Dear Mr. Talovich,

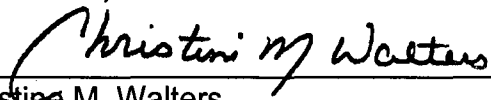
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service designated personnel on 7/23/01, and received by the Envirotech laboratory on 7/24/01 for BTEX per USEPA Method 8021 and Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015.

The samples were documented on Envirotech Chain of Custody No. 9356 and assigned Laboratory Nos. 20443 (Cell #1) and 20444 (Cell #2) for tracking purposes.

The samples were analyzed on 7/25/01 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	07-25-01
Laboratory Number:	20443	Date Sampled:	07-23-01
Chain of Custody:	9356	Date Received:	07-24-01
Sample Matrix:	Soil	Date Analyzed:	07-25-01
Preservative:	Cool	Date Extracted:	07-25-01
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	

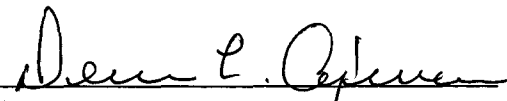
ND - Parameter not detected at the stated detection limit.

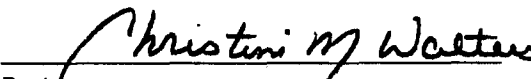
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

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: Landfarm.


Analyst


Review

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	07-25-01
Laboratory Number:	20444	Date Sampled:	07-23-01
Chain of Custody:	9356	Date Received:	07-24-01
Sample Matrix:	Soil	Date Analyzed:	07-25-01
Preservative:	Cool	Date Extracted:	07-25-01
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.

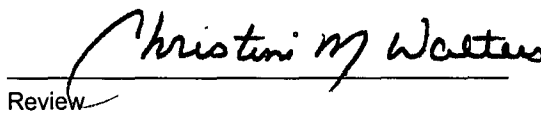
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	07-25-BTEX QA/QC	Date Reported:	07-25-01
Laboratory Number:	20443	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-25-01
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	4.7251E-002	4.7365E-002	0.2%	ND	0.2
Toluene	4.3470E-002	4.3548E-002	0.2%	ND	0.2
Ethylbenzene	6.1736E-002	6.1866E-002	0.2%	ND	0.2
p,m-Xylene	6.3126E-002	6.3284E-002	0.3%	ND	0.2
o-Xylene	5.5325E-002	5.5419E-002	0.2%	ND	0.1

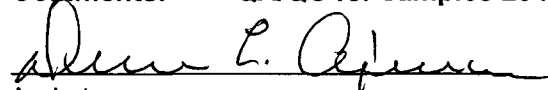
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

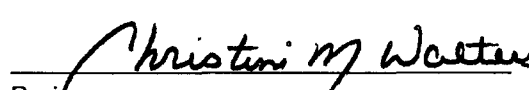
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	ND	100	100	100%	46 - 148
o-Xylene	ND	50.0	50.0	100%	46 - 148

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 20443 - 20446.


Analyst


Review

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

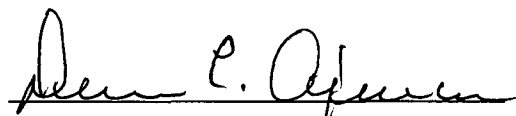
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	07-25-01
Laboratory Number:	20443	Date Sampled:	07-23-01
Chain of Custody No:	9356	Date Received:	07-24-01
Sample Matrix:	Soil	Date Extracted:	07-25-01
Preservative:	Cool	Date Analyzed:	07-25-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

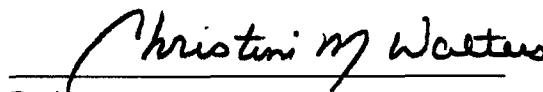
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

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

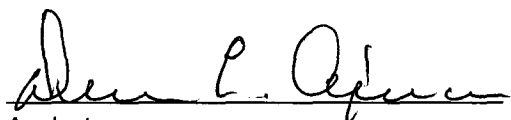
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	07-25-01
Laboratory Number:	20444	Date Sampled:	07-23-01
Chain of Custody No:	9356	Date Received:	07-24-01
Sample Matrix:	Soil	Date Extracted:	07-25-01
Preservative:	Cool	Date Analyzed:	07-25-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

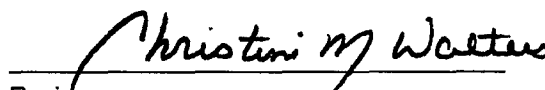
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-25-TPH QA/QC	Date Reported:	07-25-01
Laboratory Number:	20443	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-25-01
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-09-01	9.6854E-002	9.6757E-002	0.10%	0 - 15%
Diesel Range C10 - C28	05-09-01	2.0418E-002	2.0377E-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

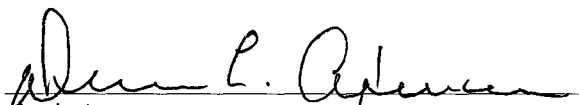
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

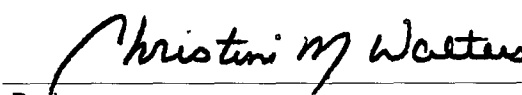
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 20443 - 20448.


Analyst


Review

09356

[illegible]



RECEIVED

MAY 14 2001

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

May 10, 2001 First Quarter

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

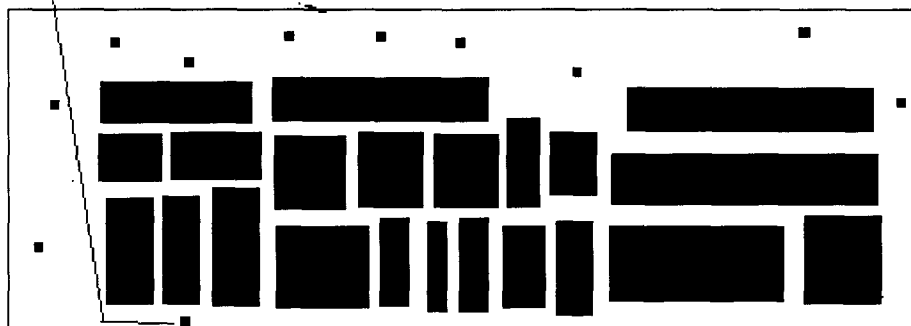
Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

cc: Mr. Stone
Mr. Foust

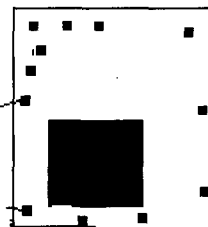
Cell #2 Sample
Area

May 10, 2001



NORTH

Cell #1 Sample
Area



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

April 18, 2001

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-001

Job No.: 806501

Dear Mr. Talovich,

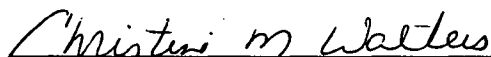
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service designated personnel on 4/16/01, and received by the Envirotech laboratory on 4/16/01 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA 8021

The samples were documented on Envirotech Chain of Custody No. 9213. The samples were assigned Laboratory Nos. 19555 (Cell #1 Landfarm) and 19556 (Cell #2 Landfarm) for tracking purposes.

The samples were analyzed on 4/17/01 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1 Landfarm	Date Reported:	04-17-01
Laboratory Number:	19555	Date Sampled:	04-16-01
Chain of Custody:	9213	Date Received:	04-16-01
Sample Matrix:	Soil	Date Analyzed:	04-17-01
Preservative:	Cool	Date Extracted:	04-16-01
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	

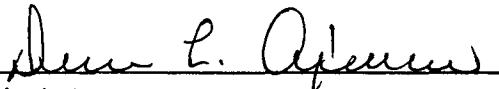
ND - Parameter not detected at the stated detection limit.

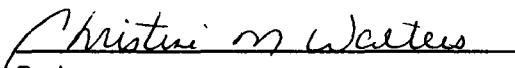
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2 Landfarm	Date Reported:	04-17-01
Laboratory Number:	19556	Date Sampled:	04-16-01
Chain of Custody:	9213	Date Received:	04-16-01
Sample Matrix:	Soil	Date Analyzed:	04-17-01
Preservative:	Cool	Date Extracted:	04-16-01
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	

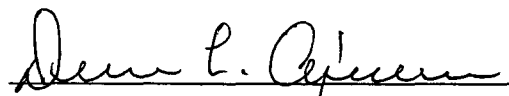
ND - Parameter not detected at the stated detection limit.

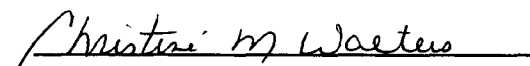
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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: Landfarm.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	04-17-BTEX QA/QC	Date Reported:	04-17-01
Laboratory Number:	19555	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-17-01
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	3.2255E-002	3.2333E-002	0.2%	ND	0.2
Toluene	4.0199E-002	4.0271E-002	0.2%	ND	0.2
Ethylbenzene	7.0232E-002	7.0380E-002	0.2%	ND	0.2
p,m-Xylene	6.3376E-002	6.3535E-002	0.3%	ND	0.2
o-Xylene	5.4448E-002	5.4541E-002	0.2%	ND	0.1

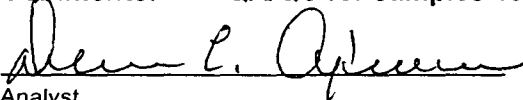
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	ND	ND	0.0%	0 - 30%	1.7
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.5
p,m-Xylene	ND	ND	0.0%	0 - 30%	2.2
o-Xylene	ND	ND	0.0%	0 - 30%	1.0

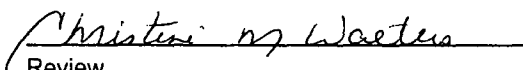
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	ND	100	100	100%	46 - 148
o-Xylene	ND	50.0	50.0	100%	46 - 148

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 19555 - 19556.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

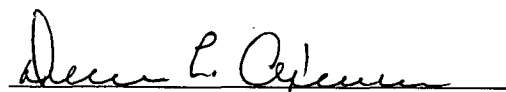
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1 Landfarm	Date Reported:	04-17-01
Laboratory Number:	19555	Date Sampled:	04-16-01
Chain of Custody No:	9213	Date Received:	04-16-01
Sample Matrix:	Soil	Date Extracted:	04-16-01
Preservative:	Cool	Date Analyzed:	04-17-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

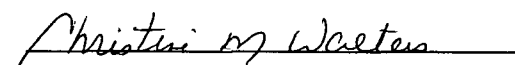
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: Landfarm.


Analyst


Review

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

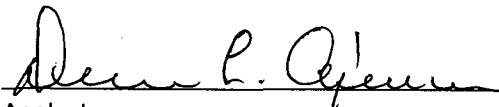
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2 Landfarm	Date Reported:	04-17-01
Laboratory Number:	19556	Date Sampled:	04-16-01
Chain of Custody No:	9213	Date Received:	04-16-01
Sample Matrix:	Soil	Date Extracted:	04-16-01
Preservative:	Cool	Date Analyzed:	04-17-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

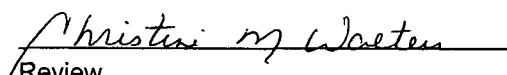
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-17-TPH QA/QC	Date Reported:	04-17-01
Laboratory Number:	19555	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-17-01
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	12-20-00	2.5071E-002	2.5046E-002	0.10%	0 - 15%
Diesel Range C10 - C28	12-20-00	1.2428E-002	1.2403E-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

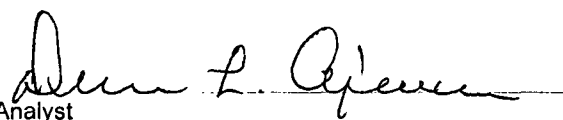
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

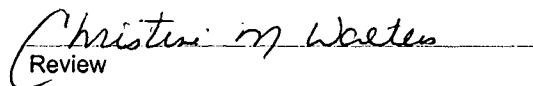
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 19555 - 19556.


Analyst


Review

09213

ENVIROTECH INC.

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



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

RECEIVED

JAN 29 2001

**Environmental Bureau
Oil Conservation Division**

January 24, 2001

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

Best Regards:

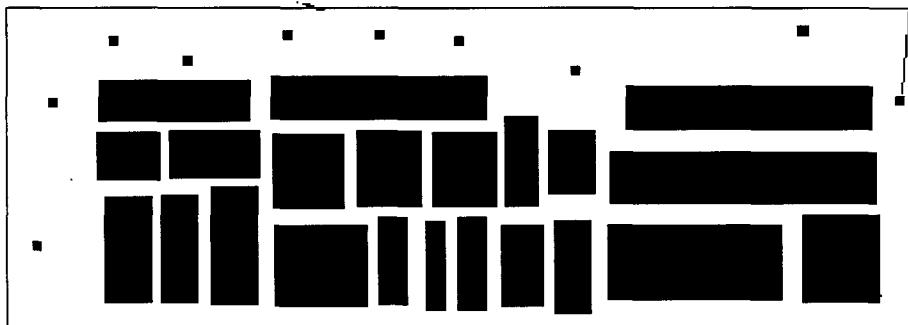
A handwritten signature in black ink, appearing to read "Michael Talovich".

Michael Talovich
Disposal Manager
Key Energy Services

cc: Mr. Stone
Mr. Foust

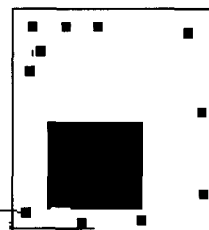
Cell #2 Sample
Area

January 24, 2001



NORTH

Cell #1 Sample
Area



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 19, 2001

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-001

Job No.: 806501

Dear Mr. Talovich,

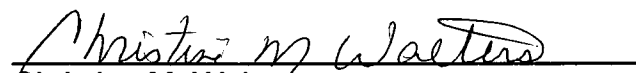
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service designated personnel on 1/16/01, and received by the Envirotech laboratory on 1/16/01 BTEX per USEPA Method 8021 and Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015.

The samples were documented on Envirotech Chain of Custody No. 8468. The samples were assigned Laboratory Nos. 19100 (Cell #1) and 19101 (Cell #2) for tracking purposes.

The samples were analyzed on 1/18/00 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters

Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

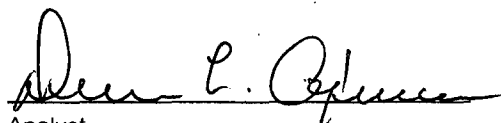
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	01-18-01
Laboratory Number:	19100	Date Sampled:	01-16-01
Chain of Custody No:	8468	Date Received:	01-16-01
Sample Matrix:	Soil	Date Extracted:	01-17-01
Preservative:	Cool	Date Analyzed:	01-18-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

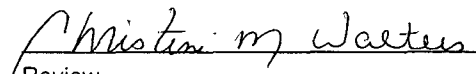
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.1

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: **Landfarm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

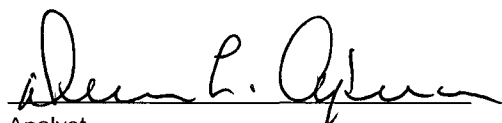
Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	01-18-01
Laboratory Number:	19101	Date Sampled:	01-16-01
Chain of Custody No:	8468	Date Received:	01-16-01
Sample Matrix:	Soil	Date Extracted:	01-17-01
Preservative:	Cool	Date Analyzed:	01-18-01
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

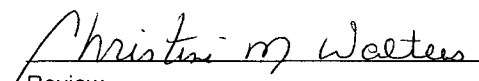
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Landfarm.**


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:	01-18-TPH QA/QC	Date Reported:	01-18-01
Laboratory Number:	19091	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-18-01
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	08-03-00	6.2648E-002	6.2586E-002	0.10%	0 - 15%
Diesel Range C10 - C28	08-03-00	2.0382E-002	2.0341E-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

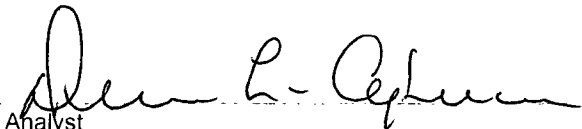
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	654	651	0.4%	0 - 30%
Diesel Range C10 - C28	277	276	0.3%	0 - 30%

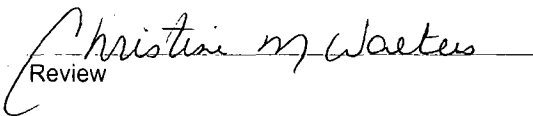
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	654	250	902	100%	75 - 125%
Diesel Range C10 - C28	277	250	526	100%	75 - 125%

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 19091 - 19098 and 19100 - 19101.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #1	Date Reported:	01-18-01
Laboratory Number:	19100	Date Sampled:	01-16-01
Chain of Custody:	8468	Date Received:	01-16-01
Sample Matrix:	Soil	Date Analyzed:	01-18-01
Preservative:	Cool	Date Extracted:	01-17-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	29.8	1.8
Toluene	30.3	1.7
Ethylbenzene	7.2	1.5
p,m-Xylene	131	2.2
o-Xylene	43.5	1.0
Total BTEX	242	

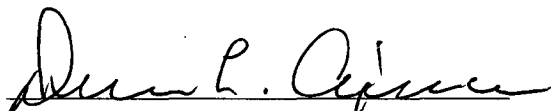
ND - Parameter not detected at the stated detection limit.

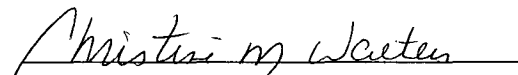
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Key Energy Services	Project #:	98065-001
Sample ID:	Cell #2	Date Reported:	01-18-01
Laboratory Number:	19101	Date Sampled:	01-16-01
Chain of Custody:	8468	Date Received:	01-16-01
Sample Matrix:	Soil	Date Analyzed:	01-18-01
Preservative:	Cool	Date Extracted:	01-17-01
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	9.7	1.7
Ethylbenzene	4.6	1.5
p,m-Xylene	55.4	2.2
o-Xylene	1.4	1.0
Total BTEX	71.1	

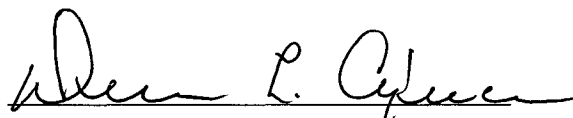
ND - Parameter not detected at the stated detection limit.

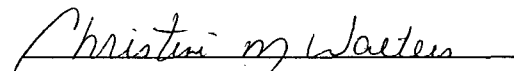
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	01-18-TPH QA/QC	Date Reported:	01-18-01
Laboratory Number:	19091	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-18-01
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	1.8167E-001	1.8211E-001	0.2%	ND	0.2
Toluene	3.4631E-002	3.4694E-002	0.2%	ND	0.2
Ethylbenzene	5.9784E-002	5.9910E-002	0.2%	ND	0.2
p,m-Xylene	5.4361E-002	5.4497E-002	0.3%	ND	0.2
o-Xylene	5.6391E-002	5.6487E-002	0.2%	ND	0.1

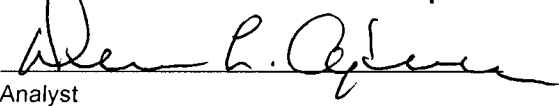
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	1,920	1,940	1.0%	0 - 30%	1.8
Toluene	1,890	1,900	0.5%	0 - 30%	1.7
Ethylbenzene	791	794	0.4%	0 - 30%	1.5
p,m-Xylene	1,440	1,440	0.0%	0 - 30%	2.2
o-Xylene	1,840	1,860	1.1%	0 - 30%	1.0

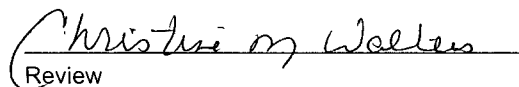
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	1,920	50.0	1,930	98%	39 - 150
Toluene	1,890	50.0	1,900	98%	46 - 148
Ethylbenzene	791	50.0	825	98%	32 - 160
p,m-Xylene	1,440	100	1,510	98%	46 - 148
o-Xylene	1,840	50.0	1,850	98%	46 - 148

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 19091 - 19093, 19096 - 19097 and 19100 - 19101.


Analyst


Review

08468

[illegible]



RECEIVED

OCT 30 2000

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

Four Corners Division

P.O. Box 900

5651 US Highway 64

Farmington, NM 87499

Phone: 505-327-4935

Fax: 505-327-4962

October 25, 2000

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Environmental Geologist
New Mexico OCD
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface Report

Dear Martyne,

Please find attached our Quarterly Treatment Zone Analysis.
Included is a simple drawing of the locations the samples were taken.

If you require additional information, please contact me at the Office 334-6416 or at the Facility 334-6186

Best Regards:

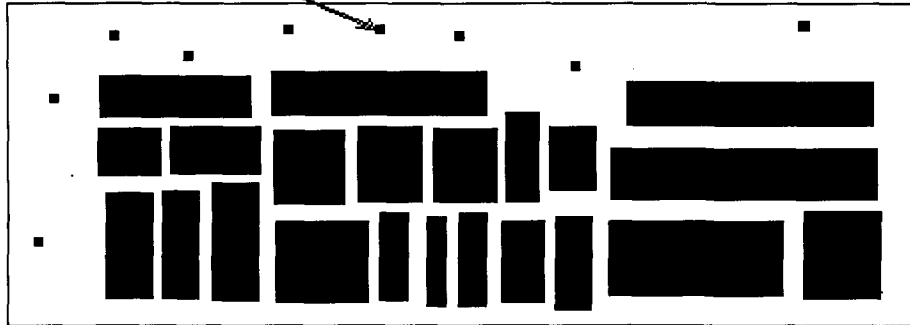
A handwritten signature in black ink, appearing to read "Michael Talovich".

Michael Talovich
Disposal Manager
Key Energy Services

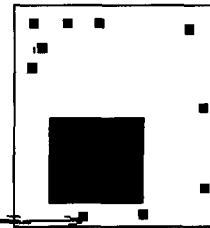
cc: Mr. Stone
Mr. Foust

Cell #2 Sample
Area

OCTOBER
25, 2000



Cell #1 Sample
Area



M.D. 10-25-2000

Client:	Key Energy Service	Project #:	806501
Sample ID:	Cell #1	Date Reported:	10-18-00
Laboratory Number:	18398	Date Sampled:	10-16-00
Chain of Custody:	9114	Date Received:	10-16-00
Sample Matrix:	Soil	Date Analyzed:	10-18-00
Preservative:	Cool	Date Extracted:	10-17-00
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	

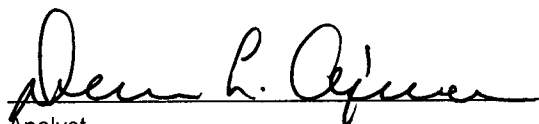
ND - Parameter not detected at the stated detection limit.

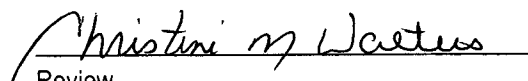
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	Key Energy Service	Project #:	806501
Sample ID:	Cell #2	Date Reported:	10-18-00
Laboratory Number:	18399	Date Sampled:	10-16-00
Chain of Custody:	9114	Date Received:	10-16-00
Sample Matrix:	Soil	Date Analyzed:	10-18-00
Preservative:	Cool	Date Extracted:	10-17-00
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	

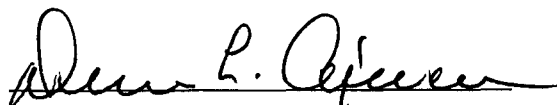
ND - Parameter not detected at the stated detection limit.

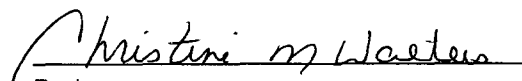
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-18-BTEX QA/QC	Date Reported:	10-18-00
Laboratory Number:	18398	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-18-00
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	6.2924E-001	6.3075E-001	0.2%	ND	0.2
Toluene	1.4413E-001	1.4439E-001	0.2%	ND	0.2
Ethylbenzene	1.8322E-001	1.8361E-001	0.2%	ND	0.2
p,m-Xylene	1.7385E-001	1.7428E-001	0.3%	ND	0.2
o-Xylene	1.2682E-001	1.2704E-001	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

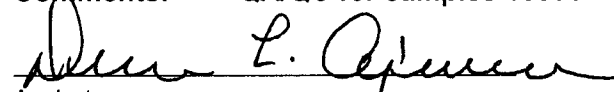
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	ND	100	100.0	100%	46 - 148
o-Xylene	ND	50.0	50.0	100%	46 - 148

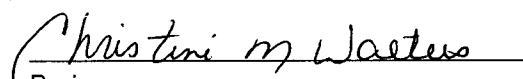
* - Administrative range set to 80 - 120%.

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 18398 - 18399.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

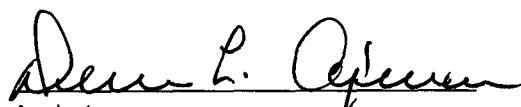
Client:	Key Energy Service	Project #:	806501
Sample ID:	Cell #1	Date Reported:	10-18-00
Laboratory Number:	18398	Date Sampled:	10-16-00
Chain of Custody No:	9114	Date Received:	10-16-00
Sample Matrix:	Soil	Date Extracted:	10-17-00
Preservative:	Cool	Date Analyzed:	10-18-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

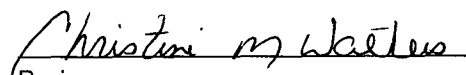
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Landfarm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

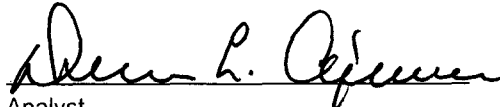
Client:	Key Energy Service	Project #:	806501
Sample ID:	Cell #2	Date Reported:	10-18-00
Laboratory Number:	18399	Date Sampled:	10-16-00
Chain of Custody No:	9114	Date Received:	10-16-00
Sample Matrix:	Soil	Date Extracted:	10-17-00
Preservative:	Cool	Date Analyzed:	10-18-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

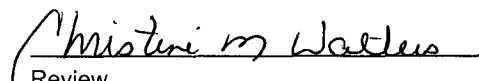
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-18-TPH QA/QC	Date Reported:	10-18-00
Laboratory Number:	18398	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-18-00
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	08-03-00	1.9502E-001	1.9482E-001	0.10%	0 - 15%
Diesel Range C10 - C28	08-03-00	6.3516E-002	6.3389E-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%

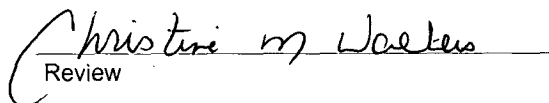
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 18398 - 18399.

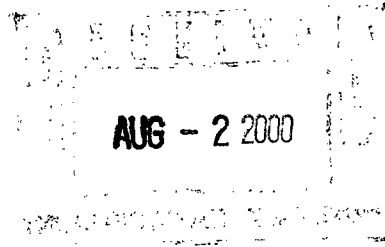

Analyst


Review

09114

ENVIROTECH INC.

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



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

July 31, 2000

Second Quarter 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis.
Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or
the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

10-5-8
48

7-31-2000

CELL #2

Key sample -2
sample obtained 24"
below surface

Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area

CELL #1

M.J. 7-31-2000

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	07-24-00
Laboratory Number:	H806	Date Sampled:	07-21-00
Chain of Custody:	8089	Date Received:	07-21-00
Sample Matrix:	Soil	Date Analyzed:	07-24-00
Preservative:	Cool	Date Extracted:	07-24-00
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	12.1	1.8
Toluene	71.3	1.7
Ethylbenzene	37.5	1.5
p,m-Xylene	99.8	2.2
o-Xylene	37.1	1.0
Total BTEX	258	

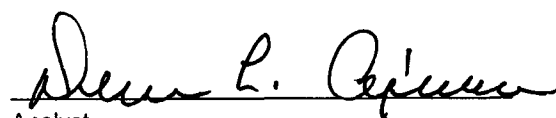
ND - Parameter not detected at the stated detection limit.

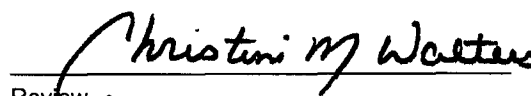
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Cell #1.


Analyst


Review

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	07-24-00
Laboratory Number:	H807	Date Sampled:	07-21-00
Chain of Custody:	8089	Date Received:	07-21-00
Sample Matrix:	Soil	Date Analyzed:	07-24-00
Preservative:	Cool	Date Extracted:	07-24-00
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	1.8
Toluene	59.0	1.7
Ethylbenzene	35.2	1.5
p,m-Xylene	64.6	2.2
o-Xylene	31.8	1.0
Total BTEX	191	

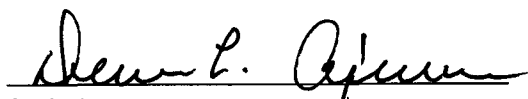
ND - Parameter not detected at the stated detection limit.

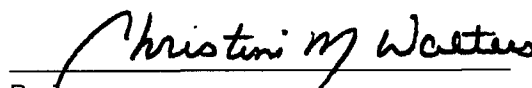
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Cell #2.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	07-24-BTEX QA/QC	Date Reported:	07-24-00
Laboratory Number:	H806	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-24-00
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	1.2306E-001	1.2335E-001	0.2%	ND	0.2
Toluene	5.6017E-002	5.6118E-002	0.2%	ND	0.2
Ethylbenzene	8.1536E-002	8.1708E-002	0.2%	ND	0.2
p,m-Xylene	7.7625E-002	7.7820E-002	0.3%	ND	0.2
o-Xylene	6.2483E-002	6.2589E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	12.1	11.9	1.7%	0 - 30%	1.8
Toluene	71.3	69.5	2.5%	0 - 30%	1.7
Ethylbenzene	37.5	36.6	2.4%	0 - 30%	1.5
p,m-Xylene	99.8	97.5	2.3%	0 - 30%	2.2
o-Xylene	37.1	36.5	1.6%	0 - 30%	1.0

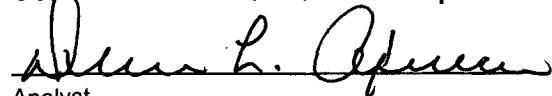
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	12.1	50.0	62.1	100%	39 - 150
Toluene	71.3	50.0	121	100%	46 - 148
Ethylbenzene	37.5	50.0	87.4	100%	32 - 160
p,m-Xylene	99.8	100	200	100%	46 - 148
o-Xylene	37.1	50.0	87.0	100%	46 - 148

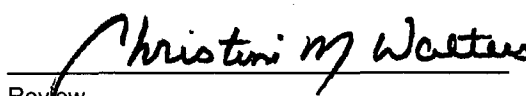
* - Administrative range set to 80 - 120%.

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 H806 - H807 and H810 - H811.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

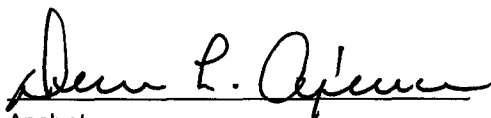
Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	07-24-00
Laboratory Number:	H806	Date Sampled:	07-21-00
Chain of Custody No:	8089	Date Received:	07-21-00
Sample Matrix:	Soil	Date Extracted:	07-24-00
Preservative:	Cool	Date Analyzed:	07-24-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

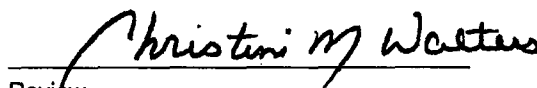
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.1

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: Cell #1.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

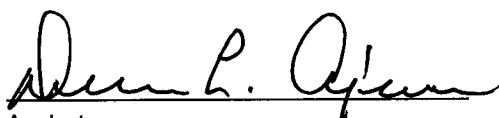
Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	07-24-00
Laboratory Number:	H807	Date Sampled:	07-21-00
Chain of Custody No:	8089	Date Received:	07-21-00
Sample Matrix:	Soil	Date Extracted:	07-24-00
Preservative:	Cool	Date Analyzed:	07-24-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	0.1	0.1
Total Petroleum Hydrocarbons	0.4	0.1

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: Cell #2.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-24-TPH QA/QC	Date Reported:	07-24-00
Laboratory Number:	H806	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-24-00
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	05-15-00	2.7731E-002	2.7704E-002	0.10%	0 - 15%
Diesel Range C10 - C28	05-15-00	1.4027E-002	1.3999E-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

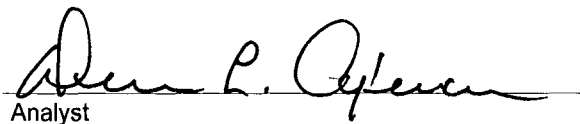
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

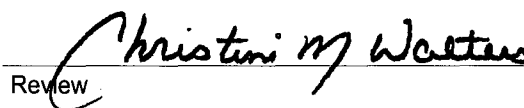
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.3	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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.

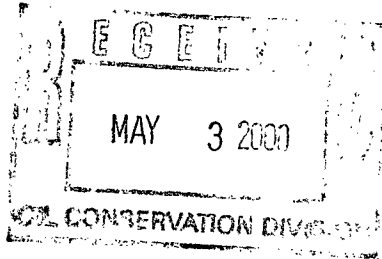
Comments: QA/QC for samples H806 - H807 and H810 - H811.


Analyst


Review

08089

Client / Project Name		Project Location		ANALYSIS / PARAMETERS					
Key Energy Services		Insecticide 400 Cell #1; #2							
Sampler: Mike Talovich		Client No. 806501							
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	Remarks			
Insecticide 1	7-21-00	0930	4805	H ₂ O	5	✓ TCLP LE ₄₁ Herbs + Pest BY BTEX 8021 8015 TP4			
Cell #1 Cell #2	7-21-00	0800	4806	Soil	1	✓ ✓			
Cell #2	7-21-00	0800	4807	Soil	1	✓ ✓			
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time			
[Signature]		7-21-00	10:15	[Signature]	7-21-00	10:15			
Relinquished by: (Signature)									
Relinquished by: (Signature)									
Received by: (Signature)									
Received by: (Signature)									
ENVIROTECH INC.									
5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615									
Sample Receipt									
Received Intact									
Cool - Ice/Blue Ice									



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

May 1, 2000

First Quarter 2000

RECEIVED

MAY 03 2000

Environmental Bureau
Oil Conservation Division

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis.
Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or
the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

5-1-2000

CELL #2

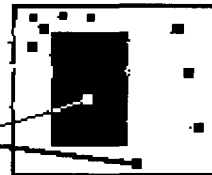
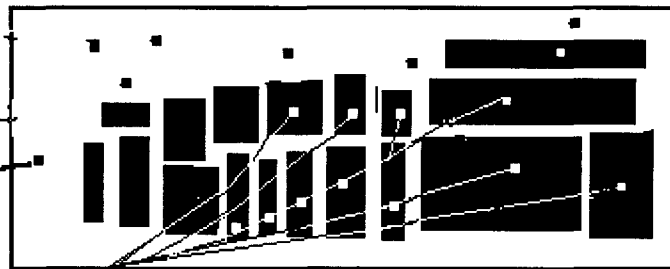
Key sample -2
sample obtained 24"
below surface

Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area

CELL #1



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

April 19, 2000

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-01

Job No.: 806501

Dear Mr. Talovich,

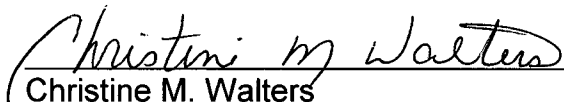
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Service personnel on 4/18/00, and received by the Envirotech laboratory on 4/18/00 for BTEX per USEPA Method 8021 and Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015.

The samples were documented on Envirotech Chain of Custody No. 7789 and assigned Laboratory Nos. H122 (Cell #1) and G123 (Cell #2) for tracking purposes.

The samples were analyzed 4/19/00 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

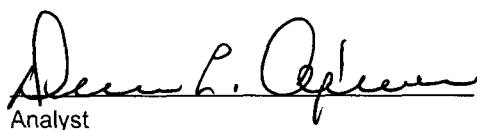
Client:	Key Energy	Project #:	806501
Sample ID:	Cell #1	Date Reported:	04-19-00
Laboratory Number:	H122	Date Sampled:	04-18-00
Chain of Custody No:	7789	Date Received:	04-18-00
Sample Matrix:	Soil	Date Extracted:	04-19-00
Preservative:	Cool	Date Analyzed:	04-19-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

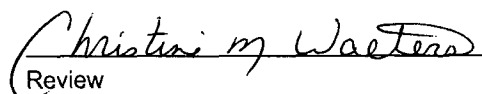
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: Landfarm.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

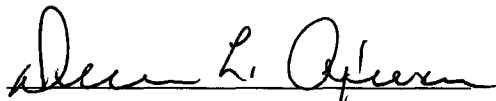
Client:	Key Energy	Project #:	806501
Sample ID:	Cell #2	Date Reported:	04-19-00
Laboratory Number:	H123	Date Sampled:	04-18-00
Chain of Custody No:	7789	Date Received:	04-18-00
Sample Matrix:	Soil	Date Extracted:	04-19-00
Preservative:	Cool	Date Analyzed:	04-19-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

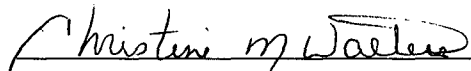
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-19-TPH QA/QC	Date Reported:	04-19-00
Laboratory Number:	H115	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-19-00
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	12-06-99	3.5026E-002	3.4991E-002	0.10%	0 - 15%
Diesel Range C10 - C28	12-06-99	2.9799E-002	2.9739E-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

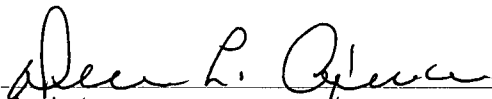
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	590	587	0.4%	0 - 30%
Diesel Range C10 - C28	268	267	0.3%	0 - 30%

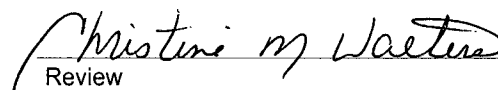
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	590	250	838	100%	75 - 125%
Diesel Range C10 - C28	268	250	517	100%	75 - 125%

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 H115 - H123.


Analyst


Review

Client:	Key Energy	Project #:	806501
Sample ID:	Cell #1	Date Reported:	04-19-00
Laboratory Number:	H122	Date Sampled:	04-18-00
Chain of Custody:	7789	Date Received:	04-18-00
Sample Matrix:	Soil	Date Analyzed:	04-19-00
Preservative:	Cool	Date Extracted:	04-19-00
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	

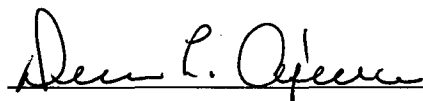
ND - Parameter not detected at the stated detection limit.

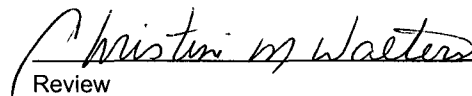
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	Key Energy	Project #:	806501
Sample ID:	Cell #2	Date Reported:	04-19-00
Laboratory Number:	H123	Date Sampled:	04-18-00
Chain of Custody:	7789	Date Received:	04-18-00
Sample Matrix:	Soil	Date Analyzed:	04-19-00
Preservative:	Cool	Date Extracted:	04-19-00
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.

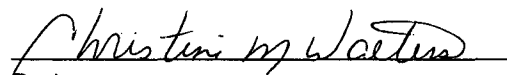
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	04-19-BTEX QA/QC	Date Reported:	04-19-00
Laboratory Number:	H115	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-19-00
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	6.4612E-002	6.4767E-002	0.2%	ND	0.2
Toluene	5.7298E-002	5.7401E-002	0.2%	ND	0.2
Ethylbenzene	7.0564E-002	7.0713E-002	0.2%	ND	0.2
p,m-Xylene	7.1866E-002	7.2047E-002	0.3%	ND	0.2
o-Xylene	6.3506E-002	6.3614E-002	0.2%	ND	0.1

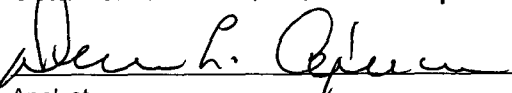
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	445	427	4.0%	0 - 30%	1.8
Toluene	1,120	1,070	4.5%	0 - 30%	1.7
Ethylbenzene	426	407	4.4%	0 - 30%	1.5
p,m-Xylene	803	768	4.3%	0 - 30%	2.2
o-Xylene	973	937	3.7%	0 - 30%	1.0

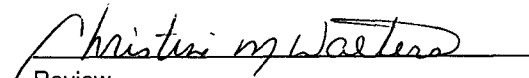
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	445	50.0	494	100%	39 - 150
Toluene	1,120	50.0	1,170	100%	46 - 148
Ethylbenzene	426	50.0	475	100%	32 - 160
p,m-Xylene	803	100.0	901	100%	46 - 148
o-Xylene	973	50.0	1,020	100%	46 - 148

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 H115 - H116 and H122 - H123.


Analyst


Review

7789

ENVIROTECH INC.

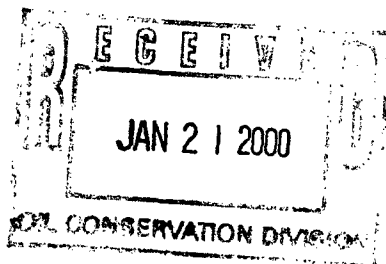
5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615



RECEIVED

JAN 21 2000

Environmental Bureau
Oil Conservation Division



Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

January 20, 2000

Forth Quarter 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis.
Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or
the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

my K
1-200-20

1-20-2000

CELL #2

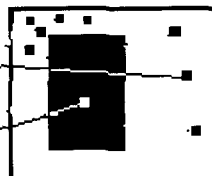
Key sample -2
sample obtained 24"
below surface



Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area



CELL #1

M. J. [Signature]

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 14, 2000

Mr. Mike Talovich
Key Energy Service, Inc.
P.O. Box 900
Farmington, NM 87499

Phone: (505) 327-0416

Client No.: 98065-01

Job No.: 806501

Dear Mr. Talovich,

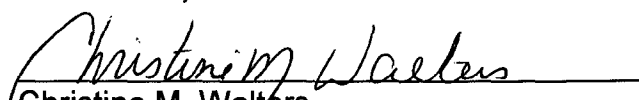
Enclosed are the analytical results for the sample collected from the location designated as "Key Energy Landfarm". Two soil samples were collected by Key Energy Service personnel on 1/11/00, and received by the Envirotech laboratory on 1/13/00 for BTEX per USEPA Method 8021 and Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015.

The samples were documented on Envirotech Chain of Custody No. 7599 and assigned Laboratory No. G697 (Cell #1) and G698 (Cell #2) for tracking purposes.

The samples were analyzed 1/14/00 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

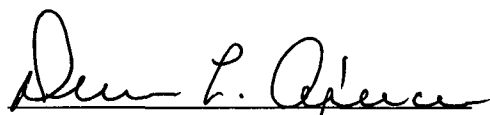
Client:	Key Energy Serv.	Project #:	806501
Sample ID:	Cell #1	Date Reported:	01-14-00
Laboratory Number:	G697	Date Sampled:	01-11-00
Chain of Custody No:	7599	Date Received:	01-13-00
Sample Matrix:	Soil	Date Extracted:	01-14-00
Preservative:	Cool	Date Analyzed:	01-14-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

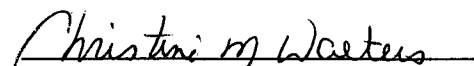
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.1

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: **Key Energy Landfarm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

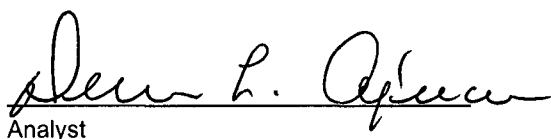
Client:	Key Energy Serv.	Project #:	806501
Sample ID:	Cell #2	Date Reported:	01-14-00
Laboratory Number:	G698	Date Sampled:	01-11-00
Chain of Custody No:	7599	Date Received:	01-13-00
Sample Matrix:	Soil	Date Extracted:	01-14-00
Preservative:	Cool	Date Analyzed:	01-14-00
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

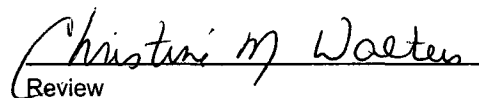
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	0.2	0.1
Total Petroleum Hydrocarbons	0.2	0.1

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: **Key Energy Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-14-TPH QA/QC	Date Reported:	01-14-00
Laboratory Number:	G697	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-14-00
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	12-06-99	2.9455E-002	2.9425E-002	0.10%	0 - 15%
Diesel Range C10 - C28	12-06-99	2.9706E-002	2.9646E-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%

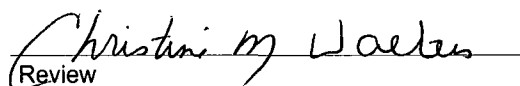
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 G697 - G698.


Analyst


Review

Client:	Key Energy Serv.	Project #:	806501
Sample ID:	Cell #1	Date Reported:	01-14-00
Laboratory Number:	G697	Date Sampled:	01-11-00
Chain of Custody:	7599	Date Received:	01-13-00
Sample Matrix:	Soil	Date Analyzed:	01-14-00
Preservative:	Cool	Date Extracted:	01-14-00
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
p,m-Xylene	ND	0.2
o-Xylene	ND	0.1
Total BTEX	ND	

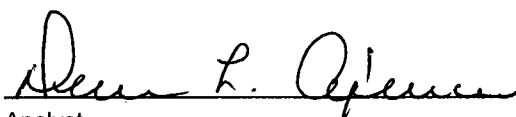
ND - Parameter not detected at the stated detection limit.

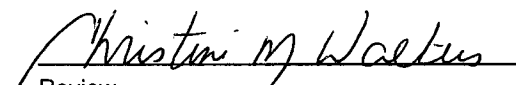
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Key Energy Landfarm.


Analyst


Review

Client:	Key Energy Serv.	Project #:	806501
Sample ID:	Cell #2	Date Reported:	01-14-00
Laboratory Number:	G698	Date Sampled:	01-11-00
Chain of Custody:	7599	Date Received:	01-13-00
Sample Matrix:	Soil	Date Analyzed:	01-14-00
Preservative:	Cool	Date Extracted:	01-14-00
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
p,m-Xylene	ND	0.2
o-Xylene	ND	0.1
Total BTEX	ND	

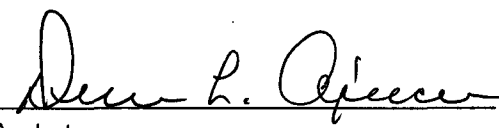
ND - Parameter not detected at the stated detection limit.

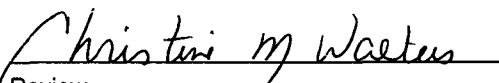
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Key Energy Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	01-14-BTEX QA/QC	Date Reported:	01-14-00
Laboratory Number:	G697	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-14-00
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	3.0205E-002	3.0278E-002	0.2%	ND	0.2
Toluene	4.1417E-002	4.1491E-002	0.2%	ND	0.2
Ethylbenzene	5.2722E-002	5.2833E-002	0.2%	ND	0.2
p,m-Xylene	6.0028E-002	6.0179E-002	0.3%	ND	0.2
o-Xylene	4.4536E-002	4.4612E-002	0.2%	ND	0.1

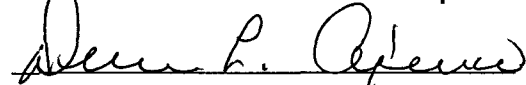
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	0.2
Toluene	ND	ND	0.0%	0 - 30%	0.2
Ethylbenzene	ND	ND	0.0%	0 - 30%	0.2
p,m-Xylene	ND	ND	0.0%	0 - 30%	0.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.1

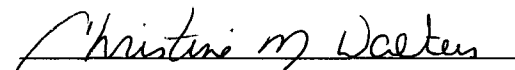
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	ND	100.0	100.0	100%	46 - 148
o-Xylene	ND	50.0	50.0	100%	46 - 148

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 G697 - G698.


Analyst


Review

7599

ENVIROTECH INC.

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



RECEIVED

NOV 18 1999

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499

Phone: 505-327-4935
Fax: 505-327-4962

November 10, 1999

Third Quarter 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis.
Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or
the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services

MJK
11-23-99

11-10-99

CELL #2

Key sample -2
sample obtained 24"
below surface

Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area

CELL #1



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

October 22, 1999

Mr. Mike Talovich
Key Energy Services, Inc.
P.O. Box 900
Farmington, New Mexico 87499

(505) 327-0416

Client No.: 98065-01
Job No.: 806501

Dear Mr. Talovich,

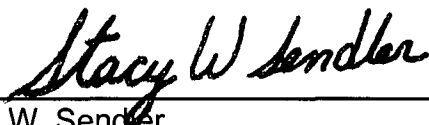
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Two soil samples were collected by Key Energy Services designated personnel on 10/12/99, and delivered to the Envirotech laboratory on 10/12/99 for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX), Total Petroleum Hydrocarbons (TPH), RCRA Metals, and Major Anion/Cation analysis.

The samples were documented on Envirotech Chain of Custody No. 7430 and assigned Laboratory Nos. G182 (Cell #1) and G183 (Cell #2) for tracking purposes.

The samples were analyzed 10/13/99 through 10/22/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sender
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\98065-01.lb5\wpd

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	11-05-99
Laboratory Number:	G182	Date Sampled:	10-12-99
Chain of Custody:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Analyzed:	11-04-99
Preservative:	Cool	Date Digested:	10-19-99
Condition:	Cool & Intact	Analysis Needed:	Trace Metals

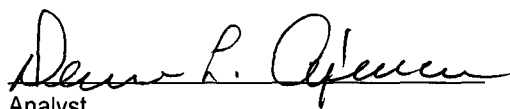
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	0.536	0.001
Barium	17.3	0.001
Cadmium	0.254	0.001
Chromium	0.520	0.001
Lead	15.2	0.001
Mercury	0.102	0.0005
Selenium	0.434	0.001
Silver	0.105	0.001

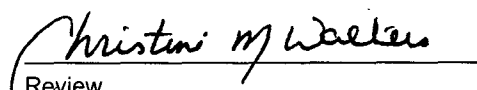
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: **Landfarm.**


Analyst


Review



Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	11-05-99
Laboratory Number:	G183	Date Sampled:	10-12-99
Chain of Custody:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Analyzed:	11-04-99
Preservative:	Cool	Date Digested:	10-19-99
Condition:	Cool & Intact	Analysis Needed:	Trace Metals

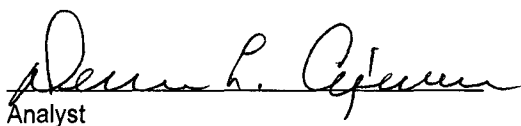
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	0.442	0.001
Barium	16.2	0.001
Cadmium	0.262	0.001
Chromium	0.636	0.001
Lead	14.7	0.001
Mercury	0.104	0.0005
Selenium	0.436	0.001
Silver	0.026	0.001

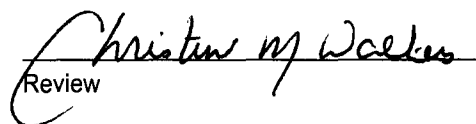
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: **Landfarm.**


Analyst


Review

Client:	QA/QC	Project #:	N/A
Sample ID:	11-04-TM QA/QC	Date Reported:	11-05-99
Laboratory Number:	G182	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Trace Metals	Date Analyzed:	11-04-99
Condition:	N/A	Date Digested:	10-19-99

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.536	0.534	0.4%	0% - 30%
Barium	ND	ND	0.001	17.3	17.3	0.0%	0% - 30%
Cadmium	ND	ND	0.001	0.254	0.250	1.6%	0% - 30%
Chromium	ND	ND	0.001	0.520	0.522	0.4%	0% - 30%
Lead	ND	ND	0.001	15.2	15.2	0.0%	0% - 30%
Mercury	ND	ND	0.0005	0.1020	0.1000	2.0%	0% - 30%
Selenium	ND	ND	0.001	0.434	0.432	0.5%	0% - 30%
Silver	ND	ND	0.001	0.105	0.100	4.8%	0% - 30%

Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	1.00	0.536	1.53	100%	80% - 120%
Barium	2.00	17.3	19.3	100%	80% - 120%
Cadmium	0.500	0.254	0.752	100%	80% - 120%
Chromium	0.500	0.520	1.02	100%	80% - 120%
Lead	0.500	15.2	15.7	100%	80% - 120%
Mercury	0.250	0.1020	0.348	99%	80% - 120%
Selenium	1.00	0.434	1.43	100%	80% - 120%
Silver	0.500	0.105	0.598	99%	80% - 120%

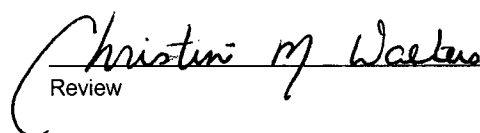
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for sample G182, G183, G217, G220, G221, G244, G279 and G280.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

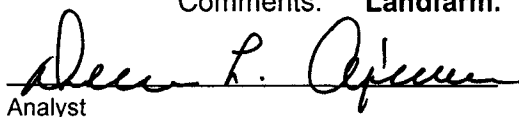
Client: Key Energy Services
Sample ID: Cell # 1
Laboratory Number: G182
Chain of Custody: 7430
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

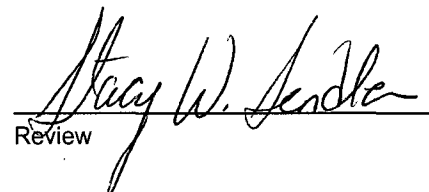
Project #: 806501
Date Reported: 10-15-99
Date Sampled: 10-12-99
Date Received: 10-12-99
Date Extracted: 10-14-99
Date Analyzed: 10-15-99

Parameter	Analytical Result	Units	Units
pH	8.39	s.u.	
Conductivity @ 25° C	124	umhos/cm	
Total Dissolved Solids @ 180C	61.8	mg/L	
Total Dissolved Solids (Calc)	60.0	mg/L	
SAR	1.4	ratio	
Total Alkalinity as CaCO3	28.8	mg/L	
Total Hardness as CaCO3	16.4	mg/L	
Bicarbonate as HCO3	28.8	mg/L	0.47 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	2.0	mg/L	0.03 meq/L
Nitrite Nitrogen	0.014	mg/L	0.00 meq/L
Chloride	12.8	mg/L	0.36 meq/L
Fluoride	0.58	mg/L	0.03 meq/L
Phosphate	1.3	mg/L	0.04 meq/L
Sulfate	0.7	mg/L	0.01 meq/L
Iron	<0.001	mg/L	
Calcium	5.44	mg/L	0.27 meq/L
Magnesium	0.68	mg/L	0.06 meq/L
Potassium	1.7	mg/L	0.04 meq/L
Sodium	13.3	mg/L	0.58 meq/L
Cations			0.95 meq/L
Anions			0.95 meq/L
Cation/Anion Difference			0.25%

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: Landfarm.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

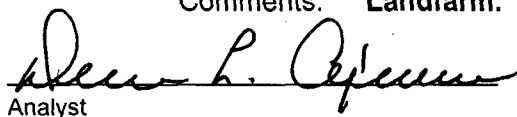
CATION / ANION ANALYSIS

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell # 2	Date Reported:	10-15-99
Laboratory Number:	G183	Date Sampled:	10-12-99
Chain of Custody:	7430	Date Received:	10-12-99
Sample Matrix:	Soil Extract	Date Extracted:	10-14-99
Preservative:	Cool	Date Analyzed:	10-15-99
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	8.45	s.u.	
Conductivity @ 25° C	67.1	umhos/cm	
Total Dissolved Solids @ 180C	33.4	mg/L	
Total Dissolved Solids (Calc)	32.8	mg/L	
SAR	0.5	ratio	
Total Alkalinity as CaCO3	23.4	mg/L	
Total Hardness as CaCO3	17.8	mg/L	
Bicarbonate as HCO3	23.4	mg/L	0.38 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.3	mg/L	0.00 meq/L
Nitrite Nitrogen	0.030	mg/L	0.00 meq/L
Chloride	3.2	mg/L	0.09 meq/L
Fluoride	0.37	mg/L	0.02 meq/L
Phosphate	2.8	mg/L	0.09 meq/L
Sulfate	<0.1	mg/L	0.00 meq/L
Iron	0.009	mg/L	
Calcium	5.68	mg/L	0.28 meq/L
Magnesium	0.88	mg/L	0.07 meq/L
Potassium	<0.1	mg/L	0.00 meq/L
Sodium	5.3	mg/L	0.23 meq/L
Cations			0.59 meq/L
Anions			0.59 meq/L
Cation/Anion Difference			0.14%

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: Landfarm.


Analyst


Review

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	10-13-99
Laboratory Number:	G182	Date Sampled:	10-12-99
Chain of Custody:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Analyzed:	10-13-99
Preservative:	Cool	Date Extracted:	10-13-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	10.2	0.1
Toluene	1.4	0.1
Ethylbenzene	5.3	0.1
p,m-Xylene	53.0	0.1
o-Xylene	15.0	0.1
Total BTEX	84.9	

ND - Parameter not detected at the stated detection limit.

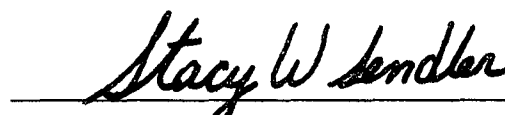
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	10-13-99
Laboratory Number:	G183	Date Sampled:	10-12-99
Chain of Custody:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Analyzed:	10-13-99
Preservative:	Cool	Date Extracted:	10-13-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2.3	0.1
Toluene	0.2	0.1
Ethylbenzene	ND	0.1
p,m-Xylene	55.8	0.1
o-Xylene	11.0	0.1
Total BTEX	69.3	

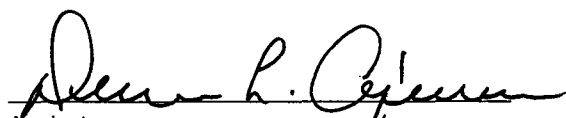
ND - Parameter not detected at the stated detection limit.

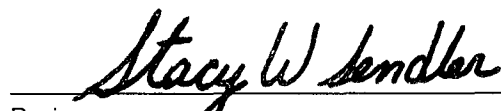
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-13-BTEX QA/QC	Date Reported:	10-13-99
Laboratory Number:	G182	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-13-99
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	3.6219E-001	3.6306E-001	0.2%	ND	0.2
Toluene	2.7867E-002	2.7917E-002	0.2%	ND	0.2
Ethylbenzene	4.1931E-002	4.2019E-002	0.2%	ND	0.2
p,m-Xylene	3.6569E-002	3.6661E-002	0.3%	ND	0.2
o-Xylene	3.1955E-002	3.2010E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	10.2	9.9	2.9%	0 - 30%	0.1
Toluene	1.4	1.3	7.1%	0 - 30%	0.1
Ethylbenzene	5.3	5.1	3.8%	0 - 30%	0.1
p,m-Xylene	53.0	51.3	3.2%	0 - 30%	0.1
o-Xylene	15.0	14.6	2.7%	0 - 30%	0.1

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	10.2	50.0	60.2	100%	39 - 150
Toluene	1.4	50.0	51.4	100%	46 - 148
Ethylbenzene	5.3	50.0	55.3	100%	32 - 160
p,m-Xylene	53.0	100.0	152.9	100%	46 - 148
o-Xylene	15.0	50.0	65.0	100%	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 G182 - G186.

Analyst

Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

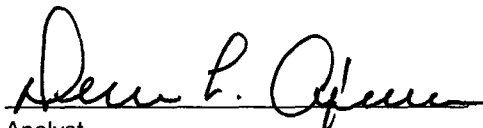
Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	10-14-99
Laboratory Number:	G182	Date Sampled:	10-12-99
Chain of Custody No:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Extracted:	10-13-99
Preservative:	Cool	Date Analyzed:	10-13-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	10.2	0.1
Total Petroleum Hydrocarbons	10.5	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: Landfarm.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	10-14-99
Laboratory Number:	G183	Date Sampled:	10-12-99
Chain of Custody No:	7430	Date Received:	10-12-99
Sample Matrix:	Soil	Date Extracted:	10-13-99
Preservative:	Cool	Date Analyzed:	10-13-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

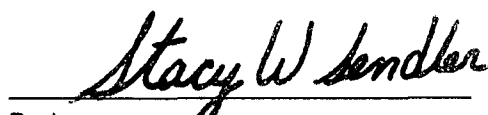
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	2.2	0.1
Total Petroleum Hydrocarbons	2.2	0.2

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: **Landfarm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-13-TPH QA/QC	Date Reported:	10-14-99
Laboratory Number:	G182	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-13-99
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	06-17-99	2.6200E-002	2.6173E-002	0.10%	0 - 15%
Diesel Range C10 - C28	06-17-99	2.7356E-002	2.7301E-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

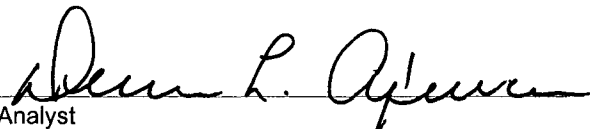
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	10.2	10.2	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.3	250	250	100%	75 - 125%
Diesel Range C10 - C28	10.2	250	260	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 G182 - G185, G187 and G190.


Analyst


Review

CHAIN OF CUSTODY RECORD

7430

Client / Project Name			Project Location			ANALYSIS / PARAMETERS													
Key Energy Services			Ladofren																
Sampler:			Client No. 806501																
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	PTN 8021	TPN 8015	PCEN Metals	Contam/Anom	Remarks									
Cell #1, Cell #1	10-12-99	11:30am	G182	Soil	1	✓	✓	✓	✓										
Cell #2	10-12-99	11:30am	G183	Soil	1	✓	✓	✓	✓										
Relinquished by: (Signature) <i>M. [Signature]</i>			Date	Time	Received by: (Signature) <i>[Signature]</i>														
Relinquished by: (Signature)			10-12-99	12:50	Received by: (Signature) <i>[Signature]</i>														
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>Received Intact</td> <td>Y</td> <td>N</td> <td>N/A</td> </tr> <tr> <td>Cool - Ice/Blue Ice</td> <td>✓</td> <td></td> <td></td> </tr> </table>												Received Intact	Y	N	N/A	Cool - Ice/Blue Ice	✓		
Received Intact	Y	N	N/A																
Cool - Ice/Blue Ice	✓																		



Key Four Corners, Inc.

P. O. Box 900, 5651 US Hwy. 64 • Farmington, New Mexico 87499
(505) 327-4935 • (505) 327-0416

AUG 20 1999

CONSERVATION DIVISION

July 20, 1999

Second Quarter 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis.
Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or
the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services



Division of Key Energy Group, Inc.

my 4-20-99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

July 28, 1999

Mr. Mike Talovich
Key Energy Services, Inc.
P.O. Box 900
Farmington, New Mexico 87499

(505) 327-0416

Client No.: 98065-01
Job No.: 806501

Dear Mr. Talovich,

Enclosed are the analytical results for the soil samples collected from the location designated as "Key Disposal Landfarm". Two soil samples were collected by Key Energy Services personnel on 07/14/99, and delivered to the Envirotech laboratory on 07/14/99 for Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015 Modified, and for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) analysis per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 7167 and assigned Laboratory Nos. F674 (Cell #1) and F675 (Cell #2) for tracking purposes. The samples were extracted on 07/14/99 and analyzed on 07/14/99 and 07/22/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It has been our pleasure doing business with you and we hope you will consider Envirotech, Inc. for any of your future environmental contracting needs.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sender
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\98065-01.lb4/wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

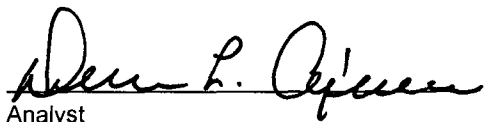
Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	07-15-99
Laboratory Number:	F674	Date Sampled:	07-14-99
Chain of Custody No:	7167	Date Received:	07-14-99
Sample Matrix:	Soil	Date Extracted:	07-14-99
Preservative:	Cool	Date Analyzed:	07-15-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.7	0.2
Diesel Range (C10 - C28)	7.2	0.1
Total Petroleum Hydrocarbons	7.9	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: **Key Disposal Land Farm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

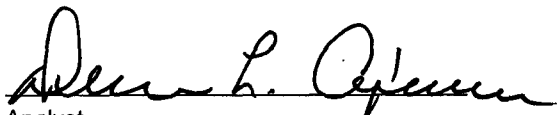
Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	07-15-99
Laboratory Number:	F675	Date Sampled:	07-14-99
Chain of Custody No:	7167	Date Received:	07-14-99
Sample Matrix:	Soil	Date Extracted:	07-14-99
Preservative:	Cool	Date Analyzed:	07-15-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

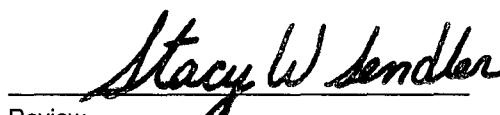
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.5	0.2
Diesel Range (C10 - C28)	9.8	0.1
Total Petroleum Hydrocarbons	10.3	0.2

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: **Key Disposal Land Farm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	07-15-TPH QA/QC	Date Reported:	07-15-99
Laboratory Number:	F674	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-15-99
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	06-17-99	1.7951E-001	1.7936E-001	0.08%	0 - 15%
Diesel Range C10 - C28	06-17-99	1.2969E-001	1.2948E-001	0.16%	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

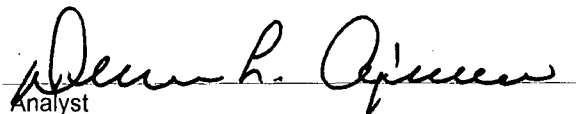
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	0.7	0.7	0.0%	0 - 30%
Diesel Range C10 - C28	7.2	7.2	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.7	250	250	100%	75 - 125%
Diesel Range C10 - C28	7.2	250	257	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 F674 - F681.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #1	Date Reported:	07-22-99
Laboratory Number:	F674	Date Sampled:	07-14-99
Chain of Custody:	7167	Date Received:	07-14-99
Sample Matrix:	Soil	Date Analyzed:	07-22-99
Preservative:	Cool	Date Extracted:	07-14-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	121	8.8
Toluene	225	8.4
Ethylbenzene	107	7.6
p,m-Xylene	132	10.8
o-Xylene	125	5.2
Total BTEX	710	

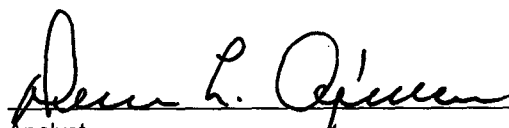
ND - Parameter not detected at the stated detection limit.

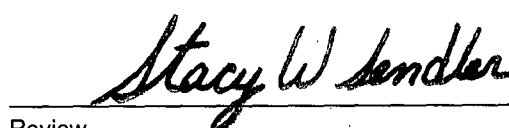
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

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: Key Disposal Land Farm.


Analyst


Review

Client:	Key Energy Services	Project #:	806501
Sample ID:	Cell #2	Date Reported:	07-22-99
Laboratory Number:	F675	Date Sampled:	07-14-99
Chain of Custody:	7167	Date Received:	07-14-99
Sample Matrix:	Soil	Date Analyzed:	07-22-99
Preservative:	Cool	Date Extracted:	07-14-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	92.0	8.8
Toluene	283	8.4
Ethylbenzene	18.0	7.6
p,m-Xylene	71.9	10.8
o-Xylene	27.4	5.2
Total BTEX	492	

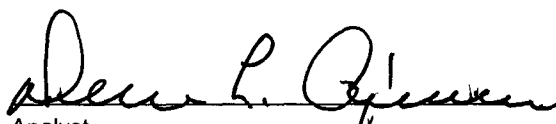
ND - Parameter not detected at the stated detection limit.

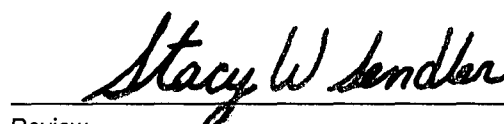
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	97 %

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: Key Disposal Land Farm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	07-22-BTEX QA/QC	Date Reported:	07-22-99
Laboratory Number:	F665	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-22-99
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	3.8394E-001	3.8487E-001	0.2%	ND	0.2
Toluene	1.2824E-001	1.2847E-001	0.2%	ND	0.2
Ethylbenzene	1.3900E-001	1.3930E-001	0.2%	ND	0.2
p,m-Xylene	1.5156E-001	1.5194E-001	0.3%	ND	0.2
o-Xylene	1.3670E-001	1.3693E-001	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	543	527	3.0%	0 - 30%	8.8
Toluene	3,230	3,110	3.7%	0 - 30%	8.4
Ethylbenzene	1,120	1,080	3.6%	0 - 30%	7.6
p,m-Xylene	6,530	6,320	3.2%	0 - 30%	10.8
o-Xylene	2,880	2,800	2.8%	0 - 30%	5.2

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	543	50.0	592	100%	39 - 150
Toluene	3,230	50.0	3,270	100%	46 - 148
Ethylbenzene	1,120	50.0	1,170	100%	32 - 160
p,m-Xylene	6,530	100.0	6,620	100%	46 - 148
o-Xylene	2,880	50.0	2,920	100%	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 F665, F674 - F675, F682 - F686 and F688.

Debra L. O'Brien
Analyst

Stacy W. Sandler
Review

CELL #2

8-16-99

Key sample -2
sample obtained 24"
below surface



Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area



CELL #1



Key Four Corners, Inc.

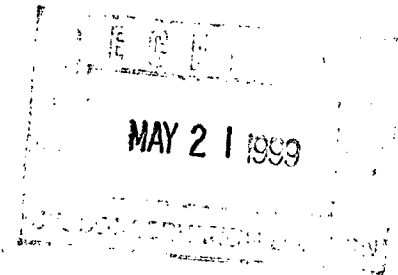
P. O. Box 900, 5651 US Hwy. 64 • Farmington, New Mexico 87499
(505) 327-4935 • (505) 327-0416

May 19, 1999

First Quarter 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410



RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis. Key Energy contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services



Division of Key Energy Group, Inc.

mk
5/24/99

CELL #2

5-19-99

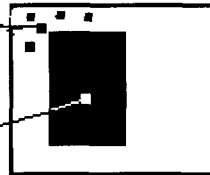
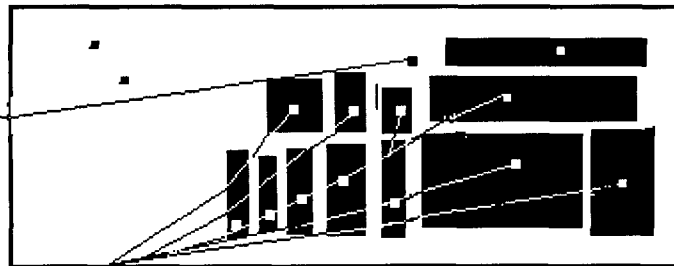
Key sample -2
sample obtained 24"
below surface

Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area

CELL #1



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

May 16, 1999

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Drawer 15250
Farmington, New Mexico 87499

Client No.: 04074
Job No.: 407403

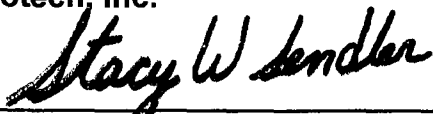
Dear Mr. Nobis,

Enclosed are the analytical results for the samples collected from the location designated as "Key Disposal". Two soil samples were collected by Tierra Environmental Services personnel on 05/06/99, and received by the Envirotech laboratory on 05/12/99 for Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015, Modified, and for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 6864 and assigned Laboratory Nos. F207 (Cell #1S) and F208 (Cell #2S) for tracking purposes. The samples were analyzed on 05/13/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615, and it is always a pleasure doing business with you.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sender
Environmental Scientist/Laboratory Manager

enc.

SWS/sws/04074-03.129/wpd

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental Co., Inc.	Project #:	407403
Sample ID:	Cell #1 S	Date Reported:	05-13-99
Laboratory Number:	F207	Date Sampled:	05-06-99
Chain of Custody:	6864	Date Received:	05-12-99
Sample Matrix:	Soil	Date Analyzed:	05-13-99
Preservative:	Cool	Date Extracted:	05-12-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	163	8.8
Toluene	32.2	8.4
Ethylbenzene	25.5	7.6
p,m-Xylene	118	10.8
o-Xylene	74.2	5.2
Total BTEX	413	

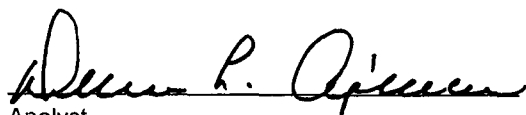
ND - Parameter not detected at the stated detection limit.

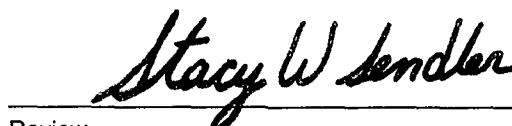
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	96 %
	Bromofluorobenzene	96 %

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: Key Disposal.


Analyst


Review

Client:	Tierra Environmental Co., Inc.	Project #:	407403
Sample ID:	Cell #2 S	Date Reported:	05-13-99
Laboratory Number:	F208	Date Sampled:	05-06-99
Chain of Custody:	6864	Date Received:	05-12-99
Sample Matrix:	Soil	Date Analyzed:	05-13-99
Preservative:	Cool	Date Extracted:	05-12-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	44.2	8.8
Toluene	15.3	8.4
Ethylbenzene	22.1	7.6
p,m-Xylene	84.0	10.8
o-Xylene	47.2	5.2
Total BTEX	213	

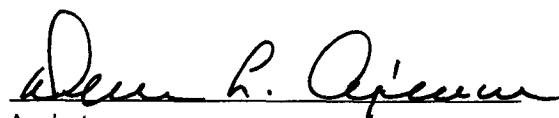
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	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: Key Disposal.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-13-TPH QA/QC	Date Reported:	05-13-99
Laboratory Number:	F207	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-13-99
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	03-15-99	4.4525E-002	4.4401E-002	0.28%	0 - 15%
Diesel Range C10 - C28	03-15-99	4.1817E-002	4.1709E-002	0.26%	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

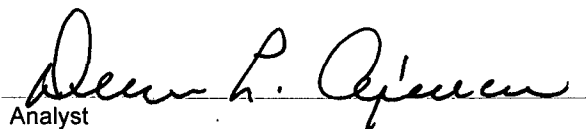
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	1.4	1.4	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

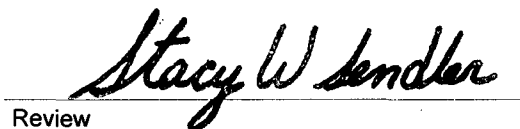
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	1.4	250	251	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

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 F207 - F208 and F213 - F220.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

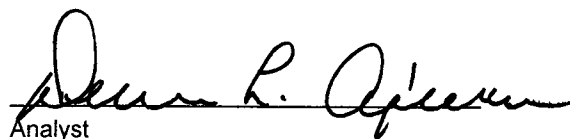
Client:	Tierra Environmental Co., Inc.	Project #:	407403
Sample ID:	Cell #1 S	Date Reported:	05-13-99
Laboratory Number:	F207	Date Sampled:	05-06-99
Chain of Custody No:	6864	Date Received:	05-12-99
Sample Matrix:	Soil	Date Extracted:	05-12-99
Preservative:	Cool	Date Analyzed:	05-13-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.4	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	1.4	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: Key Disposal.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

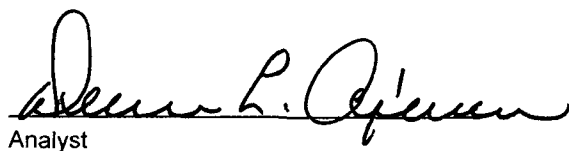
Client:	Tierra Environmental Co., Inc.	Project #:	407403
Sample ID:	Cell #2 S	Date Reported:	05-13-99
Laboratory Number:	F208	Date Sampled:	05-06-99
Chain of Custody No:	6864	Date Received:	05-12-99
Sample Matrix:	Soil	Date Extracted:	05-12-99
Preservative:	Cool	Date Analyzed:	05-13-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

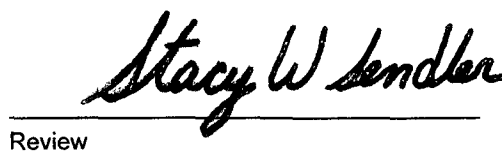
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.1	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	1.1	0.2

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: **Key Disposal.**


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	05-13-BTEX QA/QC	Date Reported:	05-13-99
Laboratory Number:	F207	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-13-99
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	4.5104E-002	4.5212E-002	0.2%	ND	0.2
Toluene	2.2820E-002	2.2861E-002	0.2%	ND	0.2
Ethylbenzene	3.1405E-002	3.1471E-002	0.2%	ND	0.2
p,m-Xylene	3.1037E-002	3.1115E-002	0.3%	ND	0.2
o-Xylene	2.9125E-002	2.9175E-002	0.2%	ND	0.1

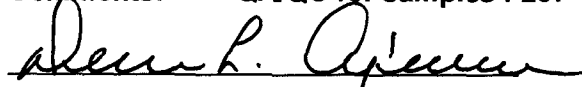
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	163	163	0.0%	0 - 30%	8.8
Toluene	32.2	32.1	0.3%	0 - 30%	8.4
Ethylbenzene	25.5	25.4	0.4%	0 - 30%	7.6
p,m-Xylene	118	118	0.0%	0 - 30%	10.8
o-Xylene	74.2	74.5	0.4%	0 - 30%	5.2

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	163	50.0	213	100%	39 - 150
Toluene	32.2	50.0	82.1	100%	46 - 148
Ethylbenzene	25.5	50.0	75.4	100%	32 - 160
p,m-Xylene	118	100.0	218	100%	46 - 148
o-Xylene	74.2	50.0	124	100%	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 F207 - F208 and F213 - F215.


Analyst


Review

6864

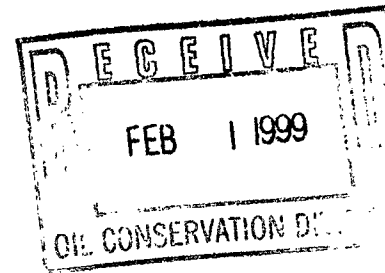
ENVIROTECH INC.

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



Key Four Corners, Inc.

P. O. Box 900, 5651 US Hwy. 64 • Farmington, New Mexico 87499
(505) 327-4935 • (505) 327-0416



January 27, 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Key Energy Landfarm Subsurface

Dear Sirs:

Please find attached our quarterly Treatment Zone Analysis. Key Energy contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at the Facility (505) 334-6186 or the New Crouch Office at (505) 334-6416

Best Regards:

Michael Talovich
Disposal Manager
Key Energy Services



Division of Key Energy Group, Inc.

msk
2-24-99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

January 20, 1999

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Drawer 15250
Farmington, New Mexico 887499

Project No.: 04074-03

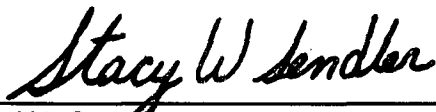
Dear Mr. Nobis,

Enclosed are the analytical results for the samples collected from the location designated as "Key Disposal". Two soil samples were collected by Tierra Environmental designated personnel on 01/13/99, and delivered to the Envirotech laboratory on 01/15/99 for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) analysis per USEPA Method 8021, and for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015.

The samples were documented on Envirotech Chain of Custody No. 6506 and assigned Laboratory Nos. E531 (Key #1) and E532 (Key #2) for tracking purposes. The samples were analyzed on 01/18/99 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sender
Environmental Scientist/Laboratory Manager

enclosure

SWS\sws\04074-03.126/wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

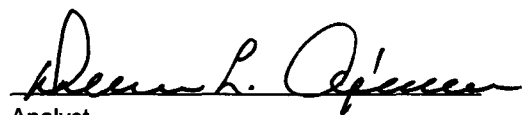
Client:	Tierra Environmental Co., Inc.	Project #:	04074-03
Sample ID:	Key #1	Date Reported:	01-18-99
Laboratory Number:	E531	Date Sampled:	01-13-99
Chain of Custody No:	6506	Date Received:	01-15-99
Sample Matrix:	Soil	Date Extracted:	01-15-99
Preservative:	Cool	Date Analyzed:	01-18-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

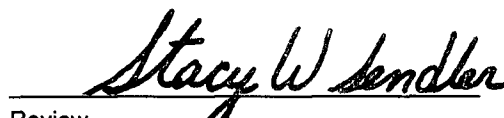
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	1.3	0.2

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: **Key Disposal.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

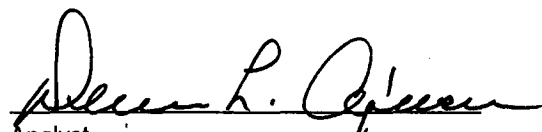
Client:	Tierra Environmental Co., Inc.	Project #:	04074-03
Sample ID:	Key #2	Date Reported:	01-18-99
Laboratory Number:	E532	Date Sampled:	01-13-99
Chain of Custody No:	6506	Date Received:	01-15-99
Sample Matrix:	Soil	Date Extracted:	01-15-99
Preservative:	Cool	Date Analyzed:	01-18-99
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

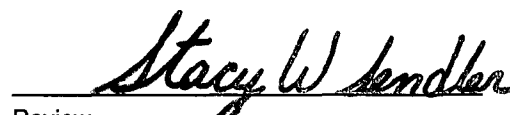
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	4.4	0.2
Diesel Range (C10 - C28)	0.4	0.1
Total Petroleum Hydrocarbons	4.8	0.2

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: **Key Disposal.**


 Analyst


 Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	01-18-TPH QA/QC	Date Reported:	01-18-99
Laboratory Number:	E525	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-18-99
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	01-11-99	3.7736E-002	3.7668E-002	0.18%	0 - 15%
Diesel Range C10 - C28	01-11-99	2.7634E-002	2.7589E-002	0.16%	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

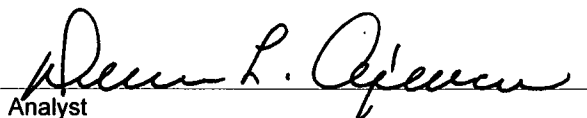
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	21.0	20.9	0.5%	0 - 30%
Diesel Range C10 - C28	1,550	1,540	0.6%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	21.0	250	270	100%	75 - 125%
Diesel Range C10 - C28	1,550	250	1,790	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 E525 - E532.


Analyst


Review

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Key #1	Date Reported:	01-18-99
Laboratory Number:	E531	Date Sampled:	01-13-99
Chain of Custody:	6506	Date Received:	01-15-99
Sample Matrix:	Soil	Date Analyzed:	01-18-99
Preservative:	Cool	Date Extracted:	01-15-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	ND	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	23.5	10.8
o-Xylene	16.8	5.2
Total BTEX	40.3	

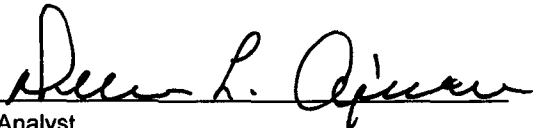
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	99 %
	Bromofluorobenzene	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: Key Disposal.


Analyst


Review

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Key #2	Date Reported:	01-18-99
Laboratory Number:	E532	Date Sampled:	01-13-99
Chain of Custody:	6506	Date Received:	01-15-99
Sample Matrix:	Soil	Date Analyzed:	01-18-99
Preservative:	Cool	Date Extracted:	01-15-99
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	ND	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	22.2	10.8
o-Xylene	14.7	5.2
Total BTEX	36.9	

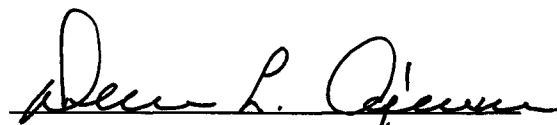
ND - Parameter not detected at the stated detection limit.

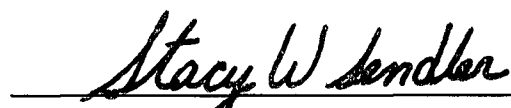
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	95 %

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: Key Disposal.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	01-18-BTEX QA/QC	Date Reported:	01-18-99
Laboratory Number:	E531	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	01-18-99
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	3.3006E-002	3.3085E-002	0.2%	ND	0.2
Toluene	1.3687E-002	1.3712E-002	0.2%	ND	0.2
Ethylbenzene	1.7638E-002	1.7692E-002	0.3%	ND	0.2
p,m-Xylene	1.5312E-002	1.5381E-002	0.5%	ND	0.2
o-Xylene	1.5548E-002	1.5559E-002	0.1%	ND	0.1

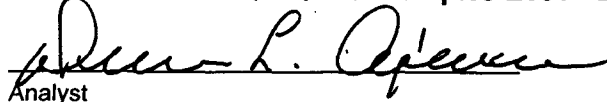
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	8.8
Toluene	ND	ND	0.0%	0 - 30%	8.4
Ethylbenzene	ND	ND	0.0%	0 - 30%	7.6
p,m-Xylene	23.5	22.7	3.4%	0 - 30%	10.8
o-Xylene	16.8	16.3	3.0%	0 - 30%	5.2

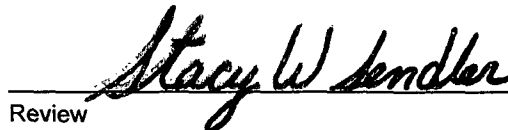
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	50.0	100%	39 - 150
Toluene	ND	50.0	50.0	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	23.5	100.0	124	100%	46 - 148
o-Xylene	16.8	50.0	66.8	100%	46 - 148

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 E531 - E532.


Analyst


Review

6506

Client / Project Name						Project Location									
						ANALYSIS / PARAMETERS									
Sampler:						Remarks									
Sample No./ Identification						No. of Containers		BTX		TPH					
Date						Matrix									
Key #1						1-13-99 9:30 AM		E531		Soil		✓ ✓			
Key #2						1-13-99 9:45 AM		E532		Soil		✓ ✓			
Relinquished by: (Signature)						Date		Time		Received by: (Signature)		Date		Time	
Relinquished by: (Signature)						1-15-99		10:05		L. Quisenberry		1-15-99		10:05	
Relinquished by: (Signature)															
Relinquished by: (Signature)															
ENVIROTECH INC.															
5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615															
Sample Receipt															
Received Intact															
Cool - Ice/Blue Ice															

1-29-99

CELL #2

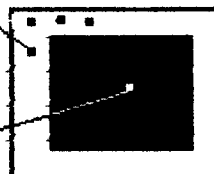
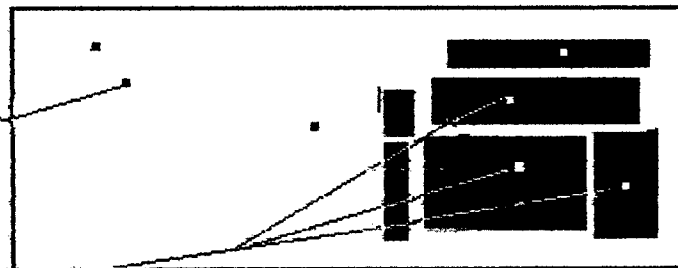
Key sample -2
sample obtained 24"
below surface

Contaminated
soil area

Key sample -1
sample obtained 24" below surface

Contaminated soil
area (full)

CELL #1





P. O. Box 900, 5651 US Hwy. 64 ▪ Farmington, New Mexico 87499
(505) 327-4935 ▪ (505) 327-0416

Oct. 22, 1998

OCT 28 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Sunco Landfarm Subsurface

Dear Sirs:

Please find attached our second Treatment Zone Analysis since commencement of land farm operations. Sunco contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information please call at 505-334-6186

Best Regards,

Michael Talovich
Disposal Manager
Sunco Trucking

10-22-98

CELL #2

Sunco sample -2
sample obtained 24"
below surface

Contaminated
soil area

Sunco sample -1
sample obtained 24" below surface

Contaminated soil
area (full)

CELL #1

Michael T. [Signature]

10-23-98

6342

[illegible]

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

October 6, 1998

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Drawer 15250
Farmington, New Mexico 87499

Project No.: 04074-03

Dear Mr. Nobis,

Enclosed are the analytical results for the samples collected from the location designated as "Sunco Landfarm". Two soil samples were collected by Tierra Environmental designated personnel on 10/02/98, and received by the Envirotech laboratory on 10/02/98 for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) analysis per USEPA Method 8021, and for Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015 Modified.

The samples were documented on Envirotech Chain of Custody No. 6342 and assigned Laboratory Nos. E027 (Sunco #1) and E028 (Sunco #2) for tracking purposes.

The sample were extracted and analyzed on 10/04/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It is always a pleasure doing business with you.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sendler
Environmental Scientist/Laboratory Manager

enc.

SWS\sws
03.122/wpd

04074/04074-

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Sunco #1	Date Reported:	10-04-98
Laboratory Number:	E027	Date Sampled:	10-02-98
Chain of Custody:	6342	Date Received:	10-02-98
Sample Matrix:	Soil	Date Analyzed:	10-04-98
Preservative:	Cool	Date Extracted:	10-04-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	123	8.8
Toluene	17.1	8.4
Ethylbenzene	10.3	7.6
p,m-Xylene	294	10.8
o-Xylene	58.5	5.2
Total BTEX	503	

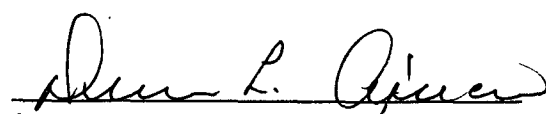
ND - Parameter not detected at the stated detection limit.

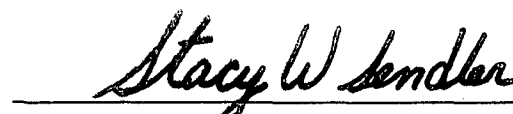
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	101 %
	Bromofluorobenzene	101 %

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: Sunco Landfarm.


Analyst


Review

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Sunco #2	Date Reported:	10-04-98
Laboratory Number:	E028	Date Sampled:	10-02-98
Chain of Custody:	6342	Date Received:	10-02-98
Sample Matrix:	Soil	Date Analyzed:	10-04-98
Preservative:	Cool	Date Extracted:	10-04-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	ND	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	180	10.8
o-Xylene	87.9	5.2
Total BTEX	268	

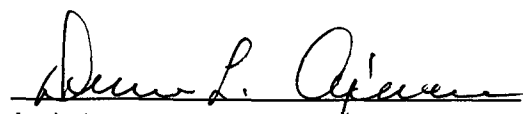
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	98 %
	Bromofluorobenzene	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: Sunco Landfarm.


Analyst


Review

Client:	N/A	Project #:	N/A
Sample ID:	10-04-BTEX QA/QC	Date Reported:	10-04-98
Laboratory Number:	E015	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-04-98
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect. Limit
		Accept. Range 0 - 15%			
Benzene	9.5381E-002	9.5687E-002	0.3%	ND	0.2
Toluene	3.6957E-002	3.7083E-002	0.3%	ND	0.2
Ethylbenzene	4.0361E-002	4.0515E-002	0.4%	ND	0.2
p,m-Xylene	3.4593E-002	3.4766E-002	0.5%	ND	0.2
o-Xylene	3.6140E-002	3.6249E-002	0.3%	ND	0.1

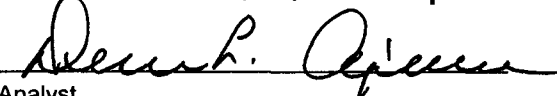
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	177	171	0.9%	0 - 30%	8.8
Toluene	144	138	3.8%	0 - 30%	8.4
Ethylbenzene	ND	ND	0.0%	0 - 30%	7.6
p,m-Xylene	284	273	3.6%	0 - 30%	10.8
o-Xylene	178	173	3.0%	0 - 30%	5.2

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	177	50.0	225	100%	39 - 150
Toluene	144	50.0	192	100%	46 - 148
Ethylbenzene	ND	50.0	50.0	100%	32 - 160
p,m-Xylene	284	100.0	381	99%	46 - 148
o-Xylene	178	50.0	226	99%	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 E015 - E016 and E026 - E028.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

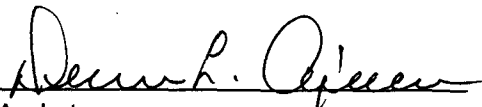
Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Sunco #1	Date Reported:	10-04-98
Laboratory Number:	E027	Date Sampled:	10-02-98
Chain of Custody No:	6342	Date Received:	10-02-98
Sample Matrix:	Soil	Date Extracted:	10-04-98
Preservative:	Cool	Date Analyzed:	10-04-98
Condition:	Cool and Intact	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: Sunco Landfarm.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

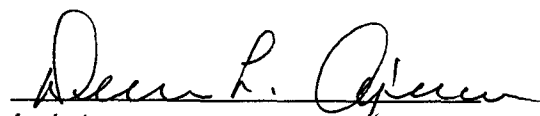
Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	Sunco #2	Date Reported:	10-04-98
Laboratory Number:	E028	Date Sampled:	10-02-98
Chain of Custody No:	6342	Date Received:	10-02-98
Sample Matrix:	Soil	Date Extracted:	10-04-98
Preservative:	Cool	Date Analyzed:	10-04-98
Condition:	Cool and Intact	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: Sunco Landfarm.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	10-04-TPH QA/QC	Date Reported:	10-04-98
Laboratory Number:	E008	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	10-04-98
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	04-28-98	4.9098E-002	4.9064E-002	0.07%	0 - 15%
Diesel Range C10 - C28	04-28-98	3.9029E-002	3.9017E-002	0.03%	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

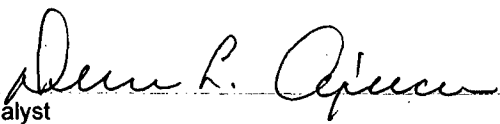
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

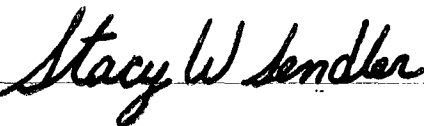
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100%	75 - 125%

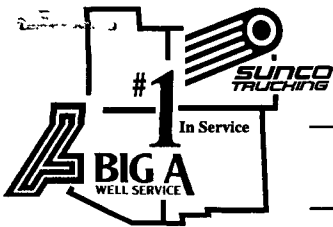
ND - Parameter not detected at the stated detection limit.

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

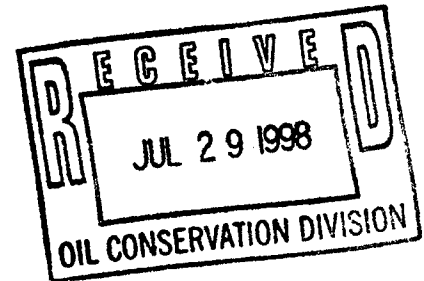
Comments: QA/QC for samples E008, E015 - E016 and E026 - E029.


Analyst


Review



P.O. Drawer 3337, 700 S. Tucker, Farmington, New Mexico 87499
(505) 327-4961 • 24-Hour Dispatch (505) 325-6892 • (505) 327-0416



July 15, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Sunco Landfarm Subsurface

Dear Sirs:

Please find attached our third Treatment Zone Analysis since commencement of land farm operations. Sunco contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at (505) 334-6186

Best Regards:

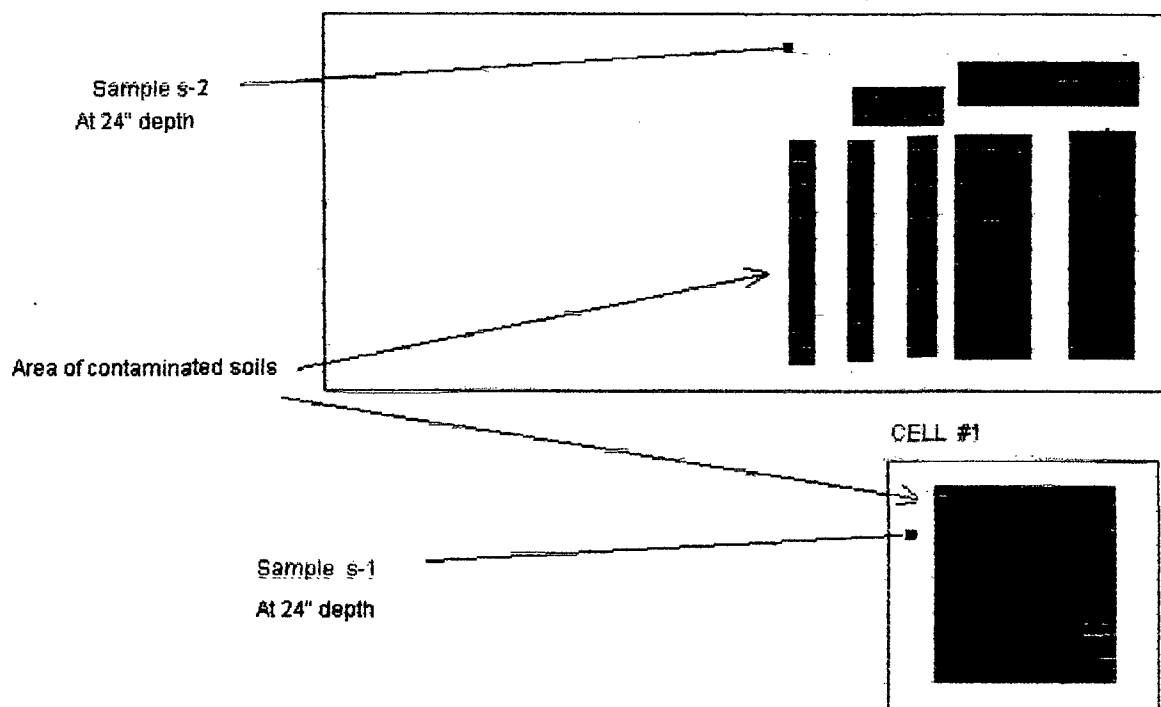
Michael Talovich
Disposal Manager
Sunco Trucking

4-6-98
DJK

SUNCO DISPOSAL LAND FARM

July 20 1998

CELL #2



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

June 29, 1998

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Drawer 15250
Farmington, New Mexico 87499

Project No.: 04074-03

Dear Mr. Nobis,

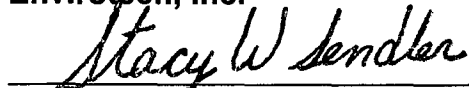
Enclosed are the analytical results for the samples identified as "S-1" and "S-2". Two soil samples were collected by Tierra Environmental designated personnel on 06/24/98, and received by the Envirotech laboratory on 06/24/98 for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) analysis per USEPA Method 8021, for Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015 Modified, for Total Trace Metals (RCRA List) analysis, and for Major Anion/Cation analysis.

The samples were documented on Envirotech Chain of Custody No. 6138 and assigned Laboratory Nos. D483 (S-1) and D484 (S-2) for tracking purposes.

The samples were extracted and analyzed on 06/24/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It is always a pleasure doing business with you.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sandler
Environmental Scientist/Laboratory Manager

enc.

SWS\sws

04074/04074-03.116/wpd

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

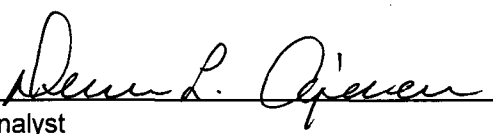
Client:	Tierra	Project #:	04074-03
Sample ID:	S - 1	Date Reported:	06-25-98
Laboratory Number:	D483	Date Sampled:	06-23-98
Chain of Custody No:	6138	Date Received:	06-23-98
Sample Matrix:	Soil	Date Extracted:	06-24-98
Preservative:	Cool	Date Analyzed:	06-24-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

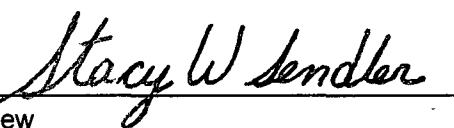
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	1.6	0.1
Total Petroleum Hydrocarbons	1.6	0.2

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:


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-24-TPH QA/QC	Date Reported:	06-25-98
Laboratory Number:	D482	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-24-98
Condition:	N/A	Analysis Requested:	TPH

Calibration	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	04-28-98	2.3634E-02	2.2938E-02	2.94%	0 - 15%
Diesel Range C10 - C28	04-28-98	2.3141E-02	2.2455E-02	2.96%	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	0.9	0.9	0.0%	0 - 30%
Diesel Range C10 - C28	13.5	13.3	1.8%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	0.9	250	250	100%	75 - 125%
Diesel Range C10 - C28	13.5	250	263	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 D474 - D477 and D482 - D485..


Analyst


Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Tierra	Project #:	04074-03
Sample ID:	S - 1	Date Reported:	06-25-98
Laboratory Number:	D483	Date Sampled:	06-24-98
Chain of Custody:	6138	Date Received:	06-24-98
Sample Matrix:	Soil	Date Analyzed:	06-24-98
Preservative:	Cool	Date Extracted:	06-24-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	ND	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	ND	10.8
o-Xylene	ND	5.2
Total BTEX	ND	

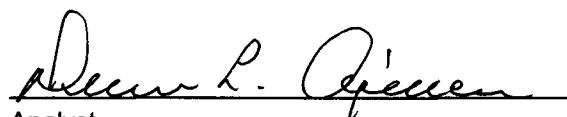
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	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:


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra	Project #:	04074-03
Sample ID:	S - 2	Date Reported:	06-25-98
Laboratory Number:	D484	Date Sampled:	06-24-98
Chain of Custody:	6138	Date Received:	06-24-98
Sample Matrix:	Soil	Date Analyzed:	06-24-98
Preservative:	Cool	Date Extracted:	06-24-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	ND	8.4
Ethylbenzene	ND	7.6
p,m-Xylene	ND	10.8
o-Xylene	ND	5.2
Total BTEX	ND	

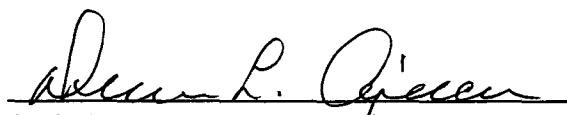
ND - Parameter not detected at the stated detection limit.

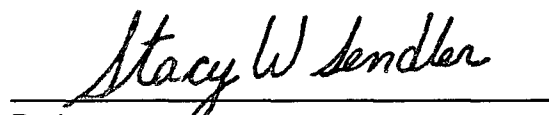
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	97 %
	Bromofluorobenzene	97 %

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:


Analyst


Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT**

Client:	N/A	Project #:	N/A
Sample ID:	06-24-BTEX QA/QC	Date Reported:	06-25-98
Laboratory Number:	D474	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-24-98
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	2.4176E-01	2.4224E-01	0.2%	ND	0.2
Toluene	4.9646E-02	4.9795E-02	0.3%	ND	0.2
Ethylbenzene	4.1020E-02	4.1259E-02	0.6%	ND	0.2
p,m-Xylene	2.6433E-02	2.6620E-02	0.7%	ND	0.2
o-Xylene	3.0648E-02	3.0771E-02	0.4%	ND	0.1

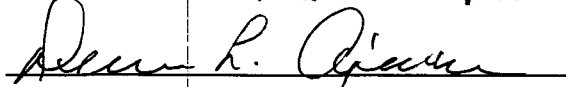
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	8.8
Toluene	ND	ND	0.0%	0 - 30%	8.4
Ethylbenzene	ND	ND	0.0%	0 - 30%	7.6
p,m-Xylene	330	332	0.6%	0 - 30%	10.8
o-Xylene	ND	ND	0.0%	0 - 30%	5.2

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.5	99%	39 - 150
Toluene	ND	50.0	49.9	100%	46 - 148
Ethylbenzene	ND	50.0	49.6	99%	32 - 160
p,m-Xylene	330	100.0	429	100%	46 - 148
o-Xylene	ND	50.0	49.9	100%	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 D474 - D477 and D482 - D485.


Analyst


Review

Client:	Tierra	Project #:	04074-03
Sample ID:	S - 1	Date Reported:	06-29-98
Laboratory Number:	D483	Date Sampled:	06-24-98
Chain of Custody:	6138	Date Received:	06-24-98
Sample Matrix:	Soil	Date Analyzed:	06-26-98
Preservative:	Cool	Date Digested:	06-25-98
Condition:	Cool & Intact	Analysis Needed:	Trace Metals

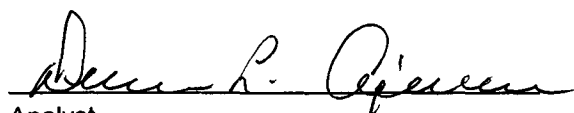
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.0025
Barium	109	0.0025
Cadmium	ND	0.0025
Chromium	4.97	0.0025
Lead	13.4	0.0025
Mercury	ND	0.0025
Selenium	ND	0.0025
Silver	ND	0.0025

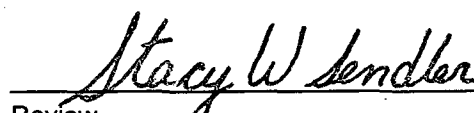
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments:


Analyst


Review

Client:	Tierra	Project #:	04074-03
Sample ID:	S - 2	Date Reported:	06-29-98
Laboratory Number:	D484	Date Sampled:	06-24-98
Chain of Custody:	6138	Date Received:	06-24-98
Sample Matrix:	Soil	Date Analyzed:	06-26-98
Preservative:	Cool	Date Digested:	06-25-98
Condition:	Cool & Intact	Analysis Needed:	Trace Metals

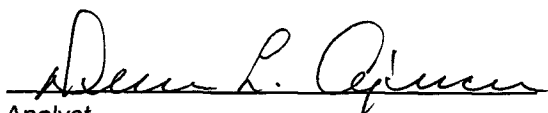
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.0025
Barium	112	0.0025
Cadmium	ND	0.0025
Chromium	3.30	0.0025
Lead	11.6	0.0025
Mercury	ND	0.0025
Selenium	ND	0.0025
Silver	ND	0.0025

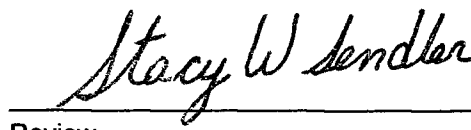
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments:


Analyst


Review

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-26-a-TM QA/QC	Date Reported:	06-29-98
Laboratory Number:	D474	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Trace Metals	Date Analyzed:	06-26-98
Condition:	N/A	Date Digested:	06-25-98

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.0025	58.0	57.9	0.2%	0% - 30%
Cadmium	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.0025	2.08	2.07	0.5%	0% - 30%
Lead	ND	ND	0.0025	9.35	9.36	0.1%	0% - 30%
Mercury	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0025	ND	ND	0.0%	0% - 30%

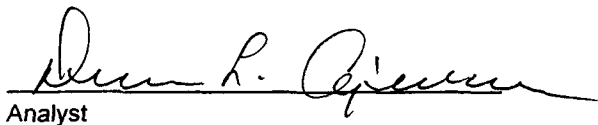
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	2.500	ND	2.49	100%	80% - 120%
Barium	25.0	58.0	83.1	100%	80% - 120%
Cadmium	1.250	ND	1.24	99%	80% - 120%
Chromium	1.250	2.08	3.32	100%	80% - 120%
Lead	2.500	9.35	11.8	100%	80% - 120%
Mercury	0.625	ND	0.620	99%	80% - 120%
Selenium	2.500	ND	2.50	100%	80% - 120%
Silver	1.250	ND	1.24	99%	80% - 120%

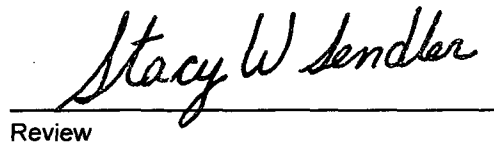
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples D474 - D477 and D483 - D484.


Analyst


Review

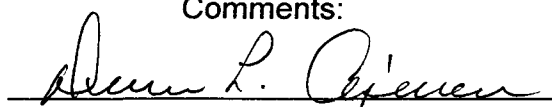
Client: Tierra
 Sample ID: S - 1
 Laboratory Number: D483
 Chain of Custody: 6138
 Sample Matrix: Soil
 Preservative: Cool
 Condition: Cool & Intact

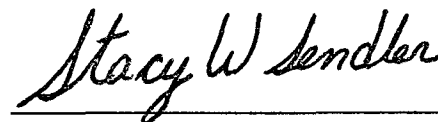
Project #: 04074-03
 Date Reported: 06-30-98
 Date Sampled: 06-24-98
 Date Received: 06-24-98
 Date Extracted: 06-25-98
 Date Analyzed: 06-26 - 06-29-98

Parameter	Analytical Result	Units		Units
pH	7.63	s.u.		
Conductivity @ 25° C	87.8	umhos/cm		
Total Dissolved Solids @ 180C	34.0	mg/L		
Total Dissolved Solids (Calc)	31.8	mg/L		
SAR	0.0	ratio		
Total Alkalinity as CaCO3	23.5	mg/L		
Total Hardness as CaCO3	26.8	mg/L		
Bicarbonate as HCO3	23.5	mg/L	0.39	meq/L
Carbonate as CO3	<1	mg/L	0.00	meq/L
Hydroxide as OH	<1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.2	mg/L	0.00	meq/L
Nitrite Nitrogen	0.034	mg/L	0.00	meq/L
Chloride	5.7	mg/L	0.16	meq/L
Fluoride	0.48	mg/L	0.03	meq/L
Phosphate	<0.1	mg/L	0.00	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Calcium	8.2	mg/L	0.41	meq/L
Magnesium	1.53	mg/L	0.13	meq/L
Potassium	1.4	mg/L	0.04	meq/L
Sodium	<0.1	mg/L	0.00	meq/L
Cations			0.57	meq/L
Anions			0.58	meq/L
Cation/Anion Difference			0.75%	

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:


 Analyst


 Review

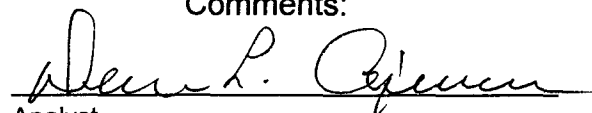
Client: Tierra
 Sample ID: S - 2
 Laboratory Number: D484
 Chain of Custody: 6138
 Sample Matrix: Soil
 Preservative: Cool
 Condition: Cool & Intact

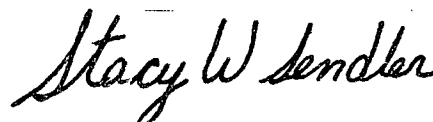
Project #: 04074-03
 Date Reported: 06-30-98
 Date Sampled: 06-24-98
 Date Received: 06-24-98
 Date Extracted: 06-25-98
 Date Analyzed: 06-26 - 06-29-98

Parameter	Analytical Result	Units	Units
pH	7.65	s.u.	
Conductivity @ 25° C	89.7	umhos/cm	
Total Dissolved Solids @ 180C	44.0	mg/L	
Total Dissolved Solids (Calc)	41.6	mg/L	
SAR	0.0	ratio	
Total Alkalinity as CaCO3	30.5	mg/L	
Total Hardness as CaCO3	38.3	mg/L	
Bicarbonate as HCO3	30.5	mg/L	0.50 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	<0.1	mg/L	0.00 meq/L
Nitrite Nitrogen	0.006	mg/L	0.00 meq/L
Chloride	7.3	mg/L	0.21 meq/L
Fluoride	0.97	mg/L	0.05 meq/L
Phosphate	0.3	mg/L	0.01 meq/L
Sulfate	0.5	mg/L	0.01 meq/L
Calcium	10.2	mg/L	0.51 meq/L
Magnesium	3.14	mg/L	0.26 meq/L
Potassium	0.7	mg/L	0.02 meq/L
Sodium	<0.1	mg/L	0.00 meq/L
Cations			0.78 meq/L
Anions			0.78 meq/L
Cation/Anion Difference			0.82%

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.

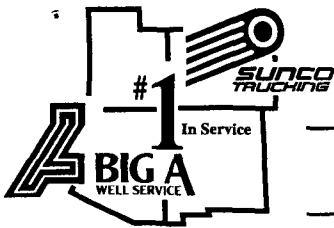
Comments:


 Analyst


 Review

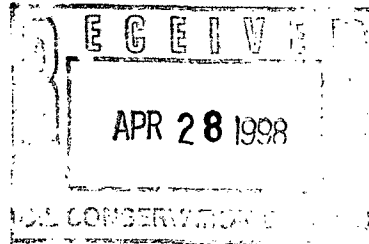
6138

[illegible]



P. O. Box 900, 5651 US Hwy. 64 ▪ Farmington, New Mexico 87499
(505) 327-4935 ▪ **24 Hour Dispatch (505) 325-6892** ▪ (505) 327-0416

April 24, 1998



Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Sunco Landfarm Subsurface

Dear Sirs:

Please find attached our second Treatment Zone Analysis since commencement of land farm operations. Sunco contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at (505) 334-6186

Best Regards:

Michael Talovich
Disposal Manager
Sunco Trucking

4-24-98

CELL #2

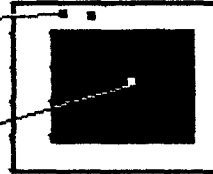
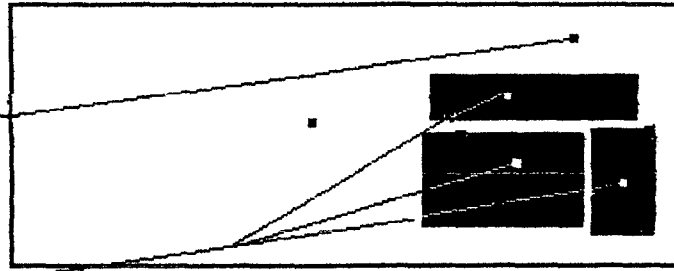
Sunco sample -2
sample obtained 24"
below surface

Contaminated
soil area

Sunco sample -1
sample obtained 24" below surface

Contaminated soil
area (full)

CELL #1



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

April 20, 1998

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Drawer 15250
Farmington, New Mexico 87499

Project No.: 04074-03

Dear Mr. Nobis,

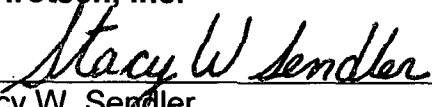
Enclosed are the analytical results for the samples collected from the location designated as "Sunco". Two soil samples were collected by Tierra Environmental designated personnel on 04/15/98, and received by the Envirotech laboratory on 04/15/98 for Total Trace Metals analysis, Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015, Modified, and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) analysis per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 5864 and assigned Laboratory Nos. D105 (S-001) and D106 (S-002) for tracking purposes.

The samples were analyzed on 04/16/98 through 04/18/98 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615. It is always a pleasure doing business with you.

Respectfully submitted,
Envirotech, Inc.


Stacy W. Sandler
Environmental Scientist/Laboratory Manager

enc.

SWS\sws

04074/04074-03.112/wpd

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-001	Date Reported:	04-18-98
Laboratory Number:	D105	Date Sampled:	04-15-98
Chain of Custody:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Analyzed:	04-18-98
Preservative:	Cool	Date Digested:	04-18-98
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

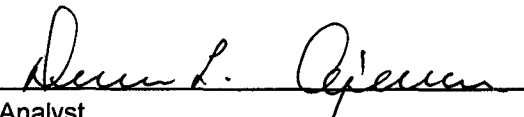
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.0025
Barium	47.0	0.0025
Cadmium	0.0775	0.0025
Chromium	0.568	0.0025
Lead	1.202	0.0025
Mercury	ND	0.0025
Selenium	ND	0.0025
Silver	ND	0.0025

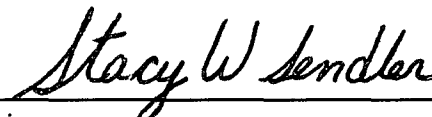
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: **SUNCO.**


Analyst


Review

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-002	Date Reported:	04-18-98
Laboratory Number:	D106	Date Sampled:	04-15-98
Chain of Custody:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Analyzed:	04-18-98
Preservative:	Cool	Date Digested:	04-18-98
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

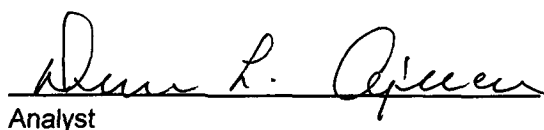
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.0025
Barium	66.8	0.0025
Cadmium	0.218	0.0025
Chromium	0.630	0.0025
Lead	1.15	0.0025
Mercury	ND	0.0025
Selenium	ND	0.0025
Silver	ND	0.0025

ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: **SUNCO.**


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:	04-18-98
Laboratory Number:	D106	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	RCRA Metals	Date Analyzed:	04-18-98
Condition:	N/A	Date Digested:	04-18-98

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.0025	47.2	47.0	0.4%	0% - 30%
Cadmium	ND	ND	0.0025	0.0775	0.0750	3.2%	0% - 30%
Chromium	ND	ND	0.0025	0.568	0.572	0.7%	0% - 30%
Lead	ND	ND	0.0025	1.202	1.210	0.7%	0% - 30%
Mercury	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.0025	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.0025	ND	ND	0.0%	0% - 30%

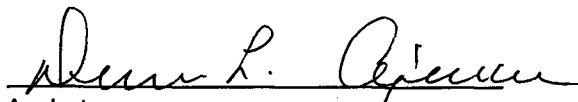
Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	2.500	ND	2.495	100%	80% - 120%
Barium	25.0	47.2	72.0	100%	80% - 120%
Cadmium	1.250	0.0775	1.325	100%	80% - 120%
Chromium	1.250	0.568	1.815	100%	80% - 120%
Lead	2.500	1.202	3.700	100%	80% - 120%
Mercury	0.625	ND	0.620	99%	80% - 120%
Selenium	2.500	ND	2.490	100%	80% - 120%
Silver	1.250	ND	1.248	100%	80% - 120%

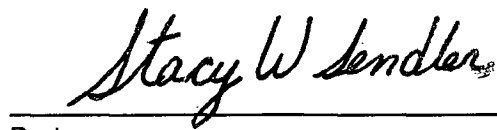
ND - Parameter not detected at the stated detection limit.

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

Methods 7060B, 7081, 7131A, 7191, 7470A, 7421, 7740, 7761 Analysis of Metals by
GFAA and Cold Vapor Techniques, SW-846, USEPA, December 1996.

Comments: QA/QC for samples D106 - D107.


Analyst


Review

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

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-001	Date Reported:	04-18-98
Laboratory Number:	D105	Date Sampled:	04-15-98
Chain of Custody No:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Extracted:	04-16-98
Preservative:	Cool	Date Analyzed:	04-17-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

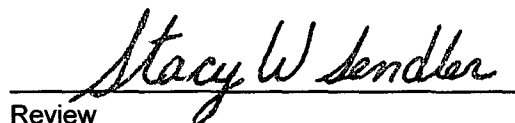
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.3	0.2
Diesel Range (C10 - C28)	6.4	0.1
Total Petroleum Hydrocarbons	7.7	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **SUNCO.**


Analyst


Review

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

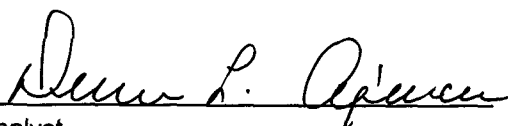
Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-002	Date Reported:	04-18-98
Laboratory Number:	D106	Date Sampled:	04-15-98
Chain of Custody No:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Extracted:	04-16-98
Preservative:	Cool	Date Analyzed:	04-17-98
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	3.1	0.2
Diesel Range (C10 - C28)	6.4	0.1
Total Petroleum Hydrocarbons	9.5	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: **SUNCO.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-17-TPH QA/QC	Date Reported:	04-18-98
Laboratory Number:	D104	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-17-98
Condition:	N/A	Analysis Requested:	TPH

Calibration	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	03-27-98	5.6544E-04	5.4591E-04	3.45%	0 - 15%
Diesel Range C10 - C28	03-27-98	5.4387E-04	5.2527E-04	3.42%	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

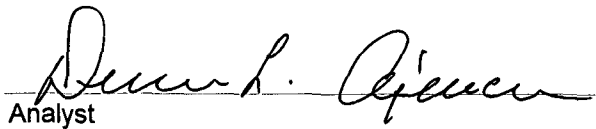
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	6.3	6.3	0.0%	0 - 30%
Diesel Range C10 - C28	63.8	63.4	0.7%	0 - 30%

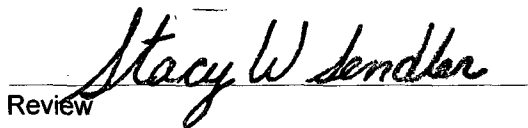
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	6.3	250	256	100%	75 - 125%
Diesel Range C10 - C28	63.8	250	313	100%	75 - 125%

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples D104 - D107 and D110 - D114.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-001	Date Reported:	04-17-98
Laboratory Number:	D105	Date Sampled:	04-15-98
Chain of Custody:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Analyzed:	04-16-98
Preservative:	Cool	Date Extracted:	04-15-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	62.7	8.4
Ethylbenzene	91.9	7.6
p,m-Xylene	205	10.8
o-Xylene	119	5.2
Total BTEX	479	

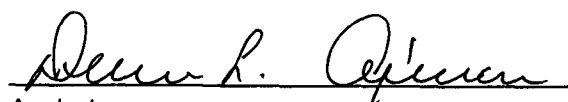
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	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: **SUNCO.**


Analyst


Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	S-002	Date Reported:	04-17-98
Laboratory Number:	D106	Date Sampled:	04-15-98
Chain of Custody:	5864	Date Received:	04-15-98
Sample Matrix:	Soil	Date Analyzed:	04-16-98
Preservative:	Cool	Date Extracted:	04-15-98
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	32.1	8.8
Toluene	146	8.4
Ethylbenzene	169	7.6
p,m-Xylene	1,010	10.8
o-Xylene	268	5.2
Total BTEX	1,630	

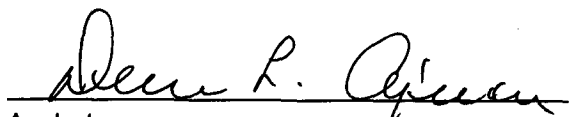
ND - Parameter not detected at the stated detection limit.

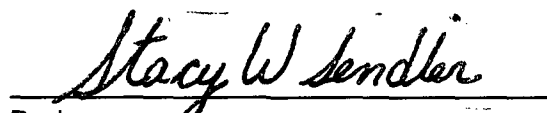
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	95 %
	Bromofluorobenzene	95 %

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: **SUNCO.**


Analyst


Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS
QUALITY ASSURANCE REPORT**

Client:	N/A	Project #:	N/A
Sample ID:	04-17-BTEX QA/QC	Date Reported:	04-17-98
Laboratory Number:	D104	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-17-98
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	4.8757E-05	5.0842E-05	4.3%	ND	0.2
Toluene	5.4539E-05	5.6517E-05	3.6%	ND	0.2
Ethylbenzene	6.1355E-05	6.3779E-05	4.0%	ND	0.2
p,m-Xylene	4.9248E-05	5.0771E-05	3.1%	ND	0.2
o-Xylene	5.8524E-05	6.0899E-05	4.1%	ND	0.1

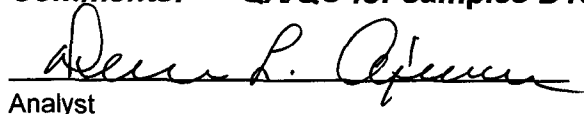
Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	9.5	9.4	1.1%	0 - 30%	8.8
Toluene	101	100	1.7%	0 - 30%	8.4
Ethylbenzene	684	673	1.5%	0 - 30%	7.6
p,m-Xylene	3,690	3,640	1.4%	0 - 30%	10.8
o-Xylene	795	788	0.8%	0 - 30%	5.2

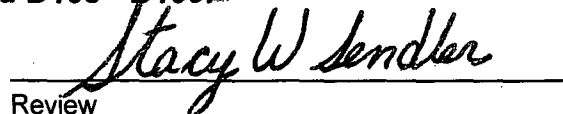
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	9.5	50.0	59.2	97%	39 - 150
Toluene	101	50.0	151	100%	46 - 148
Ethylbenzene	684	50.0	734	100%	32 - 160
p,m-Xylene	3,690	100.0	3,790	100%	46 - 148
o-Xylene	795	50.0	845	100%	46 - 148

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 D104 - D106 and D108 - D109.


Analyst

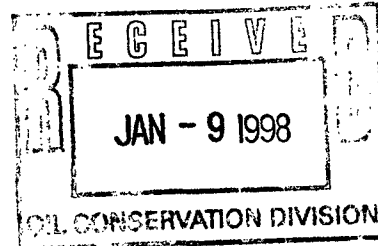

Review

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401



P.O. Drawer 3337, 700 S. Tucker, Farmington, New Mexico 87499
(505) 327-4961 • 24-Hour Dispatch (505) 325-6892 • (505) 327-0416

January 7, 1998



Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil and Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Dear Sirs:

Please find attached our first Treatment Zone Analysis since commencement of land farm operations. Sunco contracted Tierra Environmental to obtain and test each sample. Included is a simple drawing of locations and depths the samples where taken.

If you require additional information, please contact me at (505) 334-6186

Best Regards:

Michael Talovich
Disposal Manager
Sunco Trucking



®Certificate of Analysis No. 9712110-08

FARMINGTON LABORATORY

P.O. BOX 1289

FARMINGTON, NEW MEXICO 87499-1289

PHONE (505) 326-2588

Tierra Environmental Company Inc.

PO Drawer 15250

Farmington, NM 87401

Attn: Tim Nobis

Date: 12/29/97

Project: **Sunco Sub-surface**

Project No:

Site:

Matrix: Soil

Sampled By: T. Nobis

Date Sampled: 12/18/97

Sample ID: Sunco-1

Date Received: 12/18/97

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	2.4	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	2.4		µg/Kg

Surrogate

% Recovery

1,4-Difluorobenzene

103

4-Bromofluorobenzene

97

Method 8020

Analyzed by: TB

Date: 12/22/97

Total Petroleum Hydrocarbons-Diesel

ND

10.0

mg/Kg

Surrogate

% Recovery

n-Pentacosane

78

Method 8015A*** for Diesel

Analyzed by: RR

Date: 12/24/97

Gasoline Range Organics

ND

0.1

mg/Kg

Surrogate

% Recovery

4-Bromofluorobenzene

87

1,4-Difluorobenzene

97

Method 8015A*** for Gasoline

Analyzed by: TB

Date: 12/22/97

ND- Not detected

Notes:

*Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA

**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.

***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.

Danica Carman, Lab Director



®Certificate of Analysis No. 9712110-09

FARMINGTON LABORATORY
P.O. BOX 1289
FARMINGTON, NEW MEXICO 87499-1289
PHONE (505) 326-2588

Tierra Environmental Company Inc.
PO Drawer 15250
Farmington, NM 87401
Attn: Tim Nobis

Date: 12/29/97

Project: **Sunco Sub-Surface**
Site:
Sampled By: T. Nobis
Sample ID: Sunco-2

Project No:
Matrix: Soil
Date Sampled: 12/18/97
Date Received: 12/18/97

Analytical Data

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1.0	µg/Kg
Toluene	ND	1.0	µg/Kg
Ethylbenzene	ND	1.0	µg/Kg
Total Xylene	ND	1.0	µg/Kg
Total Volatile Aromatic Hydrocarbons	ND		µg/Kg

Surrogate **% Recovery**
1,4-Difluorobenzene 97
4-Bromofluorobenzene 83
Method 8020
Analyzed by: TB
Date: 12/22/97

Total Petroleum Hydrocarbons-Diesel ND 10.0 mg/Kg

Surrogate **% Recovery**
n-Pentacosane 82
Method 8015A*** for Diesel
Analyzed by: TB
Date: 12/24/97

Gasoline Range Organics ND 0.1. mg/Kg

Surrogate **% Recovery**
4-Bromofluorobenzene 70
1,4-Difluorobenzene 97
Method 8015A*** for Gasoline
Analyzed by: TB
Date: 12/22/97

ND- Not detected

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
 **Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
 ***Ref: Test Methods for Evaluating Solis Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with
EPA guidelines for quality assurance.

Danica Carman, Lab Director

CHAIN OF CUSTODY RECORD

TIERRA ENVIRONMENTAL COMPANY Inc.

P.O. DRAWER 15250 FARMINGTON, NM 87401

Date: 12/18/97

Page 1 of 1

Purchase Order No.:		Job No.		Name: <u>Tim Nobis</u>		Title: <u>Env. Spec.</u>	
Company: <u>Tierra Environmental Co. Inc.</u>		Dept.:		Company: <u>Tierra Environmental Co. Inc.</u>		Title: <u>Env. Spec.</u>	
Address: <u>P.O. Drawer 15250</u>				Mailing Address: <u>P.O. Drawer 15250</u>			
City, State, Zip: <u>Farmington, NM 87401</u>				City, State, Zip: <u>Farmington, NM 87401</u>			
				Telephone No. <u>334-8894</u>		Telefax No. <u>334-9024</u>	
Sampling Location: <u>Large</u>				ANALYSIS REQUESTED			
Sampler: <u>Large</u>							
SEND INVOICE TO				REPORT RESULTS TO			
SAMPLE IDENTIFICATION				Number of Containers			
DATE		TIME		MATRIX		PRES.	
12/16		10:30 AM					
12/16		10:30 AM					
12/16		11:00 AM					
12/17		1:00 PM					
12/17		1:00 PM					
12/17		1:00 PM					
12/17		2:00 PM					
12/18		2:00 PM					
12/18		2:30 PM					
C2307							
C1307							
C3854							
C3307M							
C4307M							
C6307M							
C3307 (water)							
Sample-1							
Sample-2							
Relinquished by: <u>[Signature]</u>				Date/Time: <u>12/18/97 3:00 PM</u>		Received by:	
Relinquished by:				Date/Time:		Received by:	
Relinquished by:				Date/Time:		Received by: <u>[Signature]</u>	
Method of Shipment:				Date/Time:		Special Instructions: <u>10 Working Days</u>	
Authorized by: _____				Date: _____		Date/Time: <u>12/18/97 8:00</u>	
(Client Signature <u>Must</u> Accompany Request)				Date: _____		Date/Time: _____	
Distribution: White - On Site Yellow - LAB Pink - Sampler Goldenrod - Client				Rush		24-48 Hours	

1-8-98

CELL #2

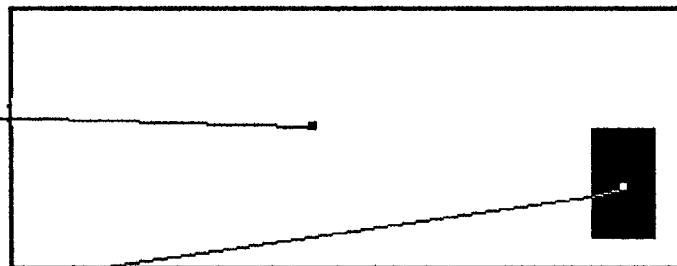
Sunco sample -2
sample obtained 24"
below surface

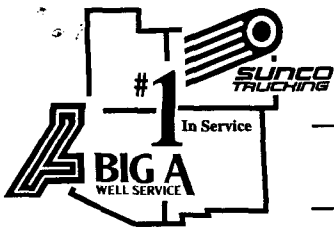
Contaminated
soil area

Sunco sample -1
sample obtained 24" below surface

Contaminated soil
area (full)

CELL #1





P.O. Drawer 3337, 700 S. Tucker, Farmington, New Mexico 87499
(505) 327-4961 • 24-Hour Dispatch (505) 325-6892 • (505) 327-0416

RECEIVED

MAY - 7 1997

Environmental Bureau
Oil Conservation Division

May 5, 1997

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Dear Martyne:

Please find attached our Back Ground Soil Matrix for Sunco Landfarm.
Tierra Environmental Company was contracted to obtain and test the samples.
As you can see the metals analysis showed surprising amounts of Barium and Lead
these appear to be naturally occurring elements.

Sunco Disposal appreciates your consideration of this matter. And if I can be of any
further assistance please call me at 505-334-6186

Best Regards:


Michael Talovich
Disposal Manager
Sunco Trucking

cc: H. Stone

TIERRA ENVIRONMENTAL COMPANY Inc.

**420 COUNTY ROAD 3100
AZTEC, NEW MEXICO 87410**



**P.O. DRAWER 15250
FARMINGTON, NEW MEXICO 87401-5250**

PHONE (505) 334-8894 FAX (505)334-9024

RECEIVED

MAY - 7 1997

Environmental Bureau
Oil Conservation Division

April 30, 1997

Mr. Mike Talovich
Sunco Disposal
P.O. Box 433
Farmington, NM 87499

RE: BACK GROUND SOIL MATRIX FOR SUNCO LANDFARM:

Dear Mr. Mike:

On April 11, 1997, Blaine Williams, Environmental Specialist for Tierra, obtained two soil samples, one at each of the two cells from the OCD established two foot sub surface monitoring zone at the Sunco Landfarm Site. The purpose of the sampling was to establish a back ground Matrix, prior to putting the landfarm site into operation in order that future OCD required sub surface sampling could be compared to the back ground Matrix.

The samples were taken to Envirotech Laboratories for Analysis of General Soil Chemistry, Total Petroleum Hydrocarbons (TPH) EPA Method 8015, BTEX EPA Method 8020, RCRA Metals.

The analytical results are enclosed. You may note that both cells showed minimal amounts of TPH and BTEX. Those results are not unusual and are far below the New Mexico Regulatory Limits. Additionally the total metal analysis indicates somewhat elevated levels of total lead and Barium. Both substances could be natural occurring elements in the soil on Crouch Mesa and are also far below the regulatory limits.

A visual inspection of the Landfarm Site by Tierra has been completed. The surface area of the two cells appears to be well compacted clay. Therefore sub surface migration of any contaminants should be prevented. The berms and dikes also appear to be well constructed and should contain any run off that may occur as a result of a one-hundred year storm event.

As an experienced commercial landfarm operator, it's my opinion that the Sunco Landfarm has met or exceeded all OCD requirements for construction and further that the landfarm is ready to be put into operation, following OCD review.

Page 2 Sunco:

If we can be of further assistance please don't hesitate to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Phillip C. Nobis", written in a cursive style.

Phillip C. Nobis
President

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

RECEIVED

MAY - 7 1997

Environmental Bureau
Oil Conservation Division

April 18, 1997

Mr. Phil Nobis
Tierra Environmental, Inc.
P.O. Drawer 15250
Farmington, New Mexico 87499

(303) 325-0924

Project No.: 04074-03

Dear Mr. Nobis,

Enclosed are the analytical results for the samples collected from the locations identified as "T5 E", "T5 W", "T1 U", and "T5 U". Four soil samples were collected from the designated locations by Tierra Environmental personnel on 04/11/97. The samples were delivered to the Envirotech laboratory on 04/11/97 for Total Petroleum Hydrocarbon (TPH) analysis per USEPA Method 8015, Modified; Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) per USEPA Method 8020; and Total Trace Metals (RCRA List) analysis and General Chemistry (Anion/Cation) analysis per USEPA SW-846 Methods.

The samples were documented on Envirotech Chain of Custody No. 5191 and assigned Laboratory Nos. B128 (T5 E), B129 (T5 W), B130 (T1 U), and B131 (T5 U) for tracking purposes.

The samples were extracted and analyzed on 04/11/96 through 04/18/97 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sandler
Environmental Scientist/Laboratory Manager

enc.

SWS/sws

04074-03.lb1/wpd

ENVIROTECH INC.
5796 U.S. Highway 64-3014
Farmington, New Mexico 87401
(505) 632-0615

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

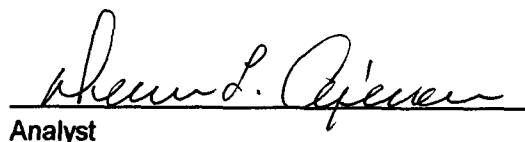
Client:	Tierra Environmental	Project #:	04074
Sample ID:	T 5 E	Date Reported:	04-15-97
Laboratory Number:	B128	Date Sampled:	04-11-97
Chain of Custody No:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Extracted:	04-15-97
Preservative:	Cool	Date Analyzed:	04-15-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

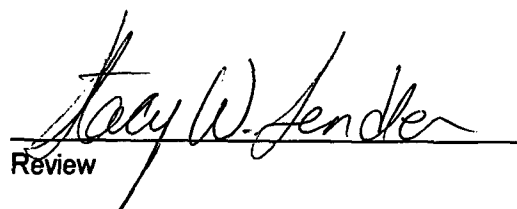
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.3	0.2
Diesel Range (C10 - C28)	0.4	0.1
Total Petroleum Hydrocarbons	1.7	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	04074
Sample ID:	T 5 E	Date Reported:	04-15-97
Laboratory Number:	B128	Date Sampled:	04-11-97
Chain of Custody:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Analyzed:	04-15-97
Preservative:	Cool	Date Extracted:	04-15-97
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	89.7	8.4
Ethylbenzene	40.9	7.6
p,m-Xylene	278	10.8
o-Xylene	123	5.2
Total BTEX	532	

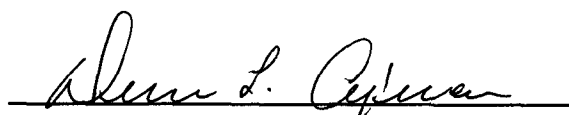
ND - Parameter not detected at the stated detection limit.

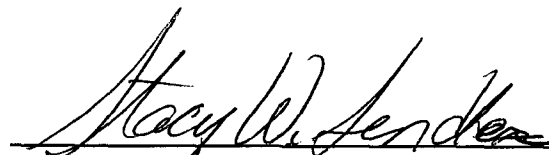
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	T 5 E	Date Reported:	04-21-97
Laboratory Number:	B128	Date Sampled:	04-11-97
Chain of Custody:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Analyzed:	04-21-97
Preservative:	Cool	Analysis Needed:	Trace metals
Condition:	Cool & Intact		

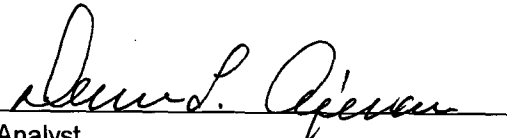
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.005
Barium	138	0.005
Cadmium	0.200	0.005
Chromium	1.68	0.005
Lead	3.12	0.005
Mercury	ND	0.005
Selenium	ND	0.005
Silver	ND	0.005

ND - Parameter not detected at the stated detection limit.

References: Method 3050, Acid Digestion of Sediments, Sludges, and Soils for total Metals, SW-846, USEPA, July 1992.

Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761
Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Tierra Environmental
Sample ID: T 5 E
Laboratory Number: B128
Sample Matrix: Soil Extract
Preservative: Cool
Condition: Cool & Intact

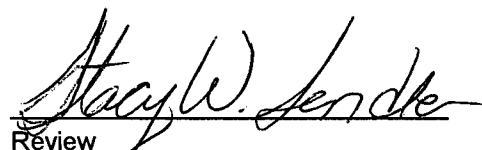
Project #: 04074-03
Date Reported: 04-17-97
Date Sampled: 04-11-97
Date Received: 04-11-97
Date Analyzed: 4/16/97 - 4/17/97
Chain of Custody: 5191

Parameter	Analytical Result	Units	Units
pH	7.41	s.u.	
Conductivity @ 25° C	235	umhos/cm	
Total Dissolved Solids @ 180C	116	mg/L	
Total Dissolved Solids (Calc)	129	mg/L	
SAR	1.51	ratio	
Total Alkalinity as CaCO3	102	mg/L	
Total Hardness as CaCO3	61.4	mg/L	
Bicarbonate as HCO3	102	mg/L	1.67 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.7	mg/L	0.01 meq/L
Nitrite Nitrogen	<.001	mg/L	0.00 meq/L
Chloride	10.0	mg/L	0.28 meq/L
Fluoride	6.65	mg/L	0.35 meq/L
Phosphate	2.5	mg/L	0.08 meq/L
Sulfate	0.2	mg/L	0.00 meq/L
Calcium	12.8	mg/L	0.64 meq/L
Magnesium	7.00	mg/L	0.58 meq/L
Potassium	0.5	mg/L	0.01 meq/L
Sodium	27.0	mg/L	1.17 meq/L
Cations			2.40 meq/L
Anions			2.40 meq/L
Cation/Anion Difference			0.15%

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:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

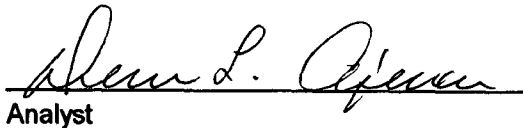
Client:	Tierra Environmental	Project #:	04074
Sample ID:	T 5 W	Date Reported:	04-15-97
Laboratory Number:	B129	Date Sampled:	04-11-97
Chain of Custody No:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Extracted:	04-15-97
Preservative:	Cool	Date Analyzed:	04-15-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

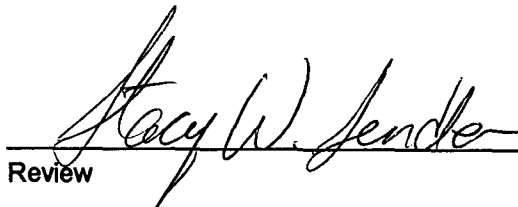
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.0	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	1.0	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8020 AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	04074
Sample ID:	T 5 W	Date Reported:	04-15-97
Laboratory Number:	B129	Date Sampled:	04-11-97
Chain of Custody:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Analyzed:	04-15-97
Preservative:	Cool	Date Extracted:	04-15-97
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	8.8
Toluene	66.6	8.4
Ethylbenzene	10.6	7.6
p,m-Xylene	71.6	10.8
o-Xylene	32.7	5.2
Total BTEX	182	

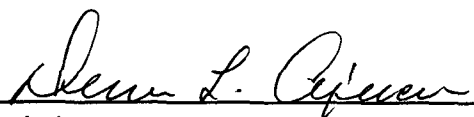
ND - Parameter not detected at the stated detection limit.

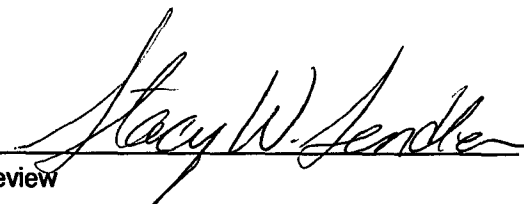
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1994.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	T 5 W	Date Reported:	04-21-97
Laboratory Number:	B129	Date Sampled:	04-11-97
Chain of Custody:	5191	Date Received:	04-11-97
Sample Matrix:	Soil	Date Analyzed:	04-21-97
Preservative:	Cool	Analysis Needed:	Trace metals
Condition:	Cool & Intact		

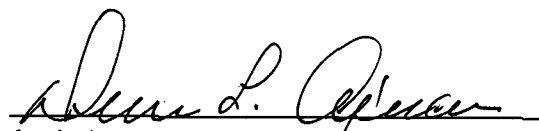
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Arsenic	ND	0.005
Barium	442	0.005
Cadmium	0.630	0.005
Chromium	1.83	0.005
Lead	3.42	0.005
Mercury	ND	0.005
Selenium	ND	0.005
Silver	ND	0.005

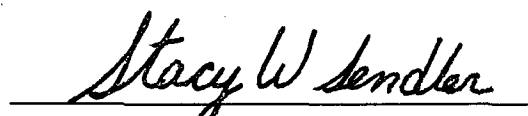
ND - Parameter not detected at the stated detection limit.

References: Method 3050, Acid Digestion of Sediments, Sludges, and Soils for total Metals, SW-846, USEPA, July 1992.

Methods 7060, 7080, 7131, 7191, 7421, 7471, 7740 and 7761
Analysis of Metals by GFAA and FLAA, SW-846, USEPA.

Comments:


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

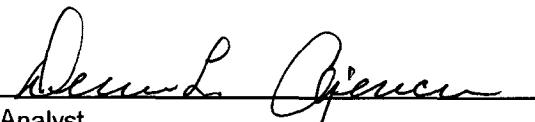
CATION / ANION ANALYSIS

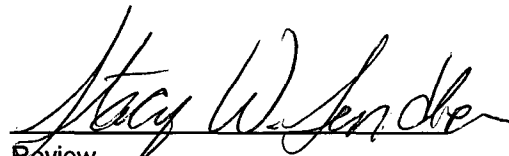
Client:	Tierra Environmental	Project #:	04074-03
Sample ID:	T 5 W	Date Reported:	04-17-97
Laboratory Number:	B129	Date Sampled:	04-11-97
Sample Matrix:	Soil Extract	Date Received:	04-11-97
Preservative:	Cool	Date Analyzed:	4/16/97 - 4/17/97
Condition:	Cool & Intact	Chain of Custody:	5191

Parameter	Analytical Result	Units	Units
pH	7.51	s.u.	
Conductivity @ 25° C	248	umhos/cm	
Total Dissolved Solids @ 180C	120	mg/L	
Total Dissolved Solids (Calc)	139	mg/L	
SAR	2.31	ratio	
Total Alkalinity as CaCO3	122	mg/L	
Total Hardness as CaCO3	45.6	mg/L	
Bicarbonate as HCO3	122	mg/L	2.00 meq/L
Carbonate as CO3	<1	mg/L	0.00 meq/L
Hydroxide as OH	<1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	<.001	mg/L	0.00 meq/L
Chloride	6.0	mg/L	0.17 meq/L
Fluoride	4.92	mg/L	0.26 meq/L
Phosphate	1.3	mg/L	0.04 meq/L
Sulfate	1.0	mg/L	0.02 meq/L
Calcium	10.2	mg/L	0.51 meq/L
Magnesium	5.01	mg/L	0.41 meq/L
Potassium	0.1	mg/L	0.00 meq/L
Sodium	36.0	mg/L	1.57 meq/L
Cations			2.49 meq/L
Anions			2.49 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
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:


Analyst


Review