NM1 - 10A

GENERAL CORRESPONDENCE

YEAR(S):

2003-2002

TIERRA ENVIRONMENTAL COMPANY, INC.

RECEIVED

NOV 1 7 2003

OIL CONSERVATION DIVISION

November 13, 2003

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

RE: CLOSURE UP DATE, TIERRA LANDFARM PERMIT# NM-01-0010A, NW//4, SE/4, SECTION 2, TOWNSHIP 29, RANGE 12 West NMPM, SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Kieling:

In reply to your letter dated November 3, 2003, I submit the following information.

Just to clarify, Tierra Environmental Co., Inc. has received closure approval for the north portion of the landfarm, north of the CR 3500 right-of-way. The remaining approximate 12 acres located north of the Industrial Eco Systems (IES) landfarm is being remediated by IES who are our contractor.

According to Jake Hatcher, Manager of IES, he may be ready to test the remaining material by January 2004, for final closure approval.

I will keep OCD informed as to our progress.

Sincerely,

Phillip C. Nobis
President

cc. Denny Faust

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: lnStreem@technet.nm.net

Kieling, Martyne

From: Darrin Church [darrin@instreem.net]
Sent: Thursday, February 05, 2004 9:19 AM
To: MKieling@state.nm.us
Subject: Tierra Landfarm

Martyne,

Phil Nobis asked me to write you a quick note concerning the remediation of the Landfarm. Phil has been out with minor health problems for about two weeks.

Industrial Ecosystems has been handling the remediation of the remaining acerage (approx 12-14). I asked them for an update on the progress a couple of weeks ago and they stated that a couple of the cells are still quite "hot". They were going to turn the piles again and test it later this month.

I'll keep you posted. If you need specific information, please call me or Jake with IES.

Thanks,

Darrin Church

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

November 3, 2003

Lori Wrotenbery
Director
Oil Conservation Division

Mr. Philip C. Nobis
Tierra Environmental Company, Inc.
PO Box 1812
Bloomfield, New Mexico 87413

RE: Closure of Surface Waste Management Facility, Permit NM-01-0010A
Tierra Environmental Company, Inc.
NW/4 SE/4, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico

Dear Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) received notice from Tierra Environmental Company, Inc. (Tierra) dated July 2, 2002, regarding its plans to close the surface waste management facility, Permit NM-01-0010A. Tierra submitted a closure plan dated June 11, 2003 and the OCD approved the plan on July 30, 2003.

The closure conditions in Permit NM-01-0010A, Page 7, CLOSURE 1, are "The OCD Santa Fe and Aztec offices must be notified when operation of the facility is discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Upon cessation of operations for six (6) consecutive months, the operator shall complete cleanup of constructed facilities and restoration of the facility site within the following six (6) months, unless an extension of time is granted by the Director."

OCD records show it has been sixteen (16) months since Tierra notified the OCD of closure and ceased receiving waste. It has been three (3) months since Tierra received an approval of its closure plan. Since it has been in excess of twelve (12) months since the OCD was first notified of the closure, Tierra must submit an update to the OCD as to the status of the closure activities by November 21, 2003. In addition, Tierra must submit a closure report by January 30, 2004.

If you have any questions please do not hesitate to contact me at (505) 476-3488.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: OCD Aztec

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

July 30, 2003

Lori Wrotenbery
Director
Oil Conservation Division

Mr. Philip C. Nobis
Tierra Environmental Company, Inc.
PO Box 1812
Bloomfield, New Mexico 87413

RE: Closure Plan for Surface Waste Management Permit NM-01-0010A
Tierra Environmental Company, Inc.
NW/4 SE/4, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico

Dear Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) is in receipt of Tierra Environmental Company, Inc.'s (Tierra) Closure Plan dated June 11, 2000 for the above referenced location. The OCD has reviewed the closure plan that incorporates composting of the remaining contaminated soils south of the county road right-of-way (ROW). **The OCD hereby approves of the closure plan with the following condition:**

1. The compost piles will be prepared and mixed at a ratio of one (1) part organic amendment of straw, wood chips and animal manure to four (4) parts hydrocarbon contaminated soil. The carbon/nitrogen ratio of the mix will be adjusted to 30:1 by adding organic nitrogen and the moisture content will be adjusted to 25% by adding water. Microbes will be added to the compost pile at a rate of two (2) gallons per cubic yard of material. The temperature of the compost piles will be monitored to prevent over heating and the pile will be turned as needed to provide air/oxygen.

2. Compost piles may not be dismantled until a laboratory measurement of total petroleum hydrocarbons (TPH) in the compost pile is less than 100 parts per million (ppm), the sum of all aromatic hydrocarbons (BTEX) is less than 50 ppm, and benzene is less than 10 ppm. Comprehensive records of the laboratory analyses and the sampling locations must be maintained at the facility. Authorization from the OCD must be obtained prior to dismantling of the compost pile and/or removal or reuse of the remediated soils.

3. Any enhanced bioremediation through the application of microbes (bugs) and/or fertilizers in addition to what is described herein is permitted only after prior approval from the OCD. Requests for application of microbes or fertilizers must include the location of the area designated for the program, the composition of additives, and the method, amount and frequency of application.

4. Landfarm and compost pile monitoring and maintenance must be recorded and maintained for OCD review.

5. All conditions within Permit NM-01-0010A remain.

The OCD has reviewed the documentation on the treatment zone monitoring for cells 1, 2, 3, and 4 and surface and subsurface analytical results for the ROW. Based on the review the OCD **hereby approves** the closure of Cells 1, 2, 3 and 4 and the ROW area.

Tierra shall submit a final closure report with analytical results to the OCD Santa Fe office and a copy to the Aztec District office when closure is complete.

Please be advised that OCD approval does not relieve Tierra of liability should any remaining contaminants result in pollution of the ground water, surface water or the environment. In addition, OCD approval does not relieve Tierra of the responsibility for compliance with other federal, state, or local laws and/or regulations.

If you have any questions please do not hesitate to contact me at (505) 476-3488.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc: OCD Aztec Office

TIERRA ENVIRONMENTAL COMPANY, INC.

June 11, 2003

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

RE: RESPONSE TO FACILITY INSPECTION REPORT MAY 9, 2003,LANDFARM CLOSURE PLAN – PERMIT NO. NM-01-0010A, TIERRA ENVIRONMENTAL COMPANY, INC., REQUEST FOR CLOSURE OF LAND CONTAINING COUNTY RIGHT-OF-WAY AND NORTH PORTIONS OF CELLS 1,2,3, & 4 ADJACENT TO THE NORTH SIDE OF THE COUNTY RIGHT-OF-WAY.

Dear Ms Kieling:

I will first respond to the inspection report noted deficiencies:

1-2 San Juan County is and has been installing permanent fencing. Temporary fencing has been used in the interim.

3-5 San Juan County has bladed the cells to their proper depth of 10" in most places and some has been relocated to the staging area as well as existing roadways on the landfarm. We will be proposing in the following section of this letter, bio-piling all of the soil contained upon the upper portion of the 17 acres in conjunction with and under the supervision of JFJ.

8. The County has constructed berms along the right of way.

9. The empty tanks are being stored on the landfarm and are not in use nor will they be in use.

REPORTING AND RECORD KEEPING

The quarterly field test reports have always been kept on premises and are available for OCD inspection.

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: lnStreem@technet.nm.net

We, since moving cannot locate copies of the annual reports. However contained as an attachment to this letter are sub surface test as of 5/9/02. They indicate no sub-surface migration of any contaminants.

CLOSURE

Attached is a copy of a letter dated July 22, 2002 to Roger Anderson stating that closure of the 17 plus acres will be in accordance with the existing permit requirements and in compliance with OCD Rules in effect at the time of closure.

Tierra has had moved all of the contaminated soil from the north side of the new county right-of-way. Enclosed are sub-surface samples from that area. Also enclosed are surface and sub-surface samples from the area of the county right-of-way. You will notice that in the lab reports there are two different identifiers for the sub-surface samples taken from the ROW. Envirotech did not get enough samples to run cation/anion from the ROW. We went back at a later date with another auger and took the cation/anion samples and also did the sub-surface in cells 1-4. We ask for OCD closure of those areas based on the analytical results.

In order to expedite closure of the remaining portion of the landfarm located to the south of the new county right-of-way, we propose the following:

Tierra has made a tentative agreement with JFJ Landfarms because of their expertise in biopiling. Therefore we would ask OCD for permission to biopile all of the material in the remaining portion of the landfarm with the assistance and under the supervision of JFJ. Biopiling would expedite the closure timeframe and also address OCD's concerns about enough room for all of the contaminated soil remaining. The biopiling would follow exactly the procedures and materials used proposed to OCD by JFJ in a letter to you from Jake Hatcher dated September 16, 2002 a copy of which in enclosed herein.

Please call me if you have any questions or need more information.

Thanks for all of your help and cooperation past and present.

Sincerely,

Phillip C. Nobis
President

Enclosures:

1. Letter to Roger Anderson July 22, 2002
2. Surface Lab Sample Reports County ROW
3. ROW sub-surface lab sample reports
4. North portion of cells 1,2,3,4 sub-surface lab sample reports

Enclosure 1

Letter to Roger Anderson July 22, 2002

TIERRA ENVIRONMENTAL COMPANY, INC.

July 22, 2002

Roger Anderson, Bureau Chief
Environmental Bureau
New Mexico Oil Conservation Division
1220 St. Francis Drive
Santa Fe, New Mexico 87505

RE: TRANSFER OF THE TIERRA CROUCH MESA LANDFARM PERMIT NM-01-0010. NW ¼, SE ¼, Section 2, Township 29 North, Range 12 West, NMPM.

Dear Mr. Anderson:

As you are aware, Tierra Environmental Co., Inc. (TECI) is in the process of selling approximately sixty-six (66) acres of our permitted landfarm facility, identified above to JFJ Landfarm a New Mexico Corporation to be operated by Industrial Eco Systems a Utah Corporation.

It is TECI's intention to have the landfarm permit transferred to JFJ covering the 66 acres identified by the most recent survey which according to Kevin Conner JFJ's attorney is already in your possession. It is further TECI's intention to begin closure of the remaining 17 plus acres also covered under the present OCD permit on the effective date of the real estate closing. That tentative date is July 31, 2002. Closure of the 17 plus acres will be in accordance with the provisions of the permit and with all OCD rules in effect at the time.

If you have any questions or need additional information, please give me a call.

Sincerely,

Phillip C. Nobis
President

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: lnStreem@technet.nm.net

Enclosure 2

Surface Sample Reports County ROW

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

May 13, 2003

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Box 1812
Bloomfield, New Mexico 87413

Client No.: 94074-003

Dear Mr. Nobis,

Enclosed are the analytical results for the four soil samples collected by Tierra Environmental designated personnel on 5/09/03, and delivered to the Envirotech laboratory on 5/09/02 for Total Petroleum Hydorcarbons per USEPA 8015 and BTEX per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 10910 and assigned Laboratory Nos. 25576 (#1), 25577 (#2), 25578 (#3) and 25579 (#4) for tracking purposes.

The samples were analyzed on 5/12/03 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
Lab Coordinator / Environmental Scientist

enclosure

CMW/cmw

C:/files/labreportsTierra/.wpd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	#1	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	05-09-03
Chain of Custody No:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	#2	Date Reported:	05-12-03
Laboratory Number:	25577	Date Sampled:	05-09-03
Chain of Custody No:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Tierra Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	#3	Date Reported:	05-12-03
Laboratory Number:	25578	Date Sampled:	05-09-03
Chain of Custody No:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Tierra Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	#4	Date Reported:	05-12-03
Laboratory Number:	25579	Date Sampled:	05-09-03
Chain of Custody No:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-12-TPH QA/QC	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-12-03
Condition:	N/A	Analysis Requested:	TPH

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

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

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

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**250**	**100.0%**	**75 - 125%**
Diesel Range C10 - C28	**ND**	**250**	**249**	**99.4%**	**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 25576 - 25583.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94070-003
Sample ID:	#1	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	05-09-03
Chain of Custody:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**1.8**
Toluene	**12.1**	**1.7**
Ethylbenzene	**ND**	**1.5**
p,m-Xylene	**ND**	**2.2**
o-Xylene	**ND**	**1.0**
Total BTEX	**12.1**	

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: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94070-003
Sample ID:	#2	Date Reported:	05-12-03
Laboratory Number:	25577	Date Sampled:	05-09-03
Chain of Custody:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94070-003
Sample ID:	#3	Date Reported:	05-12-03
Laboratory Number:	25578	Date Sampled:	05-09-03
Chain of Custody:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**1.8**
Toluene	**28.7**	**1.7**
Ethylbenzene	**ND**	**1.5**
p,m-Xylene	**ND**	**2.2**
o-Xylene	**ND**	**1.0**
Total BTEX	**28.7**	

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94070-003
Sample ID:	#4	Date Reported:	05-12-03
Laboratory Number:	25579	Date Sampled:	05-09-03
Chain of Custody:	10910	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**1.8**
Toluene	**21.0**	**1.7**
Ethylbenzene	**ND**	**1.5**
p,m-Xylene	**ND**	**2.2**
o-Xylene	**38.2**	**1.0**
Total BTEX	**59.2**	

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Tierra Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	05-12-BTEX QA/QC	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-12-03
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	3.7241E-002	3.7353E-002	0.3%	ND	0.2
Toluene	4.4375E-002	4.4464E-002	0.2%	ND	0.2
Ethylbenzene	7.5434E-002	7.5661E-002	0.3%	ND	0.2
p,m-Xylene	6.7602E-002	6.7806E-002	0.3%	ND	0.2
o-Xylene	5.7973E-002	5.8089E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	12.1	11.8	2.5%	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	12.1	50.0	62.0	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.8	99.8%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for samples 25576 - 25583.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

10910

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
Tierra Environmental	Tierra Land Farm	
Sampler:	Client No. 94074-003	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	TPH 8015	BTEX 8021					Remarks
#1	5/9/03	9:35	25576	Soil		✓	✓					
#2	"	9:40	25577			✓	✓					
#3	"	9:45	25578			✓	✓					
#4	"	9:47	25579			✓	✓					

	Date	Time		Date	Time
Relinquished by: (Signature)	5/9/03	10:07	Received by: (Signature)	5/9/03	10:07
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-1 @ 4'	Date Reported:	05-13-03
Laboratory Number:	25580	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-13-03
Preservative:	Cool	Date Digested:	05-12-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.042**	**0.001**	**5.0**
Barium	**9.65**	**0.001**	**100**
Cadmium	**0.006**	**0.001**	**1.0**
Chromium	**0.008**	**0.001**	**5.0**
Lead	**0.001**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.029**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-2 @ 7.5'	Date Reported:	05-13-03
Laboratory Number:	25581	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-13-03
Preservative:	Cool	Date Digested:	05-12-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.054**	**0.001**	**5.0**
Barium	**5.22**	**0.001**	**100**
Cadmium	**0.002**	**0.001**	**1.0**
Chromium	**0.006**	**0.001**	**5.0**
Lead	**0.001**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.036**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

Analyst

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-3 @ 6.5'	Date Reported:	05-13-03
Laboratory Number:	25582	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-13-03
Preservative:	Cool	Date Digested:	05-12-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.053**	**0.001**	**5.0**
Barium	**9.91**	**0.001**	**100**
Cadmium	**0.001**	**0.001**	**1.0**
Chromium	**0.009**	**0.001**	**5.0**
Lead	**0.001**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.032**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-4 @ 6.5'	Date Reported:	05-13-03
Laboratory Number:	25583	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-13-03
Preservative:	Cool	Date Digested:	05-12-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.028**	**0.001**	**5.0**
Barium	**8.87**	**0.001**	**100**
Cadmium	**0.001**	**0.001**	**1.0**
Chromium	**0.002**	**0.001**	**5.0**
Lead	**ND**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.016**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS
Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-13-TM QA/QC	Date Reported:	05-13-03
Laboratory Number:	25580	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	05-13-03
Condition:	N/A	Date Digested:	05-12-03

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.042	0.041	2.4%	0% - 30%
Barium	ND	ND	0.001	9.65	9.62	0.3%	0% - 30%
Cadmium	ND	ND	0.001	0.006	0.006	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.008	0.008	0.0%	0% - 30%
Lead	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.029	0.029	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.042	0.541	99.8%	80% - 120%
Barium	0.500	9.65	10.1	99.5%	80% - 120%
Cadmium	0.500	0.006	0.505	99.8%	80% - 120%
Chromium	0.500	0.008	0.508	100.0%	80% - 120%
Lead	0.500	0.001	0.500	99.8%	80% - 120%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.029	0.528	99.8%	80% - 120%
Silver	0.500	ND	0.499	99.8%	80% - 120%

ND - Parameter not detected at the stated detection limit.

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

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

Comments: **QA/QC for samples 25580 - 25583.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-1 @ 4'	Date Reported:	05-12-03
Laboratory Number:	25580	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-2 @ 7.5'	Date Reported:	05-12-03
Laboratory Number:	25581	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-3 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25582	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-4 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25583	Date Sampled:	05-09-03
Chain of Custody:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Analyzed:	05-12-03
Preservative:	Cool	Date Extracted:	05-10-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments:

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Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	05-12-BTEX QA/QC	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-12-03
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	3.7241E-002	3.7353E-002	0.3%	ND	0.2
Toluene	4.4375E-002	4.4464E-002	0.2%	ND	0.2
Ethylbenzene	7.5434E-002	7.5661E-002	0.3%	ND	0.2
p,m-Xylene	6.7602E-002	6.7806E-002	0.3%	ND	0.2
o-Xylene	5.7973E-002	5.8089E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	1.8
Toluene	12.1	11.8	2.5%	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	12.1	50.0	62.0	99.8%	46 - 148
Ethylbenzene	ND	50.0	49.9	99.8%	32 - 160
p,m-Xylene	ND	100	99.8	99.8%	46 - 148
o-Xylene	ND	50.0	49.9	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for samples 25576 - 25583.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-1 @ 4'	Date Reported:	05-12-03
Laboratory Number:	25580	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-2 @ 7.5'	Date Reported:	05-12-03
Laboratory Number:	25581	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-3 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25582	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-4 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25583	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-12-TPH QA/QC	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-12-03
Condition:	N/A	Analysis Requested:	TPH

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

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

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

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**250**	**100.0%**	**75 - 125%**
Diesel Range C10 - C28	**ND**	**250**	**249**	**99.4%**	**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 25576 - 25583.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-1 @ 4'	Date Reported:	05-12-03
Laboratory Number:	25580	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-2 @ 7.5'	Date Reported:	05-12-03
Laboratory Number:	25581	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-3 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25582	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

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PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental	Project #:	94074-003
Sample ID:	SB-4 @ 6.5'	Date Reported:	05-12-03
Laboratory Number:	25583	Date Sampled:	05-09-03
Chain of Custody No:	10911	Date Received:	05-09-03
Sample Matrix:	Soil	Date Extracted:	05-10-03
Preservative:	Cool	Date Analyzed:	05-12-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments:

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-12-TPH QA/QC	Date Reported:	05-12-03
Laboratory Number:	25576	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-12-03
Condition:	N/A	Analysis Requested:	TPH

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

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

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

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**250**	**100.0%**	**75 - 125%**
Diesel Range C10 - C28	**ND**	**250**	**249**	**99.4%**	**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 25576 - 25583.**

Analyst

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CHAIN OF CUSTODY RECORD

10911

Client / Project Name	Project Location	ANALYSIS / PARAMETERS
Tierra Environmental		
Sampler: Jack	Client No. 94074-003	

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	BTEX + MTBE + TPH gas/diesel	8015 TPH gas/diesel	RCRA Metals				Remarks
SB-1 @ ~~4'~~ 6'	5-9-3	11:00	25580	Soil	1		✓	✓				hold for Metals
SB-2 @ 7.5'		11:25	25581	↓	1		✓	✓				
SB-3 @ 6.5		11:45	25582		1		✓	✓				
SB-4 @ 6.5		12:06	25583		1		✓	✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
C. Jack Collins	5-9-3	1240	[signature]	5/9/03	1240
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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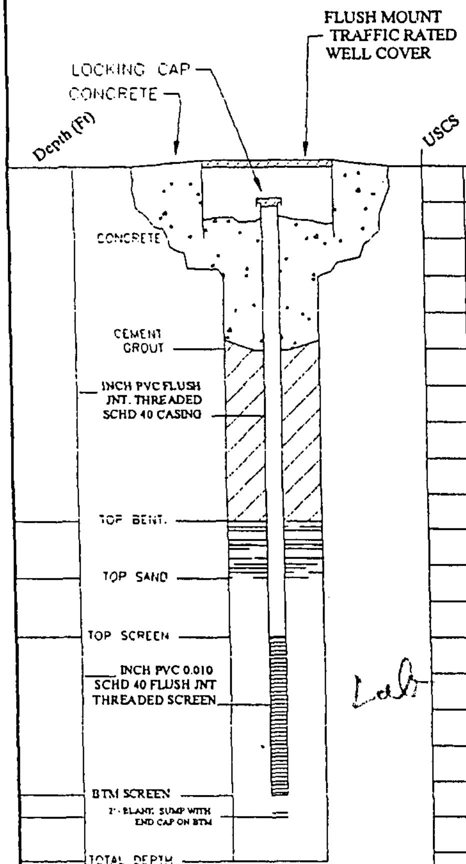
Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

BELOW GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW ______

SB 1



USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
				Fill	
					1
					2
Lab	SS			Clay Red dry semi consolidated	
	SS			no odor	3
				TD = 4.5	

Well Materials Used:

____ Sks 10-12 Silica Sand
____ Sks Bentonite Chips
____ Sks Class "A" Cement
____ Sks Quickcrete
____ Ft Blank Casing
____ Ft Screen

Well Development:

________ Bailed
________ Pumped
________ Gallons of Water

Remarks:

DRILLER: Kelley
HELPER: Thomas
DRILLING COMPANY:
DRILLING METHOD:

BIT SIZE:
TOTAL BORING DEPTH:
DATE STARTED: 05/09/03
SAMPLER TYPE:

LOCATION: Pole #1
ELEVATION:
DATE COMPLETED / /
GEOLOGIST: CJC

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BY ___ DATE ______
BY ___ DATE ______

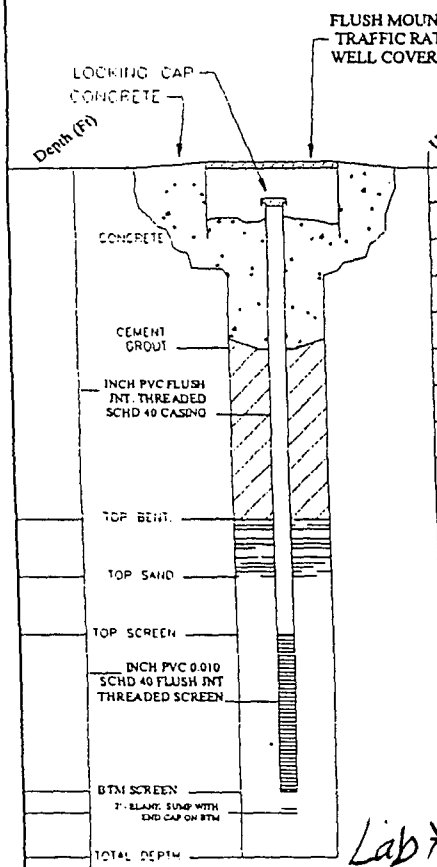
JOB # ______

DATE ______ DRAWN ______
SCALE ______ APPROVED ______
PAGE ___ OF ___

BELOW GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW _____

SB 2



USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
				fill	
				red Clay bedrock @ 4'	4
	SS			Clay Sa. sl v fine - fine yellow tan - dry, firm no odor	7
Lab *	SS				

TD = 7.5'

Well Materials Used:

____ Sks 10-12 Silica Sand
____ Sks Bentonite Chips
____ Sks Class "A" Cement
____ Sks Quickcrete
____ Ft Blank Casing
____ Ft Screen

Well Development:
_____ Bailed
_____ Pumped
_____ Gallons of Water

Remarks:

DRILLER: Kaden
HELPER: Thomas
DRILLING COMPANY: _____
DRILLING METHOD: _____

BIT SIZE: 7 7/8
TOTAL BORING DEPTH: _____
DATE STARTED: 5 19 13
SAMPLER TYPE: SS

LOCATION: Pulett 2
ELEVATION: _____
DATE COMPLETED / /
GEOLOGIST: CJC

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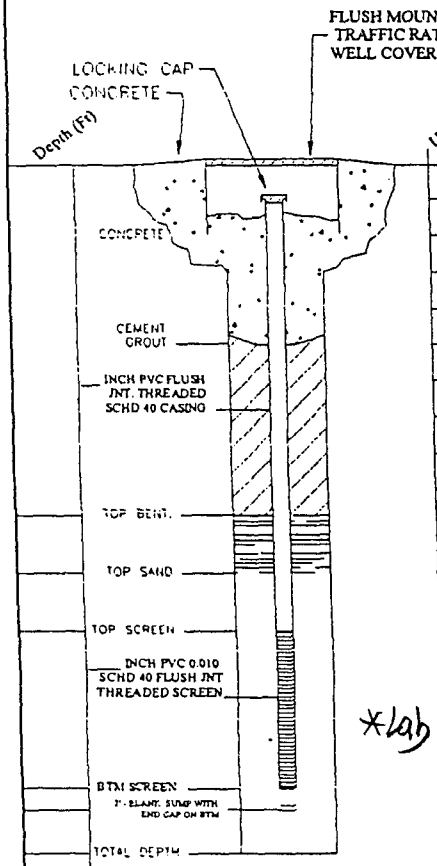
BELOW GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW _____

SB 3



USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
				fill	
	A				2
				Clay Red firm dry no odor	
	A				4
					5
	SS			Clay red/white calachie	
	SS			dry/firm no odor	6
	SS				
	SS				
				TD = 6.5	8

*lab

Well Materials Used:

____ Sks 10-12 Silica Sand
____ Sks Bentonite Chips
____ Sks Class "A" Cement
____ Sks Quickcrete
____ Ft Blank Casing
____ Ft Screen

Well Development:

_____ Bailed
_____ Pumped
_____ Gallons of Water

Remarks:

DRILLER: Kolbey
HELPER: _____
DRILLING COMPANY: _____
DRILLING METHOD: _____

BIT SIZE: _____
TOTAL BORING DEPTH: _____
DATE STARTED: 5 19 13
SAMPLER TYPE: SS

LOCATION: Pole # 3
ELEVATION: _____
DATE COMPLETED / /
GEOLOGIST: CJC

Tierra Land Farm

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Pole #3

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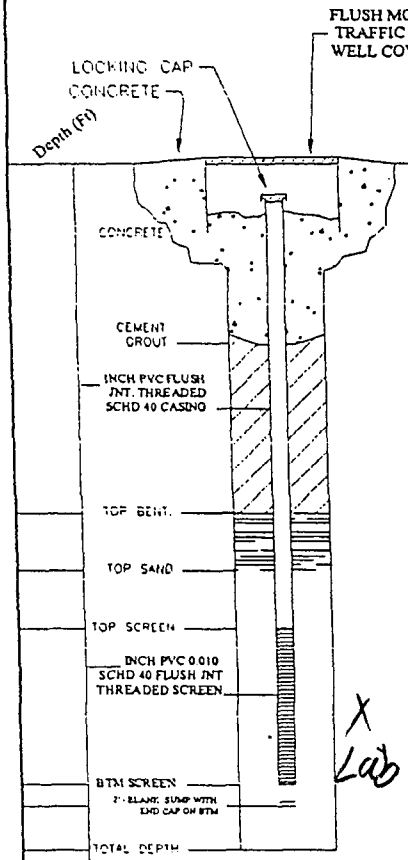
BELOW GRADE WELL COMPLETION DIAGRAM / LITHOLOGY LOG

MW _____

SB 4



USCS	SAMPLE TYPE	HEADSPACE (PPM)	LITHOLOGY	SAMPLE DESCRIPTION	DEPTH (FEET)
				Fill	2
					3
					4
					5
				red clayey dry soft no odor	6
				Clayey Sand semi consolidated yellow tan dry no odor	7
				TD = 6.5	8

Well Materials Used:

____ Sks 10-12 Silica Sand
____ Sks Bentonite Chips
____ Sks Class "A" Cement
____ Sks Quickcrete
____ Ft Blank Casing
____ Ft Screen

Well Development:
_____ Bailed
_____ Pumped
_____ Gallons of Water

Remarks:

DRILLER: Kelly
HELPER: Travis
DRILLING COMPANY: _____
DRILLING METHOD: _____

BIT SIZE: 7 7/8
TOTAL BORING DEPTH: _____
DATE STARTED: 5 19 13
SAMPLER TYPE: _____

LOCATION: Pole 2.5
ELEVATION: _____
DATE COMPLETED 1 1
GEOLOGIST: CJC

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JOB # _____

DATE _____ DRAWN ____
SCALE _____ APPROVED ____

PAGE ____ OF ____

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	Row 1	Date Reported:	05-30-03
Laboratory Number:	25759	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**8.33**	s.u.		
Conductivity @ 25° C	**440**	umhos/cm		
Total Dissolved Solids @ 180C	**218**	mg/L		
Total Dissolved Solids (Calc)	**213**	mg/L		
SAR	**4.9**	ratio		
Total Alkalinity as CaCO3	**96.0**	mg/L		
Total Hardness as CaCO3	**32.0**	mg/L		
Bicarbonate as HCO3	**96.0**	mg/L	1.57	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**1.1**	mg/L	0.02	meq/L
Nitrite Nitrogen	**0.001**	mg/L	0.00	meq/L
Chloride	**20.4**	mg/L	0.58	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**3.5**	mg/L	0.11	meq/L
Sulfate	**54.5**	mg/L	1.13	meq/L
Iron	**0.032**	mg/L	0.00	meq/L
Calcium	**9.12**	mg/L	0.46	meq/L
Magnesium	**2.25**	mg/L	0.19	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**63.8**	mg/L	2.78	meq/L
Cations			3.42	meq/L
Anions			3.41	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: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	Row 2	Date Reported:	05-30-03
Laboratory Number:	25760	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**8.17**	s.u.		
Conductivity @ 25° C	**400**	umhos/cm		
Total Dissolved Solids @ 180C	**200**	mg/L		
Total Dissolved Solids (Calc)	**196**	mg/L		
SAR	**1.3**	ratio		
Total Alkalinity as CaCO3	**92.0**	mg/L		
Total Hardness as CaCO3	**107**	mg/L		
Bicarbonate as HCO3	**92.0**	mg/L	1.51	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.7**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**41.6**	mg/L	1.17	meq/L
Fluoride	**0.12**	mg/L	0.01	meq/L
Phosphate	**1.3**	mg/L	0.04	meq/L
Sulfate	**33.9**	mg/L	0.71	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**15.7**	mg/L	0.78	meq/L
Magnesium	**16.5**	mg/L	1.36	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**30.0**	mg/L	1.31	meq/L
Cations			3.45	meq/L
Anions			3.45	meq/L
Cation/Anion Difference			**0.01%**	

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	Row 3	Date Reported:	05-30-03
Laboratory Number:	25761	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**8.20**	s.u.		
Conductivity @ 25° C	**390**	umhos/cm		
Total Dissolved Solids @ 180C	**196**	mg/L		
Total Dissolved Solids (Calc)	**192**	mg/L		
SAR	**2.9**	ratio		
Total Alkalinity as CaCO3	**64.0**	mg/L		
Total Hardness as CaCO3	**50.0**	mg/L		
Bicarbonate as HCO3	**64.0**	mg/L	1.05	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.6**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**20.0**	mg/L	0.56	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**1.5**	mg/L	0.05	meq/L
Sulfate	**66.4**	mg/L	1.38	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**15.0**	mg/L	0.75	meq/L
Magnesium	**3.02**	mg/L	0.25	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**47.0**	mg/L	2.04	meq/L
Cations			3.04	meq/L
Anions			3.05	meq/L
Cation/Anion Difference			**0.30%**	

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	Row 4	Date Reported:	05-30-03
Laboratory Number:	25762	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**8.24**	s.u.		
Conductivity @ 25° C	**490**	umhos/cm		
Total Dissolved Solids @ 180C	**242**	mg/L		
Total Dissolved Solids (Calc)	**257**	mg/L		
SAR	**3.9**	ratio		
Total Alkalinity as CaCO3	**88.0**	mg/L		
Total Hardness as CaCO3	**59.6**	mg/L		
Bicarbonate as HCO3	**88.0**	mg/L	1.44	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**52.0**	mg/L	1.47	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**1.0**	mg/L	0.03	meq/L
Sulfate	**59.8**	mg/L	1.25	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**17.1**	mg/L	0.85	meq/L
Magnesium	**4.10**	mg/L	0.34	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**69.0**	mg/L	3.00	meq/L
Cations			4.19	meq/L
Anions			4.19	meq/L
Cation/Anion Difference			**0.11%**	

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

May 30, 2003

Mr. Phil Nobis
Tierra Environmental Services, Inc.
P.O. Box 1812
Bloomfield, New Mexico 87413

Client No.: 94074-030

Dear Mr. Nobis,

Enclosed are the analytical results for the twelve soil samples that were collected by Tierra Environmental Company personnel on 5/28/03, and delivered to the Envirotech laboratory on 5/28/03 for RCRA list 8 Metals, Cation / Anion, Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA Method 8021 analysis.

The samples were documented on Envirotech Chain of Custody Nos. 10960 and were assigned Laboratory Nos. 25755 (LF 1), 25756 (LF 2), 25757 (LF 3), 25758 (LF 4), 25759 (Row 1), 25760 (Row 2), 25761 (Row 3), 25762 (Row 4), 25763 (LF 1a), 25764 (LF 2a), 25765 (LF 3a) and 25766 (LF 4a) for tracking purposes.

The samples were analyzed 5/30/03 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
Lab Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/chev/Tierra.wpd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 1a	Date Reported:	05-30-03
Laboratory Number:	25763	Date Sampled:	05-28-03
Chain of Custody No:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Crouch Mesa Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 2a	Date Reported:	05-30-03
Laboratory Number:	25764	Date Sampled:	05-28-03
Chain of Custody No:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 3a	Date Reported:	05-30-03
Laboratory Number:	25765	Date Sampled:	05-28-03
Chain of Custody No:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 4a	Date Reported:	05-30-03
Laboratory Number:	25766	Date Sampled:	05-28-03
Chain of Custody No:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-30-TPH QA/QC	Date Reported:	05-30-03
Laboratory Number:	25763	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-30-03
Condition:	N/A	Analysis Requested:	TPH

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

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

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

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for samples 25763 - 25766, 25770 - 25771.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 1a	Date Reported:	05-30-03
Laboratory Number:	25763	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Digested:	05-29-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.081**	**0.001**	**5.0**
Barium	**7.87**	**0.001**	**100**
Cadmium	**0.022**	**0.001**	**1.0**
Chromium	**0.012**	**0.001**	**5.0**
Lead	**0.006**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.036**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 2a	Date Reported:	05-30-03
Laboratory Number:	25764	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Digested:	05-29-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.072**	**0.001**	**5.0**
Barium	**6.92**	**0.001**	**100**
Cadmium	**0.017**	**0.001**	**1.0**
Chromium	**0.008**	**0.001**	**5.0**
Lead	**0.004**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.028**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 3a	Date Reported:	05-30-03
Laboratory Number:	25765	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Digested:	05-29-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.074**	**0.001**	**5.0**
Barium	**7.23**	**0.001**	**100**
Cadmium	**0.019**	**0.001**	**1.0**
Chromium	**0.013**	**0.001**	**5.0**
Lead	**0.006**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.032**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 4a	Date Reported:	05-30-03
Laboratory Number:	25766	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Digested:	05-29-03
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	**0.083**	**0.001**	**5.0**
Barium	**7.36**	**0.001**	**100**
Cadmium	**0.024**	**0.001**	**1.0**
Chromium	**0.011**	**0.001**	**5.0**
Lead	**0.005**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**0.044**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS
Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	05-30-TM QA/QC	Date Reported:	05-30-03
Laboratory Number:	25750	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	05-30-03
Condition:	N/A	Date Digested:	05-29-03

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.111	0.113	1.8%	0% - 30%
Barium	ND	ND	0.001	15.5	15.4	0.6%	0% - 30%
Cadmium	ND	ND	0.001	0.096	0.095	0.0%	0% - 30%
Chromium	ND	ND	0.001	1.83	1.81	1.1%	0% - 30%
Lead	ND	ND	0.001	1.66	1.65	0.6%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.069	0.066	4.3%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.111	0.610	99.8%	80% - 120%
Barium	0.500	15.5	16.0	100.0%	80% - 120%
Cadmium	0.500	0.096	0.593	99.5%	80% - 120%
Chromium	0.500	1.83	2.31	99.1%	80% - 120%
Lead	0.500	1.66	2.15	99.5%	80% - 120%
Mercury	0.050	ND	0.049	98.0%	80% - 120%
Selenium	0.500	0.069	0.566	99.5%	80% - 120%
Silver	0.500	ND	0.499	99.8%	80% - 120%

ND - Parameter not detected at the stated detection limit.

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

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

Comments: **QA/QC for samples 25750, 25763 - 25766.**

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CHAIN OF CUSTODY RECORD

10960

p. 1 of 2

Client / Project Name	Project Location
Tierra Environmental Co.	Crouch Mesa Land Farm
Sampler: Phil Nabis	Client No. 94074-003

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	Cat/Anion	TPH 8015	BTEX 8021	VOC Metals			Remarks
LF 1	5/28/03	12:30P	25755	Soil	1	✓						
LF 2		12:11P	25756		1	✓						
LF 3		12:00P	25757		1	✓						
LF 4		11:10A	25758		1	✓						
Row 1		10:00A	25759		1	✓						
Row 2		11:15A	25760		1	✓						
Row 3		11:30A	25761		1	✓						
Row 4		11:45A	25762		1	✓						
LF 1a, ~~Dup~~		12:30P/~~Dup~~	25763		1		✓	✓	✓			
LF 2a, ~~Dup~~		12:10P/~~Dup~~	25764		1		✓	✓	✓			

ANALYSIS / PARAMETERS

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Phil Nabis	5/28/03	2:05PM			
Relinquished by: (Signature)			Received by: (Signature)		
	5/28/03	2:25PM		5/28/03	14:25
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

~~10964~~ 10960
p. 2 of 2

CHAIN OF CUSTODY RECORD

Client / Project Name	Project Location
Tierra Environmental CO,	C Roach Mesa Land Farm
Sampler: Phil Nobis	Client No. 94074-003

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	8015 TPH	8021 BTEX	WQCC (RCRA) Metals				Remarks
LF 3a	5/28/03	12:00	35765	Soil	1	✓	✓	✓				
LF 4a	"	11:10A	35766	"	1	✓	✓	✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Phil Nobis	5/28/03	2:05P			
Relinquished by: (Signature) [signature]	"	2:25P	Received by: (Signature) [signature]	5/28/03	14:25
Relinquished by: (Signature)			Received by: (Signature)		

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Farmington, New Mexico 87401
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Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 1	Date Reported:	05-30-03
Laboratory Number:	25755	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.68**	s.u.		
Conductivity @ 25° C	**460**	umhos/cm		
Total Dissolved Solids @ 180C	**228**	mg/L		
Total Dissolved Solids (Calc)	**231**	mg/L		
SAR	**4.4**	ratio		
Total Alkalinity as CaCO3	**100**	mg/L		
Total Hardness as CaCO3	**42.0**	mg/L		
Bicarbonate as HCO3	**100**	mg/L	1.64	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.9**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**25.6**	mg/L	0.72	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**2.5**	mg/L	0.08	meq/L
Sulfate	**58.9**	mg/L	1.23	meq/L
Iron	**0.004**	mg/L	0.00	meq/L
Calcium	**16.8**	mg/L	0.84	meq/L
Magnesium	**<0.01**	mg/L	0.00	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**65.2**	mg/L	2.84	meq/L
Cations			3.67	meq/L
Anions			3.68	meq/L
Cation/Anion Difference			**0.17%**	

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

Comments: **Crouch Mesa Land Farm.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 2	Date Reported:	05-30-03
Laboratory Number:	25756	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.88**	s.u.		
Conductivity @ 25° C	**480**	umhos/cm		
Total Dissolved Solids @ 180C	**240**	mg/L		
Total Dissolved Solids (Calc)	**227**	mg/L		
SAR	**2.5**	ratio		
Total Alkalinity as CaCO3	**128**	mg/L		
Total Hardness as CaCO3	**82.4**	mg/L		
Bicarbonate as HCO3	**128**	mg/L	2.10	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.5**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**36.4**	mg/L	1.03	meq/L
Fluoride	**0.48**	mg/L	0.03	meq/L
Phosphate	**1.4**	mg/L	0.04	meq/L
Sulfate	**32.7**	mg/L	0.68	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**17.1**	mg/L	0.85	meq/L
Magnesium	**9.67**	mg/L	0.80	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**51.4**	mg/L	2.24	meq/L
Cations			3.88	meq/L
Anions			3.88	meq/L
Cation/Anion Difference			**0.05%**	

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 3	Date Reported:	05-30-03
Laboratory Number:	25757	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.94**	s.u.		
Conductivity @ 25° C	**390**	umhos/cm		
Total Dissolved Solids @ 180C	**194**	mg/L		
Total Dissolved Solids (Calc)	**193**	mg/L		
SAR	**3.1**	ratio		
Total Alkalinity as CaCO3	**72.0**	mg/L		
Total Hardness as CaCO3	**46.8**	mg/L		
Bicarbonate as HCO3	**72.0**	mg/L	1.18	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.5**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**18.0**	mg/L	0.51	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**1.7**	mg/L	0.05	meq/L
Sulfate	**63.6**	mg/L	1.32	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**12.6**	mg/L	0.63	meq/L
Magnesium	**3.71**	mg/L	0.31	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**49.0**	mg/L	2.13	meq/L
Cations			3.07	meq/L
Anions			3.07	meq/L
Cation/Anion Difference			**0.20%**	

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 4	Date Reported:	05-30-03
Laboratory Number:	25758	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil Extract	Date Extracted:	05-29-03
Preservative:	Cool	Date Analyzed:	05-30-03
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	**7.95**	s.u.		
Conductivity @ 25° C	**490**	umhos/cm		
Total Dissolved Solids @ 180C	**240**	mg/L		
Total Dissolved Solids (Calc)	**260**	mg/L		
SAR	**3.4**	ratio		
Total Alkalinity as CaCO3	**76.0**	mg/L		
Total Hardness as CaCO3	**69.6**	mg/L		
Bicarbonate as HCO3	**76.0**	mg/L	1.25	meq/L
Carbonate as CO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as OH	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.1**	mg/L	0.00	meq/L
Nitrite Nitrogen	**<0.001**	mg/L	0.00	meq/L
Chloride	**60.0**	mg/L	1.69	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**1.2**	mg/L	0.04	meq/L
Sulfate	**62.2**	mg/L	1.30	meq/L
Iron	**<0.001**	mg/L	0.00	meq/L
Calcium	**18.1**	mg/L	0.90	meq/L
Magnesium	**5.96**	mg/L	0.49	meq/L
Potassium	**<0.01**	mg/L	0.00	meq/L
Sodium	**66.2**	mg/L	2.88	meq/L
Cations			4.27	meq/L
Anions			4.27	meq/L
Cation/Anion Difference			**0.01%**	

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 1a	Date Reported:	05-30-03
Laboratory Number:	25763	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Extracted:	05-29-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 2a	Date Reported:	05-30-03
Laboratory Number:	25764	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Extracted:	05-29-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 3a	Date Reported:	05-30-03
Laboratory Number:	25765	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Extracted:	05-29-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Tierra Environmental Co.	Project #:	94074-003
Sample ID:	LF 4a	Date Reported:	05-30-03
Laboratory Number:	25766	Date Sampled:	05-28-03
Chain of Custody:	10960	Date Received:	05-28-03
Sample Matrix:	Soil	Date Analyzed:	05-30-03
Preservative:	Cool	Date Extracted:	05-29-03
Condition:	Cool & Intact	Analysis Requested:	BTEX

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

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Crouch Mesa Land Farm.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	05-30-BTEX QA/QC	Date Reported:	05-30-03
Laboratory Number:	25763	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	05-30-03
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	3.7241E-002	3.7353E-002	0.3%	ND	0.2
Toluene	4.4375E-002	4.4464E-002	0.2%	ND	0.2
Ethylbenzene	7.5434E-002	7.5661E-002	0.3%	ND	0.2
p,m-Xylene	6.7602E-002	6.7806E-002	0.3%	ND	0.2
o-Xylene	5.7973E-002	5.8089E-002	0.2%	ND	0.1

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

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

ND - Parameter not detected at the stated detection limit.

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

Comments: **QA/QC for samples 25763 - 25766.**

Analyst

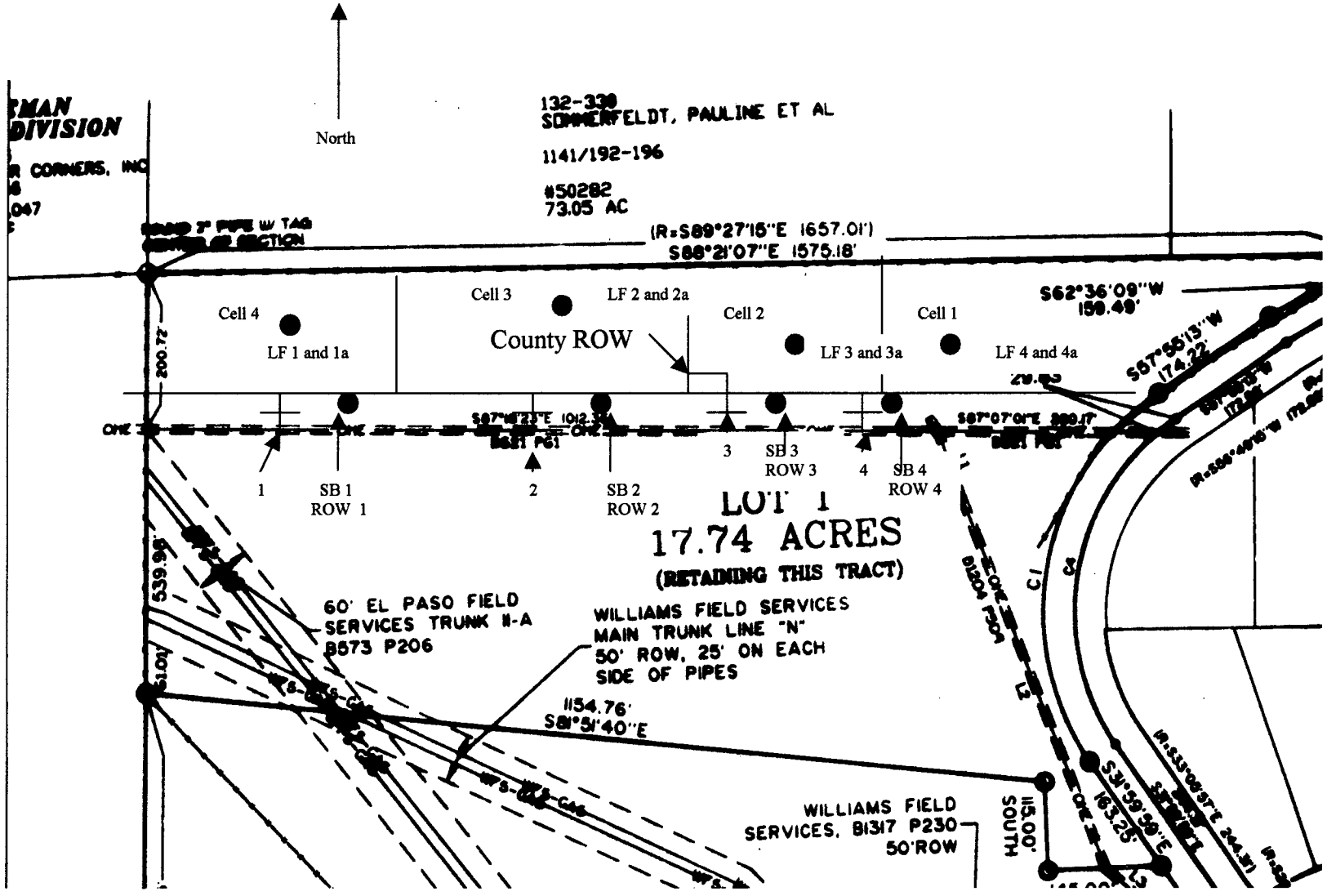
Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

Enclosure 3

Sub-Surface Sample Reports County ROW

Cells 1,2,3,4,



County ROW Surface and Sub-surface sample locations
Tierra Crouch Mesa Landfarm Cells 1-4 sub-surface locations

Indicates 4 point surface Composite sample

Indicates sub-surface sample 2' depth

RECEIVED
SEP 18 2002
Environmental Bureau
Oil Conservation Division

JFJ Landfarm L.L.C.

P.O. Box 2043
Farmington N.M. 87499
(505) 632-1782

September 16, 2002

N.M. Oil Conservation Division
1220 South St Francis Drive
Santa Fe, N.M. 87505

Attn: Ms Martyne Kieling

Dear Ms Kieling:

Please find enclosed a C137 requesting a minor modification to the JFJ Landfarm L.L.C. NMOCD NM-01-0010B Permit. We are requesting a modification to the existing permit to allow the use of the composting process in cells # 11 and #12. These two cells are located adjacent to the BP facility as shown in figure 3. These two cells were selected because they are the greatest distance from the existing housing along County Road 3100 in order to minimize any concerns about odor or truck traffic. Also we are requesting permission to reconfigure the cell layout of the entire landfarm as reflected in the attachment Figure 3. This change is necessary in order to comply with the NMOCD requirement that the cells be no larger than 5 acres. The composting process we are proposing to use would be as follows: An organic amendment composed of straw, wood chips and animal manure would be mixed with the hydrocarbon stained soil at a ratio of one part organic amendment to four parts hydrocarbon stained soil. Then the carbon/nitrogen ratio of the mix will be adjusted to 30:1 by mixing in cotton seed meal, or other organic nitrogen. The moisture content will be adjusted to 25%, then the mix will be manicured into a biopile large enough to accommodate the material, a trench will then be excavated along the top of the biopile and indigenous microbes will applied at a rate of 2 gallons per cubic yard of material. The bioplie will be confined by an earthen berm two feet high to prevent runoff and/or cross contamination. The temperature of the biopile will be monitored. The bioplie will be turned as needed with a wheeled mounted loader or excavator to prevent the pile from overheating and to provide air/oxygen. After the material has been remediated to a point that an EPA certified lab determines that the material has reached acceptable levels, the documentation will be provided to the NMOCD, and if approved the material will be placed into a clean stockpile for reuse. If you need additional information you may reach me at: 970-254-1641 office, or 970-640-1608 cell phone.
Thanks in advance.

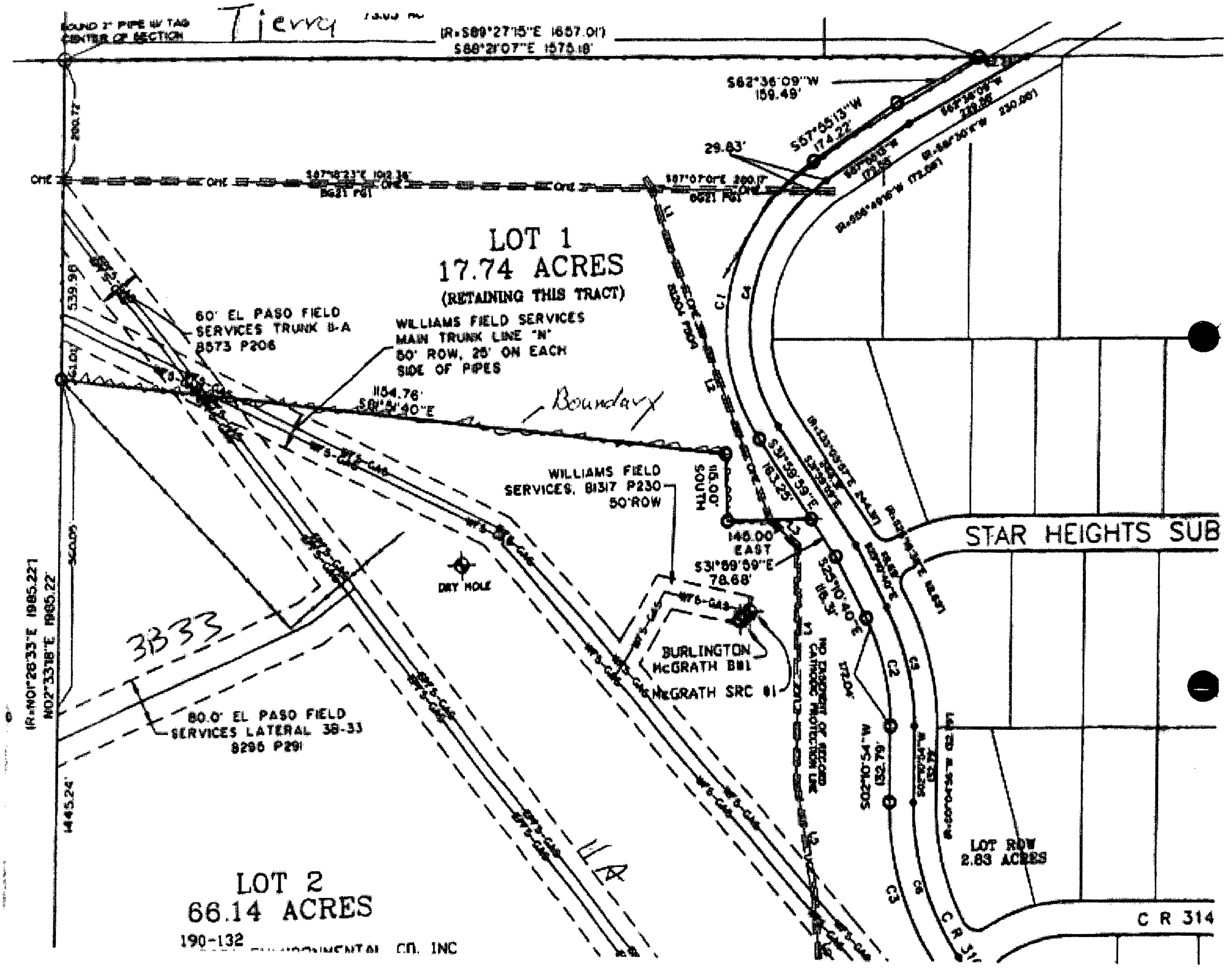
Sincerely

James (Jake) Hatcher
Manager JFJ Landfarm L.L.C

Kieling, Martyne

From: Foust, Denny
Sent: Wednesday, May 28, 2003 6:28 AM
To: Kieling, Martyne
Subject: Tierra Land Farm

It appears the county is once again moving dirt, they are taking contaminated dirt from north of the new roadway and dumping it on the remaining land farm property with earth movers or possibly belly dumps, it appears to be crossing that gas line running diagonally across the west half of the property. Inspected at 6:30 AM before any county road operations had started up. The county is paving the road on the east edge of Tierra and JFJ as well as bldg the connection to CR 3500. I am going to the H2S meting which starts at 09:00


FOUND 2" PIPE W/ TAG CENTER OF SECTION
Tierra
(R=S89°27'15"E 1657.01')
S88°21'07"E 1575.18'
S62°36'09"W 159.49'
S57°55'13"W 174.22'
29.83'
200.72'
S87°18'23"E 1013.36' B621 P61
S87°07'01"E 200.17' B621 P61
LOT 1
17.74 ACRES
(RETAINING THIS TRACT)
539.98'
61.01'
60' EL PASO FIELD SERVICES TRUNK B-A B573 P206
WILLIAMS FIELD SERVICES MAIN TRUNK LINE "N" 50' ROW, 25' ON EACH SIDE OF PIPES
1154.76'
S81°51'40"E
Boundary
WILLIAMS FIELD SERVICES, B1317 P230 50'ROW
115.00' SOUTH
146.00' EAST
S31°59'59"E 163.25'
S31°59'59"E 78.68'
S25°10'40"E 118.31'
DRY HOLE
BURLINGTON McGRATH B#1
McGRATH SRC #1
NO EASEMENT OF RECORD CATHODIC PROTECTION LINE
S02°10'54"W 132.79'
172.04'
STAR HEIGHTS SUB
LOT ROW 2.83 ACRES
C R 314
C1
C2
C3
3B33
80.0' EL PASO FIELD SERVICES LATERAL 3B-33 B295 P291
(R=N01°26'33"E 1985.22')
N02°33'18"E 1985.22'
560.05'
1445.24'
LOT 2
66.14 ACRES
190-132

Kieling, Martyne

From: Phil Nobis [phil@instreem.net]
Sent: Tuesday, May 13, 2003 10:19 AM
To: Kieling, Martyne
Subject: RWO Fiasco

Martyne,

Left a voice mail for you, but just in case you didn't get it, the surface samples from the ROW came back ND 80-15 TPH and 12.1 ppb, ND, 21 ppb and 28 ppb toluene. Every thing else was ND. Analysis of sub surface samples has not been completed yet. re: the sub surface samples, we had Envirotechs drill take the samples and their Tec Jack Collins collected the samples and took them to their lab. We got into the red clay which is the native surface about two feet. They all looked clean. But we will see. I have stopped all work on the ROW until the sub surface samples results come. The contractor did finish cleaning off the north side. So I am going to take sub surface samples from the four cells or that part of them. If they come back clean too, I will request closure of the ROW as well as that section of the landfarm north of the ROW.

Thanks,

PCN

NEW MEXICO ENERGY, MINERALS and
NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

November 25, 2002

CERTIFIED MAIL
RETURN RECEIPT NO. 7001-1940-0004-3929-8218

Mr. Phillip C. Nobis
Tierra Environmental Company, Inc.
P.O. Box 1812
Bloomfield, New Mexico 87413

RE: San Juan County Road Construction within the
Tierra Environmental Company, Inc. Tract "A" Landfarm
OCD Permit NM-01-0010A
NW/4 SE/4, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico

Dear Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) has received from Tierra Environmental Company, Inc. (Tierra) e-mail notification and a map dated September 5, 2002 and supplemental material dated September 25, 2002 regarding the San Juan County road construction project through the middle of the existing Tract "A" Landfarm. The OCD has reviewed this material and acknowledges the construction of the county road across the surface waste management facility and the need to move the location of the contaminated soil material to previously unused portions of the Tract "A" Landfarm.

Tierra must follow all construction, operation, monitoring and reporting as specified in the permit conditions dated August 19, 2002. Tierra must also follow the plan described in the September 25, 2002 letter for moving the contaminated soil and sampling the road right-of-way. Tierra must also commit to the following items.

1. Soil samples must be taken from beneath the former landfarm cells that are located in the area to be included in the roadway. The soils must be analyzed for TPH, BTEX, major cations/anions and WQCC NMAC 20.6.2.3103 metals.The samples must be analyzed using EPA-approved methods.

2. Analytical results from the roadway area must be submitted to the OCD Santa Fe and Aztec district offices for review within 30 days of receipt from the laboratory. A map of the Tract "A" Landfarm showing the sample locations must be included with the

sample results.

3. All portions of the Tract "A" Landfarm containing contaminated soil must be fenced.

4. All portions of the Tract "A" Landfarm containing contaminated soil must be bermed to contain any runoff. Berms must also be constructed to prevent run-off from the county roadway onto the landfarm.

5. Any ponding of precipitation on the landfarm must be removed within 72 hours of discovery.

6. Lift thickness of contaminated soils may not exceed 10 inches.

Tierra Environmental Company, Inc. is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Please be advised approval of the facility reorganization and county road construction does not relieve Tierra Environmental Company, Inc. of liability should your operation result in actual pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Tierra Environmental Company, Inc. of responsibility for compliance with other federal, state or local laws and/or regulations.

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 476-3488.

Sincerely,

Lori Wrotenbery

Lori Wrotenbery
Director

LW/mjk

xc with attachments:
Aztec OCD Office

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 23, 2002

Mr. Phillip C. Nobis
Tierra Environmental Company, Inc.
P.O. Box 1812
Bloomfield, New Mexico 87413

RE: Notification of County Road Construction Within Tiera Environmental Company, Inc. Tract "A" Landfarm

Dear Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) has received Tierra Environmental Company, Inc's. (Tierra) e-mail notification and map regarding the San Juan County road construction project through the middle of the existing Tract "A" Landfarm. In order to evaluate the impact of this project on the facility permit NM-01-0010A, the OCD requires Tierra to review the following and submit some additional information:

1. The map submitted is hard to read and does not contain a legend. What part of the county road is newly proposed and what part exists?
2. Please outline or highlight the Tract "A" landfarm area.
3. Please show on the map the cells where the ride-of-way contaminated soils will be relocated.
4. Please supply the history of the relocation cells as to empty or remediated and the date as to when the cells were approved for an additional lift.
5. Permit condition number four under Landfarm Operation must be met. "4. Soils and stabilized bottoms, sludge and mud must be spread on the surface in ten (10) inch lifts or less."
6. Please show which cells will be affected by the county road right-of-way.
7. Upon removal of the contaminated soil along the planned county road ride-of-way Tierra must take sub-surface samples to be analyzed for total petroleum hydrocarbons (TPH), volatile aromatic organics (BTEX), major cations/anions and Water Quality Control Commission (WQCC) metals. The samples shall be analyzed using EPA-approved methods. The OCD will compare these sample results to original background sample analysis that is on file.
8. A minimum of one random soil sample should be taken from each cell that was disturbed.

9. Please submit a revised landfarm map that will show where and how Tierra will reconstruct berms to contain runoff and run on and where fences and locking entrance gates will be located.

If you have any questions while preparing your response please e-mail or call me at 505-476-3488. In addition, please send a copy of your response to the OCD Aztec District office.

Sincerely,

Martyne J. Kieling
Environmental Geologist

xc with attachments:
Aztec OCD Office

TIERRA ENVIRONMENTAL COMPANY, INC.

Environmental Bureau
Oil Conservation Division
OCT 10 2002
RECEIVED

September 25, 2002

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

RE: **Notification of County Road Construction Within Tierra Environmental Company, inc. Tract "A" Landfarm, request for additional information.**

Dear Ms Kieling:

Enclosed herewith please find a revised map of Tract "A: indicating the right-of-way. The proposed county road is all new construction. The cells have been drawn in. Presently there are existing roads through the south part of Tract "A" and what was previously identified as the "Staging Area" that presently contains no soil. The soil removed from the new right-of-way will be moved to that existing roadway and staging area for remediation and spread in the appropriate 10" lift thickness. It will not be placed over soils in existing cells. Therefore you question re: the cells history does not apply. I have drawn in the existing roadways and staging area to be used and it identifies what cells will be involved.

Upon the right-of-way we will collect sub-surface samples and have them analyzed for TPH, BTEX, major cat ions/anions and WQCC metals.

The existing berm and containment area will remain in place on the north side of the property. A culvert will channel any runoff under the new county road and into the containment area. The south side of the new road will be fenced. No entrances to the landfarm will be affected.

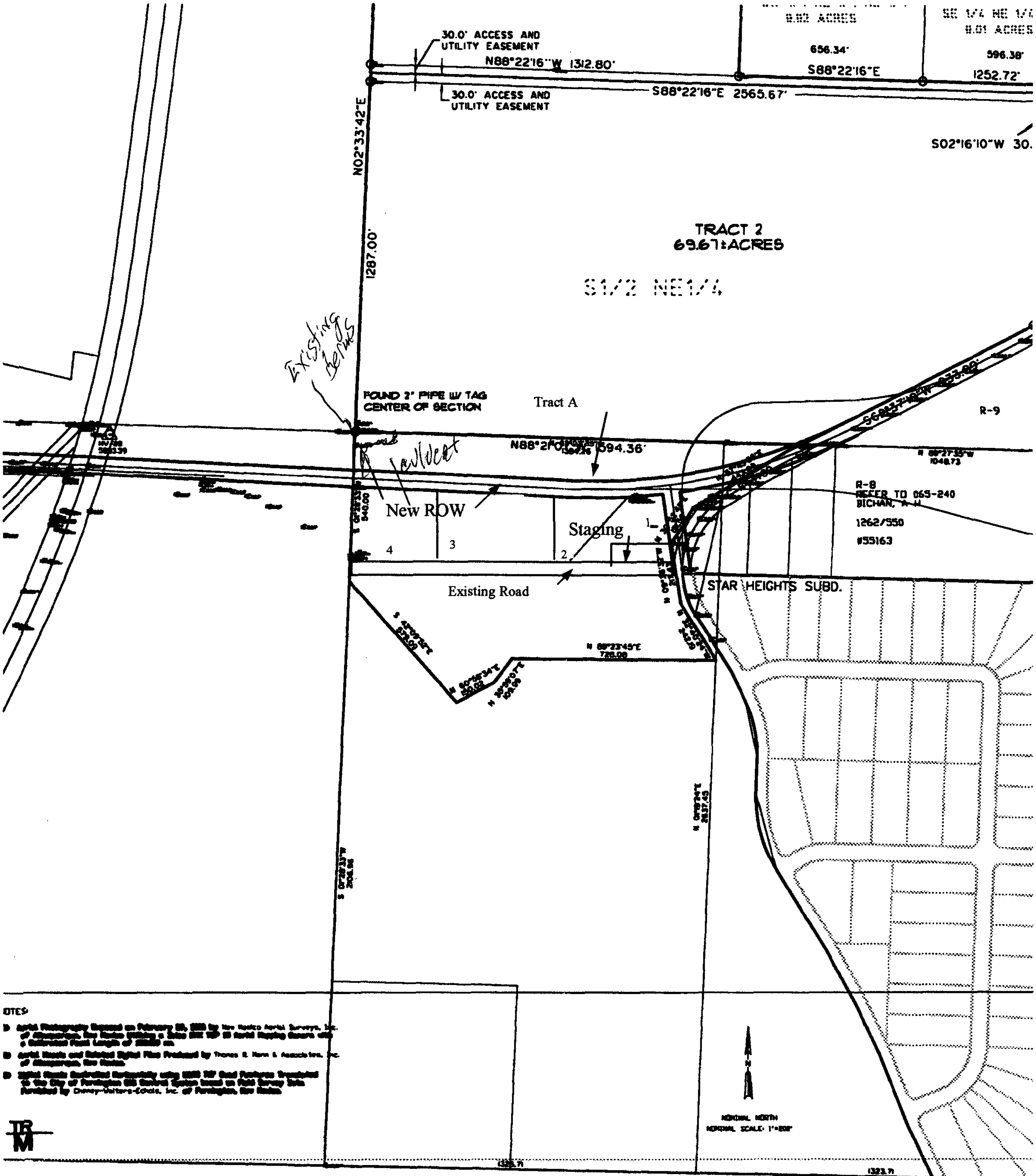
Please call me if you have any additional questions.

Sincerely,

Phillip C. Nobis
President

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: InStreem@technet.nm.net



30.0' ACCESS AND UTILITY EASEMENT
N88°22'16"W 1312.80'
30.0' ACCESS AND UTILITY EASEMENT
S88°22'16"E 2565.67'
656.34'
S88°22'16"E
SE 1/4 NE 1/4
596.38'
1252.72'
S02°16'10"W 30.
N02°33'42"E
1287.00'
TRACT 2
69.67±ACRES
S1/2 NE1/4
Existing Berms
FOUND 2" PIPE W/ TAG
CENTER OF SECTION
Tract A
N88°21'0 594.36'
culvert
New ROW
Staging
R-9
R-8
REFER TO 065-240
1262/350
#55163
4
3
2
1
Existing Road
STAR HEIGHTS SUBD.
N 89°23'45"E
728.00
NOMINAL NORTH

1" = 300'

Kieling, Martyne

From: Anderson, Roger
Sent: Thursday, September 05, 2002 2:48 PM
To: Kieling, Martyne
Subject: FW: Tierra Landfarm

-----Original Message-----
From: Darrin Church [mailto:darrin@instreem.net]
Sent: Thursday, September 05, 2002 2:06 PM
To: RCANDERSON@state.nm.us
Subject: Tierra Landfarm

Dear Roger:

San Juan County is acquiring a Right of Way across the top of our piece of property as part of an ongoing road project on Crouch Mesa. This project will benefit county residents by creating an east/west road over the mesa. No such road exists at this time.

The county will be moving approximately 200 feet of dirt to other areas of the Landfarm for remediation. We will submit sub-surface samples for OCD approval after the dirt is removed.

I have attached the county's survey showing the new road and it's location on the Landfarm. ✓ Not Attached

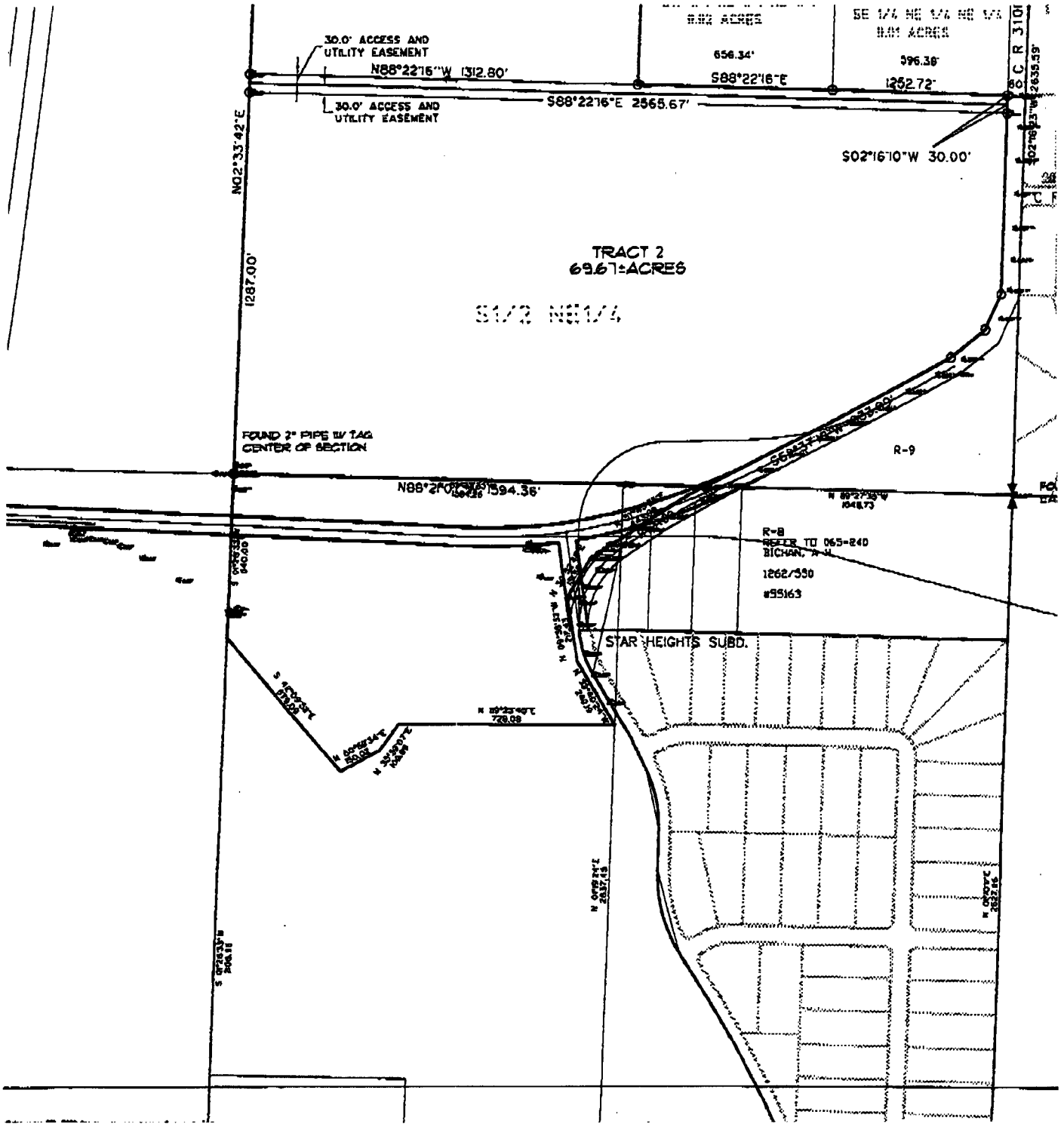
If you have any questions or need more information please contact me by email or at 505-632-3005.

Sincerely,

Darrin Church
VP/CFO Tierra Environmental Company

Called and left message 9-9-02 mjk

Received Fax Map on 9-9-02 mjk


30.0' ACCESS AND UTILITY EASEMENT
N88°22'16"W 1312.80'
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S88°22'16"E 2565.67'
S02°16'10"W 30.00'
C R 310
N02°33'42"E
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TRACT 2
69.67±ACRES
S1/2 NE1/4
FOUND 2" PIPE W/ TAG CENTER OF SECTION
N88°27'08"E 1594.36'
R-9
R-8
REFER TO 065-240
BICHAN, A-H
1262/550
#55163
STAR HEIGHTS SUBD.

FAX TRANSMISSION

TIERRA ENVIRONMENTAL CO., INC.
PO Box 1812
BLOOMFIELD, NEW MEXICO 87413

Phone 505-632-3005 Fax 505-632-2815
e-mail darrin@instreem.net

Date:	**September 23, 2002**
To:	**Martyne Kieling**
From:	**Jon Nobis**
Fax Number:	505-827-8177
Pages (including cover)	2

7-15-02
Plowed upper half

7-17-02
Plowed lower half

7-29-02
Plowed upper half

8-8-02
Plowed Farm

8-22-02
Plowed Farm

9-5-02
Plowed Farm

9-23-02
Plowed Farm

P. 01

TRANSACTION REPORT

SEP-23-2002 MON 03:44 PM

FOR:

RECEIVE

DATE	START	SENDER	RX TIME	PAGES	TYPE	NOTE	M#	DP
SEP-23	03:43 PM		1'19"	2	RECEIVE	OK		

Kieling, Martyne

From: Phil Nobis [phil@instreem.net]
Sent: Thursday, September 19, 2002 7:23 AM
To: Kieling, Martyne
Subject: Re: Landfarm Permit

Thanks Martyne. It all makes sense now. Relative to the farm not being tilled. It's a bogus report. It presently has been about two weeks since it was tilled. But as usual and please feel free to check out my claim, it has rained cats and dogs here for the past three days making it impossible to till at this time. As soon as it's safe and practical we will continue to till the landfarm on schedule. As soon as I can get together with Jon, I will forward the tilling report for the past three months. If the report of our failure to till has anything to do with a Phase I and II Assessment Report by Blagg Engineering, he will soon be the subject of litigation for his false and damaging claims re: all of the landfarm prior to the sale.

Thanks,

PCN

----- Original Message -----
From: Kieling, Martyne
To: 'Phil Nobis' ; 'darrin@instreem.net'
Cc: Foust, Denny ; Anderson, Roger
Sent: Wednesday, September 18, 2002 4:22 PM
Subject: RE: Landfarm Permit

Phil,

Please excuse the format of this response I just went through your questions item by item. This was the quickest way to respond.

The Permit is supposed to be a replica to the one Tierra had previously dated September 21, 1999 only shrinking it back to the original Tract A Size that is the reason for some of the items regarding waste acceptance.

We have received your letter regarding closure and according to the permit it is understood that Tierra will not be accepting any new material.

2. A closure plan to include the following closure procedures will be submitted to the OCD for approval:

a. **When the facility is to be closed no new material will be accepted.**

b. The soils beneath the sludge/mud receiving and treatment area and landfarm will be characterized as to total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) content to determine potential migration of contamination.

c. All above and below grade tanks will be emptied and any waste will be hauled to an OCD-approved facility. The empty tanks will be removed.

d. Contaminated soils or existing landfarm soils will be remediated until they meet the OCD standards in effect at the time of closure or removed to an OCD-approved facility.

e. The area will be contoured, seeded with native grasses and allowed to return to its natural state. If the landowner desires to keep existing structures, berms, or fences for future alternative uses the structures, berms, or fences may be left in place.

f. Closure will be pursuant to all OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

The Permit reference that has JFJ listed is a Type-o that we did not catch, however, Denny found it after it went out and I have made a note in the file.

5. JFJ Landfarm L.L.C. must notify the **OCD Aztec District office within 24 hours** of any fire, break, leak, spill, blowout or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

It should read :
5. Tierra must notify the **OCD Aztec District office within 24 hours** of any fire, break, leak, spill, blowout or any other circumstance that could constitute a hazard or contamination in accordance with OCD Rule 116.

Please note in the first paragraph of the Permit cover letter it recognizes the closure of Tierra.

"The application consists of the letter dated July 22, 2002 requesting transfer of Tract "B" to JFJ Landfarm L.L.C. and approval for Tierra Environmental Company, Inc. to hold Tract "A" and begin closure procedures."

I hope this explanation helps. If not please let me know and I will work with you.

ADDITIONAL ITEMS:

The OCD Santa Fe office has received a report that the Tierra Landfarm has not been tilled according to the permit schedule.

5. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants. ...

Please submit the records kept regarding the date of tilling for all cells within the Tract A landfarm for the past three months.

I have received Darrin Church's E-mail regarding the notification that the County will be placing a road through the landfarm. I should have a letter out to you by Monday September 23 regarding any questions that the OCD has and/or permit requirements that might apply.

Take care of that leg of yours and watch out for your Dog, John said she/he triped you up.

Sincerely

Martyne J. Kieling

-----Original Message-----
From: Phil Nobis [mailto:phil@instreem.net]
Sent: Wednesday, September 18, 2002 10:11 AM
To: Kieling, Martyne
Subject: Landfarm Permit

Martyne,

I don't quite understand the permits references to soil acceptance etc. I have submitted a closure plan to you and advised that no new material is being accepted. There are no tanks on tract A and JFJ landfarms own the mixing trough.

Then under reporting and record keeping it refers to JFJ landfarms requirement to report. And at the end it wants Tierras signature agreeing to the requirements that JFJ has to keep.

Please clarify. I am only working half days because of my broken leg. But I can access my e-mail at home also. If you want to call you can talk to Darrin.

Thanks,
Phil Nobis
PCN

Kieling, Martyne

From: Kieling, Martyne
Sent: Monday, August 05, 2002 12:07 PM
To: 'kevinc@sblsg.com'
Cc: Anderson, Roger; 'pcn@tehnet.nm.net'
Subject: Tierra Landfarm to JFJ Landfarm LLC

Kevin M. Connor:

The New Mexico Oil Conservation Division (OCD) has received your July 10, 2002 letter and the $25,000 Cash Bond for JFJ Landfarm LLC. According to the New Mexico Public Regulation Commission, JFJ Landfarm LLC is authorized to do business in the State of New Mexico. The $25,000 cash bond submitted has been reviewed by our attorney and is in order and approvable. The OCD is granting JFJ Landfarm LLC temporary authorization to conduct business. A letter authorizing the permit transfer should be signed on Monday August 12, 2002.

Please contact us if you have any questions.

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

Kieling, Martyne

From: Connor, Kevin M. [kevinc@seigfreid-bingham.com]
Sent: Tuesday, August 06, 2002 8:47 AM
To: 'Kieling, Martyne'
Cc: Phil Nobis (E-mail); Jake Hatcher (E-mail); John Crowe (E-mail); Edlin, Cheri L.
Subject: RE: Tierra Landfarm to JFJ Landfarm LLC

Thanks Martyne: We await a copy of the letter by fax to us at 816-474-3447.
Sincerely,Kevin Connor

-----Original Message-----
From: Kieling, Martyne [mailto:MKieling@state.nm.us]
Sent: Monday, August 05, 2002 2:07 PM
To: 'kevinc@sblsg.com'
Cc: Anderson, Roger; 'pcn@tehnet.nm.net'
Subject: Tierra Landfarm to JFJ Landfarm LLC

Kevin M. Connor:

The New Mexico Oil Conservation Division (OCD) has received your July 10, 2002 letter and the $25,000 Cash Bond for JFJ Landfarm LLC. According to the New Mexico Public Regulation Commission, JFJ Landfarm LLC is authorized to do business in the State of New Mexico. The $25,000 cash bond submitted has been reviewed by our attorney and is in order and approvable. The OCD is granting JFJ Landfarm LLC temporary authorization to conduct business. A letter authorizing the permit transfer should be signed on Monday August 12, 2002.

Please contact us if you have any questions.

Martyne J. Kieling
Martyne J. Kieling
Environmental Geologist

TIERRA ENVIRONMENTAL COMPANY, INC.

T.E.C.I.

July 22, 2002

Roger Anderson, Bureau Chief
Environmental Bureau
New Mexico Oil Conservation Division
1220 St. Francis Drive
Santa Fe, New Mexico 87505

RE: TRANSFER OF THE TIERRA CROUCH MESA LANDFARM PERMIT NM-01-0010. NW ¼, SE ¼, Section 2, Township 29 North, Range 12 West, NMPM.

Dear Mr. Anderson:

As you are aware, Tierra Environmental Co., Inc. (TECI) is in the process of selling approximately sixty-six (66) acres of our permitted landfarm facility, identified above to JFJ Landfarm a New Mexico Corporation to be operated by Industrial Eco Systems a Utah Corporation.

It is TECI's intention to have the landfarm permit transferred to JFJ covering the 66 acres identified by the most recent survey which according to Kevin Conner JFJ's attorney is already in your possession. It is further TECI's intention to begin closure of the remaining 17 plus acres also covered under the present OCD permit on the effective date of the real estate closing. That tentative date is July 31, 2002. Closure of the 17 plus acres will be in accordance with the provisions of the permit and with all OCD rules in effect at the time.

If you have any questions or need additional information, please give me a call.

Sincerely,

Phillip C. Nobis
President

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: InStreem@technet.nm.net

SEIGFRIED, BINGHAM, LEVY, SELZER & GEE
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
2800 COMMERCE TOWER
911 MAIN STREET
KANSAS CITY, MISSOURI 64105
816 421-4460
FACSIMILE 816 474-3447

DIRECT: 816-265-4168
E-MAIL: KEVINC@SBLSG.COM

JAMES T. SEIGFREID
LARRY J. BINGHAM
ALLAN W. STOPPERAN
GARY J. BROUILLETTE
GORDON D. GEE
ROBERT C. LEVY
KENNETH W. SPAIN
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KEVIN M. CONNOR

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ROD L. EISENHAUER
R. KEITH DUGGER
LANCE J. FORNWALT
JOHN M. NEYENS
KARLA KERSCHEN SHEPARD
JEFF C. TAUSCHER
ANDREA GOULD McCARTHY
JANE L. WILLIAMS
RYAN T. SHASSERRE

ROBERT J. MANN
H. BOONE PORTER, III
OF COUNSEL

WILLIAM J. BURRELL
1921-1994

FACSIMILE TRANSMITTAL SHEET

TO:	Roger Anderson Environmental Bureau Chief	FAX: 505-476-3462
FROM:	Kevin Connor, Esq.	FAX: (816) 474-3447
DATE:	July 18, 2002	TIME: 5:02 PM Central

NUMBER OF PAGES (INCLUDING THIS COVER SHEET): 5

RE: OCD RULE 711 PERMIT APPROVAL NM-01-0010

If you do not receive all pages please call Cheri at 816-421-4460.

SEIGFREID, BINGHAM, LEVY, SELZER & GEE

A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
911 MAIN STREET
SUITE 2800
KANSAS CITY, MISSOURI 64105
816 421-4460
FACSIMILE 816 474-3447

DIRECT: 816-265-4168
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JOHN R. WALTER

ROBERT J. MANN
H. BOONE PORTER, III
OF COUNSEL

WILLIAM J. BURRELL
1921-1994

July 18, 2002

VIA FACSIMILE #505-476-3462
AND FIRST CLASS MAIL

State of New Mexico
Energy, Minerals and Natural Resources Department
2040 S. Pacheco
Santa Fe, NM 87505

Attention: Mr. Roger Anderson
Environmental Bureau Chief

RE: OCD RULE 711 PERMIT APPROVAL NM-01-0010
TIERRA ENVIRONMENTAL COMPANY, INC.
COMMERCIAL SURFACE WASTE MANAGEMENT FACILITY
NW/4 SE/4, SECTION 2, TOWNSHIP 29 NORTH, RANGE 12 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO (THE "PERMIT")

Dear Mr. Anderson:

The purpose of this letter is to provide the information necessary to arrange for the assignment of the Permit on July 31, 2002 from its current owner, Tierra Environmental Company, Inc. ("Tierra") to JFJ Landfarm, L.L.C., a New Mexico limited liability company ("JFJ"). My prior correspondence of July 10, 2002 explained that JFJ will be purchasing approximately 66 acres from Tierra and will be leasing the property to Industrial Ecosystems, Inc., a Utah corporation ("IECS"), which will operate the landfarm in accordance with the Permit. At closing, Tierra will notify you in writing that they will be starting closure procedures on the remainder of the permitted property (approximately 17.74 acres to the north).

You mentioned that on July 31, 2002 the Permit will essentially be split into an "A Tract" and a "B Tract" along the lines of the Exemption Survey I previously furnished to you. Tierra will retain Tract A and continue the financial assurances for Tract A during its clean-up work. Once Tract A is cleaned up and closed to OCD satisfaction, the financial assurances will be released and Tract A will be eliminated from the Permit.

Tract B is being conveyed to JFJ on July 31, 2002. JFJ will post financial assurances for Tract B in the amount of the statutory minimum $25,000. JFJ will enter its lease with IECS and IECS will manage the landfarm in accordance with the Permit. OCD will communicate with IECS as JFJ's agent for operation of Tract B.

To effect the understandings mentioned above, please find enclosed drafts of a letter from JFJ and IECS acknowledging a complete copy of the Permit, agreeing to abide by the permit in the operation of the facility, agreeing to post appropriate financial assurances, all of which shall be done in the name of "JFJ Crouch Mesa Landfarm". Also enclosed is a draft of JFJ's notice of appointment of IECS as its agent for operation of the landfarm. Let us know if these drafts are sufficient and they will be signed for closing.

Please call me at your earliest convenience with questions or concerns, or if you need anything further to approve transfer of the Permit. Thanks for your help in this regard.

Sincerely,

Kevin M. Connor

KMC:cle
Enclosure
cc: Phil Nobis (via fax)
John Crowe (via fax)

280860v1

JFJ LANDFARM, L.L.C.

401 S. LaSalle, Suite 600, Chicago, IL 60605

phone: (312) 786-5961
FAX: (312) 786-5963

July 31, 2002

State of New Mexico
Energy, Minerals and Natural Resources Department
2040 S. Pacheco
Santa Fe, NM 87505

Attention: Mr. Roger Anderson
Environmental Bureau Chief

RE: **OCD RULE 711 PERMIT APPROVAL NM-01-0010**
TIERRA ENVIRONMENTAL COMPANY, INC.
COMMERCIAL SURFACE WASTE MANAGEMENT FACILITY
NW/4 SE/4, SECTION 2, TOWNSHIP 29 NORTH, RANGE 12 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO
(THE "PERMIT")

Dear Mr. Anderson:

The undersigned persons, on behalf of JFJ Landfarm, L.L.C., a New Mexico limited liability company ("JFJ") and Industrial Ecosystems, Inc., a Utah corporation ("IECS"), provide this notice to facilitate transfer of the referenced Permit from Tierra Environmental, Inc. ("Tierra") to JFJ. JFJ is the new owner of the facility and IECS is the new operator.

First, both JFJ and IECS have received a complete copy of the Permit, have had the opportunity to review it, and understand it well. Both companies agree to abide by the Permit in both the ownership and the operation of the remediation facilities located thereon. The parties agree to post the financial assurances required by the Regulations prior to the start of operations.

The name of the facility shall be "JFJ Crouch Mesa Landfarm".

Please contact either company with questions or comments.

Sincerely,

JFJ LANDFARM, L.L.C. (OWNER)

By: _____
John J. Kiely, Manager

INDUSTRIAL ECOSYSTEMS, INC. (OPERATOR)

By: _____
John J. Kiely, President

JFJ LANDFARM, L.L.C.

401 S. LaSalle, Suite 600, Chicago, IL 60605

phone: (312) 786-5961
FAX: (312) 786-5963

July 31, 2002

State of New Mexico
Energy, Minerals and Natural Resources Department
2040 S. Pacheco
Santa Fe, NM 87505

Attention: Mr. Roger Anderson
Environmental Bureau Chief

RE: OCD RULE 711 PERMIT APPROVAL NM-01-0010
TIERRA ENVIRONMENTAL COMPANY, INC.
COMMERCIAL SURFACE WASTE MANAGEMENT FACILITY
NW/4 SE/4, SECTION 2, TOWNSHIP 29 NORTH, RANGE 12 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO
(THE "PERMIT")

Dear Mr. Anderson:

This letter will serve as JFJ's notice of appointment of Industrial Ecosystems, Inc., a Utah corporation ("IECS"), as its agent to operate the JFJ Crouch Mesa Landfarm on the approximate 66 acres located in the Southeast Quarter of Section 2, T 29N, R 12W, NMPM in San Juan County, New Mexico in accordance with the referenced Permit effective immediately.

Call me with questions or comments.

Sincerely,

JFJ LANDFARM, L.L.C.

By: _____
John J. Kiely
Manager

SEIGFREID, BINGHAM, LEVY, SELZER & GEE

A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
911 MAIN STREET
SUITE 2800
KANSAS CITY, MISSOURI 64105
816 421-4460
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ROBERT J. MANN
H. BOONE PORTER, III
OF COUNSEL

WILLIAM J. BURRELL
1921-1994

DIRECT: 816-265-4168
E-MAIL: KEVINC@SBLSG.COM

July 10, 2002

VIA FACSIMILE #505-476-3462
AND FIRST CLASS MAIL

State of New Mexico
Energy, Minerals and Natural Resources Department
2040 S. Pacheco
Santa Fe, NM 87505

Attention: Mr. Roger Anderson
Environmental Bureau Chief

RE: OCD RULE 711 PERMIT APPROVAL NM-01-0010
TIERRA ENVIRONMENTAL COMPANY, INC.
COMMERCIAL SURFACE WASTE MANAGEMENT FACILITY
NW/4 SE/4, SECTION 2, TOWNSHIP 29 NORTH, RANGE 12 WEST, NMPM, SAN JUAN COUNTY, NEW MEXICO (THE "PERMIT")

Dear Mr. Anderson:

I represent JFJ Landfarm L.L.C., a New Mexico limited liability company ("JFJ"), which has a contract to purchase approximately 66 of 84 acres constituting Tierra Environmental Company, Inc.'s landfarm in San Juan County, New Mexico. I have enclosed a copy of the updated survey reflecting "Lot 2" which is the property being purchased by JFJ.

JFJ desires to acquire the referenced Permit and the rights to operate the landfarm on the same terms that Tierra currently operates the property under the Permit.

The structure of the acquisition is as follows: JFJ will be purchasing the real estate and leasing it to Industrial Ecosystems, Inc. ("IECS"), which is the same company that operates the BP/Amoco landfarm adjacent to the Tierra landfarm on the southwest corner. A copy of the proposed lease is enclosed for your reference. Basically, IECS will have the rights and responsibilities to manage the landfarm at its discretion for one year with two (2) one-year renewal options. The lease term extends beyond the term of the permit giving both parties the flexibility to renew the

permit subject to OCD approval prior to termination of lease. IECS also has options in the lease to purchase landfarm.

If anything needs to be added to the lease, please let me know and we can make the amendments prior to signing. The structure is important because IECS does not have immediately available funds to purchase the landfarm from Tierra. JFJ is an indirectly related party with a stronger balance sheet and the ability to borrow funds sufficient to purchase the property.

We know it is important to keep the name "Tierra Crouch Mesa Landfarm" to avoid public hearings for approval for assignment of the Permit, so we intend to keep the same name. We note that the Permit allows the application of microbes (bugs) only after prior approval from OCD. Microbes are essential to IECS' operations, so buyer would want to secure such approval at closing. Of course, either JFJ or IECS can provide the financial assurances required to operate the site. Further, for your information, it is our understanding that Tierra will be relinquishing its permit on the remaining 17 acres north of the property being sold at closing.

Obviously, it is vital to JFJ to secure the operating privileges afforded by the Permit. In fact, closing is subject to transfer of the Permit. Please assist us by providing the requirements and criteria for transfer of the Permit. Could you also make us aware of any other regulatory permit of which you are aware that will need to be secured for JFJ to own and IECS to operate the facility.

Thanks for your help in this regard. I look forward to your call.

Sincerely,

Kevin M. Connor

KMC:cle
Enclosure
cc: Phil Nobis (via fax)
John Crowe (via fax)

Kieling, Martyne

From: Phil Nobis [phil@instreem.net]
Sent: Monday, May 06, 2002 2:40
To: Kieling, Martyne
Subject: landfarm sale

Martyne,

John Kiely, President
Industrial Ecosystems
401 La Salle Street, Suite 606
Chicago, Illinois 60605
E-mail kielyjohn@msm.com
Phone 312-786-5961
Fax 312-786-5963

Thanks,

PCN

P.S. on another subject, did I ask you to check out our new web site for InStreem technology yet? If I didn't its www.instreem.net. It is a pretty cool site if I do say so myself.

Kieling, Martyne

From: Phil Nobis [phil@instreem.net]
Sent: Monday, May 06, 2002 11:26
To: Kieling, Martyne
Subject: Sale of Landfarm

Martyne,

I have received a signed contract from Industrial Ecosystems aka EPC for the purchase of Phase II of the Tierra Crouch Mesa Landfarm.

My intentions are to close the Phase I area which was the first portion to be permitted and to transfer the Phase II area to EPC. Phase I is the upper portion consisting of 22 acres. Phase II is the southern portion consisting of a total area of 64 acres, 52 of which are contained in the permit. Phase II also includes the cement mixing trough for sludge. EPC understands that they will keep the name Tierra Crouch Mesa Landfarm. They also understand the financial responsibility issues. Phase I will be closed pursuant to OCD regulations presently in effect.

What is the first step?

Thanks,

PCN

Mr. Phillip C. Nobis
Tierra Environmental Company, Inc.
P.O. Box 1812
Bloomfield, NM 87413

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

Mr. Phillip Nobis, Facility Manager
Tierra Environmental Company
#420 County Road 3100
Aztec, NM 87410

Dear Mr. Nobis:

In response to your request of April 19, 2002, the U.S. Environmental Protection Agency has determined that the Tierra Environmental Company facility (NMOCD ID #NM-01-0010), Aztec, New Mexico is acceptable for the receipt of hazardous substances, pollutants, or contaminants (that are not Resource Conservation and Recovery Act hazardous waste) from Comprehensive Environmental Response, Compensation and Liability Act response actions. The facility's actual receipt of such waste must be in keeping with State and Federal requirements.

This determination is made pursuant to the requirements prescribed in 40 CFR §300.440 (58 Fed. Reg. 49200, 49215 - 49218 (September 22, 1993)), and is based upon communication with representatives of the New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division. If conditions change or if new information reveals violations exist, then the acceptability determination may be affected.

If you have any questions regarding this letter, please contact Ron Shannon of my staff at (214) 665-2282.

Sincerely yours,

Samuel Coleman, P.E.
Director
Compliance Assurance and
Enforcement Division

Kieling, Martyne

From: Kieling, Martyne
Sent: Monday, April 08, 2002 9:40 AM
To: 'Zehner.Warren@epamail.epa.gov'
Subject: RE: Tierra inspection report


Report03-20-02.tif


Photo0302.doc

Warren:

Attached you will find the inspection report and photos. Let me know if you need a copy of Tierra's response.

Martyne

-----Original Message-----
From: Zehner.Warren@epamail.epa.gov
[mailto:Zehner.Warren@epamail.epa.gov]
Sent: Friday, April 05, 2002 9:14 AM
To: mkieling@state.nm.us
Subject: Tierra inspection report

Martyne:

I hate to keep bugging you, but my off-site compliance guy says he needs a copy of the last inspection report on Tierra for his files before he can give administrative approval for me to use the facility. I know its a pain, but were the government and we have our red tape. Could you please fax a copy of the last inspection to Ron Shannon at (214) 665-7264 at your earliest convience. Thanks again for your help.

Warren

RECEIVED
APR 0 8 2002
Environmental Bureau
Oil Conservation Division

TIERRA ENVIRONMENTAL COMPANY, INC.

April 3, 2002

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

RE: INSPECTION REPORT – MARCH 20, 2002 – TIERRA LANDFARM – PERMIT – NM-01-0010

Dear Ms. Kieling:

I will respond to the noted comments and deficiencies contained in the order they were cited in the inspection report of March 20, 2002.

1. Material accepted into the facility that could pose a threat to safety.

   The smoldering material noted was delivered to the facility during your inspection. We receive that material periodically from a few different locations. Our landfarm policy dictates that it is spread immediately upon receipt and mixed with clean dirt. In this case the operator was assisting with your inspection. The material was spread immediately following your departure. When that type of material is delivered it is dumped in a pre-determined location for the reasons of safety.

   The documentation relative to the above mentioned material was on file at the landfarm office during your inspection. It has since been submitted to the Aztec OCD office.

P.O. Box 1812
Bloomfield, New Mexico 87413

Phone: 505-632-3005
Fax: 505-632-2815
Email: lnStreem@technet.nm.net

2. Material received at the landfarm must be spread and disked within 72 hours of receipt.

The material from Standing Rock is being spread. The legal dispute has been resolved. The issue of spreading within 72 hours has come up previously. The material from Standing Rock was stockpiled until the last load was delivered. That is the way it has always been done and with the blessing of Denny Foust. It is not practical to attempt to spread material when up to thirty truckloads are being delivered twice per day. Normally when the last load is delivered the spreading begins. In the case of Standing Rock the first payment was due from the contractor on the day the last load was delivered. When contacted the contractor began disputing the invoice and refused to pay. Upon advice from our attorney Gary Risley, Esq., we did not spread the pile. The attached letter sent by Darrin Church, prepared for him by Mr. Risley was sent to the pipeline owner, Shell Oil, Navajo EPA and was supposed to be copied to OCD, our oversight. Denny Foust was informed of the dispute by me following the inspection and prior to Roger Andersons visit later on. The landfarm personnel were unaware of the dispute at the time of the inspection. I was out of town and had only informed them not to spread the material.

3. Material received must be spread and disked within 72 hours of receipt.

The stockpiled McGrath mixed sludge has been spread. It is an incorrect assumption that the same material has been stockpiled for a period of ten days. The stockpile has been rotated at least two times during the alleged ten-day period. In the future the material will not be stockpiled. It will be spread as soon as it is stabilized.

4. Soils and stabilized sludge and muds must be spread on the surface in ten (10) inch lifts.

The material referred to was from Basin Disposal. We have asked Denny Foust from the Aztec office to speak to Basin relative to the consistency of the material they send to us. It has been an on going problem. We also have informed them that we will no longer accept any material that is not sufficiently stabilized.

5. All above ground tanks must be bermed to contain on and one-third the volume of the largest tank or all interconnected tanks. All tanks must be labeled as to the contents and hazards.

The weathered labels have been replaced. The empty tanks located below the mixing trough do not have the hatches on them. They were

surplus and are not in use. The tanks above the mixing trough are bermed sufficiently at the time of Roger Andersons visit following the inspection. No tanks are interconnected.

6. All tanks in use are sufficiently bermed

7. In the referred to Photo 7, the berm can be plainly seen looking past Denny Foust. The photo was taken inside the existing berm. Since the May 29, 2001 inspection the berms have been repaired and dressed up on a weekly basis.

Items 5, 6, and 7 appear to be almost identical in nature. Berms sufficient to contain one and one-third the volume of the largest tank are in place. No tanks are interconnected.

I hope I have sufficiently responded to the noted comments and deficiencies.

As a point of information, the landfarms current available capacity is 35,105 cubic yards. That takes into account the Standing Rock material. Its total capacity is 98,000 cubic yards. I believe your Aztec representative Denny Foust has been mis-informed as to the present capacity of the landfarm.

If you have any questions or need additional information please give me a call.

As always it's a pleasure to work with you and Roger Anderson.

Sincerely,

Phillip C. Nobis
President

Xc: Gary Risley, Esq.
File

TIERRA ENVIRONMENTAL COMPANY, INC.
Post Office Box 1812
Bloomfield, New Mexico 87413

March 8, 2002

Via facsimile 713/734-3391

Theodore M. Green
BNC Engineering, LLC
BNC Environmental Services, Inc.
13431 Cullen Blvd.
Houston, TX 77047

Dear Mr. Green:

This letter is in response to your undated letter of February concerning our invoice for services on the Standing Rock environmental cleanup. I have carefully reviewed our invoice and find that it is in order. In fact, you have been undercharged for the amount of material disposed upon our property.

There are several reasons that the BNC Environmental costs exceeded those you had initially predicted:

1. The BNC on site foreman decided not to have backfill delivered to the site for the first 92 truck loads of contaminated soil delivered to our farm. This resulted in trucks deadheading back to the site at the end of one job. This decision by your foreman resulted in increased trucking charges of $52,000.00.

2. The total yards of contaminated soil exceeded your company's estimate by 2,325 yards. This resulted in an increase in the costs of $27,900.00.

3. Backfill at the site exceeded BNC's initial estimate by 5,447 yards. This resulted in an increase of $8,170.50.

4. Our earlier statement to you that the trucks were only hauling 17 yards of material instead of 20 yards per load was based upon information given to us by the trucking company with whom we had subcontracted. We informed your foreman of this at the time and he stated that it was not a problem. Subsequent to that time, the trucking company has reviewed its records and has informed us that on average the vehicles were hauling 20 to 22 yards of material per load. Since we only charged on the average of 17 yards per load, this increase in contaminated soil placed upon our property would lead to additional charges of approximately $30,000.00 which was not reflected in our current invoice.

Tierra has been very open, forthright, and honest with BNC throughout this project. We kept your foreman fully informed of all issues as they arose. We subcontracted the delivery trucks on this job. We added no administrative or other charges and simply passed through to you the charges that we received for that service. In addition, we charged you only the amount of money we were being charged for the backfill and added no profit to that service as well.

What I find particularly disturbing is that BNC knew that each of these truckers working for Simkins Trucking works as an independent contractor and relies upon prompt payment in order to pay his fuel bills, make his truck payments, and feed his family. We informed BNC of this and that is why BNC agreed to weekly invoices. To date, none of those invoices have been paid and many of these truckers are getting into financial difficulty with their creditors because of your non-payment.

BNC has previously had a good reputation in the State of New Mexico for prompt payment of its invoices. I would hate for your company to be unable to obtain future services from truckers or other individuals because of your failure to pay our perfectly valid invoice.

As a compromise to get this matter promptly handled, Tierra will agree not to invoice BNC for the additional yardage of contaminated soil that was placed on our site, but not yet invoiced, in exchange for BNC promptly paying (within the next five days) our statement of February 21, 2002.

A copy of this letter is being forwarded to Shell, Equiva, Giant and the Navajo Nation Environmental Protection Agency to place them on notice that we have not yet been compensated for our services as a subcontractor on the site.

We look forward to prompt payment of our invoice.

Yours truly,

DARRIN CHURCH

DC/skg
cc: Shell Oil
Giant
Equiva
Navajo Nation Environmental Protection Agency

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

April 3, 2002

VIA: E-Mail mkieling@state.nm.us

Dear Mr. Zehner:

The New Mexico Oil Conservation Division (OCD) received your e-mail request dated April 2, 2002 regarding waste generated from the cleanup of the General Crude/B-Line location and the subsequent disposal.

The landfarm operated by Tierra Environmental Company, Inc. was originally permitted by the OCD in September 1992 and was re-permitted on September 12, 1999 (Permit No. NM-01-0010). The latest inspection by the OCD was performed on March 20, 2002. During the March inspection the OCD identified some issues that needed to be addressed. Tierra Environmental Company, Inc. has adequately responded to the issues that were raised.

Sincerely

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

XC: OCD Aztec Office
File NM-01-0010
File 711-012

Kieling, Martyne

From: Kieling, Martyne
Sent: Wednesday, April 03, 2002 12:53 PM
To: 'Zehner.Warren@epamail.epa.gov'
Cc: Anderson, Roger; Foust, Denny
Subject: FW: Compliance letter for Tierra Environmental Company

letEPA0402.DOC

Warren:

Please see the attached file regarding Tierra Environmental Company, Inc.

Sincerely

Martyne J. Kieling

-----Original Message-----
From: Anderson, Roger
Sent: Wednesday, April 03, 2002 8:29 AM
To: Kieling, Martyne
Subject: FW: Compliance letter for Tierra Environmental Company

Roger C. Anderson
Environmental Bureau Chief
Oil Conservation Division

-----Original Message-----
From: Zehner.Warren@epamail.epa.gov
[mailto:Zehner.Warren@epamail.epa.gov]
Sent: Tuesday, April 02, 2002 10:26 AM
To: rcanderson@state.nm.us
Subject: Compliance letter for Tierra Environmental Company

Roger:

I appreciate your assistance to date on the clean up that I have been doing on General Crude facility. As we discussed when you were on site, I need a letter from you (OCD) stating that the Tierra Environmental Company in Farmington is acceptable and compliant with OCD regulations for the disposal of RCRA non-hazardous oil field waste. The letter should also contain the date of their last compliance inspection and any outstanding violations. An e-mail response (on electronic letter head if possible) will be fine with me. Again, thanks for all your help and a prompt reply will be greatly appreciated.

Regards

Warren

Fax Transmission

Tierra Environmental Co., Inc.
P.O. Box 1812
Bloomfield, NM 87413
Phone 505-632-3005 Fax 505-632-2815
E-mail instreem@technet.nm.net

Pages: 6

Date: April 3, 2002

To: Martyne Kieling
NMOCD

Fax: 505-476-3462

From: Phil Nobis PCN

Subject: Inspection Report response

Martyne,

Accompanying is the response to the inspection report. I will forward the original via Fed X.

Thanks,

PCN

TIERRA ENVIRONMENTAL COMPANY, INC.

April 3, 2002

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

RE: INSPECTION REPORT – MARCH 20, 2002 – TIERRA LANDFARM – PERMIT – NM-01-0010

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If you have any questions or need additional information please give me a call.

As always it's a pleasure to work with you and Roger Anderson.

Sincerely,

Phillip C. Nobis
President

Xc: Gary Risley, Esq.
File

TIERRA ENVIRONMENTAL COMPANY, INC.
Post Office Box 1812
Bloomfield, New Mexico 87413

March 8, 2002

Via facsimile 713/734-3391

Theodore M. Green
BNC Engineering, LLC
BNC Environmental Services, Inc.
13431 Cullen Blvd.
Houston, TX 77047

Dear Mr. Green:

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BNC has previously had a good reputation in the State of New Mexico for prompt payment of its invoices. I would hate for your company to be unable to obtain future services from truckers or other individuals because of your failure to pay our perfectly valid invoice.

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A copy of this letter is being forwarded to Shell, Equiva, Giant and the Navajo Nation Environmental Protection Agency to place them on notice that we have not yet been compensated for our services as a subcontractor on the site.

We look forward to prompt payment of our invoice.

Yours truly,

DARRIN CHURCH

DC/skg
cc: Shell Oil
Giant
Equiva
Navajo Nation Environmental Protection Agency

STATE OF NEW MEXICO
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

✓ Telephone ____ Personal Time 10:35 Date 3-27-02

Originating Party: Jeremy F. Beth, Tierra

Other Parties: Martyne Kieling

Subject: Large Pile of Contaminated Soil from the Standing Rock Station (East of Crown Point) R.P. For that Job was Shell oil Now owned By Giant.

Discussion: BNC Environmental was higned by Shell to Remediate the Site and they Nigned Tierra as a Sub contractor.

BnC Environmental Had Not yet payed Tierra For the Job. The Soil at Tierra Should be payed For by BnC today. Tierra was told that a Check would be cut Today.

Conclusions or Agreements: OCD will wait For written Responce to the Inspection Report Due on Friday 3-29-02

Distribution: Aztec
~~Artesia~~

Signed: Martyne Kieling

Kieling, Martyne

From: Anderson, Roger
Sent: Monday, March 25, 2002 2:12 PM
To: Price, Wayne; Kieling, Martyne
Subject: RE: Granulated Charcoal managed at the Tierra Land farm Farmington, New Mexico.

Wayne: I agree with their recommendation to continue land farming the material. We will place interim requirements on the land farm.

Roger C. Anderson
Environmental Bureau Chief
Oil Conservation Division

-----Original Message-----
From: Price, Wayne
Sent: Monday, March 25, 2002 1:54 PM
To: Kieling, Martyne; Anderson, Roger
Subject: FW: Granulated Charcoal managed at the Tierra Land farm Farmington, New Mexico.

-----Original Message-----
From: Wurtz Gregg [mailto:GWurtz@br-inc.com]
Sent: Monday, March 25, 2002 11:46 AM
To: Wayne Price (E-mail)
Cc: Foust (E-mail); Hasely Ed; Gantner Bruce; Goosey Paul
Subject: Granulated Charcoal managed at the Tierra Land farm Farmington, New Mexico.

Good Morning,

As per your request, Burlington Resources investigated your recent findings RE: granulated charcoal smoldering at the Tierra Landfarm, Farmington, New Mexico.

1. The source of the granulated charcoal is the Val Verde Gas Plant. The charcoal is used to strip the amine of hydrocarbons after the amine is used to strip the gas stream of CO2. The potential constituents that may be in the spent charcoal included trace amounts of amine and glycol and larger amounts of hydrocarbons. The charcoal is replaced approximately 3 times a year and landfarmed at the Tierra landfarm facility in Farmington, New Mexico as an except gas plant waste . The amount of material generated and farmed at Tierra is less than 100 cu. yds per year.

2. I reviewed BR's database for the certificate of waste record for this shipment and I contacted the gas plant engineer 3/21 to determine the source of the charcoal and the potential for other constituents in the charcoal. The charcoal was from Train #3 and was part of a routine charcoal replacement. No changes in the treatment process or the chemicals used in the process were discovered. As part stripping process the charcoal is raised to an elevated temperature and is allowed to cool prior to off site transport and landfarming. The charcoal may be still moist (Note: no free liquids) and contain minor process heat when delivered to the Tierra landfarm. The apparent cause of the heat generation is a minor reaction with the trace amounts of hydrocarbon and the granulate charcoal as the material dries.

3. I contacted and performed a site visit of the Tierra Landfarm on 3/21/02 to review

the special charcoal handling practices and/or issues with this particular disposal shipment at the facility. I was instructed that the material arrives at the Tierra facility with a minor amount of temperature and moisture and if left piled will generate a minor amount of heat on its own. The material reportedly has never generated sufficient heat to combust into flames only minor smoldering for 1-2 days if pilled. Tierra's standard practice is to spread the charcoal immediately and till/mix with dirt. This procedure appears to sufficient to prevent self generation of heat and the resulting smoldering of materials. The material observed during the OCD audit of Tierra was explained to be just delivered and the Tierra personnel were busy with the OCD staff at the time of delivery. The charcoal material (a second and different shipment) that was observed during the most recent visit by OCD was spread onto the land but not tilled into the soil. I observed a more recent shipment of charcoal material recently delivered to the landfarm that was spread and tilled during my visit on 3/21. No smoldering of the charcoal materials was observed during my inspection. BR has specifically instructed Tierra personnel to immediately farm the charcoal material by spreading and mixing with soil when it arrives.

4. My recommendation is to allow the landfarming of the charcoal material using the standard procedure currently used by the landfarm. I also reviewed the approved discharge plan and confirmed that the charcoal media and Tierra Landfarm was included in the plan.

Please contact me if you have questions concerning this issue. Thank you for you observation and correspondence.

Gregg Wurtz
Sr. Environmental Representative
Environmental Health and Safety Dept.
Burlington Resources, San Juan Division
gwurtz@br-inc.com
Mobil (505) 320-2653
Office (505) 326-9537