

NM1 - 9

GENERAL CORRESPONDENCE

YEAR(S):

~~2004-1997~~



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

August 5, 2005

Mr. Mike Talovich
Key Energy Services, Inc.
Four Corners Division
P.O. Box 900
Farmington, NM 87499

Re: Request for Authorization to Clear and Recycle Soil
Permit NM-01-0009

Dear Mr. Talovich:

The New Mexico Oil Conservation Division has received and reviewed the request shown above. This request is hereby granted.

If you have any questions, contact me at (505) 476-3492 or ed.martin@state.nm.us

NEW MEXICO OIL CONSERVATION DIVISION

Edwin E. Martin
Environmental Bureau

Cc: NMOCD, Aztec



UNLOCK YOUR POTENTIAL

Key Energy Services, Inc.

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

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

RECEIVED

JUL 25 2005

OIL CONSERVATION
DIVISION

July 20, 2005

Ed Martin
NMOCD
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87504

NM-1-009

**RE: Request for authorization to clear and recycle soil
Permit NM-01-0009**

Mr. Martin,

Please find enclosed analytical documentation for a section of land farm in cell #2. Key Energy requests authorization to clear and reuse this soil and stockpile the soil near the stabilization trays. Also included is a map showing the areas subject for removal.

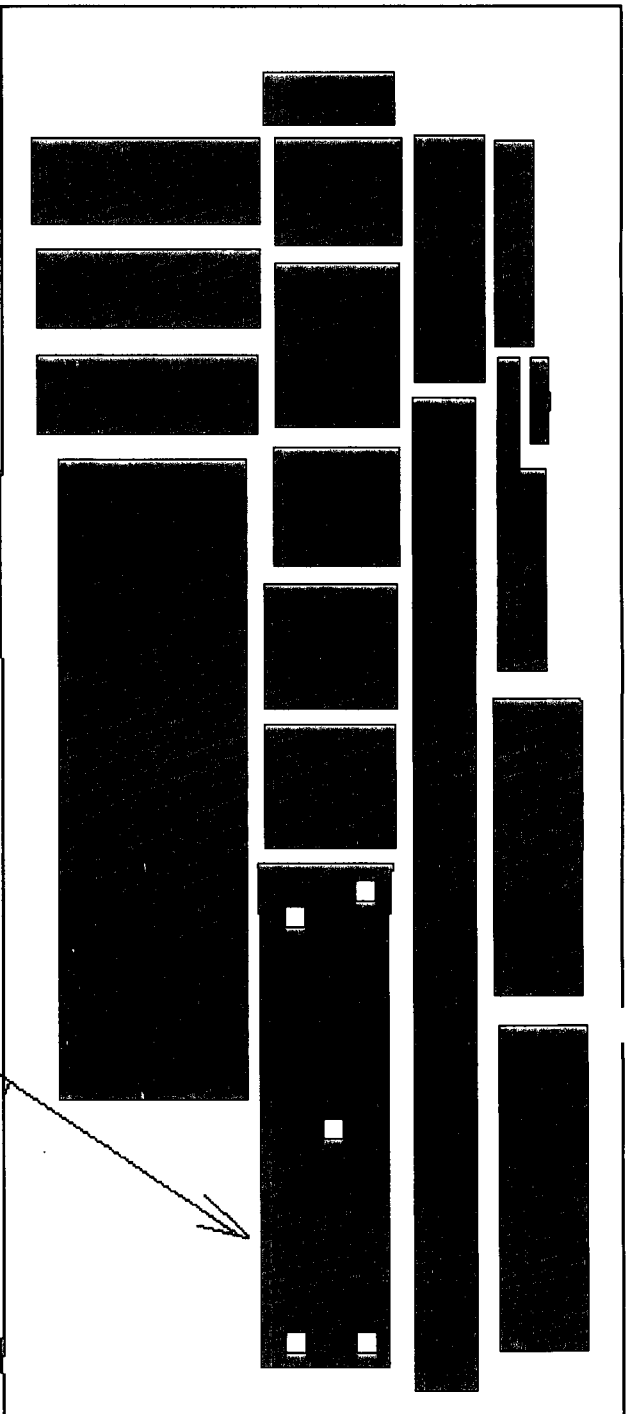
If additional information is required please contact me at 505-334-6186 or email at mtalovich@keyenergy.com

Best Regards,

Michael Talovich
Facility Supervisor
Key Energy Services

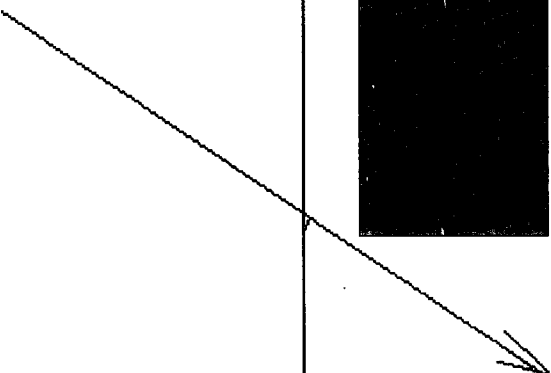
July 20, 2005

NORTH



CELL #2

AREA THAT WAS SAMPLED



OK M.D.

July 13, 2005

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

Phone: (505) 327-0416

Client No.: 98065-004

Dear Mr. Talovich,

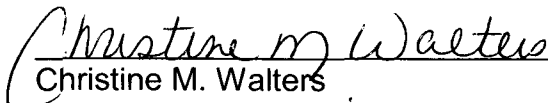
Enclosed are the analytical results for the sample collected from the location designated as "Cell 2 NE Corner". One soil sample was collected by Key Energy Service designated personnel on 07/11/05, and received by the Envirotech laboratory on 07/11/05 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA Method 8021.

The sample was documented on Envirotech Chain of Custody No. 14271. The sample was assigned Laboratory No. 33591 (Cell #2) for tracking purposes.

The sample was analyzed 07/12/05 using USEPA or equivalent methods.

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

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

| | | | |
|--------------------|---------------|---------------------|-----------|
| Client: | Key | Project #: | 98065-004 |
| Sample ID: | Cell #2 | Date Reported: | 07-12-05 |
| Laboratory Number: | 33591 | Date Sampled: | 07-11-05 |
| Chain of Custody: | 14271 | Date Received: | 07-11-05 |
| Sample Matrix: | Soil | Date Analyzed: | 07-12-05 |
| Preservative: | Cool | Date Extracted: | 07-11-05 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

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

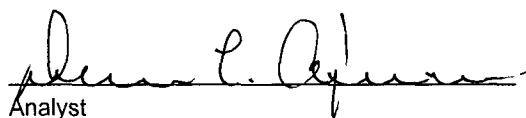
ND - Parameter not detected at the stated detection limit.

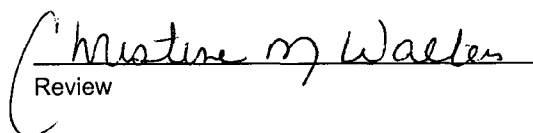
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 97.0 % |
| | 1,4-difluorobenzene | 97.0 % |
| | Bromochlorobenzene | 97.0 % |

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

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

Comments: Cell #2 NE Corner.


Analyst


Review

| | | | |
|--------------------|------------------|----------------|----------|
| Client: | N/A | Project #: | N/A |
| Sample ID: | 07-12-BTEX QA/QC | Date Reported: | 07-12-05 |
| Laboratory Number: | 33591 | Date Sampled: | N/A |
| Sample Matrix: | Soil | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-12-05 |
| Condition: | N/A | Analysis: | BTEX |

| Calibration and Detection Limits (ug/L) | I-Cal RF: | C-Cal RF: | %Diff. | Blank Conc | Detect. Limit |
|--|-------------|-----------------------|--------|---------------|------------------|
| | | Accept. Range 0 - 15% | | | |
| Benzene | 1.7636E+007 | 1.7672E+007 | 0.2% | ND | 0.2 |
| Toluene | 5.5148E+007 | 5.5259E+007 | 0.2% | ND | 0.2 |
| Ethylbenzene | 4.1896E+007 | 4.1980E+007 | 0.2% | ND | 0.2 |
| p,m-Xylene | 8.5749E+007 | 8.5920E+007 | 0.2% | ND | 0.2 |
| o-Xylene | 4.2849E+007 | 4.2935E+007 | 0.2% | ND | 0.2 |

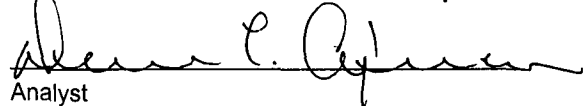
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|--------|--------------|---------------|
| Benzene | ND | ND | 0.0% | 0 - 30% | 2.0 |
| Toluene | ND | ND | 0.0% | 0 - 30% | 2.0 |
| Ethylbenzene | ND | ND | 0.0% | 0 - 30% | 2.0 |
| p,m-Xylene | ND | ND | 0.0% | 0 - 30% | 2.0 |
| o-Xylene | ND | ND | 0.0% | 0 - 30% | 2.0 |

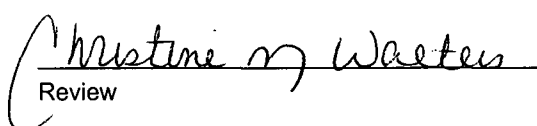
| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene | ND | 50.0 | 49.9 | 99.8% | 39 - 150 |
| Toluene | ND | 50.0 | 50.0 | 100.0% | 46 - 148 |
| Ethylbenzene | ND | 50.0 | 50.0 | 100.0% | 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 Sample 33591.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

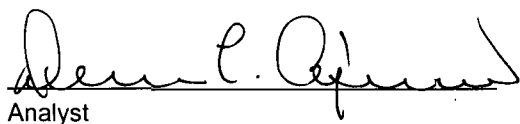
| | | | |
|----------------------|-----------------|---------------------|-----------|
| Client: | Key | Project #: | 98065-004 |
| Sample ID: | Cell #2 | Date Reported: | 07-12-05 |
| Laboratory Number: | 33591 | Date Sampled: | 07-11-05 |
| Chain of Custody No: | 14271 | Date Received: | 07-11-05 |
| Sample Matrix: | Soil | Date Extracted: | 07-11-05 |
| Preservative: | Cool | Date Analyzed: | 07-12-05 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

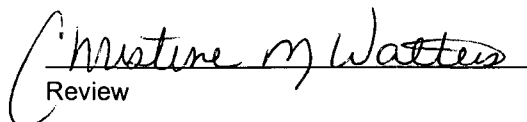
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

ND - Parameter not detected at the stated detection limit.

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

Comments: **Cell #2 NE Corner.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 07-12-05 QA/QC | Date Reported: | 07-12-05 |
| Laboratory Number: | 33591 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-12-05 |
| Condition: | N/A | Analysis Requested: | TPH |

| | I-Cal Date | I-Cal RF | C-Cal RF | % Difference | Accept. Range |
|-------------------------|------------|-------------|-------------|--------------|---------------|
| Gasoline Range C5 - C10 | 02-04-05 | 1.0008E+003 | 1.0018E+003 | 0.10% | 0 - 15% |
| Diesel Range C10 - C28 | 02-04-05 | 9.9980E+002 | 1.0018E+003 | 0.20% | 0 - 15% |

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

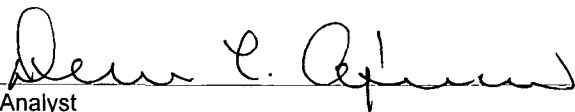
| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | ND | ND | 0.0% | 0 - 30% |
| Diesel Range C10 - C28 | ND | ND | 0.0% | 0 - 30% |

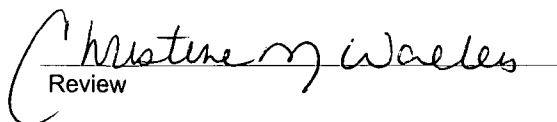
| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | ND | 250 | 250 | 100.0% | 75 - 125% |
| Diesel Range C10 - C28 | ND | 250 | 250 | 100.0%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

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Sample 33591.


Analyst


Review

14271

San Juan reproduction 578-129

Martin, Ed

From: Talovich, Mike [mtalovich@keyenergy.com]
Sent: Wednesday, October 27, 2004 10:48 AM
To: EMARTIN@state.nm.us
Cc: Coberly, Claude
Subject: FW: New Supervisor 10-25-04

Ed,

Denny asked me to forward this to you.

Claude's contact info is: 505-327-0416 ext 109
Cell: 505-486-2099

-----Original Message-----

From: Talovich, Mike
Sent: Tuesday, October 26, 2004 9:51 AM
To: 'DFOUST@state.nm.us'
Subject: New Supervisor 10-25-04

Denny:

For your information my former Supervisor HC Putman is no longer with Key Energy.

As of today, Claude Coberly is in charge of Trucking and can be contacted on matters concerning the Disposal.

Please let me know if this email is sufficient notice.

Thank You,

Mike Talovich
Key Energy Services

This email has been scanned by the MessageLabs Email Security System.
For more information please visit <http://www.messagelabs.com/email>

NM-1-0009

10/28/2004



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

September 17, 2004

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

RECEIVED

SEP 22 2004

OIL CONSERVATION
DIVISION

Mr. Michael Talovich
Key Four Corners, Inc.
P.O. Box 900
Farmington, NM 87499

NM-1-0009

Dear Mr. Talovich:

Since the New Mexico Oil Conservation Division (NMOCD) promulgated Rule 50 covering pits and below-grade tanks, there has arisen a need, in certain circumstances, for operators to transport their drill cuttings off-site and dispose of them.

NMOCD Rule 711, as it pertains to landfarms, does not specifically address the issue of exempt oilfield wastes that may be contaminated with salts. Your landfarm application and permit were written with only hydrocarbon-contaminated soils in mind. Salt-contaminated wastes cause the following problems:

1. Lessening the effectiveness of the biodegradation capacity of your landfarm
2. Rapid leachability causing adverse effects on groundwater

If you want to accept salt-contaminated cuttings or any other salt-contaminated wastes, your 711 permit must be modified to ensure that your acceptance of those wastes will not adversely affect public health or the environment.

Please check one of the following:


☐ I have accepted or intend to accept salt-contaminated wastes in my landfarm. An OCD form C-137, applying for a modification to my 711 permit is attached. Included, as an attachment, is a demonstration that the accepted salt-contaminated soils will not adversely affect groundwater in the foreseeable future. (Closure requirements will also require modification to ensure the protection of groundwater. Should your acceptance of salt-contaminated wastes prove detrimental to groundwater, future liability for such damage rests with the landfarm operator).

☒ I do not intend to accept salt-contaminated wastes in my landfarm. Should this condition change, I will submit an OCD Form C-137 for a modification to my 711 permit at that time.

New Mexico Oil Conservation Division
Attn: Ed Martin
1220 S. St. Francis
Santa Fe, NM 87505

This letter must be returned to the above address no later than October 31, 2004. An extension of time may be granted if you contact this office no later than that date.

If you have any questions, contact Ed Martin (505) 476-3492 or emartin@state.nm.us


Signed

9-20-04
Date



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

September 17, 2004

Mark E. Fesmire, P.E.

Director

Oil Conservation Division

Mr. Michael Talovich
Key Four Corners, Inc.
P.O. Box 900
Farmington, NM 87499

Dear Mr. Talovich:

Since the New Mexico Oil Conservation Division (NMOCD) promulgated Rule 50 covering pits and below-grade tanks, there has arisen a need, in certain circumstances, for operators to transport their drill cuttings off-site and dispose of them.

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☐ I do not intend to accept salt-contaminated wastes in my landfarm. Should this condition change, I will submit an OCD Form C-137 for a modification to my 711 permit at that time.

New Mexico Oil Conservation Division
Attn: Ed Martin
1220 S. St. Francis
Santa Fe, NM 87505

This letter must be returned to the above address no later than October 31, 2004. An extension of time may be granted if you contact this office no later than that date.

If you have any questions, contact Ed Martin (505) 476-3492 or emartin@state.nm.us

Signed

Date



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop
Cabinet Secretary

December 4, 2003

Lori Wrotenbery

Director

Oil Conservation Division

Tom K. Martella
Earth Environmental Services
16754 West 75th Place
Arvada, CO 80007

RE: Request to take diesel and degraded gasoline contaminated ground water recovered from the M&M Truck Stop located south of Cortez, Colorado to the Key Four Corners Inc. Surface Waste Management Facility, Permit NM-01-0009.

Dear Mr. Martella.

The New Mexico Oil Conservation Division (OCD) has received your fax concerning ground water recovered from the M&M Truck Stop south of Cortez, Colorado and has reviewed your request to take the recovered contaminated ground water from this project to Key Four Corners, Inc. (Key) surface waste management facility for disposal. After reviewing Rule 711 C.4.c and based on the information provided the OCD hereby determines that this waste stream is similar in physical and chemical composition to the oilfield wastes authorized for disposal at the Key facility under Permit NM-01-0009.

Prior to acceptance into the facility, a "Request For Approval to Accept Solid Waste" OCD Form C-138 must be submitted by Key to the OCD. The C-138 must be accompanied by a generator certificate of waste status and have been tested non-hazardous and not listed as a hazardous waste. The contaminated ground water at the facility must be tested for reactivity, corrosivity, ignitability, TCLP volatiles, TCLP semivolatiles, and TCLP metals. The results of the analysis will enable the OCD to make a final decision regarding acceptance. Please call me at (505) 476-3488 if you have any questions.

Sincerely,

Martyne J. Kielling
Environmental Geologist

xc: Aztec OCD
Mike Talovich, Key Four Corners, Inc., P.O. Box 900, Farmington, New Mexico 87499

C. Operational Requirements

(1) All surface waste management facility permittees shall file forms C-117-A, C-118, and C-120-A as required by OCD rules.

(2) Facilities permitted as treating plants will not accept sediment oil, tank bottoms and other miscellaneous hydrocarbons for processing unless accompanied by an approved Form C-117A or C-138.

(3) Facilities will only accept oilfield related wastes except as provided in Subsection C, Paragraph (4), Subparagraph (c) of 19.15.9.711 NMAC below. Wastes which are determined to be RCRA Subtitle C hazardous wastes by either listing or characteristic testing will not be accepted at a permitted facility.

(4) The permittee shall require the following documentation for accepting wastes, other than wastes returned from the wellbore in the normal course of well operations such as produced water and spent treating fluids, at commercial waste management facilities:

(a) Exempt Oilfield Wastes: As a condition to acceptance of the materials shipped, a generator, or his authorized agent, shall sign a certificate which represents and warrants that the wastes are: generated from oil and gas exploration and production operations; exempt from Resource Conservation and Recovery Act (RCRA) Subtitle C regulations; and not mixed with non-exempt wastes. The permittee shall have the option to accept on a monthly, weekly, or per load basis a load certificate in a form of its choice. While the acceptance of such exempt oilfield waste materials does not require the prior approval of the Division, both the generator and permittee shall maintain and shall make said certificates available for inspection by the Division for compliance and enforcement purposes.

(b) Non-exempt, Non-hazardous Oilfield Wastes: Prior to acceptance, a "Request For Approval To Accept Solid Waste", OCD Form C-138, accompanied by acceptable documentation to determine that the waste is non-hazardous shall be submitted to the appropriate District office. Acceptance will be on a case-by-case basis after approval from the Division's Santa Fe office.

(c) Non-oilfield Wastes: Non-hazardous, non-oilfield wastes may be accepted in an emergency if ordered by the Department of Public Safety. Prior to acceptance, a "Request To Accept Solid Waste", OCD Form C-138 accompanied by the Department of Public Safety order will be submitted to the appropriate District office and the Division's Santa Fe office. With prior approval from the Division, other non-hazardous, non-oilfield waste may be accepted into a permitted surface waste management facility if the waste is similar in physical and chemical composition to the oilfield wastes authorized for disposal at that facility and is either: (1) exempt from the "hazardous waste" provisions of Subtitle C of the federal Resource Conservation and Recovery Act; or (2) has tested non-hazardous and is not listed as hazardous. Prior to acceptance, a "Request For Approval to Accept Solid Waste," OCD Form C-138, accompanied by acceptable documentation to characterize the waste, shall be submitted to and approved by the Division's Santa Fe office.



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

October 27, 2003

Lori Wrotenbery

Director

Oil Conservation Division

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

**RE: Approval of Soil Removal and Recycling
Key Energy Services, Inc. Landfarm and Stabilization tray
Permit NM-01-0009**

Dear Mr. Talovich:

The New Mexico Oil Conservation Division (OCD) has received Key Energy Services, Inc's (Key) letter dated September 25, 2003 requesting authorization to clear and reuse soils from SE ¼ of Cell 2, southcenter-west Cell 2 and southcenter Cell 2, stockpile the soil near the stabilization trays for reuse and apply another lift SE ¼ of Cell 2, southcenter-west Cell 2 and southcenter Cell 2. Based on the analytical information provided, the soil within these areas is **hereby approved for reuse**. The soil may be stored near the stabilization trays prior to reuse. Additional lifts may be applied to the cleared cells.

Note that with the addition of successive lifts Key must continue maintenance and treatment zone monitoring. If Key wants to move the soils from the facility separate OCD authorization must be granted.

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

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

Sincerely,

Martyne J. Kielling
Environmental Geologist

xc: OCD Aztec Office



RECEIVED

SEP 29 2003

OIL CONSERVATION
DIVISION

Key Energy Services, Inc.

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

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

Martyne Kieling
NMOCD
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87504

September 25, 2003

**RE: Request for authorization to clear and recycle soil
Permit NM-01-0009**

Martyne,

Please find enclosed analytical documentation for sections of landfarm in cell #2. Key Energy requests authorization to clear and reuse these soils and stockpile the soil near the stabilization trays. Also included is a map showing the areas subject for removal.

If additional information is required please contact me at 505-334-6416 or email at mtalovich@keyenergy.com

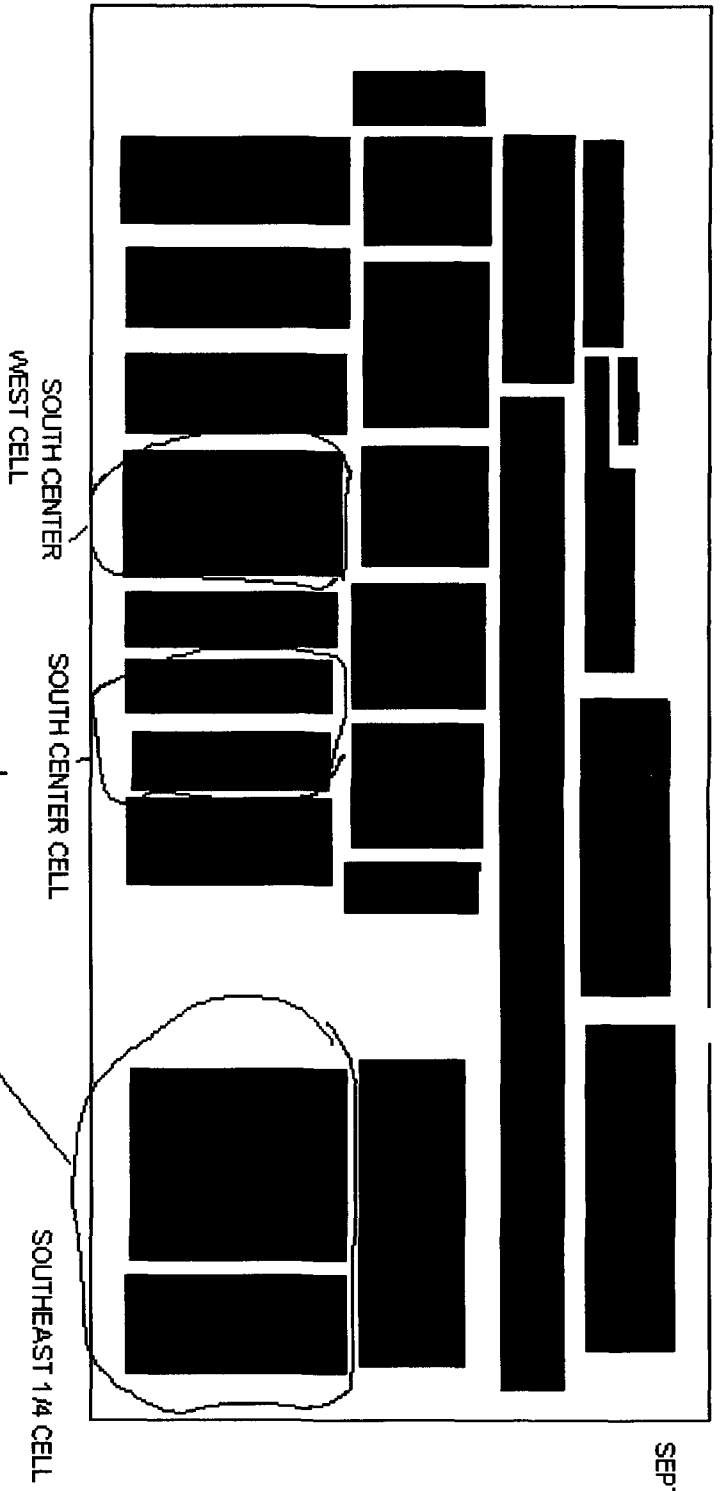
Best Regards,

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

Michael Talovich
Facility Manager
Key Energy Services

SEPTEMBER 24, 200

NORTH



AREA THAT WAS SAMPLED

U.M.D

9-25-03

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

September 12, 2003

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

Phone: (505) 327-0416

Client No.: 98065-007

Dear Mr. Talovich,

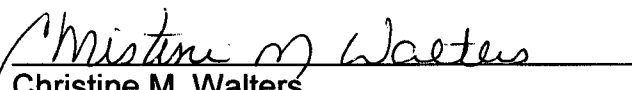
Enclosed are the analytical results for the samples collected from the location designated as "Landfarm". Three soil samples were collected by Key Energy Service designated personnel on 9/08/03, and received by the Envirotech laboratory on 9/08/03 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA Method 8021.

The samples were documented on Envirotech Chain of Custody No. 11313. The samples were assigned Laboratory Nos. 26552 (South East ¼ Cell #2), 26553 (South Center West Cell #2) and 26554 (South Center Cell #2) for tracking purposes.

The samples were analyzed on 9/10/03 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
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

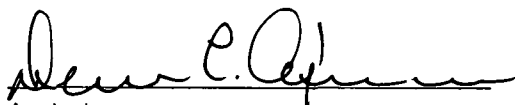
| | | | |
|----------------------|---------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | Southeast ¼ Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26552 | Date Sampled: | 09-08-03 |
| Chain of Custody No: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Extracted: | 09-08-03 |
| Preservative: | Cool | Date Analyzed: | 09-10-03 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

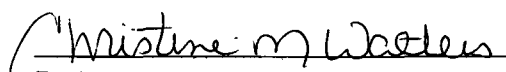
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

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: **Land Farm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

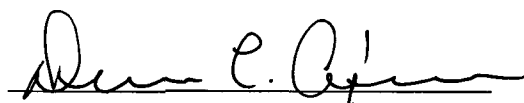
| | | | |
|----------------------|---------------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | South Center West Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26553 | Date Sampled: | 09-08-03 |
| Chain of Custody No: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Extracted: | 09-08-03 |
| Preservative: | Cool | Date Analyzed: | 09-10-03 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

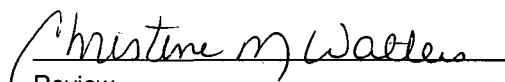
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

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: **Land Farm.**


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

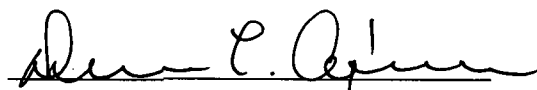
| | | | |
|----------------------|----------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | South Center Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26554 | Date Sampled: | 09-08-03 |
| Chain of Custody No: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Extracted: | 09-08-03 |
| Preservative: | Cool | Date Analyzed: | 09-10-03 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

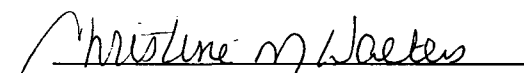
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

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: **Land Farm.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 09-10-TPH QA/QC | Date Reported: | 09-10-03 |
| Laboratory Number: | 26572 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 09-10-03 |
| Condition: | N/A | Analysis Requested: | TPH |

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

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

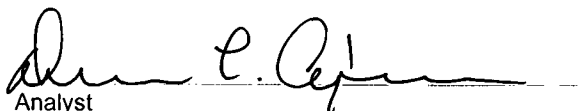
| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | 190 | 189 | 0.9% | 0 - 30% |
| Diesel Range C10 - C28 | 368 | 367 | 0.3% | 0 - 30% |

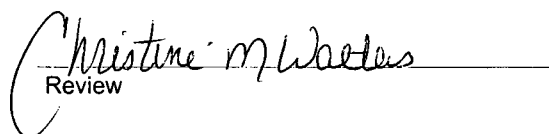
| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | 190 | 250 | 439 | 99.6% | 75 - 125% |
| Diesel Range C10 - C28 | 368 | 250 | 617 | 99.8% | 75 - 125% |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples 26552 - 26556, 26572 - 26576.


Analyst


Review

| | | | |
|--------------------|---------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | Southeast ¼ Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26552 | Date Sampled: | 09-08-03 |
| Chain of Custody: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Analyzed: | 09-10-03 |
| Preservative: | Cool | Date Extracted: | 09-08-03 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | ND | 1.8 |
| Toluene | 36.4 | 1.7 |
| Ethylbenzene | 11.7 | 1.5 |
| p,m-Xylene | 13.6 | 2.2 |
| o-Xylene | 7.6 | 1.0 |
| Total BTEX | 69.3 | |

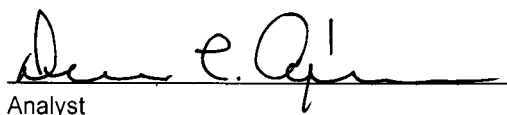
ND - Parameter not detected at the stated detection limit.

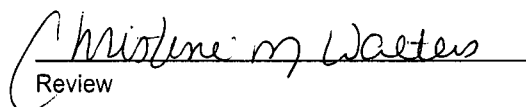
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 99 % |
| | 1,4-difluorobenzene | 99 % |
| | Bromochlorobenzene | 99 % |

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

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

Comments: Land Farm.


Analyst


Review

| | | | |
|--------------------|---------------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | South Center West Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26553 | Date Sampled: | 09-08-03 |
| Chain of Custody: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Analyzed: | 09-10-03 |
| Preservative: | Cool | Date Extracted: | 09-08-03 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | ND | 1.8 |
| Toluene | 69.8 | 1.7 |
| Ethylbenzene | 15.2 | 1.5 |
| p,m-Xylene | 27.8 | 2.2 |
| o-Xylene | 12.8 | 1.0 |
| Total BTEX | 126 | |

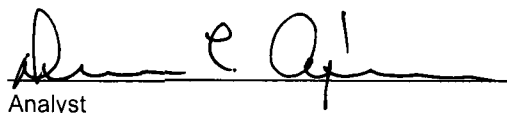
ND - Parameter not detected at the stated detection limit.

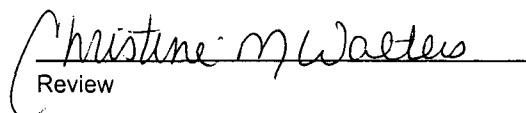
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 99 % |
| | 1,4-difluorobenzene | 99 % |
| | Bromochlorobenzene | 99 % |

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

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

Comments: Land Farm.


Analyst


Review

| | | | |
|--------------------|----------------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-007 |
| Sample ID: | South Center Cell #2 | Date Reported: | 09-10-03 |
| Laboratory Number: | 26554 | Date Sampled: | 09-08-03 |
| Chain of Custody: | 11313 | Date Received: | 09-08-03 |
| Sample Matrix: | Soil | Date Analyzed: | 09-10-03 |
| Preservative: | Cool | Date Extracted: | 09-08-03 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | ND | 1.8 |
| Toluene | 37.3 | 1.7 |
| Ethylbenzene | 10.5 | 1.5 |
| p,m-Xylene | ND | 2.2 |
| o-Xylene | 5.9 | 1.0 |
| Total BTEX | 53.7 | |

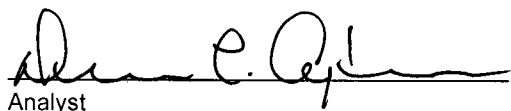
ND - Parameter not detected at the stated detection limit.

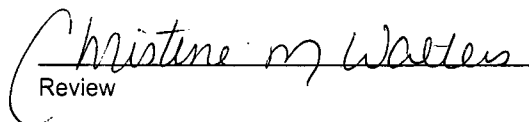
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 99 % |
| | 1,4-difluorobenzene | 99 % |
| | Bromochlorobenzene | 99 % |

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

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

Comments: Land Farm.


Analyst


Review

| | | | |
|--------------------|------------------|----------------|----------|
| Client: | N/A | Project #: | N/A |
| Sample ID: | 09-10-BTEX QA/QC | Date Reported: | 09-10-03 |
| Laboratory Number: | 26552 | Date Sampled: | N/A |
| Sample Matrix: | Soil | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 09-10-03 |
| Condition: | N/A | Analysis: | BTEX |

| Calibration and Detection Limits (ug/L) | I-Cal RF: | C-Cal RF: | %Diff. | Blank Conc | Detect Limit |
|--|-------------|-----------------------|--------|---------------|-----------------|
| | | Accept. Range 0 - 15% | | | |
| Benzene | 4.2776E-002 | 4.2905E-002 | 0.3% | ND | 0.2 |
| Toluene | 4.8966E-002 | 4.9064E-002 | 0.2% | ND | 0.2 |
| Ethylbenzene | 7.4036E-002 | 7.4259E-002 | 0.3% | ND | 0.2 |
| p,m-Xylene | 6.8275E-002 | 6.8480E-002 | 0.3% | ND | 0.2 |
| o-Xylene | 5.5866E-002 | 5.5978E-002 | 0.2% | ND | 0.1 |

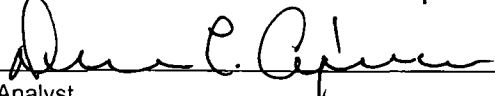
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect Limit |
|-------------------------|--------|-----------|--------|--------------|--------------|
| Benzene | ND | ND | 0.0% | 0 - 30% | 1.8 |
| Toluene | 36.4 | 35.7 | 1.9% | 0 - 30% | 1.7 |
| Ethylbenzene | 11.7 | 11.5 | 1.7% | 0 - 30% | 1.5 |
| p,m-Xylene | 13.6 | 14.0 | 2.9% | 0 - 30% | 2.2 |
| o-Xylene | 7.6 | 7.9 | 3.9% | 0 - 30% | 1.0 |

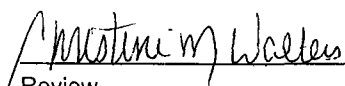
| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene | ND | 50.0 | 49.9 | 99.8% | 39 - 150 |
| Toluene | 36.4 | 50.0 | 86.2 | 99.8% | 46 - 148 |
| Ethylbenzene | 11.7 | 50.0 | 61.6 | 99.8% | 32 - 160 |
| p,m-Xylene | 13.6 | 100 | 113 | 99.8% | 46 - 148 |
| o-Xylene | 7.6 | 50.0 | 57.5 | 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 26552 - 26555, 26572 - 26576.


Analyst


Review

11313

ENVIROTECH INC.

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



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

July 29, 2003

Lori Wrotenbery

Director

Oil Conservation Division

Mr. Mike Talovich
Key Four Corners, Inc.
P.O. Box 900
Farmington, New Mexico 87499

**RE: Request to modify landfarm testing requirements
Key Four Corners, Inc.
Surface Waste Management Facility Permit NM-01-0009
Sec. 2, T-29-N, R-12-W, NMPM, San Juan County, New Mexico**

Dear Mr. Talovich:

The New Mexico Oil Conservation Division (OCD) has received Key Energy Services, Inc. (Key) modification request letter dated April 22, 2003. The request was for modification of the quarterly treatment zone monitoring permit requirement to twice annually. The OCD has reviewed this request and has determined that quarterly treatment zone monitoring must remain in affect.

Sincerely,

A handwritten signature in cursive script, appearing to read "Martyne J. Kielling".

Martyne J. Kielling
Environmental Geologist

cc: OCD Aztec District Office



RECEIVED

MAY 01 2003

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

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

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

April 22, 2003

Martyne J. Kieling
Environmental Geologist
New Mexico OCD
1220 S. St. Francis dr.
Santa Fe, New Mexico 87505

RE: Key Energy Services Discharge Plan UIC-CLI-005 testing requirements.

Dear Martyne,

Key Energy Services Inc. requests an amendment to our present Discharge Plan testing requirements. At present the Permit requirement is for quarterly analyses of the Injection Fluids and subsurface testing of the two Land Farm cells. Key Energy proposes Injection Fluid and Land Farm testing to be performed twice annually at the following times: one during winter time and one test during the summer. In the past six years of quarterly testing the results have indicated well below limits for any listed hazardous constituents.

Key Energy wishes to solicit the Divisions approval for this change of our operational testing requirements.

If you have any questions and/or require additional information please do not hesitate to contact me at 505-334-6416.

Sincerely,

Michael Talovich
Key Energy Services
Facility Supervisor

Cc L. Lewis Key
D. Foust NMOCD



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON

Governor

Joanna Prukop

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

March 28, 2003

Mr. Mike Talovich
Key Four Corners, Inc.
P.O. Box 900
Farmington, New Mexico 87499

**RE: Request for a modification to upgrade the existing below grade sumps.
Key Four Corners, Inc.
Surface Waste Management Facility Permit NM-01-0009
Sec. 2, T-29-N, R-12-W, NMPM, San Juan County, New Mexico**

Dear Mr. Talovich:

The New Mexico Oil Conservation Division (OCD) has received Key Energy Services, Inc. (Key) modification request letter dated February 11, 2003. The request for modification to upgrade the existing below grade sumps has been reviewed. The replacement sump is an upgrade from a single walled below grade sump to a double walled below grade sump with leak detection. This upgrade is in accordance with the permit NM-01-0009 conditions, FACILITY AND EVAPORATION POND OPERATION, page 2, item 9:

9. All new or replacement below-grade sumps and below-grade tanks at the facility must have secondary impermeable containment with a leak detection system. The leak detection system must be inspected for fluids weekly. Results must be recorded and maintained at the facility for OCD review. If fluids are present in the leak detection system they must be sampled and the analyses compared to the fluids in the sump/tank. A report including the analyses must be furnished to the OCD Santa Fe and appropriate District offices regarding the below grade sump/tank integrity.

The OCD has reviewed this request and has determined that request is a minor facility modification that does not require a permit modification. The installation of the new sumps is hereby approved with the following condition. The space between the primary and secondary wall of the sump must be capped/sealed in order to prevent sump materials from overflowing from the sump into the leak detection space. Capping this opening will also to prevent precipitation from entering into the space. Any fluid detected through the port in the leak detection space should only be from the failure of the primary sump wall.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "Martyne J. Kieling".

Martyne J. Kieling
Environmental Geologist

cc: OCD Aztec District Office



RECEIVED
FFR 19 2003
Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

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

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

February 11, 2003

Martyne Kieling
NMOCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87504

Re: Request of approval for a modification to upgrade the existing below grade Sumps.

Martyne,

Key Energy Services has finally acquired 3 steel pits to replace the existing below grade sumps. Technical descriptions of these tanks are: Volume.....20bbls
Steel thickness.....1/4"
Removable expanded steel tops

These improved tanks are all double walled and doubled bottomed and will be set below grade with containment berms surrounding them. Since these tanks are significantly smaller in height than the sumps they replace we expect two of these tanks to be set slightly below grade.

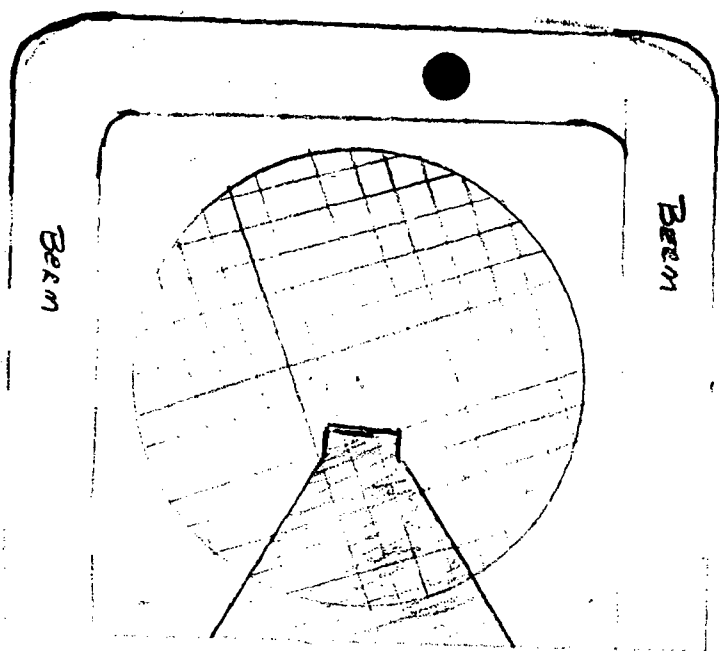
Included with this letter are drawings depicting placement and berming of the new pits, please add this new information to the file.

If you have any questions or comments you may call me at the office. (334-6416)

Sincerely,

Michael Talovich
Facility Supervisor
Key Energy Services

UNLOADING PIT SUMP

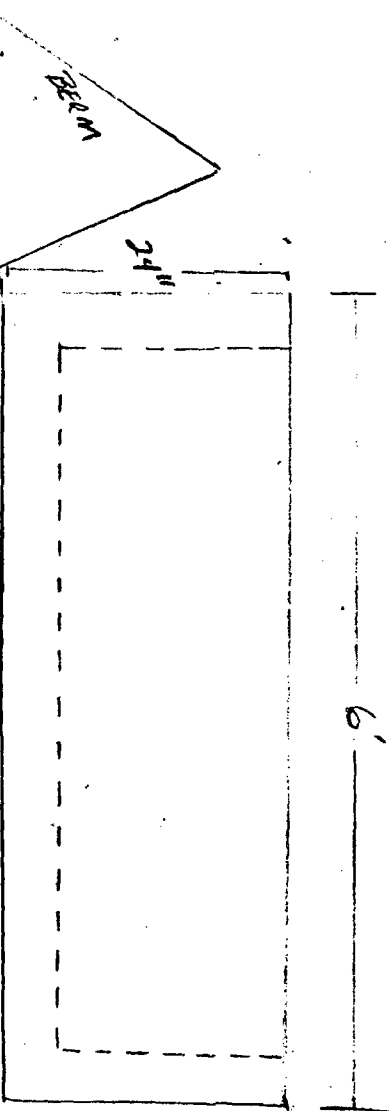


Shale shaker chute

UNLOADING PIT

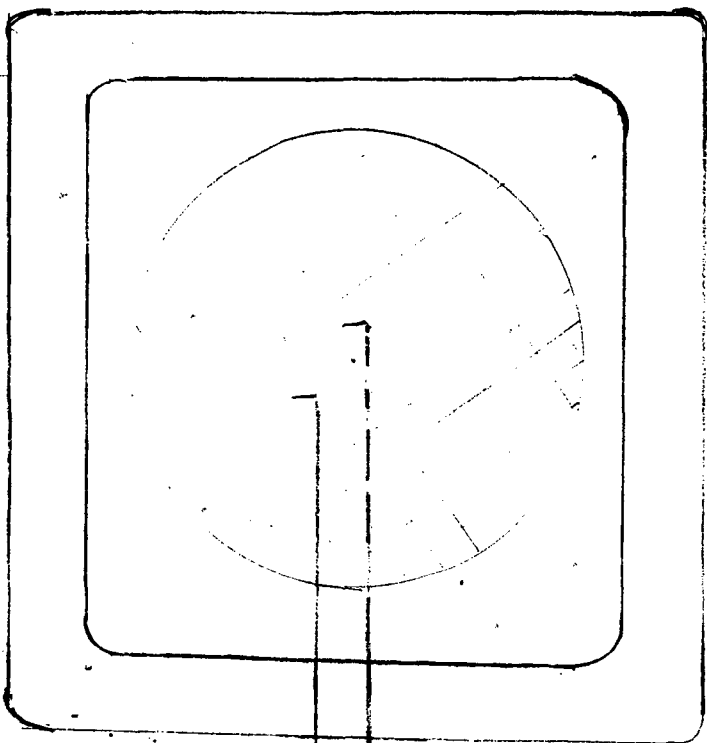


Shale shaker
Chute



TOP

PUMP SUMP



Pump Pressure Relief Valve

Pump House South Wall

Injection Pump stuffing box Drain

Ground Level

BERM

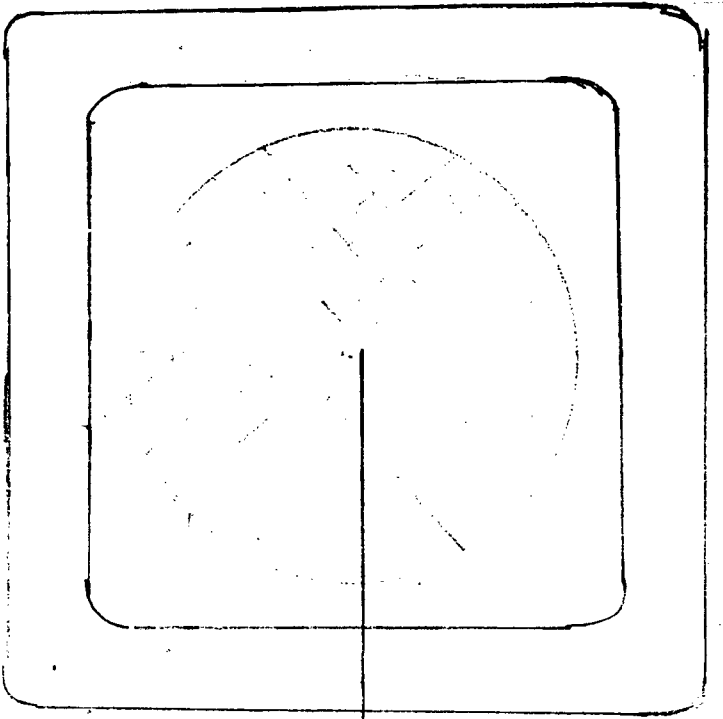
24"

6'

BERM

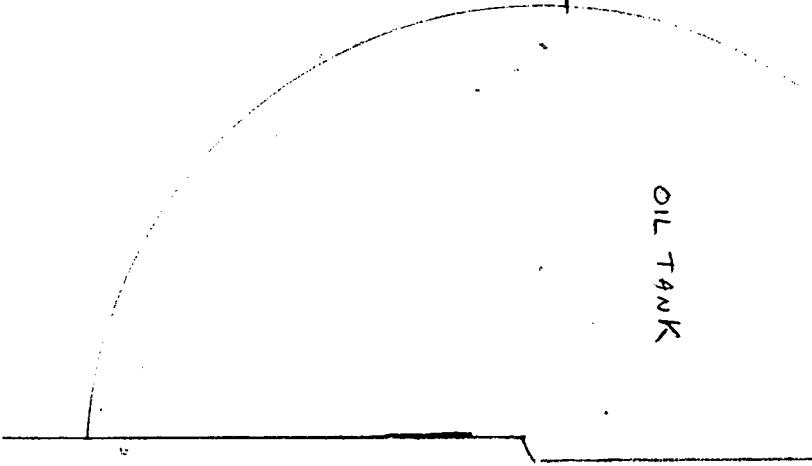
SIDE

TOP



OIL TANK
SUMP

OIL TANK



WEST SIDE of
OIL TANK

SIDE

BERM

6'

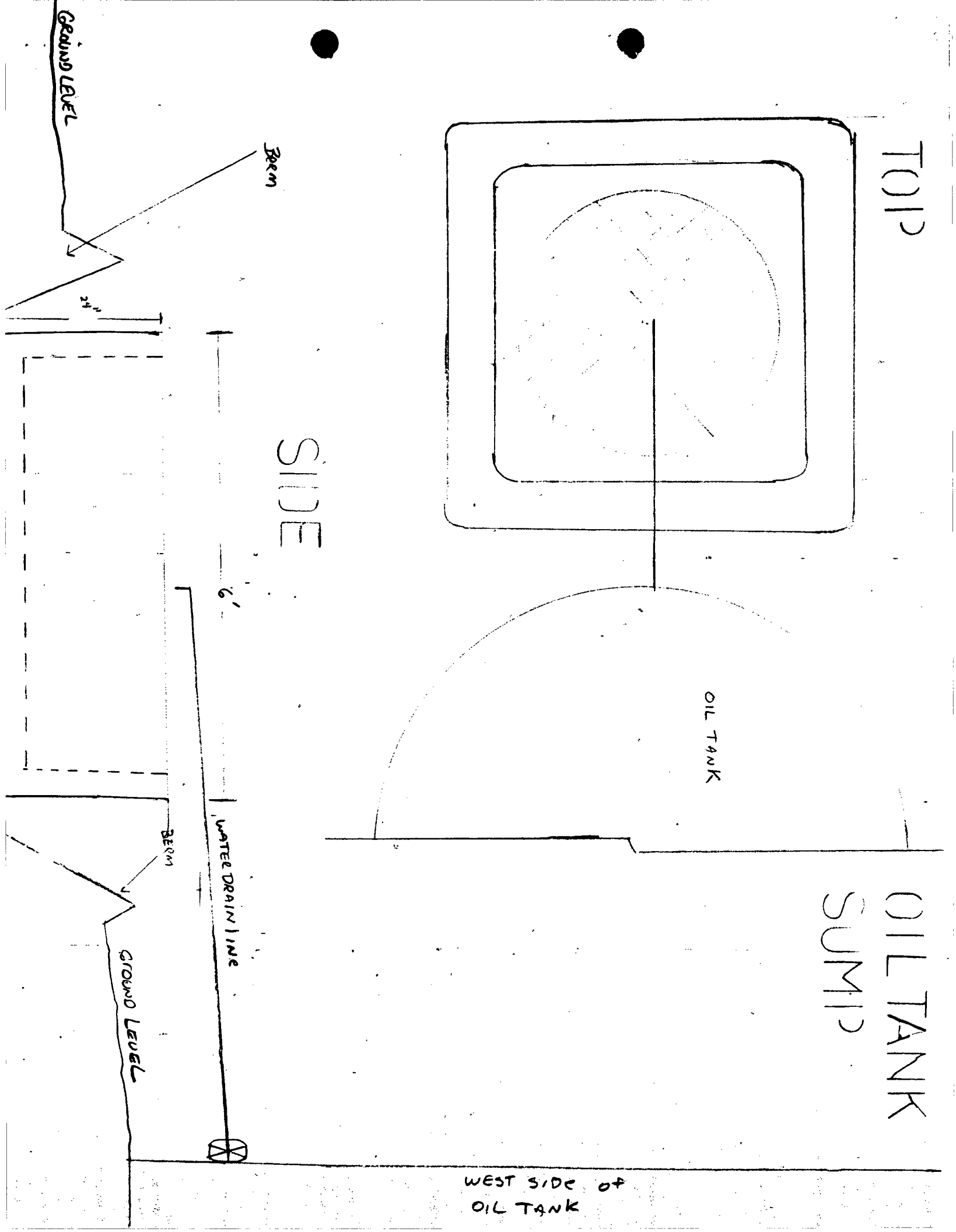
WATER DRAIN LINE

BERM

GROUND LEVEL

GROUND LEVEL

24"



RECEIVED

DEC 30 2002

Environmental Bureau
Oil Conservation Division

Storm Water Pollution Prevention Plan

Key Energy Services, Inc.
Sunco Disposal Well No.1,
Commercial Surface Waste
Management Facility

October 28, 2002

PREPARED FOR

Key Energy Services, Inc.

**Storm Water Pollution
Prevention Plan**

Key Energy Services, Inc.
Sunco Disposal Well No.1,
Commercial Surface Waste
Management Facility
San Juan, New Mexico

**Rick Brazfield
Safety and Environmental Division Director**

Prepared for:
Key Energy Services, Inc.

Prepared by:
Rick Brazfield
Key Energy Services, Inc.
PO Box 900, Farmington, NM, 87499
505-327-4935

Date:
October 28, 2002

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential, and exempt from disclosure under applicable law. Any dissemination, distribution, or copying of this document is strictly prohibited.

PLAN CERTIFICATION

Key Energy Services, Inc.

October 28, 2002

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A handwritten signature in black ink, appearing to read 'Rick Brazfield', is written over a horizontal line.

Rick Brazfield

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**Storm Water Pollution
Prevention Plan**

Facility Information

Name of Facility and Location

Key Energy Services, Inc.
Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
#345 CR3500
Axtec, New Mexico
Telephone: (505) 334-6186

Safety and Environmental Division Director

Rick Brazfield

1.0 Introduction

1.1 Goals of the Storm Water Pollution Prevention Plan

On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published regulations to control storm water discharges under the National Pollution Discharge Elimination System (NPDES). Under these regulations, industrial facilities are to be issued a storm water discharge permit with requirements specifically tailored towards control of storm water contamination. The storm water regulations presented three permit application options for storm water discharges associated with industrial activity. The first was to submit an individual application; the second option was to participate in a group application; and the third option was to file a Notice of Intent (NOI) to be covered in accordance with the requirements of a multi-sector general permit (MSGP). Key Energy Services, Inc. (Key Energy) located in Aztec, New Mexico, elected to submit a NOI to be covered under the MSGP.

Industrial facilities that discharge under authority of a MSGP are required to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). The pollution prevention plan approach, developed by the USEPA, gives facilities flexibility to establish a site-specific storm water management program to meet Best Available Technology/Best Control Technology (BAT/BCT) standards required by the Clean Water Act (CWA) instead of strictly relying on the imposition of numerical discharge limitations.

The pollution prevention approach adopted by USEPA focuses on two major objectives:

- To identify sources of pollution potentially affecting the quality of storm water discharges associated with industrial activity from the facility.
- To describe and ensure implementation of practices to minimize and control pollutants in storm water discharges associated with industrial activity from the facility.

The process of developing a SWPPP involves the following steps:

- Formation of a team of qualified personnel who will be responsible for preparing the plan and assisting the facility manager in its implementation.
- Assessment of appropriate management practices and controls.

Storm Water Pollution Prevention Plan

- Implementation of selected management practices and controls.
- Periodic evaluation of the ability of the plan to prevent storm water pollution and to comply with the terms of the NPDES MSGP.

In developing a SWPPP, the USEPA requires implementation of Best Management Practices (BMPs) to eliminate, minimize, and control potential sources of storm water pollution. BMPs may take the form of a process, activity, or physical structure. They are defined as structural devices or nonstructural practices that are designed to prevent pollutants from entering into storm water flows, to direct the flow of storm water, or to treat polluted storm water flows. Some BMPs are simple and can be put in place immediately, while others are more complicated and require extensive planning or space. The USEPA classifies BMPs into two categories:

- Baseline BMPs
- Advanced BMPs

The baseline BMPs are inexpensive, easily implemented controls to prevent storm water pollution. They include general housekeeping, preventive maintenance, spill prevention and control, inspections, employee training, sediment and erosion control, and management of runoff. An advanced BMP would require structural controls.

The advanced BMP category is further subdivided into activity-specific and site specific BMPs. Activity-Specific BMPs relate to practices associated with minimizing pollutants generated from certain activities such as fueling, vehicle washing and painting. An example of activity-specific BMPs would be overhead cover, spill kits and overfill prevention equipment for fueling operations. An example of a site-specific BMP is grading an area to direct storm water away from industrial activities. At a minimum, facilities are expected to implement the entire baseline BMPs. Additionally, in developing the SWPPP, each facility must consider advanced BMPs, evaluate them for their potential effectiveness, and implement the appropriate ones.

This SWPPP was prepared in accordance with the USEPA's guidance document entitled *Storm Water Management For Industrial Activities Developing Pollution Prevention Plans and Best Management Practices*, Office of Water, EPA 832-R-92-006, September 1992.

Storm Water Pollution Prevention Plan

1.2 Compatibility With Other Plans

As part of the SWPPP, inspections and routine maintenance procedures will be carried out in an effort to prevent spills/releases of materials at this facility. This plan should be compatible with other plans written for the site so as to prevent any conflicting statements, procedures, and/or practices during implementation of this and other plans. The Key Energy Sunco Disposal Well No. 1 has a HAZCOM Program, and a Material Safety Data Sheet (MSDS) training program.

2.0 Storm Water Pollution Prevention Team

The Storm Water Pollution Prevention Team is responsible for development and implementation of the SWPPP. The team members are listed with titles, phone numbers, and responsibilities as shown on Worksheet #1 (below).

| STORM WATER POLLUTION PREVENTION TEAM | WORKSHEET #1 |
|--|---|
| MEMBER ROSTER | Facility Name: Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility |
| | Corporation: Key Energy Services, Inc. |
| | Completed By: Rick Brazfield |
| | Title: Safety and Environmental Div. Director |
| Date of Last Revision: October 28, 2002 | |
| Leader: Mike Talovich Title: Yard Manager Office Phone: (505) 334-6186 | |
| Responsibilities: <ul style="list-style-type: none"> • <u>Implement Plan:</u> • <u>Keep Plan updated and review at least annually.</u> | |
| Members: (1) Rick Brazfield Title: Safety and Environmental Division Director Phone: (505) 327-4935 | |
| Responsibilities: <ul style="list-style-type: none"> • <u>Responsible for training of facility personnel</u> • <u>Maintain a complete inventory of hazardous materials</u> • <u>Ensure proper disposal of hazardous wastes</u> • <u>Ensure required monitoring and reporting to comply with general permit</u> • <u>Ensure process activities and yard activities comply with the SWPPP</u> • <u>Assist with required monitoring and reporting to comply with the NPDES Permit</u> • <u>Responsible for day to day implementation of the BMPs</u> • <u>Ensure that the members perform the required activities, including weekly inspections</u> | |

3.0 Facility Assessment

3.1 Description

The Key Energy Services Sunco Disposal Well #1, Commercial Surface Waste Management Facility is located at #345 CR3500 on Crouch Mesa approx. 5 Miles East of Farmington, New Mexico, (SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM San Juan County, New Mexico) (Figure 1). Entrance into the facility is obtained from either turning North on CR3500 from US Hwy. 64 between Farmington and Bloomfield, New Mexico or Turning South on CR3500 from NM Hwy. 550 between Farmington and Aztec, New Mexico(see Figure 2). The facility is approximately 11.5 acres in size and is utilized for the disposal of produced water.

The Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility provides customers with a means to dispose of produced water. The SIC Code for the facility is 1389. Trucks entering the facility via CR3500 in San Juan County, New Mexico proceed to the unloading dock where hoses are attached to the tank truck and their pumps engaged. The fluid is then transferred into the above ground processing tanks for material separation. Once the solids and hydrocarbons are separated the produced water is transferred into a lined pit for aeration, evaporation and chemical treatment. The produced water is then pumped through a five micron and through a one micron filtration system. The processed water is then pumped into the injection well. The recovered oil is temporarily stored in above ground storage tanks and later disposed of through Safety Kleen in Farmington, New Mexico. All transfers of oil to Safety Kleen are profiled and manifested.

The facility is permitted through OCD Titled: Permit NM—01-0009

3.2 Facility Drainage

Site drainage routes are shown in Figure 2. The storm water at the facility is a gravity system that drains to the West from the unloading area and drains North near the Injection pump well area.

3.3 Inventory and Description of Exposed Materials

An inventory and description of exposed materials is presented in Worksheet #2. This worksheet should be updated periodically so that it can be properly used to assess sources and control measures of storm water contamination.

3.4 Significant Spills and Leaks

There have been no known significant spills of hazardous substances or toxic pollutants in the past 3 years from the date of this plan. A significant spill is defined by the USEPA as releases, which occur within a 24-hour period of hazardous substances in excess of reportable quantities under Section 311 of the CWA and Section 302 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Reportable quantities can be found listed in 40 CFR Parts 117 and 302. In the event of a significant spill or leak, notify the National Response Center at (800) 424-8802 and the OCD (505) 393-6161 as soon as possible. Also Worksheet #3 should be updated at that time.

Storm Water Pollution Prevention Plan

| STORM WATER POLLUTION PREVENTION PLAN | | | | | WORKSHEET #2 | | | |
|--|---|---------|---------------------------|-----------------------------|---|--|---|---|
| MATERIAL INVENTORY (Potential Pollutant Sources) | | | | | Facility Name: Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility | | | |
| | | | | | Completed By: Rick Brazfield | | | |
| | | | | | Title: Safety and Environmental Division Director | | | |
| | | | | | Date of Last Revision: August 22, 2002 | | | |
| MATERIAL/ ACTIVITY | LOCATION | AST/UST | QUANTITY (GAL) USED | QUANTITY (GAL) STORED | QUANTITY (GAL) PRODUCED | QUANTITY EXPOSED IN LAST 3 YEARS | LIKELIHOOD OF CONTACT WITH STORMWATER, IF YES, DESCRIBE REASON | PAST SIGNIFICANT SPILL/LEAK Yes/No |
| 1) Produced Water | Central S. E. side of yard at unloading dock | AST | Varies | 1500 BBL. Pits, varies | 1500 BBL. Pits, varies | | None known | No No (none known) |
| 2) | | | | | | | | |
| 3) | | | | | | | | |
| 4) | | | | | | | | |

STORM WATER POLLUTION PREVENTION PLAN

WORKSHEET #2

MATERIAL INVENTORY (Potential Pollutant Sources)

Facility Name: Key Energy Services Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
Completed By: Rick Brazilfield
Title: Safety and Environmental Division Director
Date of Last Revision: October 28, 2002

| MATERIAL/ ACTIVITY | LOCATION | AST/UST | QUANTITY (GAL) | QUANTITY (GAL) | QUANTITY (GAL) | QUANTITY EXPOSED IN LAST 3 YEARS | LIKELIHOOD OF CONTACT WITH STORM WATER, IF YES DESCRIBE REASON | PAST SIGNIFICANT SPILL/LEAK Yes/No |
|-----------------------|------------------|---------|-------------------|-------------------|-------------------|--|---|---|
| | | | USED | STORED | PRODUCES | | | |
| Sodium Hypochlorite | Facility Yard | AST | 3000 Gallons | 3000 Gallons | 0 | None | None | No |
| Corrosion Inhibitor | Compressor House | AST | 55 Gallons | 55 Gallons | 0 | None | None | No |
| Delco 30 Wt. Oil | Compressor House | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |
| Hydraulic Oil | Facility Office | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |
| Antifreeze | Facility Office | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |
| 30 Wt. Oil, Delco | Pump House | AST | 55 Gallons | 55 Gallons | 0 | None | None | No |
| Mystic Grease | Shop | AST | 1 Case | 1 Case | 0 | None | None | No |

AST = Aboveground Storage Tank
UST = Underground Storage Tank

| STORM WATER POLLUTION PREVENTION PLAN | | | | WORKSHEET #2 | | | | |
|--|--------------------|---------|---------------------------|--|-------------------------------|--|---|---|
| MATERIAL INVENTORY (Potential Pollutant Sources) | | | | Facility Name: Key Energy Services Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility | | | | |
| | | | | Completed By: Rick Brazfield | | | | |
| | | | | Title: Safety and Environmental Division Director | | | | |
| | | | | Date of Last Revision: October 28, 2002 | | | | |
| MATERIAL/ ACTIVITY | LOCATION | AST/UST | QUANTITY (GAL) USED | QUANTITY (GAL) STORED | QUANTITY (GAL) PRODUCTS | QUANTITY EXPOSED IN LAST 3 YEARS | LIKELIHOOD OF CONTACT WITH STORM WATER, IF YES DESCRIBE REASON | PAST SIGNIFICANT SPILL/LEAK Yes/No |
| Joe's Hand Cleaner | Facility Office | AST | 3-4.5 lb. Cans | 3-4.5 lb. Cans | 0 | None | None | No |
| PVC Primer | Facility Office | AST | 1 Can | 1 Can | 0 | None | None | No |
| PVC Glue | Facility Office | AST | 1 Can | 1 Can | 0 | None | None | No |
| WD-40 | Facility Office | AST | 1 Case | 1 Case | 0 | None | None | No |
| Krylon Spray Paint | Facility Office | AST | 3 Cans | 3 Cans | 0 | None | None | No |
| Rig Wash Soap | Facility Office | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |
| Antifreeze 50/50 | Facility Office | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |

AST = Aboveground Storage Tank
UST = Underground Storage Tank

**STORM WATER
POLLUTION PREVENTION PLAN**

WORKSHEET #2

Facility Name: Key Energy Services Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility

Completed By: Rick Brazfield

Title: Safety and Environmental Division Director

Date of Last Revision: October 28, 2002

MATERIAL INVENTORY
(Potential Pollutant Sources)

| MATERIAL/ ACTIVITY | LOCATION | AST/UST | QUANTITY | QUANTITY | QUANTITY | QUANTITY EXPOSED IN LAST 3 YEARS | LIKELIHOOD OF CONTACT WITH STORM WATER, IF YES DESCRIBE REASON | PAST SIGNIFICANT SPILL/LEAK Yes/No |
|---------------------------|--------------------------|----------------------------|--------------------------------|--------------------------------|-------------------|--|---|---|
| | | | USED (GAL) | STORED (GAL) | PRODUCES (GAL) | | | |
| Hydraulic Oil | Facility Office | AST | 5 Gallons | 5 Gallons | 0 | None | None | No |
| Lube Grease | Facility Office | AST | 12 Tubes | 12 Tubes | 0 | None | None | No |
| Potassium Permanganate | Storage Building | AST | 6-110lb. Cans-Dry | 6-110lb. Cans-Dry | 0 | None | None | No |
| Used Water Filters | Next to Pump House | AST | 2 Cubic Yard Basket Skid | 2 Cubic Yard Basket Skid | 0 | None | None | No |
| Used Motor Oil | Facility Grounds | AST, 300bbl & 400bbl | 700 bbl. | 700 bbl | 700 bbl. | None | None | No |
| | | | | | | | | |
| | | | | | | | | |

AST = Aboveground Storage Tank
UST = Underground Storage Tank

Storm Water Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN

LIST OF SIGNIFICANT SPILLS AND LEAKS

WORKSHEET #3
Facility Name: Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
Completed By: Rick Brazfield
Title: Safety and Environmental Division Director
Date of Last Revision: October 28, 2002

Direction: Record below all significant spills and significant leaks of toxic or hazardous pollutants which have occurred at the facility in the last three years prior to the effective date of the permit (this includes, but not limited to, releases of oil or hazardous substances in excess of reportable quantities).

| Year Prior Date | Spill | Leak | Location | Description Type of Material | Response Procedures Quantity | Source, if Known | Exposed to Storm Water Reason | Amended Recovered | Yes/ No/N/A | Preventative Measures |
|-----------------------|-------|------|----------|---------------------------------|------------------------------------|------------------|-------------------------------------|----------------------|----------------|--------------------------|
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| N/A | | | | | | | | | | |
| Year Prior Date | Spill | Leak | Location | Description Type of Material | Response Procedures Quantity | Source, if Known | Exposed to Storm Water Reason | Amended Recovered | Yes/ No/N/A | Preventative Measures |
| N/A | | | | | | | | | | |

Storm Water Pollution Prevention Plan

3.5 Summary of Potential Pollutant Sources and Risks

Potential pollutant sources and risks of contaminating storm water runoff can be summarized as follows:

- **Trucks unloading into area pits and tanks and injection pump area.**
- **55-gallon Drums of Used Filters** – Used oil filters and absorbent products are stored in several of the 55-gallon drums on the facility grounds. The 55-gallon drums do sit inside a containment area. The drums do not pose a potential risk for polluting storm water.
- **ASTs –**
 - **Produced Water Tanks** – All tanks are visually inspected daily. Tanks have a half moon shaped berm to act as a containment if a leak should occur.
 - **Chemicals** – The chemical tank is located on a bank bermed with liner below. It is designed to run into the pond should a leak occur.

4.0 Storm Water Management

4.1 Baseline BMPs

Baseline BMPs are practices that are inexpensive, relatively simple, and applicable to a wide-variety of industries and activities. The BMPs identified in the NPDES MSGP Sector I for Oil and Gas Extraction facilities were considered for their appropriateness and effectiveness in preventing storm water pollution at the Key Energy Sunco Disposal Well No. 1. The following sections highlight those BMPs selected from the NPDES NISGP that are already in place or expected to be implemented at the facility. Key Energy employees should be actively involved in the implementation of these measures.

4.1.1 Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. Often the most effective first step towards preventing pollution in storm water from sites simply involves using good common sense to improve the facility's basic housekeeping methods. Poor housekeeping can result in more waste being generated than necessary and greater potential for storm water contamination. A clean orderly work area reduces the possibility of accidental spills caused by the mishandling of chemicals and equipment and should reduce safety hazards to personnel. Well-maintained material and chemical storage areas will reduce the possibility of storm water contact with pollutants. The good housekeeping BMPs in existence at the Key Energy Sunco Disposal Well No. 1 include the following elements:

- Keeping trash dumpsters closed.
- Identifying all chemical substances present in the facility and obtaining the Material Safety Data Sheet (MSDS) for each.
- Properly labeling storage drums and tanks.
- Keeping trash and tumble weeds cleaned out of evaporation pit.
- Offsite recycling of used motor oil and oil filters and waste oil.

4.1.2 Preventive Maintenance

The effective preventive maintenance program for Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility includes the following elements:

- Identifying equipment and facility areas that should be inspected and inspect those identified.
- Adjusting, repairing, or replacing equipment in an appropriate and timely manner.
- Maintaining complete records of inspections and equipment.
- Keeping all chemical storage containers closed except when they are being filled or emptied.
- Keeping all berms in good condition.

Equipment, which requires inspections and preventive maintenance at the Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility includes the used motor oil tank, used oil filter drums, and all ASTs, 55-gallon drums that are not empty, and all berms. These areas will be examined for leaks, overflows, corrosion, or other deterioration or no containment.

4.1.3 Comprehensive Visual Inspections of Facility

Visual inspections should be performed for evidence of, or the potential for, conditions, which may result in contamination of storm water runoff with pollutants from the facility. It is the practice of Key Energy employees to routinely look for evidence of spills/leaks throughout the facility. Spills/leaks identified are promptly addressed. A checklist and schedule for routine inspections are provided in Appendix A and should be completed each time an inspection is conducted. Inspections performed at the Key Energy facility include the following:

- Weekly inspections to ensure the fluid level in the Pits, Oil Tanks, Pumps and Pond are not at the maximum capacity, the Containments are in good condition, and free of water, trash or contaminants.
- Weekly inspections to ensure that all used oil filter drums are sealed, the secondary containments are in good condition, and free of water, trash or contaminants.

Storm Water Pollution Prevention Plan

- Weekly inspections of any ASTs, Pits and Tanks that contain fluids, and associated containment areas for leaks or structural damage on operational days.
- Weekly inspection of all berms to insure they are in good condition and free of erosion.

Facility personnel are also required to conduct, at a minimum, quarterly visual inspections of BMPs including:

- Assessment of the integrity of any storm water control structures such as culverts and berms.
 - Visual inspections of storage areas, maintenance areas, and aboveground storage containers. These inspections must be during daylight hours at least once in each of the following periods.
- January through March
 - April through June
 - July through September
 - October through December

Records of inspections will be maintained in Appendix D as part of this plan.

Inspection records should note when the inspections were performed, who conducted the inspection, what areas were inspected, what problems were identified, and steps taken to correct any problems. All routine inspection forms will be retained for at least 1 year after coverage under the NPDES MSGP terminates.

4.1.4 Spill Prevention and Response

The Key Energy Sunco Disposal Well No.1, Commercial Surface Waste Management Facility does have a Petroleum SPCC plan in existence. To prevent or minimize storm water contamination at chemical management and storage areas, and from equipment or container failures, the following ESOPs will be implemented. Spill prevention and response procedures, which address potential sources of leaks or spills, are as follows:

- Containing and cleaning up leaks and spills as soon as possible. If malfunctioning equipment is responsible for the spill or leak, repairs are conducted as soon as possible.
- Clean-up procedures include use of dry absorbents. An adequate supply of dry absorbent materials shall be maintained on-site in various areas where petroleum products are used. Used absorbents are properly disposed.
- Drums and ASTs containing liquid chemicals, including oil and lubricants, are stored in closed, segregated, labeled containers.
- Drums and ASTs located outside of facility buildings and that contain fluids are placed within sufficiently impervious secondary containment areas. The secondary containment areas shall be constructed of steel or reinforced concrete with a secondary containment capacity equal to or greater than the maximum capacity of the largest container in that containment area. The base of the secondary containment structures may contain drain valves to allow drainage of clean rainwater from the secondary containment area. The drain valves shall be closed at all times except when draining clean rainwater from the secondary containment area.

4.1.5 Sediment and Erosion Control

Sediment and erosion were not a problem during the facility assessment. However, if routine inspections reveal any sign of soil erosion, appropriate measures, such as planting vegetation or laying of caliche gravel, will be taken. The SWPPP would then be revised accordingly to incorporate these actions into the planned BMPs.

4.1.6 Management of Runoff

Runoff did not appear to be a problem during the facility assessment.

If routine inspections reveal the need for further action to manage runoff, appropriate measures, such as installing curbing, berms, or other engineering controls, will be taken. The SWPPP would then be revised accordingly to incorporate these measures into the planned BMPs.

4.2 Activity-Specific BMPs

The BMPs that are specifically appropriate for this facility. The following main areas have been identified as potentially significant sources of storm water pollutants that require activity-specific BMPs at the Key Energy Sunco Disposal Well No. 1.

4.2.1 Concrete Wash-out Pit

Proposed BMPs for the Unloading Area including the following:

- Installation of concrete pad and sump

4.2.2 Liquid Storage in Aboveground Tanks and Containers

Materials spilled, leaked, or lost from ASTs, Tanks and Pits, and other containers may accumulate in soils or on other surfaces and be carried by rainfall runoff. The facility has adopted appropriate BMPs to minimize such impacts for non-empty tanks and containers, including:

- Comply with applicable State and Federal laws.
- Train employees properly.
- Install storage tank overfill protection systems, if deemed necessary.
- Install secondary containment capable of containing entire contents.
- Inspect tanks and equipment routinely.

5.0 Plan Implementation

Implementation of the SWPPP for the Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility involves three steps:

- Developing a schedule for implementation.
- Assigning specific individuals with the responsibility for implementing aspects of the plan and/or monitoring implementation.

Storm Water Pollution Prevention Plan

- Ensuring that management approves of the implementation schedule and strategy and schedule regular times for reporting progress to management.

Worksheet #4 provides an example of how BMPs can be outlined with a description of the actions required for implementation dates for each action, persons responsible for each action, and other special requirements. The scheduled completion dates and other information should be completed by facility personnel.

Storm Water Pollution Prevention Plan

| STORM WATER POLLUTION PREVENTION PLAN | | WORKSHEET #4 | |
|---------------------------------------|--|---|-------------------------------|
| POLLUTANT SOURCE IDENTIFICATION | | Facility Name: Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility | |
| BMP Identification and Implementation | | Completed By: Rick Brazfield | |
| | | Title: Safety and Environmental Division Director | |
| | | Date of Last Revision: October 28, 2002 | |
| BMP | Description of Action(s) Required for Implementation | Person Responsible for Implementation | Additional Requirements/Notes |
| Good Housekeeping | <ul style="list-style-type: none"> Keep trash dumpsters lids closed. Identifying all chemical substances present in the facility and obtaining the MSDS for each. Properly labeling storage drums and tanks. Keep pits free of oil. | | |
| Preventive Maintenance | <ul style="list-style-type: none"> Identifying equipment, systems, and facility areas that should be inspected and inspect those identified. Adjusting, repairing, or replacing equipment in an appropriate and timely manner. Maintaining complete record of inspection and equipment. Keeping all chemical storage containers closed except when they are being filled or emptied. | | |

Storm Water Pollution Prevention Plan

| STORM WATER POLLUTION PREVENTION PLAN | | WORKSHEET #4 | |
|---------------------------------------|--|---|---------------------------------------|
| POLLUTANT SOURCE IDENTIFICATION | | Facility Name: Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility | |
| BMP Identification and Implementation | | Completed By: Rick Brazfield | |
| | | Title: Safety and Environmental Division Director | |
| | | Date of Last Revision: October 28, 2002 | |
| BMP | Description of Action(s) Required for Implementation | Schedule/Grading/Drainage Required | Person Responsible for Implementation |
| | | | Additional Requirements/Notes |
| Visual Inspection | <ul style="list-style-type: none"> Weekly inspections of any ASTs, Pits, Sumps, Landfills and 55-gallon drums that contain fluids, and associated containment area for leaks or structural damage. Weekly inspection of any ASTs, Pits, Sumps, Landfills and 55-gallon drums that contain fluids, and associated containment areas for leaks or structural damage on operational days. | | |
| Spill Prevention and Response | <ul style="list-style-type: none"> Containing and cleanup of leaks and spills. Weekly inspections of AST, Pits, Sumps, Landfills and drum storage secondary containment areas. | | |

Storm Water Pollution Prevention Plan

| STORM WATER POLLUTION PREVENTION PLAN | | WORKSHEET #4 | |
|--|--|--|--|
| POLLUTANT SOURCE IDENTIFICATION BMP Identification and Implementation | | Facility Name: Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility Completed By: Rick Brazfield Title: Safety and Environmental Division Director Date of Last Revision: October 28, 2002 | |
| BMP | Description of Action(s) Required for Implementation | Scheduled Completion Date(s) Required | Person Responsible for Implementation |
| Containment area | <ul style="list-style-type: none"> Keep all trash, spills and water cleaned out of the containment areas. | | Additional Requirements/Notes: The containment area should be kept free of trash, spills and water at all times. This will prevent contaminant overflowing if storm water is collected in the containment area. |
| Liquid Storage in ASTs and Containers | <ul style="list-style-type: none"> Comply with applicable State and Federal laws. Train employees properly. Inspect non-empty ASTs and containers routinely | | |

6.0 Employee Training

The employee training program must inform personnel at all levels of responsibility of the components and goals of the SWPPP. Training will address each component of the plan including how and why tasks are to be implemented. Topics will include, at a minimum, the following:

- Storm Water Pollution Prevention.
- Spill Prevention and Response.
- Good Housekeeping Practices.
- Preventative Maintenance Practices.

Employees will receive initial training and refreshers on at least an annual basis.

7.0 SWPPP Evaluation and Monitoring Requirements

7.1 Annual Site Inspection/BMP Evaluation

Qualified personnel must conduct site compliance evaluations at least once a year. Qualified personnel include those employees familiar with all facility industrial operations and SWPPP goals and requirements. These inspectors should be able to make necessary management decisions or have direct access to management. As part of the compliance evaluations, the inspectors are required to:

- Confirm the accuracy of the description of potential pollution sources contained in the plan. Identify any changes in potential pollution sources.
- Evaluate the effectiveness of measures identified in this plan to reduce pollutant loading and whether additional measures are needed.
- Assess compliance with the terms and conditions of this plan.
- Revise the plan (as needed) within 4 weeks of inspection.
- Complete Report Form for Annual Compliance Inspection (Appendix B) summarizing inspection results and follow up actions, the date of inspection and personnel who conducted the inspection.

Storm Water Pollution Prevention Plan

- Document all incidents of noncompliance. Where there are no incidents of noncompliance, the inspection report must contain a certification that the facility is in compliance with the plan.
- Sign the report and keep it with all other completed site inspection forms related to this SWPPP.
- Evaluation reports must be retained for at least 3 years after evaluation.

7.2 Storm Water Discharge Monitoring Requirements

Permittees are not required to conduct monitoring under Sector I - Oil and Gas Extraction Facilities. Unless a spill occurred or storm water has come in contact with pollutants.

7.3 Recordkeeping and Reporting

Incidents, such as spills or other discharges, along with other information describing the quality and quantity of storm water discharges must be recorded. Inspections and maintenance activities shall be documented and kept with the plan. Records must be maintained for 1 year after the permit expires.

7.3.1 Spills and Leaks

For each spill or leak, the permittee should record the following:

- a. Facility name and location, date, time, and cause and type of incident.
- b. Name and telephone number of reporter.
- c. Name and quantity of materials involved.
- d. Response procedures.
- e. Name of person cleaning up the spill.
- f. Extent of any injuries.
- g. Hazards to human health and the environment off-site.
- h. Steps taken to prevent recurrence of similar spills or leaks.

Storm Water Pollution Prevention Plan

The permittee should retain the records of any spills or leaks for a period of 3 years. The HS&E Manager who is responsible for reporting the spill to the appropriate agencies and shall keep these records on-site.

The HS&E Manager is also responsible for investigating each harmful petroleum spill and implementing steps to prevent a reoccurrence.

7.3.2 Inspections and Maintenance

Inspections records should note the following:

- a. Facility name and location, time, and date of inspection.
- b. Name(s) of the person(s) who conducted the inspection.
- c. Area inspected.
- d. Problems identified.
- e. Steps taken to correct any problems.

All routine inspection forms will be retained for at least 1 year after coverage under the permit terminates. Records of inspections will be maintained in Appendix D as part of this plan.

7.4 Plan Review and Revisions

The SWPPP must be amended whenever there is a change in design, construction, operation, or maintenance, which may impact the potential for pollutant to be discharged or if the SWPPP proves to be ineffective in controlling the discharge of pollutants.

Appendix A

SWPPP Checklist

APPENDIX A

SWPPP Checklist

Quarterly Visual Inspection Checklist

Key Energy Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
Aztec, New Mexico

| |
|---|
| Inspector's Name and Phone Number: _____ |
| Inspection Date: _____ Inspection Site: _____ |
| Weather Conditions: _____ |

| Housekeeping Items | Yes | N/A | No | Corrective Action |
|---|-----|-----|----|-------------------|
| 1. Are the covers for trash dumpsters closed? | | | | |
| 2. Are there any damaged, corroded, or leaking 55- gallon drums or AST? | | | | |
| 3. Are all 55-gallon drums and ASTs with fluids properly labeled? | | | | |
| 4. Are there any unneeded oils in drums or ASTs that can be taken offsite for recycling? | | | | |
| 5. Are all active ASTs that contain hydrocarbons, if any, located inside impervious secondary containment areas, and are the secondary containment areas water tight? | | | | |
| 6. Is the level in the used motor oil tank at a safe level? | | | | |
| 7. Is garbage removed regularly, including empty potassium chloride bags, and are garbage bins kept closed? | | | | |
| 8. Is there evidence of drips or leaks from equipment or machinery on-site that can lead to contact with storm water? | | | | |
| 9. | | | | |
| 10. | | | | |

Inspector's Name

Inspection Date

Appendix B

Annual Compliance Inspection Report and Certification

APPENDIX B

Annual Compliance Inspection Report and Certification
Key Energy Services Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
San Juan County, New Mexico

Inspector: _____

Date of Inspection: _____

Scope and Content of Inspection:

Observation relating to the implementation of the SWPPP:

Actions required to update and improve the effectiveness of the SWPPP:

Incidents of noncompliance:

I hereby certify that this facility is in compliance with the terms and conditions of this Storm Water Pollution Prevention Plan. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signed: _____

Date: _____

Appendix C
Monitoring Requirements

APPENDIX C

Monitoring Requirements

Key Energy Services Sunco Disposal Well No. 1, Commercial Surface Waste Management Facility
San Juan County, New Mexico

Permittees are not required to conduct monitoring under Section I – Oil and Gas Extraction Facilities. The Following requirements will be observed for any monitoring that is conducted.

Sample Type

Any discharge data collected shall be grab samples. All such samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event.

The grab sample shall be taken during the first 30 minutes of the discharge. Samples shall be collected at the nearest accessible location just prior to discharge and after final treatment. If the collection of a grab sample during the first 30 minutes is impracticable, a grab sample can be taken during the first hour of discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first 30 minutes was impracticable.

Appendix D

SWPPP Records

ATTACHMENT TO OCD 711 PERMIT MODIFICATION APPROVAL
PERMIT NM-01-0009
KEY FOUR CORNERS, INC.
SURFACE WASTE MANAGEMENT FACILITY
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico
(February 18, 2000)

FACILITY AND EVAPORATION POND OPERATION

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal may occur only when an attendant is on duty. The facility must be secured when no attendant is present.
3. The facility must be maintained such that there will be no storm water runoff beyond the boundaries of the facility.
4. No produced water may be received at the facility unless the transporter has a valid Form C-133, Authorization to Move Produced Water, on file with the Division.
5. All produced water must be unloaded into tanks. The produced water must reside in the tank system long enough to allow for oil and sediment separation. Oil recovered must be stored in above-ground storage tanks. Per Division General Rule 310, oil shall not be stored or retained in earthen reservoirs or in open receptacles.
6. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
7. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed so that the area will hold one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
8. Below-grade sumps must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump integrity has failed the OCD must be notified within 48 hours of discovery and the sump contents and contaminated soil must be removed and disposed of at an OCD-approved facility or landfarmed on site. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a

report to the OCD Santa Fe and appropriate District offices that describes the investigation and remedial actions taken.

9. All new or replacement below-grade sumps and below-grade tanks at the facility must have secondary impermeable containment with a leak detection system. The leak detection system must be inspected for fluids weekly. Results must be recorded and maintained at the facility for OCD review. If fluids are present in the leak detection system they must be sampled and the analyses compared to the fluids in the sump/tank. A report including the analyses must be furnished to the OCD Santa Fe and appropriate District offices regarding the below grade sump/tank integrity.
10. All saddle tanks and drums located at the facility and containing materials other than fresh water must be placed on an impermeable pad and curb-type containment. The containers must be labeled as to contents and hazards.
11. Any design changes to the produced water receiving, treatment and evaporation area must be submitted to the OCD Santa Fe office for approval.
12. The pond must have a minimum freeboard of one and a half (1½) feet. A device must be installed in the pond to accurately measure freeboard.
13. The pond may not contain any free oil.
14. Pond inspection and maintenance must be conducted on a daily basis or immediately following a consequential rainstorm or windstorm. The OCD Santa Fe and Aztec office must be notified within 24 hours if any defect is noted. If any defect is noted repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond, additional wastes may not be placed into the pond until repairs have been completed. Records of such inspections must be made available to the OCD upon request.
15. The pond leak detection system sumps shall be inspected daily. Results must be recorded and maintained at the facility for OCD review. If fluids are found in the sump, the following steps will be immediately undertaken:
 - a. the operator will notify the Aztec office within 24 hours;
 - b. the fluids will be sampled and analyzed and a comparison made to the fluids in the pond to determine the source; and
 - c. the fluids will be immediately and continuously removed from the sump. Such fluids may be returned to the pond.

16. If a leak is determined to exist in the primary liner, the operator will immediately undertake the following measures under the direction of the OCD:
 - a. introduction of fluids into the pond will cease;
 - b. enhanced evaporation will commence, provided atmospheric conditions are such that the spray systems can be operated in accordance with the provisions of this permit;
 - c. fluids will be removed from the pond using evaporation, injection and transportation to another authorized facility until the fluid level is below the location of the leak in the liner;
 - d. the liner will be repaired and tested and the leak detection system will be completely drained before introduction of fluids into the pond resumes; and
 - e. any additional measures required by the OCD will be completed.
17. **Sludge thickness in the base of the pond must be measured annually. Any sludge build-up in the bottom of the pond in excess of twelve (12) inches must be removed and may be landfarmed at the on-site landfarm or disposed of at an OCD-approved facility.**
18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.
19. Liquid reduction technologies that may be used to eliminate pond waters include evaporation, enhanced evaporation and injection at the facility Class I disposal well.
20. Any time the spray system is used to enhance evaporation the following requirements will apply:
 - a. all spray must remain within the confines of the lined portion of the pond;
 - b. the spray system will be equipped with an automatic anemometer that will automatically deactivate the spray system when the winds, sustained or in gusts, would carry the spray outside the confines of the lined portion of the pond; and
 - c. the spray system may be operated only when an attendant is on duty.
21. Within 24 hours of detection or complaint of any odor generation that may impact public health or welfare, the facility must notify the OCD Aztec office and begin an investigation to determine the appropriate remedial actions. Actions may include chemical treatment and/or

and/or the immediate solidification and landfarming of material. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.

H₂S PREVENTION & CONTINGENCY PLAN

1. In order to prevent development of harmful concentrations of H₂S, the following procedures must be followed:
 - a. All incoming loads of produced water must be tested for hydrogen sulfide (H₂S) concentrations. Any loads with measurable H₂S concentrations will be treated in a closed system. The treatment reaction must be driven to completion to eliminate all measurable H₂S prior to disposal of the water into the pond.
 - b. The aeration system must be operated to provide sufficient oxygen to the pond to maintain a residual oxygen concentration of 0.5 ppm one foot off the bottom of the pond. Tests must be conducted and records made and maintained of the dissolved oxygen levels in the pond according to the following procedures:
 - i. tests must be conducted at the beginning and end of each day, or at least twice per 24-hour period;
 - ii. the sample for each test must be taken one foot from the bottom of the pond;
 - iii. the location of tests must vary around the pond; and
 - iv. if any test shows a dissolved residual oxygen level of less than 0.5 ppm, immediate steps will be undertaken to oxygenate the pond and create a residual oxygen level of at least 0.5 ppm. Remedial measures may include adding chemicals or increasing aeration.
 - c. Daily tests must be conducted and records made and maintained of the pH levels in the pond, and if the pH falls below 8.0 remedial steps must be taken immediately to raise the pH.
 - d. Weekly tests must be conducted and records made and retained at the facility of the dissolved sulfide concentrations in the pond.
 - e. At least 1000 gallons of an H₂S treatment chemical must be stored on-site and must be replaced periodically in accordance with manufacturer's stated shelf life. Expired H₂S treatment chemicals may be disposed of in the pond.

2. Tests of ambient H₂S levels must be conducted twice per day on the downwind side of the pond along the top of the berm. Test results must be recorded and retained. The wind speed and direction must be recorded in conjunction with each test.
 - a. If an H₂S reading of 1.0 ppm or greater is obtained:
 - i. a second reading must be taken on the downwind berm within one hour;
 - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
 - iii. tests for H₂S levels must be made at the fence line down wind from the pond.
 - b. If two (2) consecutive H₂S readings of 1.0 ppm or greater are obtained:
 - i. the operator must notify the Aztec office of the OCD immediately;
 - ii. the operator must commence hourly monitoring on a 24-hour basis;
 - iii. the operator must lower the pond level so that the aeration system will circulate the entire pond; and
 - iv. the operator must obtain daily analyses of dissolved sulfides in the pond.
 - c. If an H₂S reading of 10.0 ppm or greater at the facility fence line is obtained:
 - i. the operator must immediately notify the Aztec office of the OCD and the following public safety agencies:

New Mexico State Police;
San Juan County Sheriff, and
San Juan County Fire Marshall.
 - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

CONCRETE MIXING IMPOUNDMENT OPERATION

1. Only solids and sludge generated at the Key surface waste management facility may be allowed in the concrete mixing impoundment.

2. All solids and sludge must be placed in the concrete mixing impoundment for solidification prior to landfarm application.
3. Adequate freeboard must be maintained to prevent any overtopping or slop over of material. No free oil or liquids may be allowed in the concrete mixing impoundment. Any liquid that accumulates in the impoundment must be removed within 24 hours.
4. Liquid removed from the impoundment must be returned to the water treatment system.
5. OCD-approved remediated soil may be mixed with the tank bottoms and sludge to stabilize the material. Material received at the impoundment must be mixed and stabilized in a timely manner not to exceed 24 hours.
6. The concrete mixing impoundment and leak detection system must be inspected weekly for containment leaks and overall integrity. Records of such inspections must be made available to the OCD upon request.

LANDFARM CONSTRUCTION

1. Total landfarm acreage may not exceed 15 acres.
2. Contaminated soils may not be placed within one hundred (100) feet of the boundary of the facility.
3. Contaminated soils may not be placed within twenty (20) feet of any pipeline crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
4. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff. A perimeter berm must be constructed and maintained such that it is capable of containing precipitation from a one-hundred year flood for the specific region.

LANDFARM OPERATION

1. Only soils generated exclusively from operations at the Key surface waste management facility may be landfarmed at the Key facility landfarm.
2. All contaminated soils received at the landfarm must be spread and disked within 72 hours of receipt.

3. Soils must be spread on the surface in lifts of six inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Moisture may be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift 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 application of successive lifts and/or removal of the remediated soils.
7. Enhanced bio-remediation through the application of microbes (bugs) and/or fertilizers requires 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.
8. Any design changes to the landfarm facility must be submitted to the OCD Santa Fe office for approval and a copy must be sent to the Aztec District office.
9. Landfarm inspection and maintenance must be conducted on at least a biweekly basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Aztec offices must be notified within 24 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfarm, additional wastes may not be placed into the landfarm until repairs have been completed.

TREATMENT ZONE MONITORING

1. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
2. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and Water Quality Control Commission (WQCC) metals annually.

3. After soil samples are obtained, the boreholes must be filled with an impermeable material such as cement or bentonite.

REPORTING AND RECORD KEEPING

1. Analytical results from the treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory.
2. Key must notify the **OCD Santa Fe and Aztec offices 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.
3. Key must notify the **OCD Aztec office within 24 hours** of any odor detection or complaint. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.
4. Records of H_2S and wind direction, pH, dissolved oxygen, and dissolved sulfide measurements must be kept and maintained for OCD review.
5. Records of landfarm inspection and maintenance must be kept and maintained for OCD review.
6. Records of inspection and maintenance of the produced water receiving, treatment, and evaporation area and concrete mixing impoundment must be kept and maintained for OCD review.
7. Comprehensive records of all material disposed of at the facility must be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; 5) certification of waste status as exempt or non-exempt with any necessary supporting documentation to certify non-hazardous status for non-exempt waste; 6) NORM status declaration; 7) transporter; 8) exact cell location; and 9) any addition of microbes, moisture, fertilizers, *etc.*
8. Analytical results of remediated soils and requests to close cells, apply successive lifts or remove remediated material must be submitted to the OCD Santa Fe office with a copy to the Aztec District office.
9. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.

WASTE ACCEPTANCE CRITERIA

1. The facility is authorized to accept only:
 - a. Oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material regulated pursuant to 20 NMAC 3.1 Subpart 1403 (NORM). All loads of these wastes other than wastes returned from the well bore in the normal course of well operations, such as produced water and spent treating fluids, received at the facility shall be accompanied by a "Generator Certificate of Waste Status" signed by the generator.
 - b. "Non-hazardous" non-exempt oilfield wastes that do not contain NORM. These wastes may be accepted on a case-by-case basis after a hazardous waste determination is made. Samples, if required, must be obtained from the wastes prior to removal from the generator's facility and without dilution in accordance with EPA SW-846 sampling procedures. All "non-hazardous" non-exempt wastes received at the facility must be accompanied by:
 - i. An approved OCD Form C-138 "Request For Approval To Accept Solid Waste."
 - ii. A "Generator Certificate of Waste Status" signed by the generator.
 - iii. A verification of waste status issued by the appropriate agency, for wastes generated outside OCD jurisdiction. The agency verification is based on specific information on the subject waste submitted by the generator and demonstrating the exempt or non-hazardous classification of the waste.
 - c. Non-oilfield wastes that are non-hazardous if ordered by the Department of Public Safety in a public health emergency. OCD approval must be obtained prior to accepting the wastes.
2. At no time may any OCD-permitted surface waste management facility accept wastes that are hazardous by either listing or characteristic testing.
3. No free liquids or soils with free liquids may be accepted into the landfarm portion of the facility.
4. Materials that may be accepted into the landfarm facility must pass a paint filter test by EPA Method 9095A prior to application.

5. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

FINANCIAL ASSURANCE

1. Financial assurance in the amount of **\$176,200** in the form of a surety or cash bond or a letter of credit, which is approved by the Division, is required from Key Four Corners, Inc. for the commercial surface waste management facility.

By March 18, 2000 Key Four Corners, Inc. must submit 25% of the financial assurance in the amount of **\$ 44,050**.

By March 18, 2001 Key Four Corners, Inc. must submit 50% of the financial assurance in the amount of **\$88,100**.

By March 18, 2002 Key Four Corners, Inc. must submit 75% of the financial assurance in the amount of **\$132,150**.

By March 18, 2003 Key Four Corners, Inc. must submit 100% of the financial assurance in the amount of **\$176,200**.

2. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed no later than five (5) years from the date of this approval. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

CLOSURE

1. The OCD Santa Fe and Aztec offices must be notified when operation of the facility is to be discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Within six (6) months after discontinuing use or within 30 days of deciding to dismantle the facility a closure plan must be submitted to the OCD Santa Fe office for approval. The operator must complete cleanup of constructed facilities and restoration of the facility site within six (6) months of receiving the closure plan approval, unless an extension of time is granted by the Director.

2. The closure plan to be submitted must include the following procedures:
- No new material may be accepted.
 - Existing landfarm soils must be remediated until they meet the OCD standards in effect at the time of closure.
 - The treatment zone soils within each 5-acre cell must be sampled at two (2) to three (3) feet below the native ground surface and must be analyzed for total petroleum hydrocarbons (TPH), volatile aromatic organics (BTEX), major cations/anions and Water Quality Control Commission (WQCC) metals.
 - Contaminated soils exceeding OCD closure standards for the site must be removed or remediated.
 - The facility must 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.
 - Closure is subject to OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

CERTIFICATION

Key Four Corners, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Key Four Corners, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, public health and the environment.

Accepted:

KEY FOUR CORNERS, INC.

Signature

Phil Stone

Title

V.P. Tracking Division

Date

3-17-00



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

January 15, 2002

Lori Wrotenbery
Director
Oil Conservation Division

CERTIFIED MAIL
RETURN RECEIPT NO. 5357 7263

Mr. Mike Talovich
Key Energy Services, Inc. Four Corners Div.
P.O. Box 900
Farmington, NM 87499

RE: Approval of Discharge Plan UIC-CLI-005
Class I Non-Hazardous Oil Field Waste Disposal Well
API No. 30-045-28653
San Juan County, New Mexico

Dear Mr. Talovich:

The groundwater discharge plan renewal for the Key Energy Services, Inc. Four Corners Div. (Key)
Class I non-hazardous oil field waste disposal well UIC-CLI-005 located in SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico, is hereby approved under the conditions contained in the enclosed attachment. Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within 30 working days of receipt of this letter.**

The original Order SWD-457 was issued January 13, 1992, the discharge plan was approved on August 26, 1996 by the OCD with an expiration date of August 26, 2001. The discharge plan renewal application dated April 18, 2001 submitted pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations also includes all earlier applications and all conditions later placed on those approvals. The discharge plan renewal application was submitted pursuant to Section 5101.B.3. of the New Mexico Water Quality Control Commission (WQCC) Regulations. The discharge plan is renewed pursuant to Section 5101.A. and 3109.C. Please note Section 3109.G., which provides for possible future amendment of the plan. Please be advised that approval of this plan does not relieve Key of responsibility should operations result in pollution of surface water, ground water or the ~~environment. Nor does it relieve Key of its responsibility to comply with any other governmental~~ authority's rules and regulations.

Please be advised that all exposed pits, including lined pits and open top tanks (exceeding 16 feet in diameter) shall be screened, netted, or otherwise rendered non-hazardous to wildlife including migratory birds.

Mr. Mike Talovich
January 15, 2002
Page 2

Please note that Section 3104 of the regulations requires that when a plan has been approved, discharges must be consistent with the terms and conditions of the plan. Pursuant to Section 3107.C Key is required to notify the Director of any facility expansion, production increase, pressure increase, or process modification that would result in any change in the discharge of water quality or volume.

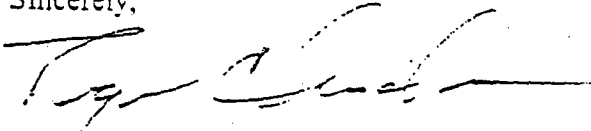
Pursuant to Section 3109.H.4, this plan is for a period of five (5) years. This approval will expire August 26, 2006 and Key should submit an application for renewal in ample time before this date. Note that under Section 5101.F of the regulations, if a discharger submits a discharge plan renewal application at least 120 days before the discharge plan expires and is in compliance with the approved plan, then the existing discharge plan will not expire until the application for renewal has been approved or disapproved.

The discharge plan for the Key Class I non-hazardous oil field waste disposal well is subject to the WQCC Regulation 3114. Every billable facility submitting a discharge plan will be assessed a fee equal to the filing fee of \$100.00 plus a flat fee of \$4500.00 for Class I injection wells. The OCD has not received the \$4500.00 flat fee. The flat fee may be paid in a single payment due on the date of the discharge plan approval or in five equal installments over the expected duration of the discharge plan. ~~Installment payments shall be remitted yearly, with the first installment due on the date of the discharge plan approval and subsequent installments due on this date of each calendar year.~~

Please make all checks payable to: Water Quality Management Fund
C/o: Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505.

If you have any questions, please contact Wayne Price of my staff at (505-476-3457) or E-mail WPRICE@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely,



Roger C. Anderson
Environmental Bureau Chief
RCA lwp

Attachment-1

xc: OCD Aztec Office
David Catanach, UIC Director, OCD Santa Fe

ATTACHMENT TO DISCHARGE PLAN UIC-CLI-005 APPROVAL

KEY ENERGY SERVICES, INC., CLASS I WELL

API No. 30-045-28653

SW/4 NW/4 Section 2, Ts 29 N, R 12 West

SAN JUAN COUNTY, NEW MEXICO

DISCHARGE PLAN APPROVAL CONDITIONS

January 15, 2002

1. Payment of Discharge Plan Fees: The \$100 dollar filing fee has been paid. The \$4500.00 flat fee shall be submitted upon receipt of this approval. The required flat fee may be paid in a single payment due at the time of approval, or in equal annual installments over the duration of the plan, with the first payment due upon receipt of this approval.

2. Commitments: Key will abide by all commitments submitted in the discharge plan renewal application dated April 18, 2001, all previous commitments including OCD Order SWD-457 and these conditions for approval.

3. Maximum Injection Pressure: The maximum operating injection pressure at the wellhead will be 2850 psi in accordance with OCD Order SWD-457. The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 2850 psi. The pressure limiting device shall annually be demonstrated to operate to the satisfaction of the OCD.

Key shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the ground surface.

4. Mechanical Integrity Testing: In accordance with OCD testing procedures, a mechanical integrity test will be conducted on the well annually and any time the tubing is pulled or the packer is reseated. An approved pressure recorder will be used and copies of the chart submitted to the OCD Santa Fe Office and the OCD Aztec District Office within 30 days following the test date. The OCD will be notified prior to the test so that they may witness the test. Mechanical integrity testing charts will be maintained at Key for the life of the well.

5. Annulus: Key shall install and maintain pressure controls and continuous monitoring devices pursuant to WQCC NMAC 20.6.2.5207.B.2.

6. Continuous Monitoring and Recording: Continuous monitoring and recording devices will be installed and mechanical charts made of injection pressure, flow rate, flow volume, and annular pressure. Mechanical charts are to be maintained at Key for the life of the well.

7. Maintenance Records: -All routine maintenance work on the well will be recorded and maintained at Key for the life of the well.

8. Wastes Permitted for Injection: Injection will be limited to approved fluids as permitted under OCD Order SWD-457 and non-hazardous oil field waste fluids as permitted under OCD 711 permit NM-01-009. All non-exempt non-hazardous oil field waste will be tested for the constituents listed below in condition number nine (9).

9. Chemical Analysis of Injection Fluids: The following analyses of injection fluids will be conducted on a quarterly basis:

- a. Aromatic and halogenated volatile hydrocarbon scan by EPA method 8260C GC/MS including MTBE. Semi-Volatile Organics GC/MS EPA method 8270B including 1 and 2-methylnaphthalene.
- b. General water chemistry to include calcium, potassium, magnesium, sodium, bicarbonate, carbonate, chloride, sulfate total dissolved solids (TDS), pH, and conductivity.
- c. Total heavy metals using the ICAP scan (EPA method 6010/ICPMS) and Mercury using Cold Vapor (EPA method 7470).
- d. EPA RCRA Characteristics for Ignitability, Corrosivity and Reactivity.

Records of all analyses will be maintained at Key for the life of the well.

10. Quarterly Reporting: The following reports will be signed and certified in accordance with WQCC section 5101.G. and submitted quarterly to both the OCD Santa Fe and Aztec Offices:

- a. Results of the chemical analysis of the injection fluids (number 9).
- b. Monthly average, maximum and minimum values for injection pressures; flow rate and flow volume; and, annular pressure.
- c. Monthly volumes of injected fluids pursuant to OCD Rule 1115.

11. Drum Storage: All drums containing materials other than fresh water must be stored on an impermeable pad with curbing. All empty drums will be stored on their sides with the bungs in and lined up on a horizontal plane. Chemicals in other containers such as sacks or buckets will also be stored on an impermeable pad and curb type containment.
12. Process Areas: All process and maintenance areas which show evidence that leaks and spills are reaching the ground surface must be either paved and curbed or have some type of spill collection device incorporated into the design.
13. Above Ground Tanks: All above ground tanks which contain fluids other than fresh water must be bermed to contain a volume of one-third more than the total volume of the largest tank or of all interconnected tanks. All new tanks or existing tanks that undergo a major modification, as determined by the Division, must be placed within an impermeable bermed enclosure.
14. Above Ground Saddle Tanks: Above ground saddle tanks must have impermeable pad and curb type containment unless they contain fresh water or fluids that are gases at atmospheric temperature and pressure.
15. Labeling: All tanks, drums and containers should be clearly labeled to identify their contents and other emergency notification information.
16. Below Grade Tanks/Sumps: All below grade tanks, sumps, and pits must be approved by the OCD prior to installation or upon modification and must incorporate secondary containment and leak-detection into the design. All pre-existing sumps and below-grade tanks must be tested to demonstrate their mechanical integrity no later than March 15, 2002 and every year from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure and/or visual inspection of cleaned out tanks and/or sumps, or other OCD approved methods. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD 30 days after test has been conducted.
17. Underground Process Wastewater Lines: All underground process wastewater pipelines must be tested to demonstrate their mechanical integrity no later than March 15, 2002 and every 5 years, from tested date, thereafter. Permittees may propose various methods for testing such as pressure testing to 3 pounds per square inch above normal operating pressure or other means acceptable to the OCD. The OCD will be notified at least 72 hours prior to all testing. The test results will be submitted to OCD 30 days after test has been conducted.

18. Well Workover Operations: OCD approval will be obtained from the Director prior to performing remedial work or any other workover. Approval will be requested on OCD Form C-103 "Sundry Notices and Reports on Wells" (OCD Rule 1103.A.) with appropriate copies sent to the OCD Aztec District Office.
19. Housekeeping: All systems designed for spill collection/prevention will be inspected weekly and after each storm event to ensure proper operation and to prevent overtopping or system failure. A record of inspections will be retained on site for a period of five years.
20. Spill Reporting: All spills/releases shall be reported pursuant to OCD Rule 116, and WQCC 1203, to the OCD Aztec District Office. Key shall immediately notify the Supervisor of the Aztec District Office and the Environmental Bureau of the Division of the failure of the tubing, casing, or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
21. Transfer of Discharge Plan: The OCD will be notified prior to any transfer of ownership, control, or possession of the well and associated facilities. A written commitment to comply with the terms and conditions of the previously approved discharge plan and a bond must be submitted by the purchaser and approved by the OCD prior to transfer.
22. Closure: The OCD will be notified when operations of the well are discontinued for a period in excess of six months. Prior to closure of the well and associated facilities a closure plan will be submitted for approval by the Director. Closure and waste disposal will be in accordance with the statutes, rules and regulations in effect at the time of closure.
23. Plugging Bond and/or Letter of Credit: Key shall have in effect a Division approved plugging bond and/or letter of credit for the estimated amount required to plug the well according to the proposed closure plan and adjusted for inflation. The required plugging bond and/or letter of credit shall be adjusted at the time of discharge plan renewal.

Key shall submit a proposal to amend Bond No. U272355 to reflect the current owner and adjust for inflation. Please submit for OCD approval by April 15, 2002.
24. Training: All personnel associated with operations at the Key Class I disposal well will have appropriate training in accepting, processing, and disposing of Class I non-exempt non-hazardous oil field waste to insure proper disposal. All training documentation shall be maintained at Key for the life of the well.
25. OCD Inspections: Additional requirements may be placed on the well and associated facilities based upon results from OCD inspections.
26. Storm Water Plan: Submit a Stormwater run-off plan for OCD approval by April 15, 2002.

27. Waste Disposal: All wastes will be disposed of at an OGD approved facility. Only oilfield exempt wastes shall be disposed of down Class II injection wells. Non-exempt oilfield wastes that are non-hazardous may be disposed of at an OCD approved facility upon proper waste determination per 40 CFR Part 261. Any waste stream that is not listed in the discharge plan will be approved by OCD on a case-by-case basis.

Rule 712 Waste: Pursuant to Rule 712, disposal of certain non-domestic waste is allowed at solid waste facilities permitted by the New Mexico Environment Department as long as the waste stream is identified in the discharge plan, and existing process knowledge of the waste stream does not change without notification to the Oil Conservation Division.

28. Class V Wells: No Class V wells that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes will be approved for construction and/or operation unless it can be demonstrated that groundwater will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD regulated facilities which inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only must be permitted by the New Mexico Environment Department.

29. Certification: Key Energy Services, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Key Energy Services, Inc. further acknowledges that these conditions and requirements of this permit modification may be changed administratively by the Division for good cause shown as necessary to protect fresh water, human health and the environment.

Conditions accepted by: KEY ENERGY SERVICES, INC.

HAL STONE

Company Representative- print name

Hal Stone

Company Representative- Sign

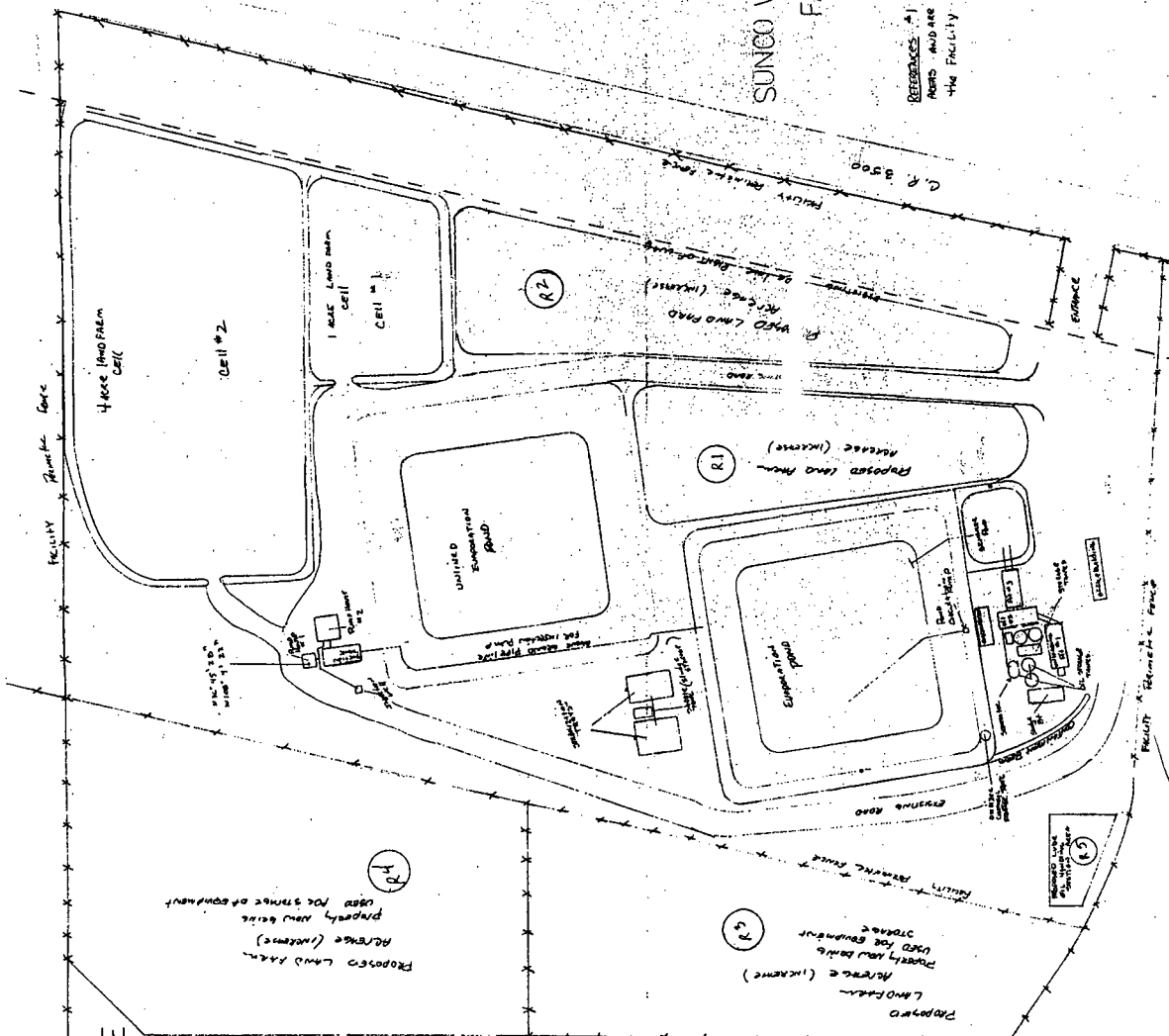
Date 2-15-02

Title VICE PRESIDENT TRUCKING DIVISION

RECEIVED
 DEC 30 2002
 Environmental Bureau
 Oil Conservation Division

SUNCO WASTE MANAGEMENT
 FACILITY

DATE: 9-20-95
 REFERENCES: A1410 #5, APR. 1995
 A1410 #6, APR. 1995
 A1410 #7, APR. 1995
 A1410 #8, APR. 1995
 A1410 #9, APR. 1995
 A1410 #10, APR. 1995
 A1410 #11, APR. 1995
 A1410 #12, APR. 1995
 A1410 #13, APR. 1995
 A1410 #14, APR. 1995
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 A1410 #93, APR. 1995
 A1410 #94, APR. 1995
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 A1410 #96, APR. 1995
 A1410 #97, APR. 1995
 A1410 #98, APR. 1995
 A1410 #99, APR. 1995
 A1410 #100, APR. 1995



NOT TO SCALE

EXISTING KEY FOUR CORNERS
 EQUIPMENT STORAGE AREA

EXISTING KEY FOUR CORNERS
 EQUIPMENT STORAGE AREA

Proposed Land Farm
Average (increase)
property now being
used for storage of equipment

DEC 30 2002

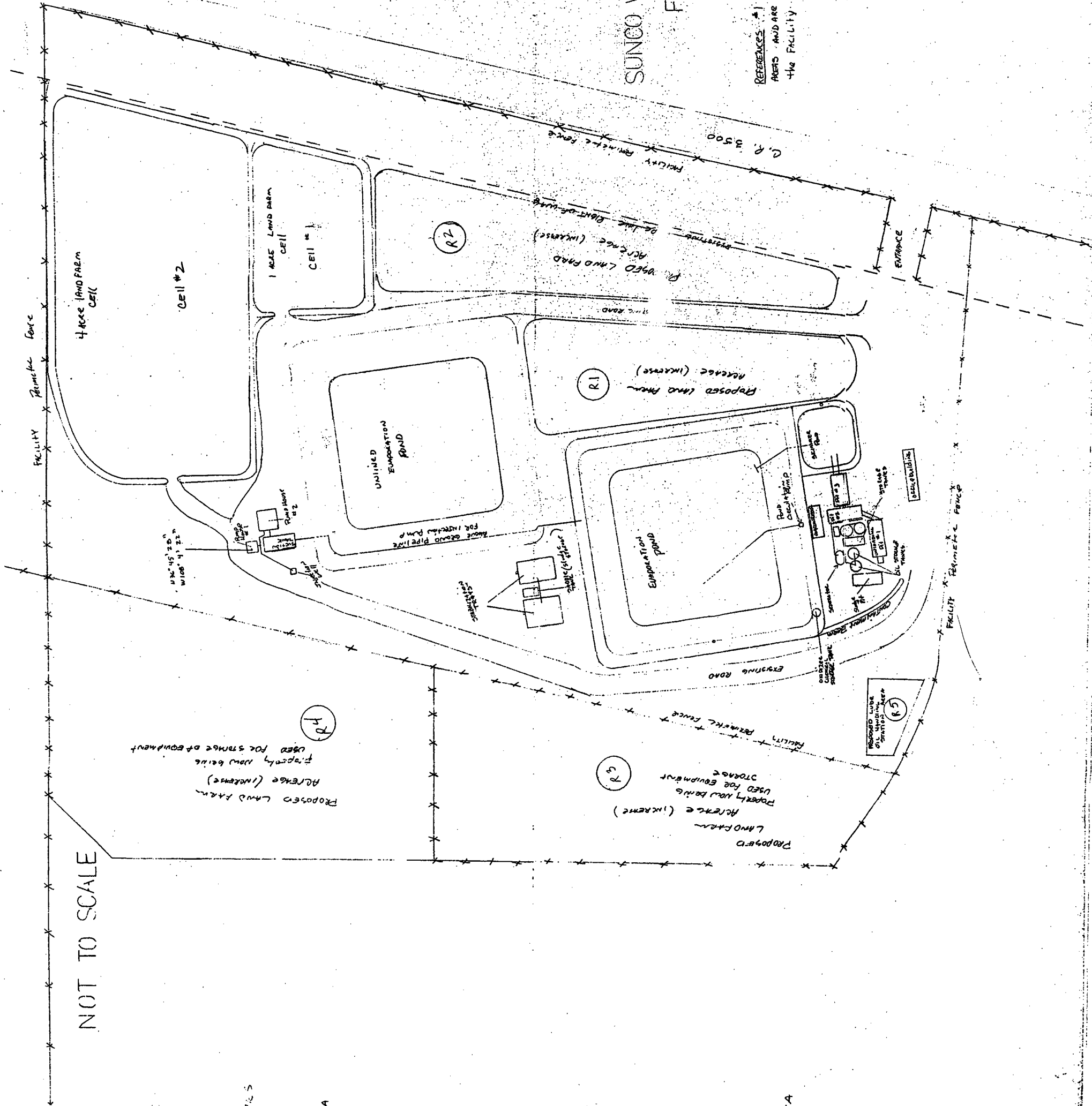
**Environmental Bureau
Oil Conservation Division**

29.16 acres

SUNCO WASTE MANAGEMENT FACILITY

DATE: 3-30-95

REFERENCES: 1. HIN #5 AGE JVS
ARTS AND ARE IN NO WAY SCALE WITH THE RES
the Facility





NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Betty Rivera

Cabinet Secretary

July 30, 2002

Lori Wrotenberg

Director

Oil Conservation Division

CERTIFIED MAIL

RETURN RECEIPT NO. 7001-1940-0004-3929-8041

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

**RE: Approval of Soil Removal and Recycling
Key Energy Services, Inc. Landfarm and Stabilization tray
Permit NM-01-0009**

Dear Mr. Talovich:

The New Mexico Oil Conservation Division (OCD) has received Key Energy Services, Inc's (Key) letter dated June 18, 2002 requesting authorization to clear and reuse soils from Cell 1 and Cell 2, stockpile the soil near the stabilization trays for reuse and apply another lift to Cell 1 and Cell 2. Based on the information provided, the soil within the area denoted as Cell 1 and Cell 2 in the information provided are **hereby approved** for reuse. The soil may be stored near the stabilization trays prior to reuse. Additional lifts may be applied to the cleared portion of Cell 1.

Note that with the addition of successive lifts Key must continue maintenance and treatment zone monitoring. If Key wants to move the soils from the facility separate OCD authorization must be granted.

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

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

Sincerely,

Martyne J. Kielling
Environmental Geologist

xc: OCD Aztec Office



RECEIVED
JUN 24 2002
Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

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

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

Martyne Kieling
NMOCD
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87504

June 18, 2002

**RE: Request for authorization to clear and recycle soil
Permit NM-01-0009**

Martyne,

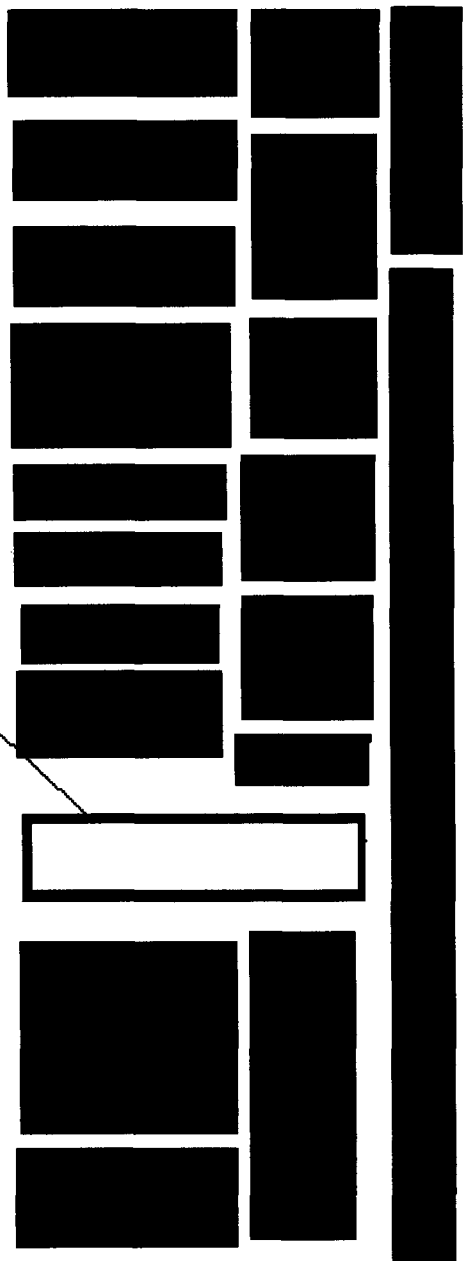
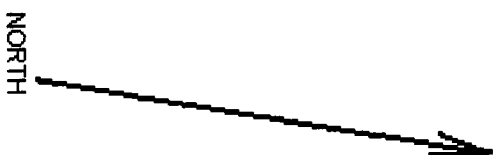
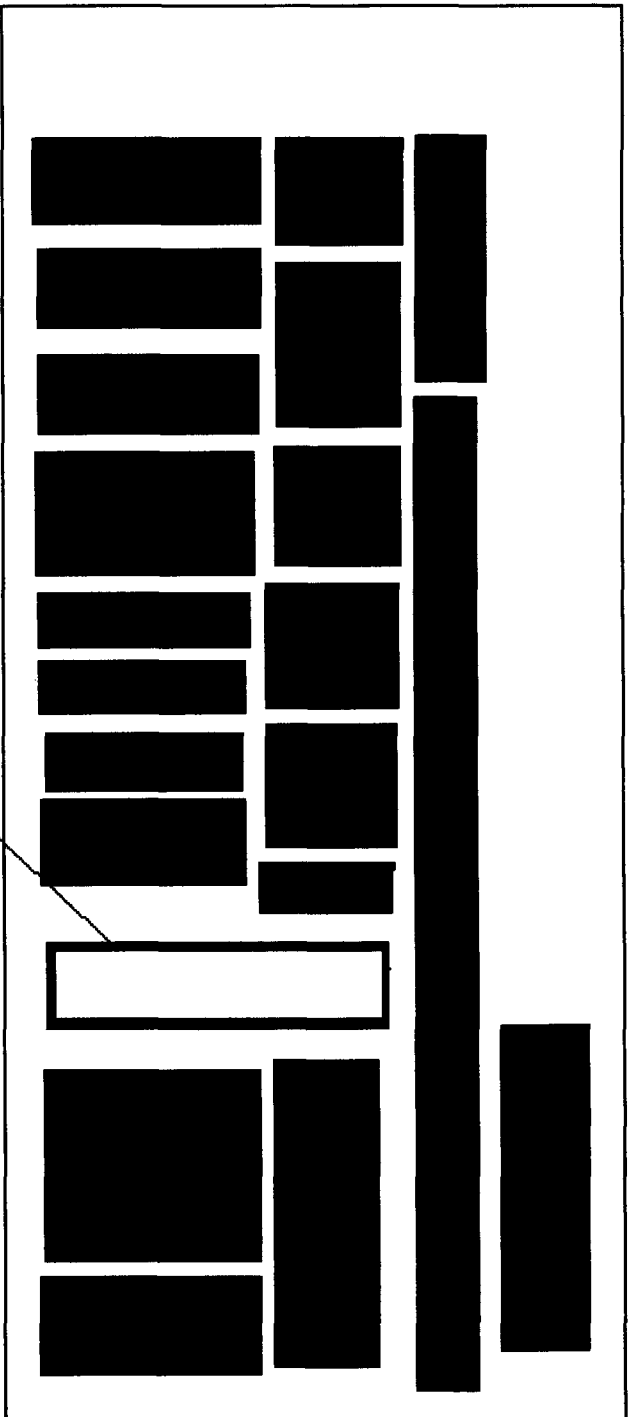
Please find enclosed analytical documentation for sections of landfarm in cell#1 and #2. Key Energy requests authorization to clear and reuse these soils and stockpile the soil near the stabilization trays. Also included is a map showing the areas subject for removal.

If additional information is required please contact me at 505-334-6416 or email at mtalovich@keyenergy.com

Best Regards,

Michael Talovich
Facility Manager
Key Energy Services

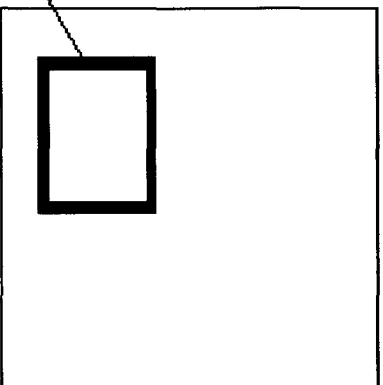
6/14
7-30-02



June 18, 2001

Cell #2 soil to be cleared

Cell #1 soil to be cleared



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

June 11, 2002

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

Phone: (505) 327-0416

Client No.: 98065-001

Job No.: 806501

Dear Mr. Talovich,

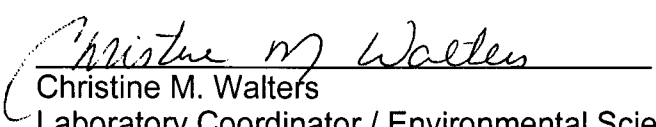
Enclosed are the analytical results for the sample collected from the location designated as "Cell #1; #2". Two soil samples were collected by Key Energy Service designated personnel on 6/05/02, and received by the Envirotech laboratory on 6/06/02 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015 and BTEX per USEPA Method 8021 analysis.

The samples were documented on Envirotech Chain of Custody No. 9947. The samples were assigned Laboratory Nos. 22875 (Cell #1) and 22876 (Cell #2) for tracking purposes.

The samples were analyzed 6/10/02 using USEPA or equivalent methods.

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

Respectfully submitted,
Envirotech, Inc.


Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

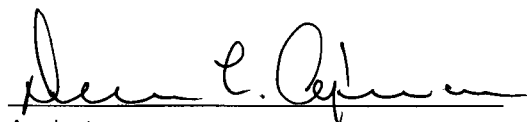
| | | | |
|----------------------|-----------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-001 |
| Sample ID: | Cell #1 | Date Reported: | 06-10-02 |
| Laboratory Number: | 22875 | Date Sampled: | 06-05-02 |
| Chain of Custody No: | 9947 | Date Received: | 06-06-02 |
| Sample Matrix: | Soil | Date Extracted: | 06-06-02 |
| Preservative: | Cool | Date Analyzed: | 06-10-02 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

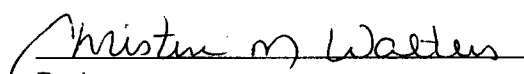
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

ND - Parameter not detected at the stated detection limit.

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

Comments: **Cell #1; #2.**


Analyst


Review

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

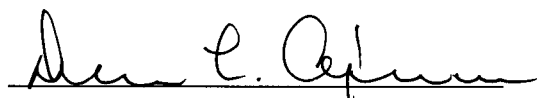
| | | | |
|----------------------|-----------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-001 |
| Sample ID: | Cell #2 | Date Reported: | 06-10-02 |
| Laboratory Number: | 22876 | Date Sampled: | 06-05-02 |
| Chain of Custody No: | 9947 | Date Received: | 06-06-02 |
| Sample Matrix: | Soil | Date Extracted: | 06-06-02 |
| Preservative: | Cool | Date Analyzed: | 06-10-02 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

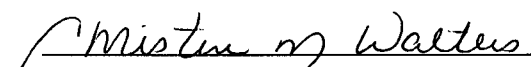
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | ND | 0.2 |
| Diesel Range (C10 - C28) | ND | 0.1 |
| Total Petroleum Hydrocarbons | ND | 0.2 |

ND - Parameter not detected at the stated detection limit.

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

Comments: **Cell #1; #2.**


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 06-10-TPH QA/QC | Date Reported: | 06-10-02 |
| Laboratory Number: | 22875 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 06-10-02 |
| Condition: | N/A | Analysis Requested: | TPH |

| | I-Cal Date | I-Cal RF | C-Cal RF | % Difference | Accept. Range |
|-------------------------|------------|-------------|-------------|--------------|---------------|
| Gasoline Range C5 - C10 | 04-25-02 | 2.7355E-002 | 2.7328E-002 | 0.10% | 0 - 15% |
| Diesel Range C10 - C28 | 04-25-02 | 2.4557E-002 | 2.4508E-002 | 0.20% | 0 - 15% |

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

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

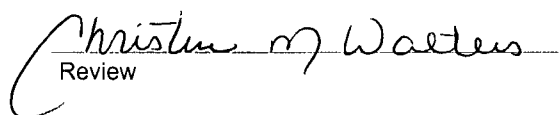
| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | ND | 250 | 250 | 100.0% | 75 - 125% |
| Diesel Range C10 - C28 | ND | 250 | 250 | 100.0%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

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples 22875 - 22876, 22878 - 22879, 22885 - 22888.


Analyst


Review

| | | | |
|--------------------|---------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-001 |
| Sample ID: | Cell #1 | Date Reported: | 06-10-02 |
| Laboratory Number: | 22875 | Date Sampled: | 06-05-02 |
| Chain of Custody: | 9947 | Date Received: | 06-06-02 |
| Sample Matrix: | Soil | Date Analyzed: | 06-10-02 |
| Preservative: | Cool | Date Extracted: | 06-06-02 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | 4.4 | 1.8 |
| Toluene | 5.6 | 1.7 |
| Ethylbenzene | 10.9 | 1.5 |
| p,m-Xylene | 33.9 | 2.2 |
| o-Xylene | 9.9 | 1.0 |
| Total BTEX | 64.7 | |

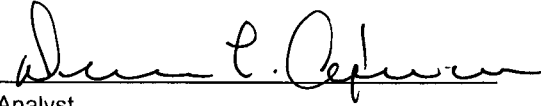
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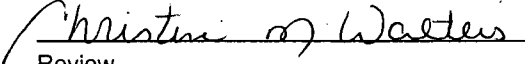
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 97 % |
| | 1,4-difluorobenzene | 97 % |
| | Bromochlorobenzene | 97 % |

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: Cell #1; #2.


Analyst


Review

| | | | |
|--------------------|---------------|---------------------|-----------|
| Client: | Key Energy | Project #: | 98065-001 |
| Sample ID: | Cell #2 | Date Reported: | 06-10-02 |
| Laboratory Number: | 22876 | Date Sampled: | 06-05-02 |
| Chain of Custody: | 9947 | Date Received: | 06-06-02 |
| Sample Matrix: | Soil | Date Analyzed: | 06-10-02 |
| Preservative: | Cool | Date Extracted: | 06-06-02 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | ND | 1.8 |
| Toluene | 10.6 | 1.7 |
| Ethylbenzene | 20.4 | 1.5 |
| p,m-Xylene | 59.6 | 2.2 |
| o-Xylene | 24.2 | 1.0 |
| Total BTEX | 115 | |

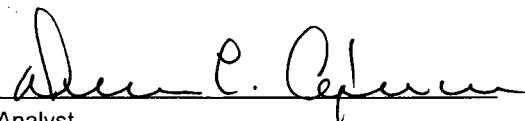
ND - Parameter not detected at the stated detection limit.

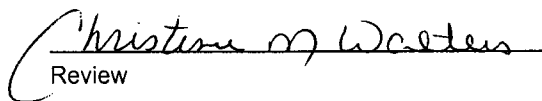
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|---------------------|------------------|
| | Fluorobenzene | 97 % |
| | 1,4-difluorobenzene | 97 % |
| | Bromochlorobenzene | 97 % |

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: Cell #1; #2.


Analyst


Review

| | | | |
|--------------------|------------------|----------------|----------|
| Client: | N/A | Project #: | N/A |
| Sample ID: | 06-10-BTEX QA/QC | Date Reported: | 06-10-02 |
| Laboratory Number: | 22875 | Date Sampled: | N/A |
| Sample Matrix: | Soil | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 06-10-02 |
| Condition: | N/A | Analysis: | BTEX |

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

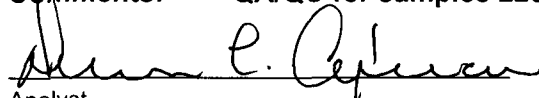
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|--------|--------------|---------------|
| Benzene | 4.4 | 4.4 | 0.0% | 0 - 30% | 1.8 |
| Toluene | 5.6 | 5.6 | 0.0% | 0 - 30% | 1.7 |
| Ethylbenzene | 10.9 | 10.8 | 0.9% | 0 - 30% | 1.5 |
| p,m-Xylene | 33.9 | 33.5 | 1.2% | 0 - 30% | 2.2 |
| o-Xylene | 9.9 | 9.8 | 1.0% | 0 - 30% | 1.0 |

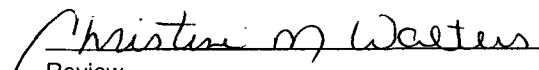
| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | %Recovery | Accept Range |
|---------------------|--------|---------------|---------------|-----------|--------------|
| Benzene | 4.4 | 50.0 | 54.2 | 99.6% | 39 - 150 |
| Toluene | 5.6 | 50.0 | 55.4 | 99.6% | 46 - 148 |
| Ethylbenzene | 10.9 | 50.0 | 60.7 | 99.7% | 32 - 160 |
| p,m-Xylene | 33.9 | 100 | 133 | 99.6% | 46 - 148 |
| o-Xylene | 9.9 | 50.0 | 59.7 | 99.7% | 46 - 148 |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples 22875 - 22876.


Analyst


Review

09947

ENVIROTECH INC.

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



Key Energy Services, Inc.

April 29, 2002

Martyne Kieling
Wayne Price
Oil Conservation Division
1220 So. St. Francis Drive
Santa Fe, New Mexico 87505

Re: Address change

Dear Martyne and Wayne

I am requesting that all correspondents regarding Key Energy Services be sent to the following address.

Key Energy Services, Inc.
Attn: Gene Butler
6 Desta Drive
Suite 4400
Midland, Texas 79705

Key Energy Services PBD well list is listed below:

| | |
|--------------------------------|--------------------------|
| Contintial Water Sales | Truckers 2 Brine Station |
| BKE#1 SWD | RA State |
| Sims-McCasland Water Sales | J.H.Day#1 |
| J.H.Day#2 | Christmas#3 |
| City of Carlsbad Brine Station | Bone Springs SWD |
| Atha#1 SWD | |

Key Energy Services FCD well list:

Sunco Disposal

Thank You

Gene Butler



RECEIVED

MAR 04 2002

Environmental Bureau
Oil Conservation Division

Key Energy Services, Inc.

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

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

February 26, 2002

Martyne Kieling
NMOCD
1220 St Francis Dr.
Santa Fe, New Mexico 87504

**RE: Instream test and findings conducted at
Key Energy Services Waste Management Facility.
San Juan County , New Mexico**

Dear Martyne,

Tierra installed their Instream water displacement device on May 24, 2001 the unit was started at 11am that day.

Within 24hrs of startup pond appearance began to degrade and the water became anerobic. Oxidizer chemicals were added daily, the average for the first 6 days was 400 gallons per day. However, on the seventh day 2000 gallons was required to control bacteria and odor. This change was expected and caused by agitation of the pond water near bottom by the Instream Unit.

After this event, dissolved oxygen levels were considerably increased due to the units operation. (Please see Tierra's D.O.data)
However even with increased D.O levels large chemical treatments were still required to prevent an anaerobic condition.

Average chemical consumption's for the months of the test were as follows:

| | Per Day |
|----------------|-------------|
| May 2001 | 541 gallons |
| June 2001 | 709 gallons |
| July 2001 | 777 gallons |
| August 2001 | 688 gallons |
| September 2001 | 379 gallons |

NOTE: In order to operate the Instream and provide liner to unit clearance, Pond volume had to be increased to approximately 45,000 bbls

Normal Summertime Pond volume for the year 2000 was around 27,000 bbls

Average chemical consumption for that year were as follows:

| | Per Day |
|----------------|-------------|
| May 2000 | 242 gallons |
| June 2000 | 467 gallons |
| July 2000 | 408 gallons |
| August 2000 | 488 gallons |
| September 2000 | 322 gallons |

By design Instream requires almost twice the water in the pond.

The above information can be referenced in the bar chart included in this report.

Also included in the chart is a breakdown of chemical costs comparing years 2000 and 2001.

As can be concluded from this data, a fair comparison is really not possible.

It was our hope that chemical costs could be maintained and possibly reduced thusly justifying the purchase of the Instream unit.

During the test period we frequently observed the displacement ability of the Instream unit. Chemical treatments took considerably less time to complete with no untreated areas after 30 minutes. Before installation of the unit, complete pond treatments would take several hours.

It is Key Energy's belief that the Instream Technology in the proper application can truly benefit water quality.

Our wastewaters are generated from numerous and different waste streams and is very difficult to keep oxygenated. The demand for oxygen during warm weather is extremely high.

It is believed that the test proved that multiple units would be needed to have any substantial effect on the amount of chemical that is required.

If additional information is required please contact me at 505-334-6416

Best Regards,



Mike Talovich
Key Energy Services
Facility Manager

Cc: Mr.Stone Key Energy

Key Energy Impoundment
San Juan County, New Mexico
5/30/01-9/30/01

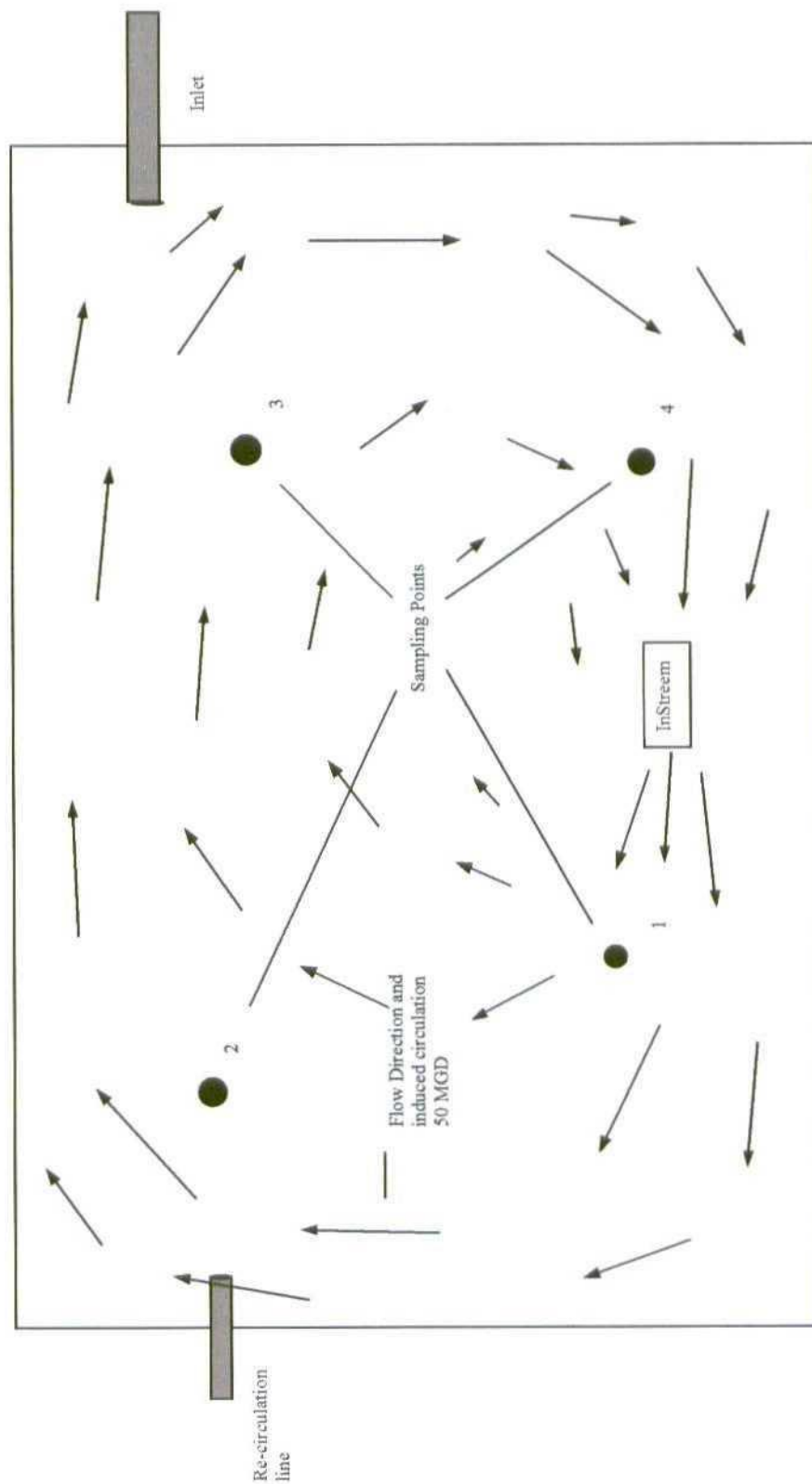
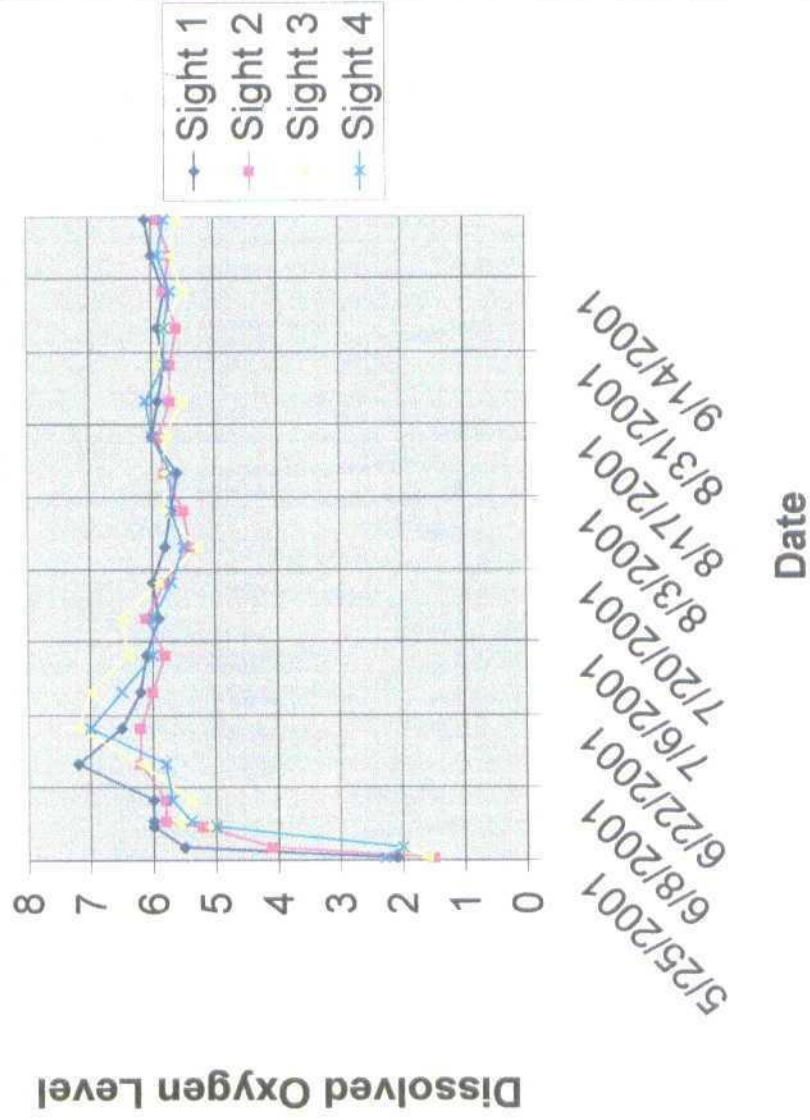
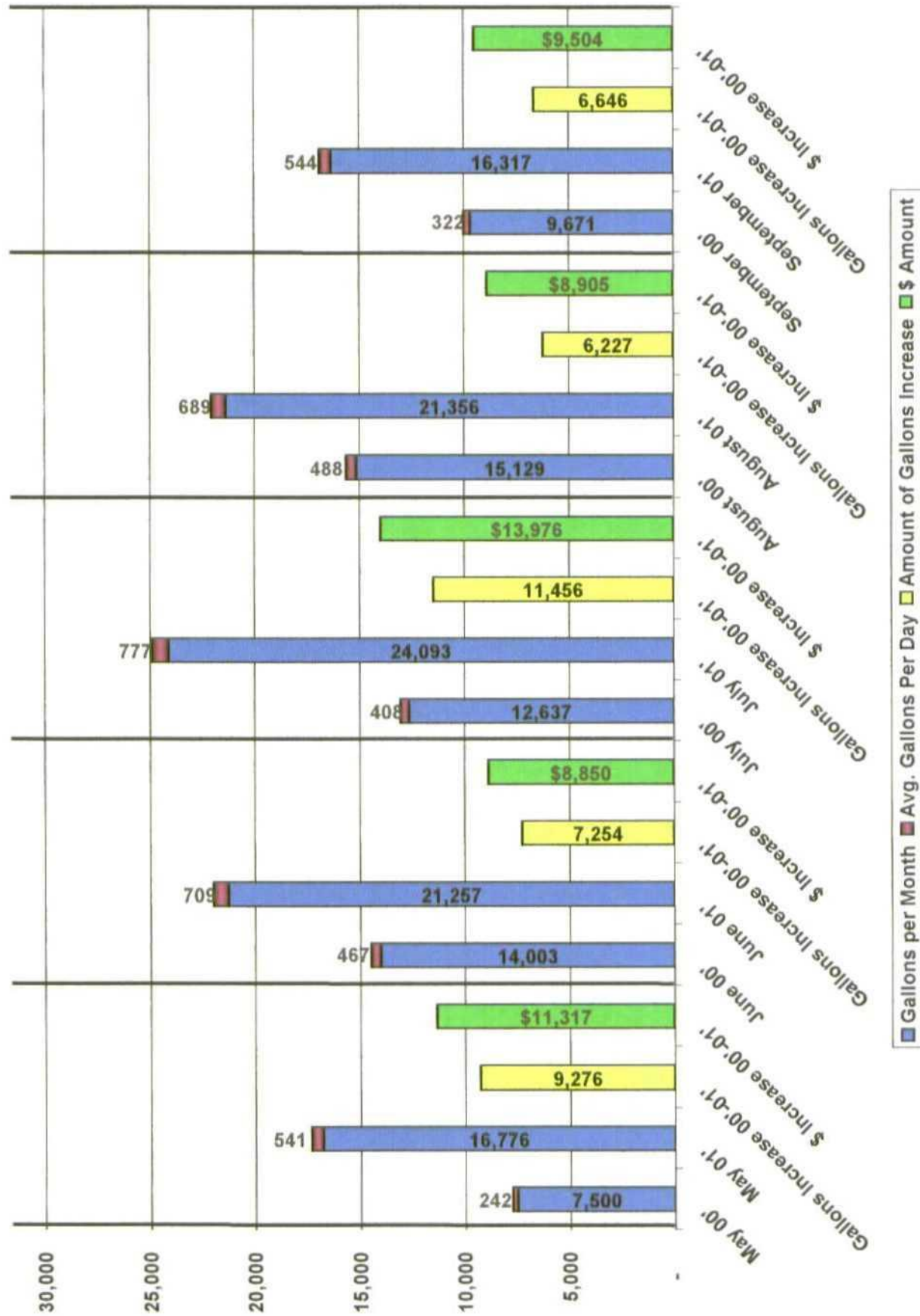


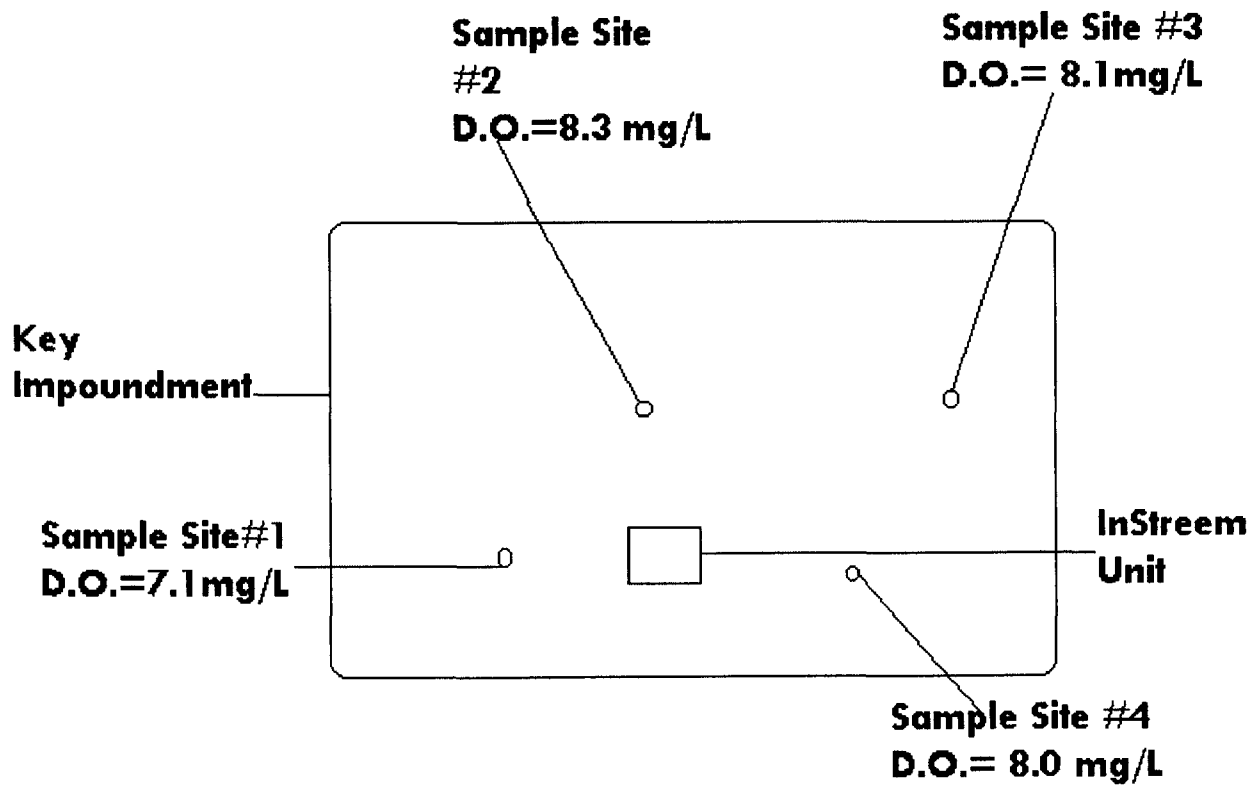
Figure 1

Key Energy Disposal Readings



DISPOSAL CHEMICAL USE







NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON

Governor

Jennifer A. Salisbury

Cabinet Secretary

Lori Wrotenbery

Director

Oil Conservation Division

May 16, 2001

Mr. Michael Talovich
Key Four Corners Inc.
Water Disposal Facility
P.O. Box 900
Farmington, NM 87499

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

**RE: Key Four Corners Inc., INSTREEM Test Demonstration
Commercial Surface Waste Management Facility, Permit NM-01-0009
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM
San Juan County, New Mexico**

Dear Mr. Talovich and Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) has received your proposal dated May 14, 2001 for performing a one month test demonstration of the INSTREEM system at the Key Four Corners, Inc. (Key) commercial surface waste management facility disposal pond. **The proposed test demonstration is hereby approved for a 30 day test period with the following conditions:**

1. A report must be submitted at the end of the 30 day test documenting the weekly analysis of the water quality at the impoundment.
2. The report must include the following permit required items in regards to the H₂S PREVENTION & CONTINGENCY PLAN section of Permit NM-01-0009.
 1. In order to prevent development of harmful concentrations of H₂S, the following procedures must be followed:
 - a. All incoming loads of produced water must be tested for hydrogen sulfide (H₂S) concentrations. Any loads with measurable H₂S concentrations will be treated in a closed system. The treatment reaction must be driven to completion to eliminate all measurable H₂S prior to disposal of the water into the pond.

- b. If two (2) consecutive H₂S readings of 1.0 ppm or greater are obtained:
 - i. the operator must notify the Aztec office of the OCD immediately;
 - ii. the operator must commence hourly monitoring on a 24-hour basis;
 - iii. the operator must lower the pond level so that the aeration system will circulate the entire pond; and
 - iv. the operator must obtain daily analyses of dissolved sulfides in the pond.
- c. If an H₂S reading of 10.0 ppm or greater at the facility fence line is obtained:
 - i. the operator must immediately notify the Aztec office of the OCD and the following public safety agencies:


New Mexico State Police;
San Juan County Sheriff; and
San Juan County Fire Marshall.
 - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

Following the end of the 30 day test demonstration and submittal of the report Key may request in writing to the OCD Santa Fe office any permit or operation modifications that would meet their current permit requirements.

Please be advised approval of this test demonstration does not relieve Key of liability should your operation result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Key of responsibility for compliance with other federal, state or local laws and/or regulations.

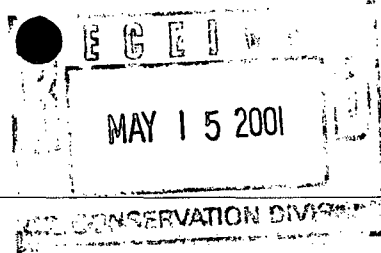
If you have any questions please do not hesitate to me at (505) 476-3488.

Sincerely,


Martyne Kieling
Environmental Geologist

xc: Aztec OCD Office

- b. The aeration system must be operated to provide sufficient oxygen to the pond to maintain a residual oxygen concentration of 0.5 ppm one foot off the bottom of the pond. Tests must be conducted and records made and maintained of the dissolved oxygen levels in the pond according to the following procedures:
 1. tests must be conducted at the beginning and end of each day, or at least twice per 24-hour period;
 2. the sample for each test must be taken one foot from the bottom of the pond;
 3. the location of tests must vary around the pond; and
 4. if any test shows a dissolved residual oxygen level of less than 0.5 ppm, immediate steps will be undertaken to oxygenate the pond and create a residual oxygen level of at least 0.5 ppm. Remedial measures may include adding chemicals or increasing aeration.
 - c. Daily tests must be conducted and records made and maintained of the pH levels in the pond, and if the pH falls below 8.0 remedial steps must be taken immediately to raise the pH.
 - d. Weekly tests must be conducted and records made and retained at the facility of the dissolved sulfide concentrations in the pond.
 - e. At least 1000 gallons of an H₂S treatment chemical must be stored on-site and must be replaced periodically in accordance with manufacturer's stated shelf life. Expired H₂S treatment chemicals may be disposed of in the pond.
2. Tests of ambient H₂S levels must be conducted twice per day on the downwind side of the pond along the top of the berm. Test results must be recorded and retained. The wind speed and direction must be recorded in conjunction with each test.
- a. If an H₂S reading of 1.0 ppm or greater is obtained:
 - i. a second reading must be taken on the downwind berm within one hour;
 - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
 - iii. tests for H₂S levels must be made at the fence line down wind from the pond.



May 14, 2001

Ms. Martyne Kieling
New Mexico Oil Conservation Division
1220 St Francis Drive
Santa Fe, New Mexico 87504

RE: KEY ENERGY DISPOSAL FACILITY – INSTREEM DEMONSTRATION

Dear Ms. Kieling:

I am writing this letter on behalf of Key Energy Services as their Environmental Consultant.

During the approximate period May 23 – June 30, 2001, Tierra Environmental and The Tierra InStroom Group, Inc. in cooperation with our client Key Energy Services would like to perform an operational demonstration of The InStroom™ Technology Platform at the Key Disposal Facility Impoundment.

The InStroom™ Technology Platform is a water treatment, management and reclamation technology, invented by Battelle Memorial Institute of Columbus, Ohio. Its purpose is to circulate and generate large amounts of dissolved oxygen in the water column. The device is capable of circulating over 50 MGD using 5 H.P.

Enclosed please find an informational brochure on the InStroom™ Technology; complete with pictures that explain more fully how it operates.

InStroom™, uses no chemical enhancements. It's totally mechanical.

What we hope to achieve is the reduction if not elimination of chemical treatment at Key's impoundment. The tremendous amounts of dissolved oxygen the InStroom™ generates should substantially reduce the environment prone to the generation of anaerobic bacteria resulting in Hydrogen Sulfide Gas. Because of InStroom's unique design, the water column is totally circulated leaving no dead spots common to conventional aeration equipment.

P.O. Box 1812
Bloomfield, New Mexico 87413

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

Key has committed to maintaining a sufficient amount of their present chemical treatment compound on hand during the demonstration in the unlikely event InStream™ should not prove effective in controlling odor. Tierra will perform weekly analysis of the water quality at the impoundment including dissolved oxygen and hydrogen sulfide testing. We will forward those results to you following the conclusion of the test period. If the tests are successful, Key will purchase the unit. That may require a permit modification for permanent installation. Please advise.

Representatives from Battelle will be on hand for the installation, including the InStream™ Inventor, Battelle Scientist Henry Pate.

Should OCD approve this demonstration it will be the first installation of this type wherein an InStream™ Platform is used in a water disposal setting. There are presently eight InStream™ Units operating within the U.S. in various applications.

1. Two Units at a Hog Farm wastewater lagoon in North Carolina
2. Two Units in Dairy wastewater lagoons in Washington State
3. Three Units in Wilson Bay, North Carolina a dead estuary on the New River.
4. One Unit at the Frontier Refinery wastewater facility at El Dorado, Kansas.
5. One Unit is to be installed in an estuary in St. Lucy County Florida

Pending approval, you, any or all OCD representatives are cordially invited to the installation should you desire to attend.

Please call me at 505-632-3005 if you have any questions or need additional information.

Sincerely,



Phillip C. Nobis
President

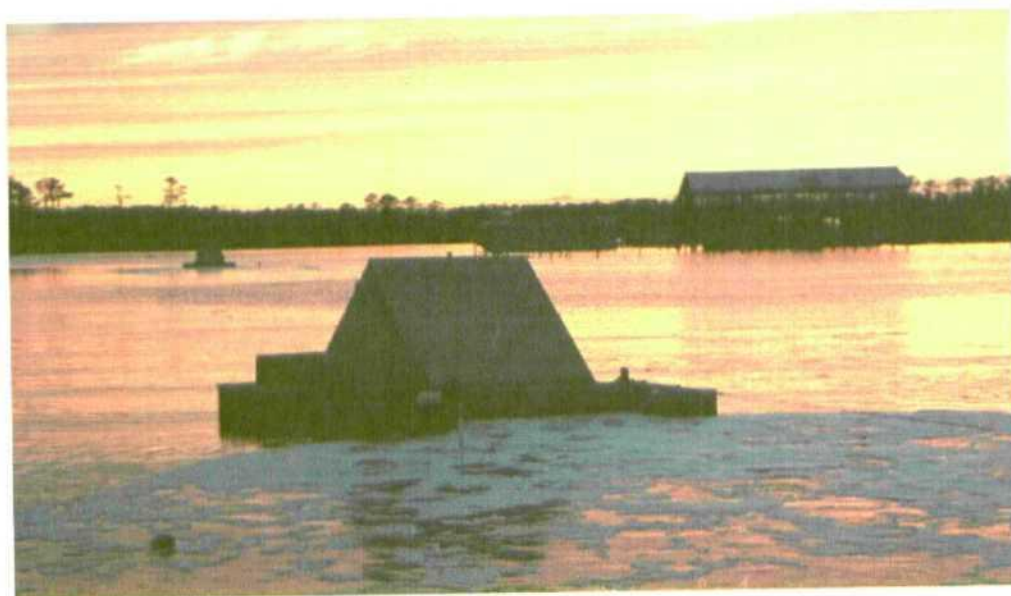
P.S. We also have as new mailing address, P.O. Box 1812, Bloomfield NM 87413

XC: D. Foust OCD Aztec, NM
Mike Talovich, Key Energy Services
File

THE TIERRA - INSTREEM GROUP, INC
P.O. BOX 1812
BLOOMFIELD, NEW MEXICO 87413

PHONE 505-632-3005 FAX 505-632-2815

E-mail InStroom@technet.nm.net



INSTREEM™

The very best water treatment,
reclamation and management system
in the world!

By:



INSTREEM™

(The very best water treatment, reclamation and management system in the world)

InStreem™ (U.S. Patent # 594836, 5942161, Euro-Patents Pending) is a new, revolutionary water treatment, management and reclamation technology. It is capable of reclaiming dead and dying wetlands, rivers, lakes and streams, control flooding, treating and managing wastewater lagoons and more. It is the only technology of its kind presently available. Compared to conventional methods it is inexpensive to install, maintain and operate.

InStreem™ has been under sustained development by Battelle for the past four years and is the result of invention and research during the past ten years by Battelle Scientist, Henry Pate. It has been tested, demonstrated and proven successful and effective in the field in real time conditions.

Battelle Memorial Institute invents and develops technologies. Through licensure and partnering agreements with companies who have a particular expertise in each field of use, those technologies are commercialized.

The Tierra InStreem Group, Inc. licensed by and partnered with Battelle Memorial Institute, is prepared to bring InStreem™ and it's complimentary technologies to the marketplace. The Tierra Group, with experienced staff providing the manufacturing, marketing/service element, and Battelle Memorial Institute, a world renowned research and development organization with over 7,000 scientists, engineers and other specialists, will provide this revolutionary solution to water problems.

InStreem™ consists of a floating technology platform that can be tailored to address different pollution problems and site conditions. It is portable or can be installed on a permanent basis. The platform, consisting of series of uniquely configured discs, powered by a five to fifteen horsepower motor, and equipped with baffles, circulates and controls large volumes of water at an extremely low cost.

A comparative example between InStream and conventional methods of circulation is illustrated in a typical wastewater lagoon.

- Conventional equipment uses 20-horsepower to circulate one million gallons per day. InStream™ using 7-horse-power, is capable of circulating over 56 million gallons per day.

This circulation adds huge amounts of oxygen and keeps solids in suspension.

The InStream unit and its components are tough, rugged and dependable. Its frame is constructed of aircraft grade (6061-T-6) aluminum.

- Two Units installed in a Hog Lagoon in North Carolina operated through Hurricane Floyd

- Recently two units installed in Dairy lagoons survived a major earthquake in the State of Washington

Despite successful legislation and regulation mandating water treatment/ discharge standards prior to discharge into the waters of the U.S., water quality continues to decline. In the U.S., this is shown by regional failures in the Chesapeake, Neuse Valley, Imperial Valley, Everglades, and Mississippi River. Highly organic/contaminated sediments accumulated for over 200 years from terrestrial runoff, coupled with poor circulation and loss of wetlands, further contribute to poor water quality.

- An amazing statistic from the U.S. Environmental Protection Agency 40 percent of the water in our nation is not fit for human or ecosystem use.

(<http://www.epa.gov/305b/98report/98summary.html>)

This has occurred in a nation that has spent unprecedented resources on flooding and pollution control, using conventional off-line methods. Worldwide the problems are much worse.

The U.S. E.P.A. has only recently recognized this problem calling for:

"Focus on the quality of bodies of water, rather than levels of discharges from individual sources" (U.S. Water News review of U.S. Environmental Protection Agency Waterway Program, November 1999)

Conventional methods of treatment, management and reclamation, (e.g. dikes, levies, wastewater treatment facilities, chemical treatment, aeration, pumping and dredging) are slow, restricted in scope and extremely expensive to restore water resources in our nation and the rest of the world.

Some examples of estimated costs for cleanup and restoration are:

▪ Florida Everglades \$ 8-20 Billion (U.S. Army Corps of Engineers, 1999)

▪ Illinois River \$ 300,000,000 Million (U.S.E.P.A. 1999)

There is a tremendous need for technologies that are:

- Inexpensive to build, install, maintain, and operate and,
- Can operate *in stream*, working with the forces of nature by;
 - ✓ Enhancing oxygenation by circulation,

- Circulation, the movement of water, is critical.

Dissolved oxygen in the water is the key to being able to maintain a healthy, vibrant aquatic environment. Moving water helps keep solids suspended in the water and adds and distributes oxygen. Stagnant water allows suspended solids to fall out and cover the bottom of the water body, thereby choking out any existing aquatic life. A body of water lacking in oxygen – is dead.

- ✓ Managing contaminated sediments,

- Even with “zero” pollution, a significant amount of contamination exists in the sediments.

Many waters have a large reservoir of organic and manmade wastes, providing in some cases as much as 200 years of accumulated pollution, that depletes oxygen, releases noxious gases (e.g., hydrogen sulfide and methane), and poisons aquatic life.

- ✓ Controlling stream flow volume

- Flooding results in billions of dollars of damages and significant loss of life

The Technology

The current concept includes multiple technologies with the InStream™ water unit (IWU) being the central technology platform. The concept revolves around the process of managing the water column in situ – rather than removing the water from the natural or man made systems and makes use of the IWU's unique ability to influence the movement of water. The extremely efficient water movement makes this technology capable of influencing significant amounts of water (creating an apparent in situ pipeline) that has been observed to facilitate flood control and replicate natural waterway circulation. Supplemental to this water movement or entrained (dragged) flow is the observed ability of the IWU to provide aeration and the establishment of a contact chamber that facilitates the addition of treatment enhancing chemistry to remove recalcitrant constituents of concern.

The basic InStream™ unit consists of 10 shaft-mounted discs (diameter 4.5') to move water, floating blanket, speed reducer, disc chamber, baffles, ventures and flotation gear. Discs are vertical in the water column, spaced from 5 inches apart and immersed from 7 to 21 inches. The dimensions of the InStream™ unit are 8.5 feet by 20 feet and natural gas, diesel or electric motors power it.

InStream™ can be viewed as a treatment platform that can be tailored to different pollution problems and site conditions. Different sizes of the unit can be built and other treatment technologies incorporated into the device. For example, UV lamps, ozone and Ferrate (VI) can be added as options to oxidize and breakdown more difficult pollution compounds such as pesticides and PCBs. The disk covers have also been designed to collect stripped volatile compounds for treatment through bio-catalytic filters as well as serving the function of a contact chamber for the enhancements.

Energy is applied to the discs to efficiently move the most water in a horizontal plane – as if replicating natural current. The discs work by dragging water, not by pushing or lifting. Since rotational speed is low, without sharp impeller surfaces, impact on biota (living things), including resident and migrating fish populations, is minimized or non-existent.

Based on field tests and engineering data, the flow rate of this unit has been in the range of 57 MGD. These results have been developed during studies in lagoons, canals and estuaries, and confirmed with computer modeling. As water is moved toward the unit's outlet, water adjacent to the unit's inlet must move to replace that water, lessening the energy required to overcome the water's inertia as it contacts the disc-drive. Based on that process, but on a larger scale, there is a flow re-enforcement, imparting additional energy to the water column, caused by the unit's deployment in a water body. By using the unit to move

water past one point, additional water upstream must move to replace it, increasing the circulation effects.

Advantages

Primary advantages of InStream™ are its use of established water structures (such as public domain channels or agricultural lagoons), and the ease of installation and portability of Instream products. Installation of the InStream™ system greatly extends the operating life of the pre-existing water treatment systems and cost effectively enhances the ability of these facilities to manage increased influent. For developing nations, this means that extensive infrastructure projects and industries (e.g. power grids, roads, concrete...) are not required. For flood control applications, the InStream™ products can be installed at fixed locations or easily deployed in anticipation of meteorological events. Conventional systems take months to build, while instream systems could be installed in a few days. The systems can readily be moved within a water system to optimize the system's performance or surgically target a problem area. Due to the system's rugged design, the reliability and maintainability (RAM) of the units is very high.



INSTREEM™ has been under sustained development by Battelle Memorial Institute for the past four years and is the result of ten years of research and innovation by Battelle Scientist Henry Pate. Pictured above are three generations of INSTREEM™, which represent that research and development.

In the foreground to the left is the original prototype, to the right is the first working model and in the background is one of the first production units.

These pictures were taken at Hugo, Oklahoma, headquarters for the Choctaw Manufacturing and Development Company who under contract with The Tierra – InStroom Group is the exclusive producer of the INSTREEM™ Technology platform.

The INSTREEM™ Technology Platform will circulate over 50 million gallons of water per day at an extremely low cost, using 5-7 horsepower.



The INSTREEM™ platform pictured to the left is one of three units presently operating in Wilson's Bay, North Carolina. Notice the induced flow discharge from the unit.

Wilson's Bay was considered by the U.S. Army Corps of Engineers to be a dead body of water.

Since the installation of three INSTREEM™ units, dissolved oxygen throughout the bay has increased substantially with measurements indicating 7.0 or above at the surface and 2.0 at the bottom.



The far left picture demonstrates the large agitation caused by the discs used in the INSTREEM™ technology platform, adding huge amounts of dissolved oxygen to the water column.

In the near left picture oxygenation and induced circulation is demonstrated.



The deployment of the INSTREEM™
technology platform is easily
accomplished using conventional lifting
equipment e.g. forklift or a
portable crane

OR



Launched like a
Pontoon Boat
from it's
submersible trailer



Fabrication and construction of the
INSTRUM™
Technology platform
is accomplished with
the utmost care and
professionalism with
excellent quality
Control



By the Choctaw
Manufacturing and
Development
Company

At

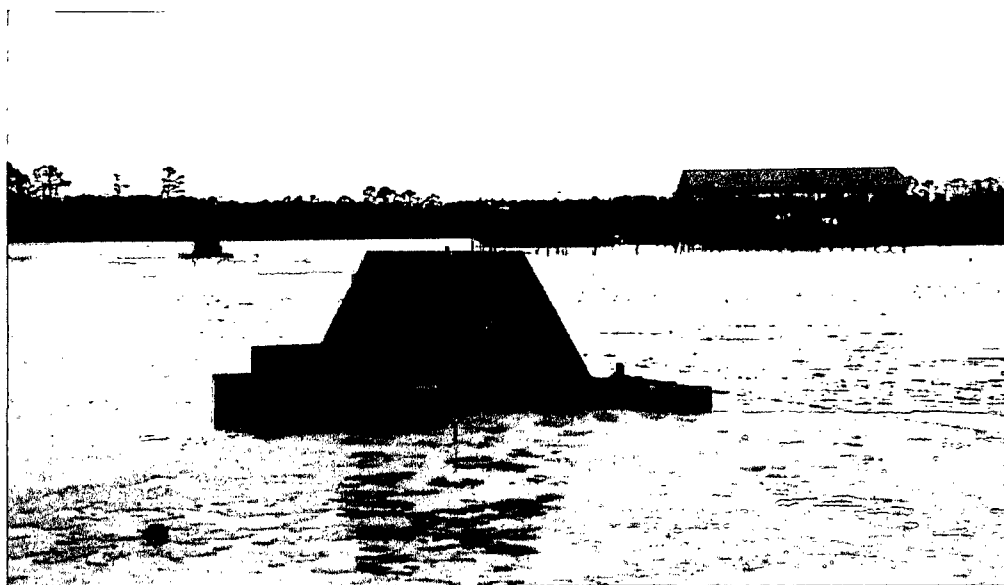
Hugo, Oklahoma



THE TIERRA - INSTREAM GROUP, INC
P.O. BOX 1812
BLOOMFIELD, NEW MEXICO 87413

PHONE 505-632-3005 FAX 505-632-2815

E-mail InStream@technet.nm.net



The very best water treatment,
reclamation and management system
in the world!

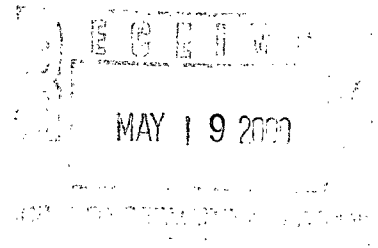
By:

©Battelle

Battelle Environmental Research
Laboratory, 4300 Central
Expressway, Columbus, Ohio 43260-1399
Telephone: 614/291-5444
Fax: 614/291-5444



Key Energy Services, Inc.



May 15, 2000

New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
Attn: Roger Anderson
2040 South Pacheco Street
Santa Fe, New Mexico 87505

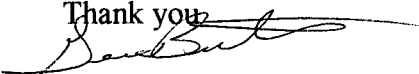
Re: Proposed Changes to Rule 711

Dear Mr. Anderson

I have spoken to some of the disposal facilities and some generators concerning our phone conversation on the 3rd of May. I would like to set up a date for a meeting at your office to bring together all that would like to attend, so that we may finally put this issue to rest.

Please look over your calendar and help me set a date.

Thank you,


Gene Butler
Key Energy Service
915-620-0300
gbutler@keyenergy.com



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 18, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. Z-559-573-258

Mr. Michael Talovich
Key Four Corners Inc.
Water Disposal Facility
P.O. Box 900
Farmington, NM 87499

RE: OCD Rule 711 Permit Approval NM-01-0009
Key Four Corners Inc.
Commercial Surface Waste Management Facility
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM
San Juan County, New Mexico

Dear Mr. Talovich:

The permit application for the Key Four Corners Inc. (Key) commercial surface waste management facility located in the SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico is hereby approved in accordance with New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. **This permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of \$176,200.** Financial assurance is required within thirty (30) days of the date of this permit approval letter. The application consists of the permit application Form C-137 dated March 3, 1998, the inspection report response letter dated March 20, 1998, the original permit application dated March 15, 1989, materials from the hearing file related to Order No. R-9485 dated April 2, 1991, Order No. R-9485-A dated July 19, 1991, Order No. R-10738 dated January 17, 1997, and Order No. R-10756 dated January 27, 1997, and materials submitted in conjunction with subsequent permit modifications dated December 4, 1992; February 16, 1993; March 22, 1993; April 12, 1993; August 8, 1994 and September 5, 1997.

The operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved water disposal process and landfarming methods must receive prior OCD approval. Key is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Mr. Michael Talovich
February 18, 2000
Page 2

Please be advised approval of this facility permit does not relieve Key of liability should your operation result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Key of responsibility for compliance with other federal, state or local laws and/or regulations.

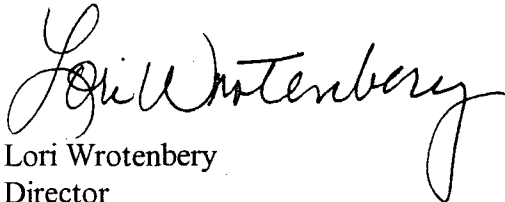
Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered nonhazardous to migratory birds. In addition, OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

The facility is subject to periodic inspections by the OCD. The conditions of this permit will be reviewed by the OCD no later than five (5) years from the date of this approval and the facility will be inspected at least once a year. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of the five (5) year review. The financial assurance may be adjusted to incorporate any closure cost changes.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,



Lori Wrotenbery
Director

LW/mjk

xc with attachments:
Aztec OCD Office

ATTACHMENT TO OCD 711 PERMIT MODIFICATION APPROVAL
PERMIT NM-01-0009
KEY FOUR CORNERS, INC.
SURFACE WASTE MANAGEMENT FACILITY
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico
(February 18, 2000)

FACILITY AND EVAPORATION POND OPERATION

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal may occur only when an attendant is on duty. The facility must be secured when no attendant is present.
3. The facility must be maintained such that there will be no storm water runoff beyond the boundaries of the facility.
4. No produced water may be received at the facility unless the transporter has a valid Form C-133, Authorization to Move Produced Water, on file with the Division.
5. All produced water must be unloaded into tanks. The produced water must reside in the tank system long enough to allow for oil and sediment separation. Oil recovered must be stored in above-ground storage tanks. Per Division General Rule 310, oil shall not be stored or retained in earthen reservoirs or in open receptacles.
6. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
7. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed so that the area will hold one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
8. Below-grade sumps must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump integrity has failed the OCD must be notified within 48 hours of discovery and the sump contents and contaminated soil must be removed and disposed of at an OCD-approved facility or landfarmed on site. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a

report to the OCD Santa Fe and appropriate District offices that describes the investigation and remedial actions taken.

9. All new or replacement below-grade sumps and below-grade tanks at the facility must have secondary impermeable containment with a leak detection system. The leak detection system must be inspected for fluids weekly. Results must be recorded and maintained at the facility for OCD review. If fluids are present in the leak detection system they must be sampled and the analyses compared to the fluids in the sump/tank. A report including the analyses must be furnished to the OCD Santa Fe and appropriate District offices regarding the below grade sump/tank integrity.
10. All saddle tanks and drums located at the facility and containing materials other than fresh water must be placed on an impermeable pad and curb-type containment. The containers must be labeled as to contents and hazards.
11. Any design changes to the produced water receiving, treatment and evaporation area must be submitted to the OCD Santa Fe office for approval.
12. The pond must have a minimum freeboard of one and a half (1½) feet. A device must be installed in the pond to accurately measure freeboard.
13. The pond may not contain any free oil.
14. Pond inspection and maintenance must be conducted on a daily basis or immediately following a consequential rainstorm or windstorm. The OCD Santa Fe and Aztec office must be notified within 24 hours if any defect is noted. If any defect is noted repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond, additional wastes may not be placed into the pond until repairs have been completed. Records of such inspections must be made available to the OCD upon request.
15. The pond leak detection system sumps shall be inspected daily. Results must be recorded and maintained at the facility for OCD review. If fluids are found in the sump, the following steps will be immediately undertaken:
 - a. the operator will notify the Aztec office within 24 hours;
 - b. the fluids will be sampled and analyzed and a comparison made to the fluids in the pond to determine the source; and
 - c. the fluids will be immediately and continuously removed from the sump. Such fluids may be returned to the pond.

16. If a leak is determined to exist in the primary liner, the operator will immediately undertake the following measures under the direction of the OCD:
 - a. introduction of fluids into the pond will cease;
 - b. enhanced evaporation will commence, provided atmospheric conditions are such that the spray systems can be operated in accordance with the provisions of this permit;
 - c. fluids will be removed from the pond using evaporation, injection and transportation to another authorized facility until the fluid level is below the location of the leak in the liner;
 - d. the liner will be repaired and tested and the leak detection system will be completely drained before introduction of fluids into the pond resumes; and
 - e. any additional measures required by the OCD will be completed.
17. Sludge thickness in the base of the pond must be measured annually. Any sludge build-up in the bottom of the pond in excess of twelve (12) inches must be removed and may be landfarmed at the on-site landfarm or disposed of at an OCD-approved facility.
18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.
19. Liquid reduction technologies that may be used to eliminate pond waters include evaporation, enhanced evaporation and injection at the facility Class I disposal well.
20. Any time the spray system is used to enhance evaporation the following requirements will apply:
 - a. all spray must remain within the confines of the lined portion of the pond;
 - b. the spray system will be equipped with an automatic anemometer that will automatically deactivate the spray system when the winds, sustained or in gusts, would carry the spray outside the confines of the lined portion of the pond; and
 - c. the spray system may be operated only when an attendant is on duty.
21. Within 24 hours of detection or complaint of any odor generation that may impact public health or welfare, the facility must notify the OCD Aztec office and begin an investigation to determine the appropriate remedial actions. Actions may include chemical treatment and/or

and/or the immediate solidification and landfarming of material. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.

H₂S PREVENTION & CONTINGENCY PLAN

1. In order to prevent development of harmful concentrations of H₂S, the following procedures must be followed:
 - a. All incoming loads of produced water must be tested for hydrogen sulfide (H₂S) concentrations. Any loads with measurable H₂S concentrations will be treated in a closed system. The treatment reaction must be driven to completion to eliminate all measurable H₂S prior to disposal of the water into the pond.
 - b. The aeration system must be operated to provide sufficient oxygen to the pond to maintain a residual oxygen concentration of 0.5 ppm one foot off the bottom of the pond. Tests must be conducted and records made and maintained of the dissolved oxygen levels in the pond according to the following procedures:
 - i. tests must be conducted at the beginning and end of each day, or at least twice per 24-hour period;
 - ii. the sample for each test must be taken one foot from the bottom of the pond;
 - iii. the location of tests must vary around the pond; and
 - iv. if any test shows a dissolved residual oxygen level of less than 0.5 ppm, immediate steps will be undertaken to oxygenate the pond and create a residual oxygen level of at least 0.5 ppm. Remedial measures may include adding chemicals or increasing aeration.
 - c. Daily tests must be conducted and records made and maintained of the pH levels in the pond, and if the pH falls below 8.0 remedial steps must be taken immediately to raise the pH.
 - d. Weekly tests must be conducted and records made and retained at the facility of the dissolved sulfide concentrations in the pond.
 - e. At least 1000 gallons of an H₂S treatment chemical must be stored on-site and must be replaced periodically in accordance with manufacturer's stated shelf life. Expired H₂S treatment chemicals may be disposed of in the pond.

2. Tests of ambient H₂S levels must be conducted twice per day on the downwind side of the pond along the top of the berm. Test results must be recorded and retained. The wind speed and direction must be recorded in conjunction with each test.
 - a. If an H₂S reading of 1.0 ppm or greater is obtained:
 - i. a second reading must be taken on the downwind berm within one hour;
 - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
 - iii. tests for H₂S levels must be made at the fence line down wind from the pond.
 - b. If two (2) consecutive H₂S readings of 1.0 ppm or greater are obtained:
 - i. the operator must notify the Aztec office of the OCD immediately;
 - ii. the operator must commence hourly monitoring on a 24-hour basis;
 - iii. the operator must lower the pond level so that the aeration system will circulate the entire pond; and
 - iv. the operator must obtain daily analyses of dissolved sulfides in the pond.
 - c. If an H₂S reading of 10.0 ppm or greater at the facility fence line is obtained:
 - i. the operator must immediately notify the Aztec office of the OCD and the following public safety agencies:

New Mexico State Police;
San Juan County Sheriff; and
San Juan County Fire Marshall.
 - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

CONCRETE MIXING IMPOUNDMENT OPERATION

1. Only solids and sludge generated at the Key surface waste management facility may be allowed in the concrete mixing impoundment.

2. All solids and sludge must be placed in the concrete mixing impoundment for solidification prior to landfarm application.
3. Adequate freeboard must be maintained to prevent any overtopping or slop over of material. No free oil or liquids may be allowed in the concrete mixing impoundment. Any liquid that accumulates in the impoundment must be removed within 24 hours.
4. Liquid removed from the impoundment must be returned to the water treatment system.
5. OCD-approved remediated soil may be mixed with the tank bottoms and sludge to stabilize the material. Material received at the impoundment must be mixed and stabilized in a timely manner not to exceed 24 hours.
6. The concrete mixing impoundment and leak detection system must be inspected weekly for containment leaks and overall integrity. Records of such inspections must be made available to the OCD upon request.

LANDFARM CONSTRUCTION

1. Total landfarm acreage may not exceed 15 acres.
2. Contaminated soils may not be placed within one hundred (100) feet of the boundary of the facility.
3. Contaminated soils may not be placed within twenty (20) feet of any pipeline crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
4. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff. A perimeter berm must be constructed and maintained such that it is capable of containing precipitation from a one-hundred year flood for the specific region.

LANDFARM OPERATION

1. Only soils generated exclusively from operations at the Key surface waste management facility may be landfarmed at the Key facility landfarm.
2. All contaminated soils received at the landfarm must be spread and disked within 72 hours of receipt.

3. Soils must be spread on the surface in lifts of six inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Moisture may be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift 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 application of successive lifts and/or removal of the remediated soils.
7. Enhanced bio-remediation through the application of microbes (bugs) and/or fertilizers requires 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.
8. Any design changes to the landfarm facility must be submitted to the OCD Santa Fe office for approval and a copy must be sent to the Aztec District office.
9. Landfarm inspection and maintenance must be conducted on at least a biweekly basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Aztec offices must be notified within 24 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfarm, additional wastes may not be placed into the landfarm until repairs have been completed.

TREATMENT ZONE MONITORING

1. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
2. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and Water Quality Control Commission (WQCC) metals annually.

3. After soil samples are obtained, the boreholes must be filled with an impermeable material such as cement or bentonite.

REPORTING AND RECORD KEEPING

1. Analytical results from the treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory.
2. Key must notify the **OCD Santa Fe and Aztec offices 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.
3. Key must notify the **OCD Aztec office within 24 hours** of any odor detection or complaint. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.
4. Records of H₂S and wind direction, pH, dissolved oxygen, and dissolved sulfide measurements must be kept and maintained for OCD review.
5. Records of landfarm inspection and maintenance must be kept and maintained for OCD review.
6. Records of inspection and maintenance of the produced water receiving, treatment, and evaporation area and concrete mixing impoundment must be kept and maintained for OCD review.
7. Comprehensive records of all material disposed of at the facility must be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; 5) certification of waste status as exempt or non-exempt with any necessary supporting documentation to certify non-hazardous status for non-exempt waste; 6) NORM status declaration; 7) transporter; 8) exact cell location; and 9) any addition of microbes, moisture, fertilizers, *etc.*
8. Analytical results of remediated soils and requests to close cells, apply successive lifts or remove remediated material must be submitted to the OCD Santa Fe office with a copy to the Aztec District office.
9. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.



SEP 18 2000

Key Energy Services, Inc.

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

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

September 11 2000

Martyne Kieling
Environmental Geologist
New Mexico OCD
Santa Fe, New Mexico 87505

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

RE: Response to odor complaint 9-10-2000

Dear Martyne,

Sunday September 10, 2000

Approximately 8pm I received a call from D. Foust concerning odor from the Key Disposal.

I arrived about 8:30pm noticing a bleach smell just before pulling in the yard. Already there where the Hart Valley Fire Department and D. Foust.

The Hart Valley Fire Department stated that the compliant indicated a odor west of the facility approximately 1.5 miles away. The fire Department investigated a odor west and slightly north of the facility and described it as "A chemical odor that burned the nose and gave a instant headache."

They also noted a "Clorox" smell just west of the pond on the CR. 3500.

D. Foust and Myself walked the perimeter of the down wind side of the pond and noted a slight bleach odor. I also checked to see if the chemical feed was running chemical however it was not.

On this Sunday the pond had been treated during the morning between the time of 7am and 9:30am. No other chemical had been added during that afternoon or evening

After dispersing at the Facility, I later drove the area in the vicinity of the complaint (CR. 3141) and only odor noted was trash that was being burned this was around 9:20 pm.

my
9-18-00

page2

Saturday September 9 2000

At 4pm Key Disposal employee Steve Wilson took a call from a female living in the area that complained that the pond was smelling.

The female asked for Steve's name and he provided it to her, he then asked for hers and she declined to tell him. She stated that she had just got home and the smell was going to make her and her family sick. He told her he had just been out by the pond but would add additional chemical.

S. Wilson had treated the pond with bleach (approx. 500 gal.) earlier that day between 7am and 8:30 am. Also small amounts were added again at 4:30pm and later that night. No abnormal odors were noted by either of the two Key employees that were there at 4:30pm

Wind data is provided below for these two days. Computer hard copy was unavailable due to software problems that are in the process of being solved.

9-10-2000

| Time | Wind Speed | Direction |
|------|------------|-----------|
| 5pm | 9mph | W |
| 6pm | 8mph | SW |
| 7pm | 5mph | WNW |
| 8pm | 5mph | W |
| 9pm | 4mph | WSW |
| 10pm | 4mph | WNW |

9-9-2000

| | | |
|------|-------|-----|
| 3pm | 10mph | WNW |
| 4pm | 11mph | W |
| 5pm | 10mph | WNW |
| 6pm | 9mph | WNW |
| 7pm | 8mph | WNW |
| 8pm | 3mph | WNW |
| 9pm | 3mph | WNW |
| 10pm | 3mph | NNW |

As with all calls received at the Facility all parties refuse to leave their names, addresses or phone numbers. This makes me suspicious and sure hampers our internal investigations.

page 3

In conclusion, there was a slight bleach odor emitting from the Facility. This odor was noticeable at the facility and on CR.. 3500. However, I noted no bleach odor near the residential areas .5 to 1 mile away.

As always Key Energy remains concerned when these types of complaints and will continue to investigate with utmost diligence.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Talovich", written in a cursive style.

Michael Talovich
Key Disposal Manager

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

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal Time 9:00 Date ~~9-10~~ 9-11-00

Originating Party Denny Foust Other Parties Martyle Kiehl

Subject Rhonda Davis 334-0270
105 County Road 3141
1 mile Straight East

Key Disposal

Discussion John -
Called Kiehl twice Treating Pond
Dave Tom Co. - Supervisor was called.
Roger Palisor ^{Air Quality} called Denny

Conclusions or Agreements _____

Distribution _____ Signed _____

Kieling, Martyne

From: Foust, Denny
Sent: Monday, September 11, 2000 11:34 AM
To: Anderson, Roger; Kieling, Martyne
Subject: Rhonda Davis Odor Complaint About Key Disposal
Importance: High

I am concerned about the fire personnel describing nasal irritation and headache. A call the Rhonda Davis might



nDGF0025540891.doc

be warranted from your office.

nDGF0025540891

165583 9/10/2000

9/10/200

7:45:00 PM

Rhonda Davis 105 CR 3141, phone 334-0270 complained of H2S on a 911 call at approximately 19:30. No Key Disposal UICCL1005, I was called by 911 operator at 19:45, arrived at Key Disposal at 20:00, no obvious odors coming off the pond at the front gate, facility closes at 17:00 on Sunday. Doug Hatfield of the Hart Valley Fire Dept gave me the address and name of complaining party. The Hart Valley truck said they recognized the same odors as occurred previously but had some nasal burning and instant headache associated as they drove through it in the CR 3141 area. Walking around the pond with Mike Talovich there were no strong odors and no unusual odors. Approximately 20:45 I drove to the CR 3141 area and found no distinguishable odors. Also checked the vicinity of Tierra, no unusual odors. There were no unusual loads obvious on the log at Key and checking with Tierra this morning no unusual activities took place there over the week end. 9/11/2000



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

July 24, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. Z-559-573-333

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

**RE: Approval of Soil Removal and Recycling
Key Energy Services, Inc. Landfarm and Stabilization tray
Permit NM-01-0009**

Dear Mr. Talovich:

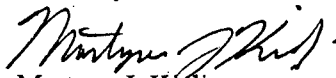
The New Mexico Oil Conservation Division (OCD) has received Key Energy Services's (Key) letter dated June 28, 2000 requesting authorization to clear and reuse soils from Cell 1, stockpile the soil near the stabilization trays for reuse and apply another lift to Cell 1. Based on the information provided, the soil within the area denoted as **Cell-1** in the information provided is hereby **approved** for reuse. The soil may be stored near the stabilization trays prior to reuse. Additional lifts may be applied to the cleared portion of Cell 1.

Note that with the addition of successive lifts Key must continue maintenance and treatment zone monitoring. If Key wants to move the soils from the facility separate OCD authorization must be granted.

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

If you have any questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,


Martyne J. Kfeling
Environmental Geologist

xc: OCD Aztec Office



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

July 11, 2000

Richard Cheney
Cheney, Walters, Echols
909 W. Apache
Farmington, New Mexico 87401

Re: Key Four Corners Inc.; Commercial Surface Waste Management Facility; OCD
Permit NM-01-0009

Dear Mr. Cheney,

Thank you for reporting an odor which originated from the Key Four Corners Inc. commercial surface waste management facility on or about July 4. I have forwarded the information to OCD's Environmental Bureau and it is being investigated by Martyne Kieling in conjunction with field personnel of the Aztec District Office.

Pursuant to your request, enclosed is a copy of Key's 711 Permit, which was approved by OCD on February 18. It contains provisions in paragraph 21 concerning odors.

At this time, field personnel and the Environmental Bureau are awaiting a response from Key concerning the complaint. I am told that it would be helpful in the investigation to know exactly when and where the odor was detected, so if you can provide more detailed information in this regard to Ms. Kieling, that would also be helpful.

Thank you very much for reporting this problem and please let me know if you need further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen C. Ross".

Stephen C. Ross
Assistant General Counsel/EMNRD
Oil Conservation Commission

Cc: Martyne Kieling



Martyne Kieling

Key Energy Services, Inc.

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

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

July 11, 2000

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

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



RE: Response to odor complaint 7-10-2000 10am

Dear Martyne,

Since specific data was unavailable about the odor (such as- exactly when, where they were and who.)

The following is a recap of events that occurred Monday the 10th from 6:00am through 11:00am at the Key Energy Services Water Disposal.

5:45am Attendant arrived to open Facility.

6:00am The Attendant while making his inspection of the aeration system noticed an oil leak coming from the air compressor and shut the system down.

6:15am The Attendant also noted a darken appearance to the pond water and began treating with Sodium Hypochlorite in a large volume.

6:25am I arrived at the Facility and didn't notice any specific odor.

6:25am to 7:00am I performed my usual administrative duties and discussed possible leak areas on the compressor.

7:00am to 7:30am I delivered paper work to Main office and returned to the facility.

7:30am Large volume chemical treatment was stopped. We then restarted compressor to determine source of leak, after approximately 15 minutes of running time, a leak was located and the aeration system was shut down again.

7:50am I left to gather parts for repairing the aircompressor.

8:00am A Key Water truck arrived. This load was from the Yard shop sump and indicated 25ppm H₂S it also had a sour smell to it. This was only a 30 barrel load and was treated as it was being unloaded.

9:00am I arrived back with parts and had the aeration system back on line by 9:30am.

10:15am Mr. Foust with NMOCD arrives to inform us that odor compliant had been received. We discussed possible odor generators and walked around the Facility. No specific odors were noted with the exception of the skimmer pond which had a slight petroleum smell.

11:00am State Regulator requests a report (as per # 21 of the 711 Permit) of events that occurred that morning and then left the Facility.

Please find enclosed weather information for the 10th of July. As far as conclusions to this possible incident, it would have been helpful to have more specific information as to the times and locations (in relation to the facility) of the person or persons reporting. As you are aware there is several Facilities located on Crouch Mesa that can and have generated odor.

However, Key Energy will remain proactive and are always concerned with these types of complaints. If any additional information is required and / or available please let me know.

Sincerely,



Michael Talovich

Key Disposal Manager

Key Disposal 7/10/00

| Date | Time | TH Index | Temp Out | Wind Chill | Hi Temp | Low Temp | Hum Out | Dew Pt. | Wind Speed | Hi | Dir | Rain | Bar | Temp In | Hum In | Arc Per |
|---------|--------|-------------|-------------|---------------|------------|-------------|------------|------------|---------------|------|-----|------|--------|------------|-----------|------------|
| 7/10/00 | 12:00a | 69.6 | 70.0 | 67.2 | 71.5 | 69.0 | 58 | 54.6 | 7.0 | 17.0 | NW | 0.00 | 30.004 | 75.5 | 34 | 60 |
| 7/10/00 | 1:00a | 68.0 | 68.2 | 68.2 | 69.1 | 66.7 | 65 | 56.0 | 3.0 | 6.0 | NW | 0.00 | 29.996 | 74.9 | 34 | 60 |
| 7/10/00 | 2:00a | 65.6 | 65.6 | 64.2 | 66.7 | 64.8 | 69 | 55.2 | 5.0 | 8.0 | SSW | 0.00 | 29.994 | 74.3 | 35 | 60 |
| 7/10/00 | 3:00a | 63.9 | 63.9 | 61.4 | 64.8 | 63.0 | 73 | 55.1 | 6.0 | 9.0 | SSW | 0.00 | 29.994 | 73.6 | 35 | 60 |
| 7/10/00 | 4:00a | 61.7 | 61.7 | 61.7 | 63.0 | 61.0 | 76 | 54.1 | 1.0 | 4.0 | SSW | 0.00 | 29.998 | 73.0 | 36 | 60 |
| 7/10/00 | 5:00a | 61.1 | 61.1 | 61.1 | 61.4 | 60.8 | 74 | 52.8 | 1.0 | 4.0 | SSW | 0.00 | 30.005 | 72.4 | 36 | 60 |
| 7/10/00 | 6:00a | 60.3 | 60.3 | 60.3 | 60.8 | 60.0 | 74 | 52.0 | 1.0 | 6.0 | SSW | 0.00 | 30.011 | 71.9 | 36 | 60 |
| 7/10/00 | 7:00a | 66.4 | 66.4 | 64.1 | 74.1 | 60.4 | 44 | 43.8 | 6.0 | 9.0 | NE | 0.00 | 30.018 | 71.7 | 36 | 60 |
| 7/10/00 | 8:00a | 76.3 | 78.0 | 76.3 | 80.9 | 74.1 | 33 | 46.6 | 7.0 | 12.0 | NE | 0.00 | 30.032 | 72.7 | 37 | 60 |
| 7/10/00 | 9:00a | 84.6 | 87.0 | 87.0 | 90.0 | 80.9 | 28 | 50.0 | 3.0 | 7.0 | ENE | 0.00 | 30.042 | 73.1 | 33 | 60 |
| 7/10/00 | 10:00a | 87.8 | 90.3 | 90.3 | 93.1 | 87.3 | 26 | 50.8 | 2.0 | 6.0 | NE | 0.00 | 30.038 | 71.9 | 33 | 60 |
| 7/10/00 | 11:00a | 90.6 | 93.3 | 93.3 | 94.8 | 92.3 | 24 | 51.2 | 3.0 | 9.0 | S | 0.00 | 30.027 | 72.6 | 34 | 60 |
| 7/10/00 | 12:00p | 89.4 | 93.3 | 93.3 | 96.7 | 90.6 | 21 | 47.6 | 4.0 | 16.0 | N | 0.00 | 30.020 | 75.2 | 33 | 60 |
| 7/10/00 | 1:00p | 98.1 | 100.7 | 100.7 | 105.1 | 94.1 | 17 | 48.0 | 8.0 | 24.0 | SSW | 0.00 | 30.010 | 74.8 | 33 | 60 |
| 7/10/00 | 2:00p | 101.6 | 102.6 | 102.6 | 104.1 | 101.1 | 19 | 52.5 | 10.0 | 20.0 | WNW | 0.00 | 29.996 | 74.8 | 33 | 60 |
| 7/10/00 | 3:00p | 100.8 | 103.2 | 103.2 | 104.3 | 101.3 | 17 | 50.0 | 10.0 | 21.0 | W | 0.00 | 29.984 | 74.9 | 34 | 60 |
| 7/10/00 | 4:00p | 102.5 | 104.4 | 104.4 | 105.1 | 103.2 | 17 | 50.9 | 11.0 | 21.0 | W | 0.00 | 29.967 | 75.1 | 33 | 60 |
| 7/10/00 | 5:00p | 97.7 | 100.3 | 100.3 | 103.2 | 96.8 | 19 | 50.6 | 10.0 | 21.0 | W | 0.00 | 29.961 | 75.8 | 33 | 60 |
| 7/10/00 | 6:00p | 92.8 | 96.2 | 96.2 | 98.1 | 94.7 | 19 | 47.3 | 9.0 | 19.0 | W | 0.00 | 29.950 | 77.6 | 33 | 60 |
| 7/10/00 | 7:00p | 91.4 | 94.9 | 94.9 | 98.1 | 91.4 | 21 | 48.9 | 8.0 | 16.0 | SW | 0.00 | 29.951 | 80.0 | 33 | 60 |
| 7/10/00 | 8:00p | 85.0 | 87.9 | 87.4 | 91.4 | 85.7 | 25 | 47.7 | 7.0 | 13.0 | WSW | 0.00 | 29.954 | 80.4 | 33 | 60 |
| 7/10/00 | 9:00p | 81.0 | 82.7 | 82.7 | 85.7 | 79.4 | 29 | 47.2 | 4.0 | 9.0 | WSW | 0.00 | 29.955 | 80.5 | 33 | 60 |
| 7/10/00 | 10:00p | 76.7 | 77.6 | 77.6 | 79.4 | 76.3 | 37 | 49.3 | 4.0 | 8.0 | SSE | 0.00 | 29.969 | 79.8 | 33 | 60 |
| 7/10/00 | 11:00p | 73.2 | 74.9 | 74.0 | 76.3 | 73.4 | 41 | 49.6 | 5.0 | 8.0 | SSE | 0.00 | 29.980 | 78.9 | 33 | 60 |
| 7/10/00 | 12:00p | 70.7 | 71.9 | 69.4 | 73.4 | 70.8 | 47 | 50.6 | 7.0 | 12.0 | SSW | 0.00 | 29.982 | 78.0 | 33 | 60 |

KEY ENERGY SERVICES**FOUR CORNERS DIVISION****PIPEYARD/DISPOSAL**

P O BOX 900

5651 US HWY 64

FARMINGTON, NEW MEXICO 87499

OFFICE (505) 334-6416 FAX (505) 334-5413

DATE: 7-11-2000TIME: 9:15 amTO: COMPANY NMOC DPERSON Martine KielingPHONE 827-7153FAX 505-827-8177FROM: Mr. TALOVICH

MESSAGE:

Report on odor complaint**TOTAL NUMBER OF PAGES**

(INCLUDING COVER SHEET)

3 4



Key Energy Services, Inc.
Four Corners Division
P.O. Box 900
5651 US Highway 64
Farmington, NM 87499
Phone: 505-327-4935
Fax: 505-327-4962

July 11, 2000

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

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

RE: Response to odor complaint 7-10-2000 10am

Dear Martyne,

Since specific data was unavailable about the odor (such as- exactly when, where they were and who.)

The following is a recap of events that occurred Monday the 10th from 6:00am through 11:00am at the Key Energy Services Water Disposal.

5:45am Attendant arrived to open Facility.

6:00am The Attendant while making his inspection of the aeration system noticed an oil leak coming from the air compressor and shut the system down.

6:15am The Attendant also noted a darken appearance to the pond water and began treating with Sodium Hypochlorite in a large volume.

6:25am I arrived at the Facility and didn't notice any specific odor.

6:25am to 7:00am I performed my usual administrative duties and discussed possible leak areas on the compressor.

7:00am to 7:30am I delivered paper work to Main office and returned to the facility.

7:30am Large volume chemical treatment was stopped. We then restarted compressor to determine source of leak, after approximately 15 minutes of running time, a leak was located and the aeration system was shut down again.

7:50am I left to gather parts for repairing the aircompressor.

8:00am A Key Water truck arrived. This load was from the Yard shop sump and indicated 25ppm H₂S it also had a sour smell to it. This was only a 30 barrel load and was treated as it was being unloaded.

9:00am I arrived back with parts and had the aeration system back on line by 9:30am.

10:15am Mr. Foust with NMOCD arrives to inform us that odor compliant had been received. We discussed possible odor generators and walked around the Facility. No specific odors were noted with the exception of the skimmer pond which had a slight petroleum smell.

11:00am State Regulator requests a report (as per # 21 of the 711 Permit) of events that occurred that morning and then left the Facility.

Please find enclosed weather information for the 10th of July. As far as conclusions to this possible incident, it would have been helpful to have more specific information as to the times and locations (in relation to the facility) of the person or persons reporting. As you are aware there is several Facilities located on Crouch Mesa that can and have generated odor.

However, Key Energy will remain proactive and are always concerned with these types of complaints. If any additional information is required and / or available please let me know.

Sincerely,



Michael Talovich
Key Disposal Manager

Key Disposal 7/10/00

| Date | Time | TR Index | Temp Out | Wind Chill | Hi Temp | Low Temp | Hum Out | Dew Pt. | Wind Speed | Hi | Dir | Rain | Bar | Temp In | Hum In | Arc Per |
|---------|--------|----------|----------|------------|---------|----------|---------|---------|------------|------|-----|------|--------|---------|--------|---------|
| 7/10/00 | 12:00a | 69.6 | 70.0 | 67.2 | 71.5 | 69.0 | 58 | 54.6 | 7.0 | 17.0 | NW | 0.00 | 30.004 | 75.5 | 34 | 60 |
| 7/10/00 | 1:00a | 68.0 | 68.2 | 68.2 | 69.1 | 66.7 | 65 | 56.0 | 3.0 | 6.0 | NW | 0.00 | 29.996 | 74.9 | 34 | 60 |
| 7/10/00 | 2:00a | 65.6 | 65.6 | 64.2 | 66.7 | 64.8 | 69 | 55.2 | 5.0 | 8.0 | SSW | 0.00 | 29.994 | 74.3 | 35 | 60 |
| 7/10/00 | 3:00a | 63.9 | 63.9 | 61.4 | 64.8 | 63.0 | 73 | 55.1 | 6.0 | 9.0 | SSW | 0.00 | 29.998 | 73.6 | 35 | 60 |
| 7/10/00 | 4:00a | 61.7 | 61.7 | 61.7 | 63.0 | 61.0 | 76 | 54.1 | 1.0 | 4.0 | SSW | 0.00 | 29.998 | 73.0 | 36 | 60 |
| 7/10/00 | 5:00a | 61.1 | 61.1 | 61.1 | 61.4 | 60.8 | 74 | 52.8 | 1.0 | 4.0 | SSW | 0.00 | 30.005 | 72.4 | 36 | 60 |
| 7/10/00 | 6:00a | 60.3 | 60.3 | 60.3 | 60.8 | 60.0 | 74 | 52.0 | 1.0 | 6.0 | SSW | 0.00 | 30.011 | 71.9 | 36 | 60 |
| 7/10/00 | 7:00a | 66.4 | 66.4 | 64.1 | 74.1 | 60.4 | 44 | 43.8 | 6.0 | 9.0 | NE | 0.00 | 30.018 | 71.7 | 36 | 60 |
| 7/10/00 | 8:00a | 76.3 | 78.0 | 76.3 | 80.9 | 74.1 | 33 | 46.6 | 7.0 | 12.0 | NE | 0.00 | 30.032 | 72.7 | 37 | 60 |
| 7/10/00 | 9:00a | 84.6 | 87.0 | 87.0 | 90.0 | 80.9 | 28 | 50.0 | 3.0 | 7.0 | ENE | 0.00 | 30.042 | 73.1 | 33 | 60 |
| 7/10/00 | 10:00a | 87.8 | 90.3 | 90.3 | 93.1 | 87.3 | 26 | 50.8 | 2.0 | 6.0 | NE | 0.00 | 30.038 | 71.9 | 33 | 60 |
| 7/10/00 | 11:00a | 90.6 | 93.3 | 93.3 | 94.8 | 92.3 | 24 | 51.2 | 3.0 | 9.0 | S | 0.00 | 30.027 | 72.6 | 34 | 60 |
| 7/10/00 | 12:00p | 89.4 | 93.3 | 93.3 | 96.7 | 90.6 | 21 | 47.6 | 4.0 | 16.0 | N | 0.00 | 30.020 | 75.2 | 33 | 60 |
| 7/10/00 | 1:00p | 98.1 | 100.7 | 100.7 | 105.1 | 94.1 | 17 | 48.0 | 8.0 | 24.0 | SSW | 0.00 | 30.010 | 74.8 | 33 | 60 |
| 7/10/00 | 2:00p | 101.6 | 102.6 | 102.6 | 104.1 | 101.1 | 19 | 52.5 | 10.0 | 20.0 | WNW | 0.00 | 29.996 | 74.9 | 34 | 60 |
| 7/10/00 | 3:00p | 100.8 | 103.2 | 103.2 | 104.3 | 101.3 | 17 | 50.0 | 10.0 | 21.0 | W | 0.00 | 29.984 | 74.9 | 34 | 60 |
| 7/10/00 | 4:00p | 102.5 | 104.4 | 104.4 | 105.1 | 103.2 | 17 | 50.9 | 11.0 | 21.0 | W | 0.00 | 29.967 | 75.1 | 33 | 60 |
| 7/10/00 | 5:00p | 97.7 | 100.3 | 100.3 | 103.2 | 96.8 | 19 | 50.6 | 10.0 | 19.0 | W | 0.00 | 29.961 | 75.8 | 33 | 60 |
| 7/10/00 | 6:00p | 92.8 | 96.2 | 96.2 | 98.1 | 94.7 | 19 | 47.3 | 9.0 | 16.0 | SW | 0.00 | 29.950 | 77.6 | 33 | 60 |
| 7/10/00 | 7:00p | 91.4 | 94.9 | 94.9 | 98.1 | 91.4 | 21 | 48.9 | 8.0 | 13.0 | WSW | 0.00 | 29.954 | 80.4 | 33 | 60 |
| 7/10/00 | 8:00p | 85.0 | 87.9 | 87.4 | 91.4 | 85.7 | 25 | 47.7 | 7.0 | 9.0 | WSW | 0.00 | 29.955 | 80.5 | 33 | 60 |
| 7/10/00 | 9:00p | 81.0 | 82.7 | 82.7 | 85.7 | 79.4 | 29 | 47.2 | 4.0 | 8.0 | SSE | 0.00 | 29.969 | 79.8 | 33 | 60 |
| 7/10/00 | 10:00p | 76.7 | 77.6 | 77.6 | 79.4 | 76.3 | 37 | 49.3 | 5.0 | 8.0 | SSE | 0.00 | 29.980 | 78.9 | 33 | 60 |
| 7/10/00 | 11:00p | 73.2 | 74.9 | 74.0 | 76.3 | 73.4 | 41 | 49.6 | 7.0 | 12.0 | SSW | 0.00 | 29.982 | 78.0 | 33 | 60 |
| 7/10/00 | 12:00p | 70.7 | 71.9 | 69.4 | 73.4 | 70.8 | 47 | 50.6 | 7.0 | 12.0 | SSW | 0.00 | 29.982 | 78.0 | 33 | 60 |

Kieling, Martyne

From: Foust, Denny
Sent: Monday, July 10, 2000 2:01 PM
To: Anderson, Roger; Kieling, Martyne
Cc: Chavez, Frank; Perrin, Charlie; Ross, Stephen
Subject: Key Disposal Odor Complaint
Importance: High

4th of July - + July 8th + 9th weekend.

Steve Ross received an odor complaint from Richard Cheney at 08:30 on July 10, 2000, no additional details are available. Visiting the site and interviewing Mike Talovich and Jimmy Bankston of Key, they stated a very sour smelling load from the Key Shop sump was received about at 08:00. Key personnel at the July 10th morning staff meeting informed had informed Mr. Talovich they had smelled the pond late Saturday and Sunday. Treatment of the pond is with a constant drip procedure backed up by large volume treatments based on the pond color. Drip treatment is about 10 gallons per hour. Treatment of the pond averaged 600 gallons plus for the month of June, 2000. My visit detected no strong odors but there was a mild breeze at 10:30.

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

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal Time 10:00 Date 7-10-00

Originating Party

Marlyse Kicking

Other Parties

Denny Foost

Subject Key odor Generation, Reported by Richard Cherry
to Steve Ross.

Discussion Denny will Drive out to Key within an hour or so
and talk to Mike Felovitch with Key about odors.

Point 21 on page 3 of Key Permit Requires that
they Begin an Investigation and then follow with
a report to SF and AR. on the Remedial Actions
taken

Conclusions or Agreements Denny will call & Report Back. or
Possibly Mike may call. I will Relay Info to Steve
and he will call ~~Steve~~ Richard Cherry Back.

Distribution

Signed

Marlyse

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

MEMORANDUM OF MEETING OR CONVERSATION

☒ Telephone ☐ Personal Time 8:30 Date 7-10-00

Originating Party

Richard Cheney

Other Parties

Steven Ross

Subject

Key Disposal odor Generation.

Discussion

Steve said that He would check in to the Problem and get Back to Richard.

Steve has Done So By talking to Mr. (Marlene Kicking) at 9:30 am. I will call Denny And Have Him Do a Field Investigation.

Conclusions or Agreements

Distribution

Signed

Mutya



Key Energy Services, Inc.

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

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

June 28, 2000

JUL 17 2000

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

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

RE: Key Energy Services Inc. Landfarm

Dear Sirs,

Key Energy Services Inc. would like to request clearance for a area of remediated soil at our landfarm . Please find attached, analysis and simple diagram describing the cell and the amount we would like to clear. A five point sampling technique was used when obtaining these samples and these points are indicated on the diagram.

Key Energy intentions are to remove and stockpile this soil for reuse near the stabilization trays of the facility.

Key Energy Services would appreciate a response at your earliest convenience. I can be reached for additional information at (505) 334-6186.

Best Regards,

A handwritten signature in cursive script, appearing to read "Michael Talovich".

Michael Talovich
Disposal Manager
Key Energy Services

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

June 20, 2000

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

Phone: (505) 327-0416

Client No.: 98065-01

Job No.: 806501

Dear Mr. Talovich,

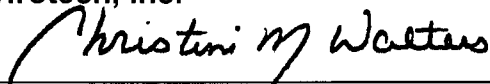
Enclosed are the analytical results for the sample collected from the location designated as "Landfarm". One soil sample was collected by Key Energy Service personnel on 6/16/00, and received by the Envirotech laboratory on 6/16/00 for BTEX per USEPA 8021 and Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015..

The sample was documented on Envirotech Chain of Custody No. 7967 and assigned Laboratory No. H517 (Cell #1 NW) for tracking purposes.

The sample was analyzed on 6/19/00 using USEPA or equivalent methods.

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

Respectfully submitted,
Envirotech, Inc.



Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/key.wpd

| | | | |
|--------------------|---------------------|---------------------|----------|
| Client: | Key Energy Services | Project #: | 806501 |
| Sample ID: | Cell #1 NW | Date Reported: | 06-19-00 |
| Laboratory Number: | H517 | Date Sampled: | 06-16-00 |
| Chain of Custody: | 7967 | Date Received: | 06-16-00 |
| Sample Matrix: | Soil | Date Analyzed: | 06-19-00 |
| Preservative: | Cool | Date Extracted: | 06-19-00 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | 36.9 | 1.8 |
| Toluene | 56.9 | 1.7 |
| Ethylbenzene | 39.0 | 1.5 |
| p,m-Xylene | 157 | 2.2 |
| o-Xylene | 36.1 | 1.0 |
| Total BTEX | 326 | |

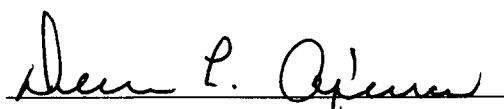
ND - Parameter not detected at the stated detection limit.

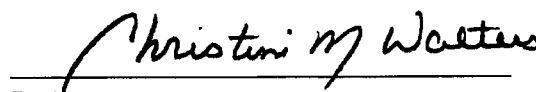
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|--------------------|------------------|
| | Trifluorotoluene | 100 % |
| | Bromofluorobenzene | 100 % |

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

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

Comments: Landfarm.


Analyst


Review

| | | | |
|--------------------|------------------|----------------|----------|
| Client: | N/A | Project #: | N/A |
| Sample ID: | 06-19-BTEX QA/QC | Date Reported: | 06-19-00 |
| Laboratory Number: | H517 | Date Sampled: | N/A |
| Sample Matrix: | Soil | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 06-19-00 |
| Condition: | N/A | Analysis: | BTEX |

| Calibration and Detection Limits (ug/L) | I-Cal RF: | C-Cal RF: | %Diff: | Blank Conc | Detect. Limit |
|--|-------------|-----------------------|--------|---------------|------------------|
| | | Accept. Range 0 - 15% | | | |
| Benzene | 3.9456E-002 | 3.9551E-002 | 0.2% | ND | 0.2 |
| Toluene | 4.2238E-002 | 4.2314E-002 | 0.2% | ND | 0.2 |
| Ethylbenzene | 5.7868E-002 | 5.7990E-002 | 0.2% | ND | 0.2 |
| p,m-Xylene | 6.3888E-002 | 6.4048E-002 | 0.3% | ND | 0.2 |
| o-Xylene | 5.0395E-002 | 5.0481E-002 | 0.2% | ND | 0.1 |

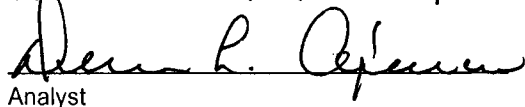
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff. | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|--------|--------------|---------------|
| Benzene | 36.9 | 36.2 | 1.9% | 0 - 30% | 1.8 |
| Toluene | 56.9 | 55.5 | 2.5% | 0 - 30% | 1.7 |
| Ethylbenzene | 39.0 | 38.1 | 2.3% | 0 - 30% | 1.5 |
| p,m-Xylene | 157 | 154 | 2.3% | 0 - 30% | 2.2 |
| o-Xylene | 36.1 | 35.4 | 1.9% | 0 - 30% | 1.0 |

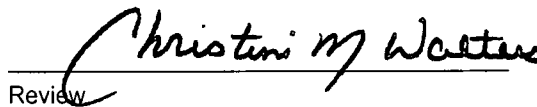
| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene | 36.9 | 50.0 | 86.8 | 100% | 39 - 150 |
| Toluene | 56.9 | 50.0 | 107 | 100% | 46 - 148 |
| Ethylbenzene | 39.0 | 50.0 | 88.9 | 100% | 32 - 160 |
| p,m-Xylene | 157 | 100.0 | 257 | 100% | 46 - 148 |
| o-Xylene | 36.1 | 50.0 | 86.0 | 100% | 46 - 148 |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for sample H517.


Analyst


Review

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

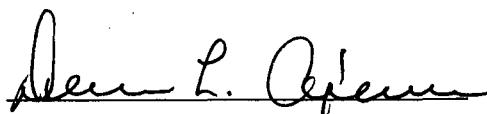
| | | | |
|----------------------|---------------------|---------------------|----------|
| Client: | Key Energy Services | Project #: | 806501 |
| Sample ID: | Cell #1 NW | Date Reported: | 06-19-00 |
| Laboratory Number: | H517 | Date Sampled: | 06-16-00 |
| Chain of Custody No: | 7967 | Date Received: | 06-16-00 |
| Sample Matrix: | Soil | Date Extracted: | 06-19-00 |
| Preservative: | Cool | Date Analyzed: | 06-19-00 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

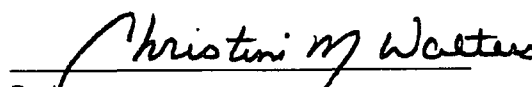
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | 0.5 | 0.2 |
| Diesel Range (C10 - C28) | 44.5 | 0.1 |
| Total Petroleum Hydrocarbons | 45.0 | 0.1 |

ND - Parameter not detected at the stated detection limit.

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

Comments: Landfarm.


Analyst


Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 06-19-TPH QA/QC | Date Reported: | 06-19-00 |
| Laboratory Number: | H517 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 06-19-00 |
| Condition: | N/A | Analysis Requested: | TPH |

| | I-Cal Date | I-Cal RF | C-Cal RF | % Difference | Accept. Range |
|-------------------------|------------|-------------|-------------|--------------|---------------|
| Gasoline Range C5 - C10 | 05-15-00 | 5.1253E-002 | 5.1202E-002 | 0.10% | 0 - 15% |
| Diesel Range C10 - C28 | 05-15-00 | 4.1247E-002 | 4.1164E-002 | 0.20% | 0 - 15% |

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

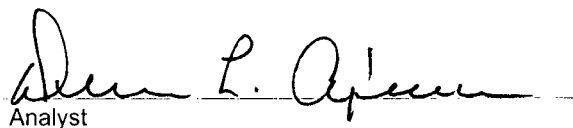
| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | 0.5 | 0.5 | 0.0% | 0 - 30% |
| Diesel Range C10 - C28 | 44.5 | 44.3 | 0.4% | 0 - 30% |

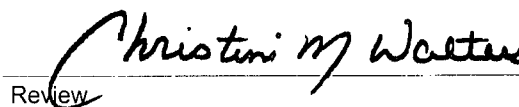
| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | 0.5 | 250 | 250 | 100% | 75 - 125% |
| Diesel Range C10 - C28 | 44.5 | 250 | 294 | 100% | 75 - 125% |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for sample H517.

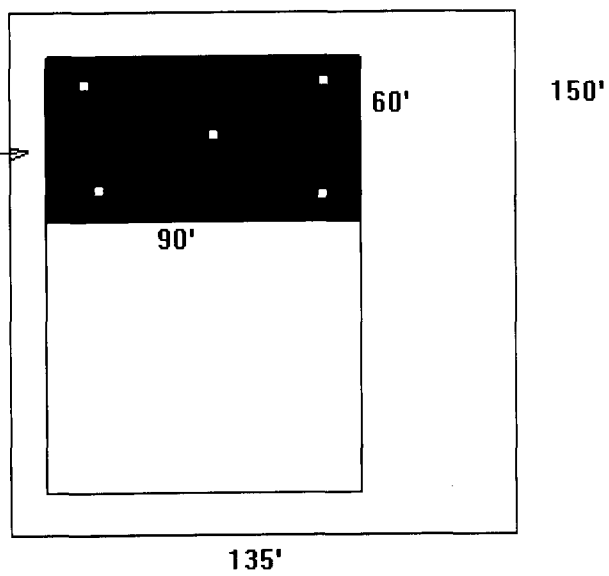

Analyst


Review

CELL #1

7-13-00

AREA TO CLEAR





Key Energy Services, Inc.

May 15, 2000

New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
Attn: Roger Anderson
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Proposed Changes to Rule 711

Dear Mr. Anderson

I have spoken to some of the disposal facilities and some generators concerning our phone conversation on the 3rd of May. I would like to set up a date for a meeting at your office to bring together all that would like to attend, so that we may finally put this issue to rest.

Please look over your calendar and help me set a date.

Thank you,

A handwritten signature in black ink, appearing to read "Gene Butler", written over a horizontal line.

Gene Butler
Key Energy Service
915-620-0300
gbutler@keyenergy.com



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 18, 2000

CERTIFIED MAIL
RETURN RECEIPT NO. Z-559-573-258

Mr. Michael Talovich
Key Four Corners Inc.
Water Disposal Facility
P.O. Box 900
Farmington, NM 87499

RE: OCD Rule 711 Permit Approval NM-01-0009
Key Four Corners Inc.
Commercial Surface Waste Management Facility
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM
San Juan County, New Mexico

Dear Mr. Talovich:

The permit application for the Key Four Corners Inc. (Key) commercial surface waste management facility located in the SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM, San Juan County, New Mexico is hereby approved in accordance with New Mexico Oil Conservation Division (OCD) Rule 711 under the conditions contained in the enclosed attachment. **This permit approval is conditional upon the receipt and approval by the Director of financial assurance in the amount of \$176,200.** Financial assurance is required within thirty (30) days of the date of this permit approval letter. The application consists of the permit application Form C-137 dated March 3, 1998, the inspection report response letter dated March 20, 1998, the original permit application dated March 15, 1989, materials from the hearing file related to Order No. R-9485 dated April 2, 1991, Order No. R-9485-A dated July 19, 1991, Order No. R-10738 dated January 17, 1997, and Order No. R-10756 dated January 27, 1997, and materials submitted in conjunction with subsequent permit modifications dated December 4, 1992; February 16, 1993; March 22, 1993; April 12, 1993; August 8, 1994 and September 5, 1997.

The operation, monitoring and reporting shall be as specified in the enclosed attachment. All modifications and alternatives to the approved water disposal process and landfarming methods must receive prior OCD approval. Key is required to notify the Director of any facility expansion or process modification and to file the appropriate materials with the Division.

Mr. Michael Talovich
February 18, 2000
Page 2

Please be advised approval of this facility permit does not relieve Key of liability should your operation result in pollution of surface water, ground water, or the environment. In addition, OCD approval does not relieve Key of responsibility for compliance with other federal, state or local laws and/or regulations.

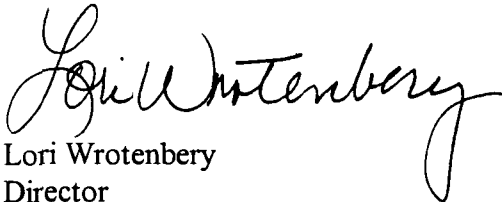
Please be advised that all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted or otherwise rendered nonhazardous to migratory birds. In addition, OCD Rule 310 prohibits oil from being stored or retained in earthen reservoirs or open receptacles.

The facility is subject to periodic inspections by the OCD. The conditions of this permit will be reviewed by the OCD no later than five (5) years from the date of this approval and the facility will be inspected at least once a year. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of the five (5) year review. The financial assurance may be adjusted to incorporate any closure cost changes.

Enclosed are two copies of the conditions of approval. **Please sign and return one copy to the OCD Santa Fe Office within five working days of receipt of this letter.**

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

Sincerely,

A handwritten signature in cursive script, reading "Lori Wrotenbery".

Lori Wrotenbery
Director

LW/mjk

xc with attachments:
Aztec OCD Office

ATTACHMENT TO OCD 711 PERMIT MODIFICATION APPROVAL
PERMIT NM-01-0009
KEY FOUR CORNERS, INC.
SURFACE WASTE MANAGEMENT FACILITY
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico
(February 18, 2000)

FACILITY AND EVAPORATION POND OPERATION

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal may occur only when an attendant is on duty. The facility must be secured when no attendant is present.
3. The facility must be maintained such that there will be no storm water runoff beyond the boundaries of the facility.
4. No produced water may be received at the facility unless the transporter has a valid Form C-133, Authorization to Move Produced Water, on file with the Division.
5. All produced water must be unloaded into tanks. The produced water must reside in the tank system long enough to allow for oil and sediment separation. Oil recovered must be stored in above-ground storage tanks. Per Division General Rule 310, oil shall not be stored or retained in earthen reservoirs or in open receptacles.
6. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
7. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed so that the area will hold one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
8. Below-grade sumps must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump integrity has failed the OCD must be notified within 48 hours of discovery and the sump contents and contaminated soil must be removed and disposed of at an OCD-approved facility or landfarmed on site. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a

report to the OCD Santa Fe and appropriate District offices that describes the investigation and remedial actions taken.

9. All new or replacement below-grade sumps and below-grade tanks at the facility must have secondary impermeable containment with a leak detection system. The leak detection system must be inspected for fluids weekly. Results must be recorded and maintained at the facility for OCD review. If fluids are present in the leak detection system they must be sampled and the analyses compared to the fluids in the sump/tank. A report including the analyses must be furnished to the OCD Santa Fe and appropriate District offices regarding the below grade sump/tank integrity.
10. All saddle tanks and drums located at the facility and containing materials other than fresh water must be placed on an impermeable pad and curb-type containment. The containers must be labeled as to contents and hazards.
11. Any design changes to the produced water receiving, treatment and evaporation area must be submitted to the OCD Santa Fe office for approval.
12. The pond must have a minimum freeboard of one and a half (1½) feet. A device must be installed in the pond to accurately measure freeboard.
13. The pond may not contain any free oil.
14. Pond inspection and maintenance must be conducted on a daily basis or immediately following a consequential rainstorm or windstorm. The OCD Santa Fe and Aztec office must be notified within 24 hours if any defect is noted. If any defect is noted repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond, additional wastes may not be placed into the pond until repairs have been completed. Records of such inspections must be made available to the OCD upon request.
15. The pond leak detection system sumps shall be inspected daily. Results must be recorded and maintained at the facility for OCD review. If fluids are found in the sump, the following steps will be immediately undertaken:
 - a. the operator will notify the Aztec office within 24 hours;
 - b. the fluids will be sampled and analyzed and a comparison made to the fluids in the pond to determine the source; and
 - c. the fluids will be immediately and continuously removed from the sump. Such fluids may be returned to the pond.

16. If a leak is determined to exist in the primary liner, the operator will immediately undertake the following measures under the direction of the OCD:
 - a. introduction of fluids into the pond will cease;
 - b. enhanced evaporation will commence, provided atmospheric conditions are such that the spray systems can be operated in accordance with the provisions of this permit;
 - c. fluids will be removed from the pond using evaporation, injection and transportation to another authorized facility until the fluid level is below the location of the leak in the liner;
 - d. the liner will be repaired and tested and the leak detection system will be completely drained before introduction of fluids into the pond resumes; and
 - e. any additional measures required by the OCD will be completed.
17. Sludge thickness in the base of the pond must be measured annually. Any sludge build-up in the bottom of the pond in excess of twelve (12) inches must be removed and may be landfarmed at the on-site landfarm or disposed of at an OCD-approved facility.
18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.
19. Liquid reduction technologies that may be used to eliminate pond waters include evaporation, enhanced evaporation and injection at the facility Class I disposal well.
20. Any time the spray system is used to enhance evaporation the following requirements will apply:
 - a. all spray must remain within the confines of the lined portion of the pond;
 - b. the spray system will be equipped with an automatic anemometer that will automatically deactivate the spray system when the winds, sustained or in gusts, would carry the spray outside the confines of the lined portion of the pond; and
 - c. the spray system may be operated only when an attendant is on duty.
21. Within 24 hours of detection or complaint of any odor generation that may impact public health or welfare, the facility must notify the OCD Aztec office and begin an investigation to determine the appropriate remedial actions. Actions may include chemical treatment and/or

and/or the immediate solidification and landfarming of material. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.

H₂S PREVENTION & CONTINGENCY PLAN

1. In order to prevent development of harmful concentrations of H₂S, the following procedures must be followed:
 - a. All incoming loads of produced water must be tested for hydrogen sulfide (H₂S) concentrations. Any loads with measurable H₂S concentrations will be treated in a closed system. The treatment reaction must be driven to completion to eliminate all measurable H₂S prior to disposal of the water into the pond.
 - b. The aeration system must be operated to provide sufficient oxygen to the pond to maintain a residual oxygen concentration of 0.5 ppm one foot off the bottom of the pond. Tests must be conducted and records made and maintained of the dissolved oxygen levels in the pond according to the following procedures:
 - i. tests must be conducted at the beginning and end of each day, or at least twice per 24-hour period;
 - ii. the sample for each test must be taken one foot from the bottom of the pond;
 - iii. the location of tests must vary around the pond; and
 - iv. if any test shows a dissolved residual oxygen level of less than 0.5 ppm, immediate steps will be undertaken to oxygenate the pond and create a residual oxygen level of at least 0.5 ppm. Remedial measures may include adding chemicals or increasing aeration.
 - c. Daily tests must be conducted and records made and maintained of the pH levels in the pond, and if the pH falls below 8.0 remedial steps must be taken immediately to raise the pH.
 - d. Weekly tests must be conducted and records made and retained at the facility of the dissolved sulfide concentrations in the pond.
 - e. At least 1000 gallons of an H₂S treatment chemical must be stored on-site and must be replaced periodically in accordance with manufacturer's stated shelf life. Expired H₂S treatment chemicals may be disposed of in the pond.

2. Tests of ambient H₂S levels must be conducted twice per day on the downwind side of the pond along the top of the berm. Test results must be recorded and retained. The wind speed and direction must be recorded in conjunction with each test.
 - a. If an H₂S reading of 1.0 ppm or greater is obtained:
 - i. a second reading must be taken on the downwind berm within one hour;
 - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
 - iii. tests for H₂S levels must be made at the fence line down wind from the pond.
 - b. If two (2) consecutive H₂S readings of 1.0 ppm or greater are obtained:
 - i. the operator must notify the Aztec office of the OCD immediately;
 - ii. the operator must commence hourly monitoring on a 24-hour basis;
 - iii. the operator must lower the pond level so that the aeration system will circulate the entire pond; and
 - iv. the operator must obtain daily analyses of dissolved sulfides in the pond.
 - c. If an H₂S reading of 10.0 ppm or greater at the facility fence line is obtained:
 - i. the operator must immediately notify the Aztec office of the OCD and the following public safety agencies:

New Mexico State Police;
San Juan County Sheriff; and
San Juan County Fire Marshall.
 - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

CONCRETE MIXING IMPOUNDMENT OPERATION

1. Only solids and sludge generated at the Key surface waste management facility may be allowed in the concrete mixing impoundment.

2. All solids and sludge must be placed in the concrete mixing impoundment for solidification prior to landfarm application.
3. Adequate freeboard must be maintained to prevent any overtopping or slop over of material. No free oil or liquids may be allowed in the concrete mixing impoundment. Any liquid that accumulates in the impoundment must be removed within 24 hours.
4. Liquid removed from the impoundment must be returned to the water treatment system.
5. OCD-approved remediated soil may be mixed with the tank bottoms and sludge to stabilize the material. Material received at the impoundment must be mixed and stabilized in a timely manner not to exceed 24 hours.
6. The concrete mixing impoundment and leak detection system must be inspected weekly for containment leaks and overall integrity. Records of such inspections must be made available to the OCD upon request.

LANDFARM CONSTRUCTION

1. Total landfarm acreage may not exceed 15 acres.
2. Contaminated soils may not be placed within one hundred (100) feet of the boundary of the facility.
3. Contaminated soils may not be placed within twenty (20) feet of any pipeline crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the pipelines.
4. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff. A perimeter berm must be constructed and maintained such that it is capable of containing precipitation from a one-hundred year flood for the specific region.

LANDFARM OPERATION

1. Only soils generated exclusively from operations at the Key surface waste management facility may be landfarmed at the Key facility landfarm.
2. All contaminated soils received at the landfarm must be spread and disked within 72 hours of receipt.

3. Soils must be spread on the surface in lifts of six inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Moisture may be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
6. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift 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 application of successive lifts and/or removal of the remediated soils.
7. Enhanced bio-remediation through the application of microbes (bugs) and/or fertilizers requires 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.
8. Any design changes to the landfarm facility must be submitted to the OCD Santa Fe office for approval and a copy must be sent to the Aztec District office.
9. Landfarm inspection and maintenance must be conducted on at least a biweekly basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Aztec offices must be notified within 24 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfarm, additional wastes may not be placed into the landfarm until repairs have been completed.

TREATMENT ZONE MONITORING

1. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
2. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and Water Quality Control Commission (WQCC) metals annually.

3. After soil samples are obtained, the boreholes must be filled with an impermeable material such as cement or bentonite.

REPORTING AND RECORD KEEPING

1. Analytical results from the treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory.
2. Key must notify the **OCD Santa Fe and Aztec offices 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.
3. Key must notify the **OCD Aztec office within 24 hours** of any odor detection or complaint. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa Fe and Aztec offices.
4. Records of H₂S and wind direction, pH, dissolved oxygen, and dissolved sulfide measurements must be kept and maintained for OCD review.
5. Records of landfarm inspection and maintenance must be kept and maintained for OCD review.
6. Records of inspection and maintenance of the produced water receiving, treatment, and evaporation area and concrete mixing impoundment must be kept and maintained for OCD review.
7. Comprehensive records of all material disposed of at the facility must be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; 5) certification of waste status as exempt or non-exempt with any necessary supporting documentation to certify non-hazardous status for non-exempt waste; 6) NORM status declaration; 7) transporter; 8) exact cell location; and 9) any addition of microbes, moisture, fertilizers, *etc.*
8. Analytical results of remediated soils and requests to close cells, apply successive lifts or remove remediated material must be submitted to the OCD Santa Fe office with a copy to the Aztec District office.
9. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.

WASTE ACCEPTANCE CRITERIA

1. The facility is authorized to accept only:
 - a. Oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material regulated pursuant to 20 NMAC 3.1 Subpart 1403 (NORM). All loads of these wastes other than wastes returned from the well bore in the normal course of well operations, such as produced water and spent treating fluids, received at the facility shall be accompanied by a "Generator Certificate of Waste Status" signed by the generator.
 - b. "Non-hazardous" non-exempt oilfield wastes that do not contain NORM. These wastes may be accepted on a case-by-case basis after a hazardous waste determination is made. Samples, if required, must be obtained from the wastes prior to removal from the generator's facility and without dilution in accordance with EPA SW-846 sampling procedures. All "non-hazardous" non-exempt wastes received at the facility must be accompanied by:
 - i. An approved OCD Form C-138 "Request For Approval To Accept Solid Waste."
 - ii. A "Generator Certificate of Waste Status" signed by the generator.
 - iii. A verification of waste status issued by the appropriate agency, for wastes generated outside OCD jurisdiction. The agency verification is based on specific information on the subject waste submitted by the generator and demonstrating the exempt or non-hazardous classification of the waste.
 - c. Non-oilfield wastes that are non-hazardous if ordered by the Department of Public Safety in a public health emergency. OCD approval must be obtained prior to accepting the wastes.
2. At no time may any OCD-permitted surface waste management facility accept wastes that are hazardous by either listing or characteristic testing.
3. No free liquids or soils with free liquids may be accepted into the landfarm portion of the facility.
4. Materials that may be accepted into the landfarm facility must pass a paint filter test by EPA Method 9095A prior to application.

5. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

FINANCIAL ASSURANCE

1. Financial assurance in the amount of **\$176,200** in the form of a surety or cash bond or a letter of credit, which is approved by the Division, is required from Key Four Corners, Inc. for the commercial surface waste management facility.

By March 18, 2000 Key Four Corners, Inc. must submit 25% of the financial assurance in the amount of **\$ 44,050**.

By March 18, 2001 Key Four Corners, Inc. must submit 50% of the financial assurance in the amount of **\$88,100**.

By March 18, 2002 Key Four Corners, Inc. must submit 75% of the financial assurance in the amount of **\$132,150**.

By March 18, 2003 Key Four Corners, Inc. must submit 100% of the financial assurance in the amount of **\$176,200**.

2. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed no later than five (5) years from the date of this approval. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

CLOSURE

1. The OCD Santa Fe and Aztec offices must be notified when operation of the facility is to be discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Within six (6) months after discontinuing use or within 30 days of deciding to dismantle the facility a closure plan must be submitted to the OCD Santa Fe office for approval. The operator must complete cleanup of constructed facilities and restoration of the facility site within six (6) months of receiving the closure plan approval, unless an extension of time is granted by the Director.

2. The closure plan to be submitted must include the following procedures:
- a. No new material may be accepted.
 - b. Existing landfarm soils must be remediated until they meet the OCD standards in effect at the time of closure.
 - c. The treatment zone soils within each 5-acre cell must be sampled at two (2) to three (3) feet below the native ground surface and must be analyzed for total petroleum hydrocarbons (TPH), volatile aromatic organics (BTEX), major cations/anions and Water Quality Control Commission (WQCC) metals.
 - d. Contaminated soils exceeding OCD closure standards for the site must be removed or remediated.
 - e. The facility must 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 is subject to OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

CERTIFICATION

Key Four Corners, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Key Four Corners, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, public health and the environment.

Accepted:

KEY FOUR CORNERS, INC.

Signature *Hal Stone* Title *V.P. Trucking Division* Date *3-17-00*

CHECKLIST FOR RULE 711 PERMIT APPLICATION COMPLETENESS

1. ✓ FACILITY TYPE *Water Disposal Evap Ponds / ^{in Horse} Land Farm* *Key Four Corners, Inc*
2. ✓ OPERATOR NAME, ADDRESS, CONTACT PERSON AND PHONE# *Mike Talovich*
3. ✓ LEGAL LOCATION *SW NW sec 2, T 29 N, R 12 W* *(505) 334 6186 Facility*
(505) 334 6416 Crouch Mesa
4. ✓ MODIFICATION OR NEW FACILITY *Repermit* *Fax 334 5413 Crouch Mesa*
5. ✓ NAME AND ADDRESS OF THE FACILITY SITE LANDOWNER
6. **NA** NAME AND ADDRESS OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE.
7. **NA** NOTIFICATION OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE RETURN RECEIPT SUBMITTED
8. **NA** PUBLIC NOTICE IN TWO NEWSPAPERS ORIGINAL AFFIDAVIT OF PUBLICATION SUBMITTED.
9. ✓ FACILITY DESCRIPTION WITH DIAGRAMS INDICATING ALL PERTINENT FEATURES (FENCES, BERM, ROADS, PITS, DIKES, TANKS, MONITORING WELLS)
10. ✓ CONSTRUCTION INSTALLATION DESIGNS FOR PITS, PONDS, LEAK-DETECTION SYSTEMS, AERATION SYSTEMS, ENHANCED EVAPORATION SYSTEMS, WASTE TREATING SYSTEMS, SOLIDIFICATION SYSTEMS, SECURITY SYSTEMS, AND LANDFARM FACILITIES.
11. ✓ GEOLOGICAL/HYDROLOGICAL EVIDENCE THAT FACILITY WILL NOT IMPACT GROUNDWATER. DEPTH TO AND QUALITY OF GROUNDWATER INCLUDED.
12. ✓ CONTINGENCY PLAN FOR REPORTING AND CLEAN-UP OF SPILLS OR RELEASES.
13. ✓ H2S CONTINGENCY PLAN
14. ✓ ROUTINE INSPECTION AND MAINTENANCE PLAN TO ENSURE PERMIT COMPLIANCE
15. ✓ CLOSURE PLAN
16. ✓ CLOSURE COST ESTIMATE *\$ 176,213 ocd / 6,134,331 Key*
17. ✓ BONDING AMOUNT *176,000* # TYPE DATE APPROVED
18. ✓ ANY OTHER INFORMATION AS NECESSARY TO DEMONSTRATE COMPLIANCE WITH ANY OTHER OCD RULES REGULATIONS AND ORDERS.

19. CERTIFICATION SIGNATURE AND DATE ON PERMIT

Martyn J King



KEY ENERGY SERVICES, INC.

FOUR CORNERS DIVISION

5651 US HIGHWAY 64

P.O. BOX 900

FARMINGTON, NEW MEXICO 87499

OFFICE (505) 327-4935

FAX (505) 327-4962

RECEIVED
FEB 17 2000

NEW MEXICO OIL CONSERVATION DIVISION

February 14, 2000

Martyne Kieling
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: OCD 711 PERMIT DRAFT

Dear Martyne Kieling:

The following are proposed changes we would like to see concerning our new permit number.

First, under Facility and Evaporated Pond Facility, Number 21, we would like Aztec OCD to determine and investigate odor generation levels. We will then file a report regarding odor generation and appropriate actions taken to the Santa Fe and Aztec OCD offices.

Second, under H₂S Prevention and Contingency Plan, Number 2, we propose testing of ambient H₂S levels be conducted twice a day. Testing will be conducted in a location downwind with wind speed and direction recorded at each testing.

Third, under Waste Acceptance Criteria, Number 1a, we feel this sentence needs to be included: All loads of these wastes other than waste returned from the wellbore will be accompanied by a generator certificate of waste status.

Fourth, under Waste Acceptance Criteria, Number 1b, we propose that this paragraph include: Acceptance will be on a case-by-case basis after approval from the O.C.D. local divisions and/or Santa Fe office.

Respectfully,

Mike Talovich
Disposal Manager

MM

cc: Jim Flynt
Ron Fellabaum
Hal Stone
Gene Butler



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

February 7, 2000

Mr. Hal Stone
Key Four Corners Inc.
Water Disposal Facility
P.O. Box 900
Farmington, NM 87499

**RE: OCD Rule 711 Permit DRAFT
 Key Four Corners Inc.
 Commercial Surface Waste Management Facility
 SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM
 San Juan County, New Mexico**

Dear Mr. Stone:

This is letter is in regards to the Draft Commercial Surface Waste Management Facility Permit for the above referenced location that was faxed to your office on February 1, 2000. The New Mexico Oil Conservation Division requests a response to this draft by February 14, 2000.

If you have any questions please do not hesitate to contact Martyne J. Kieling at (505) 827-7153.

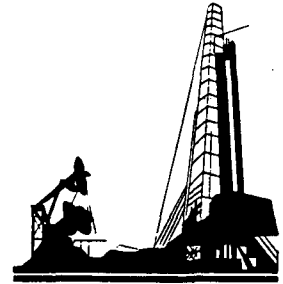
Sincerely,

A handwritten signature in cursive script, reading "Martyne J. Kieling".

Martyne J. Kieling
Environmental Geologist

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505
(505) 827-7133
Fax: (505) 827-8177



(PLEASE DELIVER THIS FAX)

To: Hal Stone (505) 327-4962 Fax

From: Martayne Kieling (505) 827-7153 ph

Date: 2-7-00

Number of Pages (Includes Cover Sheet) 1 of 2

Message: Hal, Could you Please have a response

To us by 2-14-00

Thanks Martayne

If you have any trouble receiving this, please call:
(505) 827-7133

Public Regulation Commission

3/7/2000

KEY FOUR CORNERS, INC. (*DELAWARE Corporation*)

MAILING ADDRESS

TWO TOWER CENTER, 10TH FLOOR EAST BRUNSWICK NEW JERSEY 08816

SCC Number: 1882562

Tax & Revenue Number:

QUALIFIED ON AUGUST 28, 1997, IN NEW MEXICO.

CORPORATION IS A FOREIGN PROFIT

CORPORATION IS ACTIVE
GOOD STANDING THROUGH: 3/15/2001

PURPOSE OF THE CORPORATION
PROVIDE SERVICING TO OIL & GAS PRODUCERS

CORPORATION DATES

Taxable Year End Date: 12/31/00 Filing Date: 09/29/97
Corporate Existence Expiration Date:

SUPPLEMENTAL POST MARK DATES

Supplemental: 05/05/99 Name Change: Purpose Change:

PRINCIPAL ADDRESS

PO BOX 900 FARMINGTON NEW MEXICO 87499

PRINCIPAL ADDRESS(Outside New Mexico)

TWO TOWER CENTER 10TH FLOOR EAST BRUNSWICK NEW JERSEY
08816

REGISTERED AGENT

CORPORATION SERVICE COMPANY
121 EAST PALACE AVENUE SANTA FE NEW MEXICO 87501

Designation date: 05/05/99 Agent Post Mark Date: Resignation date:

COOP LICENSE INFORMATION

Number: Type: Expiration Year:

JOHN, FRANCIS D. *President*

HUSEMAN, KENNETH V. *Vice President*
LOFTIS, JR., JACK D. *Secretary*
Treasurer

DIRECTORS

Date Election of Directors:

JOHN , FRANCIS D

**TWO TOWER CENTER 10TH FLOOR EAST BRUNSWICK , NJ
08816**

New Search Inquiry Page

CHECKLIST FOR RULE 711 PERMIT APPLICATION COMPLETENESS

1. ✓ FACILITY TYPE *Water Disposal Evap Ponds / ^{in House} Land Farm* *Key Farm Corners, Inc*
2. ✓ OPERATOR NAME, ADDRESS, CONTACT PERSON AND PHONE# *Mike Talovich*
(505) 334 6186 Facility
3. ✓ LEGAL LOCATION *SW NW sec 2, T 29 N, R 12 W* *(505) 334 6416 Crouch Mesa*
4. ✓ MODIFICATION OR NEW FACILITY *Repermit* *For 334 5413 Crouch Mesa*
5. ✓ NAME AND ADDRESS OF THE FACILITY SITE LANDOWNER
6. **NA** NAME AND ADDRESS OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE.
7. **NA** NOTIFICATION OF ALL LANDOWNERS OF RECORD WITHIN ONE MILE OF FACILITY SITE RETURN RECEIPT SUBMITTED
8. **NA** PUBLIC NOTICE IN TWO NEWSPAPERS ORIGINAL AFFIDAVIT OF PUBLICATION SUBMITTED.
9. ✓ FACILITY DESCRIPTION WITH DIAGRAMS INDICATING ALL PERTINENT FEATURES (FENCES, BERM, ROADS, PITS, DIKES, TANKS, MONITORING WELLS)
10. ✓ CONSTRUCTION INSTALLATION DESIGNS FOR PITS, PONDS, LEAK-DETECTION SYSTEMS, AERATION SYSTEMS, ENHANCED EVAPORATION SYSTEMS, WASTE TREATING SYSTEMS, SOLIDIFICATION SYSTEMS, SECURITY SYSTEMS, AND LANDFARM FACILITIES.
11. ✓ GEOLOGICAL/HYDROLOGICAL EVIDENCE THAT FACILITY WILL NOT IMPACT GROUNDWATER. DEPTH TO AND QUALITY OF GROUNDWATER INCLUDED.
12. ✓ CONTINGENCY PLAN FOR REPORTING AND CLEAN-UP OF SPILLS OR RELEASES.
13. ✓ H2S CONTINGENCY PLAN
14. ✓ ROUTINE INSPECTION AND MAINTENANCE PLAN TO ENSURE PERMIT COMPLIANCE
15. ✓ CLOSURE PLAN
16. ✓ CLOSURE COST ESTIMATE *\$ 176,213 ocd / 6,134,371 Key*
17. ✓ BONDING AMOUNT *176,000* # TYPE DATE APPROVED
18. ✓ ANY OTHER INFORMATION AS NECESSARY TO DEMONSTRATE COMPLIANCE WITH ANY OTHER OCD RULES REGULATIONS AND ORDERS.

19. CERTIFICATION SIGNATURE AND DATE ON PERMIT

Martyn J King



**KEY ENERGY SERVICES, INC.
FOUR CORNERS DIVISION
5651 US HIGHWAY 64
P.O. BOX 900
FARMINGTON, NEW MEXICO 87499**

OFFICE (505) 327-4935

FAX (505) 327-4962

February 14, 2000

Martyn Kieling
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

RE: OCD 711 PERMIT DRAFT

Dear Martyn Kieling:

The following are proposed changes we would like to see concerning our new permit number.

First, under Facility and Evaporated Pond Facility, Number 21, we would like Aztec OCD to determine and investigate odor generation levels. We will then file a report regarding odor generation and appropriate actions taken to the Santa Fe and Aztec OCD offices.

Second, under H₂S Prevention and Contingency Plan, Number 2, we propose testing of ambient H₂S levels be conducted twice a day. Testing will be conducted in a location downwind with wind speed and direction recorded at each testing.

Third, under Waste Acceptance Criteria, Number 1a, we feel this sentence needs to be included: All loads of these wastes other than waste returned from the wellbore will be accompanied by a generator certificate of waste status.

Fourth, under Waste Acceptance Criteria, Number 1b, we propose that this paragraph include: Acceptance will be on a case-by-case basis after approval from the O.C.D. local divisions and/or Santa Fe office.

Respectfully,

A handwritten signature in cursive script, appearing to read "Mike Talovich", is written over a horizontal line.

Mike Talovich
Disposal Manager

MM

cc: Jim Flynt
Ron Fellabaum
Hal Stone
Gene Butler

KEY ENERGY SERVICES**FOUR CORNERS DIVISION**

P.O. BOX 900

5651 US HIGHWAY 64

FARMINGTON, NEW MEXICO 87499

OFFICE (505) 327-4935

FAX (505) 327-4961

DATE: 2-14-00TIME: 3 PM

TO: COMPANY NM OCLD
PERSON Martynne Kieling
PHONE 505-827-7153 FAX 505-827-8177

FROM: MIKE TALOVICH Key Disposal

MESSAGE: HERE IS A list of Proposed
changes to the Permit. I will send
hard copy by mail also.

ThanksMIKE TALOVICH

TOTAL NUMBER OF PAGES
(INCLUDING COVER SHEET)

2

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505
(505) 827-7133
Fax: (505) 827-8177



(PLEASE DELIVER THIS FAX)

To: Mike Talovich (505) 334-5413 Fax

From: Martynne Kieeling (505) 827-7153

Date: 2-4-00

Number of Pages (Includes Cover Sheet) 1 of 4

Message: Enclosed Please Find The OCD Env. Bureau

Closure Cost Estimate For Key Four Corners, Inc.

Please Call So we can Discuss. Martynne Kieeling.

If you have any trouble receiving this, please call:
(505) 827-7133

ATTACHMENT 1
OCD Environmental Bureau Closure Cost Estimate
For
Key Four Corners, Inc.,
40 acre facility and 15 acre landfarm
February 4, 2000

Quarterly Analytical Analysis for one year on three (3) five (5) acre cells

State Contract Laboratory Prices per analysis:

| | | | | | | | |
|--------|----------|---|------------|---|---------|---|------------------------------|
| BTEX | \$ 40.00 | x | 4 quarters | x | 3 cells | = | \$480.00 |
| TPH | \$ 50.00 | x | 4 quarters | x | 3 cells | = | \$600.00 |
| Metals | \$200.00 | x | 1 year | x | 3 cells | = | <u>\$600.00</u> |
| | | | | | | | \$1,680.00 Analytical |

Quarterly Sampling Time and Labor for 3 Cells

Labor \$55.00/hour
Sample 30 min per cell
Travel 1 hour
Delivery & Paperwork 1 hour

Total Time = (30min/cell x 3 cells) + 1 hours + 1 hours = 3.5 hours

3.5 hours x \$55.00/hour = \$193.00/sampling event

\$193.00/sampling event x 4 quarters = **\$770.00 Labor**

Disking/Tilling for one Year Every Two Weeks for 15 acres

Price and Time Quotes from Equipment Operators and Landfarm Operators:

Small Tractor and Operator \$30.00 /hour
5 acres per hour = 12 min per acre
15 acres at 3 hours x 26 weeks = 78 hours
78 hours x \$30.00/hour = **\$ 2,340.00 Disking/Tilling**

Water for Bioremediation**Price Quotes from Equipment Operators**

Water Truck \$120.00/load

\$120.00/load x 3 loads x 5 Events in one Year = **\$1,800.00 Water**

Level and Contour Landfarm 15 Acres**Price and Time Quotes from and Equipment Operators**

D-6 Dozer and Operator \$85.00/hour

\$85.00/hour x 30 min/acre x 15 acres = **\$638.00 Level Landfarm**

Revegetation for 40 Acres

Equipment an labor cost

Tractor and seed drill \$30.00/hour @ 15 min/acre for 40 acres = \$300.00

Materials Cost

Seed \$10.00/lb @ 5 lb/acre for 40 acres = \$2,000.00

\$300.00 + \$2,000.00 = **\$2,300 Revegetation**

Remove and Inject All Fluids

| | |
|----------------------------------|--------------|
| Capacity of the impoundment | 155,160 bbls |
| Capacity of the systems pits 1-3 | 1,514 bbls |
| Misc. Storage pit and separator | 742 bbls |
| Total | 157,416 bbls |

At a estimated injection capacity of 4,100 bbls/day
40 days to complete injection @ \$515.00 /day

\$ 20,600.00 Remove All Fluids

Dirt work on all impoundments

Dirt work and fold in liner, cover impoundments **\$ 70,000.00 Dirt Work**

Dirt work to Closed Un-used Impoundment

D8 Cat 16 hours @ 105.00/hour **\$ 1,680.00 Dirt Work**

Operation Costs

Electric, Chemical, and Maintenance costs **\$ 25,000.00 Operation Costs**

Tank Cleaning

5 tanks @ 2,800 each **\$14,000.00 Tank Cleaning**

Removal of Tanks and Equipment for Salvage **\$ 0.00 Salvage**

Environmental Supervision and Closure Report **\$ 8,500.00**

Contingencies @ 15% **\$ 17,521.00**

Total Closure and Revegetation Cost of an 51 acre Landfarm

\$ 166,829.00 SubTotal

\$ 9,384.00 NMGR .05625

**\$ 176,213.00 Total Financial
Assurance**

TIERRA ENVIRONMENTAL COMPANY Inc.

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



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

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

February 2, 2000

Mr. Mike Talovich
Key Energy
345 CR 3500
Aztec, New Mexico 87410

RE: CLOSURE COST ESTIMATE FOR KEY DISPOAL

Dear Mr. Talovich:

The following is the cost estimate of closure of the Key Energy Water Disposal Facility and fifteen-acre landfarm. I have taken into account that the injection well is still operational. I have also included the disposal, clean out and removal or closure of the System Pits 1,2 and 3, the misc. storage pit, separator, Square injection system tank, two misc. storage tanks and both up right oil storage tanks as well as closure of the impoundment and liner removal.

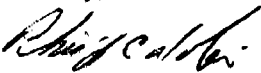
- | | | |
|----|--|--------------|
| 1. | Average capacity of the impoundment 155,160 bbls, Plus the capacity of systems pits 1-3 1,514 bbls, Misc. Storage pit and separator 742 bbls, Total 157,416 | |
| | At an estimated injection capacity of 4,100 bbls per day 40 days to complete injection @ \$ 515.00 per day | \$ 20,600.00 |
| 2. | Dirtwork and fold in liner, cover impoundments | \$ 70,000.00 |
| 3. | Electric, chemical and maintenance costs | \$ 25,000.00 |
| 4. | Tank Cleaning 5 tanks @ \$ 2,500.00 each | \$ 14,000.00 |
| 5. | All tanks and equipment will be removed for salvage | \$ 0.00 |
| 6. | Dirtwork to close un-used impoundment D-8 Cat 16 hours @ 105.00 per hour | \$ 1,680.00 |
| 7. | Tilling of landfarm once every two weeks for one year Tractor with operator for two hours per till @ \$ 35.00 per hour 52 hours | \$ 1,820.00 |
| 8. | Remove berms and dike D-8 Cat 2 hrs @ 105.00 per hr. | \$ 210.00 |

Page 2 Key Closure Cost Estimate

| | | |
|-----|--|---------------------|
| 9. | Environmental Supervision and Closure Report | \$ 8,500.00 |
| 10. | CONTINGENCIES @ 15% | \$ 17,521.50 |
| | Total | \$134,331.50 |

If you have any questions or need additional information please let me know.

Sincerely,


Phillip C. Nobis
President

**KEY ENERGY SERVICES
FOUR CORNERS DIVISION****P.O. BOX 900
5651 US HIGHWAY 64
FARMINGTON, NEW MEXICO 87499****OFFICE (505) 327-4935 FAX (505) 327-4962**DATE: 2-4-2000TIME: 10am

TO: COMPANY NMOC
PERSON M. Kielinc
PHONE 827-7153 (365)
FAX 827-8177

FROM: M. TALOVICH KEY ENERGYMESSAGE: will call later todaymike T.TOTAL NUMBER OF PAGES
(INCLUDING COVER SHEET)3

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, NM 87505
(505) 827-7133
Fax: (505) 827-8177



(PLEASE DELIVER THIS FAX)

To: Mike Talovich (505) 334 5413 Fax

From: Marlyne Kieling (505) 827-7153

Date: 2-1-00

Number of Pages (Includes Cover Sheet) One of 12

Message: Please Review Draft Permit and let

me know if there are any changes that need to

be made regarding operation of facility

Marlyne

If you have any trouble receiving this, please call:
(505) 827-7133

Draft

**ATTACHMENT TO OCD 711 PERMIT MODIFICATION APPROVAL
PERMIT NM-01-0009
KEY FOUR CORNERS, INC.
SURFACE WASTE MANAGEMENT FACILITY
SW/4 NW/4 of Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico
(January 30, 2000)**

FACILITY AND EVAPORATION POND OPERATION

1. The facility must be fenced and have a sign at the entrance. The sign must be legible from at least fifty (50) feet and contain the following information: a) name of the facility; b) location by section, township and range; and c) emergency phone number.
2. Disposal may occur only when an attendant is on duty. The facility must be secured when no attendant is present.
3. The Facility must be maintained such that there will be no storm water runoff from the boundaries of the facility.
4. No produced water may be received at the facility unless the transporter has a valid Form C-133, Authorization to Move Produced Water, on file with the Division.
5. All produced water must be unloaded into tanks. The produced water must reside in the tank system long enough to allow for oil and sediment separation. Oil recovered must be stored in above ground storage tanks. Per Division General Rule 310, oil shall not be stored or retained in earthen reservoirs or in open receptacles.
6. All existing above-ground tanks located at the facility and containing materials other than fresh water must be bermed to contain one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater. All above-ground tanks must be labeled as to contents and hazards.
7. All new or replacement above-ground tanks containing materials other than fresh water must be placed on an impermeable pad and be bermed so that the area will hold one and one-third the volume of the largest tank or all interconnected tanks, whichever is greater.
8. Below-grade sumps must be cleaned and visually inspected annually. Results must be recorded and maintained for OCD review. If sump integrity has failed the OCD must be notified within 48 hours of discovery and the sump contents and contaminated soil must be removed and disposed of at an OCD-approved facility or landfarmed on site. Soil remediation must follow OCD surface impoundment closure guidelines. The permittee must submit a

Draft

report to the OCD Santa Fe and appropriate District offices that describes the investigation and remedial actions taken.

9. All new or replacement below-grade sumps and below-grade tanks at the facility must have secondary impermeable containment with a leak detection monitoring system. Monitoring of the secondary containment system must be inspected for fluids weekly. Results must be recorded and maintained for OCD review. If fluids are present they must be checked and the analyses must be furnished to the OCD Santa Fe and appropriate District offices.
10. All saddle tanks and drums located at the facility and containing materials other than fresh water must be placed on impermeable pad and curb type containment. The containers must be labeled as to contents and hazards.
11. Any design changes to the produced water receiving, treatment and evaporation area must be submitted to the OCD Santa Fe office for approval.
12. The pond must have a minimum freeboard of one and a half (1½) feet. A device must be installed in the pond to accurately measure freeboard.
13. The pond may not contain any free oil.
14. Pond inspection and maintenance must be conducted on a daily basis or immediately following a consequential rainstorm or windstorm. The OCD Santa Fe and Aztec office must be notified within 24 hours if any defect is noted. If any defect is noted repairs must be made as soon as possible. If the defect will jeopardize the integrity of the pond additional wastes must not be placed into the pond until repairs have been completed. Records of such inspections must be made available to the OCD upon request.
15. The leak detection system sumps shall be inspected daily. Results must be recorded and maintained at the facility for OCD review. If fluids are found in the sump the following steps will be immediately undertaken
 - a. The operator shall notify the Aztec office within 24 hours;
 - b. The fluids will be sampled and analyzed to determine the source; and
 - c. The fluids will be immediately and continuously removed from the sump. Such fluids may be returned to the pond.
16. If a leak is determined to exist in the primary liner, the operator will immediately undertake the following contingency measures under the direction of the OCD:

Draft

- a. Introduction of fluids into the pond will cease.
 - b. Enhanced evaporation will commence, provided atmosphere conditions are such that the spray systems can be operated in accordance with the provisions of this permit.
 - c. Fluids will be removed from the pond utilizing evaporation, injection and transportation to another authorized facility until the fluid level is below the location of the leak in the liner.
 - d. The liner will be repaired and tested and the leak detection system will be completely drained before resuming introduction of fluids into the pond.
 - e. Any additional measures required by the OCD.
17. Sludge thickness in the base of the pond must be measured annually. Any sludge build-up in the bottom of the pond in excess of twelve (12) inches must be removed and may be landfarmed at the on-site landfarm or disposed of at an OCD-approved facility.
 18. To protect migratory birds, all tanks exceeding 16 feet in diameter and exposed pits, ponds or lagoons must be screened, netted, covered or otherwise rendered nonhazardous to migratory birds.
 19. Liquid reduction technologies that may be used to eliminate pond waters include evaporation, enhanced evaporation and injection at the facility Class I disposal well.
 20. At such time that the spray system is utilized to enhance evaporation the following requirements will apply:
 - a. The spray system must be operated such that all spray remains within the confines of the lined portion of the pond;
 - b. The spray system will be equipped with an automatic anemometer. The anemometer will automatically deactivate the spray system when the winds, sustained or in gusts, are such that the spray is carried outside the confines of the lined portion of the pond; and
 - c. The spray system must be operated only when an attendant is on duty.
 21. Upon any odor generation the facility must notify the OCD Santa Fe and Aztec offices and begin an investigation to determine the appropriate remedial actions. Actions may include chemical treatment, and the immediate solidification and landfarming of material. A report regarding the odor generation and remedial actions taken must be filed with the OCD Santa

Draft

Fe and Aztec offices.

H₂S PREVENTION & CONTINGENCY PLAN

1. In order to prevent development of harmful concentrations of H₂S, the following procedures must be followed:
 - a. All incoming loads of produced water must be tested for hydrogen sulfide (H₂S) concentrations. Any loads with measurable H₂S concentrations will be treated in a closed system. The treatment reaction must be driven to completion to eliminate all measurable H₂S prior to disposal of the water into the pond.
 - b. The aeration system must be operated to provide sufficient oxygen to the pond to maintain a residual oxygen concentration of 0.5 ppm one foot off the bottom of the pond. Tests must be conducted and records made and maintained of the dissolved oxygen levels in the pond according to the following procedures:
 - i. Tests must be conducted at the beginning and end of each day, or at least twice per 24 hour period.
 - ii. The sample for each test must be taken one foot from the bottom of the pond.
 - iii. The location of tests must vary around the pond.
 - iv. If any test shows a dissolved residual oxygen level of less than 0.5 ppm, immediate steps will be undertaken to oxygenate the pond and create a residual oxygen level of at least 0.5 ppm. Remedial measures may include adding chemicals or increasing aeration.
 - c. Daily tests must be conducted and records made and maintained of the pH levels in the pond, and if the pH falls below 8.0 remedial steps must be taken immediately to raise the pH.
 - d. Weekly tests must be conducted and records made and retained at the facility of the dissolved sulfide concentrations in the pond.
 - e. At least 1000 gallons of a H₂S treatment chemical must be stored on-site and must not be retained for a period in excess of the manufacturer's stated shelf life. Expired H₂S treatment chemicals may be disposed of in the pond.
2. Tests of ambient H₂S levels must be conducted twice per day. Test results must be recorded

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and retained. The tests must be conducted at four (4) locations around the pond at the top of the berm. The wind speed and direction must be recorded in conjunction with each test.

- a. If an H₂S reading of 1.0 ppm or greater is obtained:
 - i. a second reading must be taken on the downwind berm within one hour;
 - ii. the dissolved oxygen and dissolved sulfide levels of the pond must be tested immediately and the need for immediate treatment determined; and
 - iii. tests for H₂S levels must be made at the fence line down wind from the pond.
- b. If two (2) consecutive H₂S readings of 1.0 ppm or greater are obtained:
 - i. the operator must notify the Aztec office of the OCD immediately;
 - ii. the operator must commence hourly monitoring on a 24-hour basis;
 - iii. the operator must lower the pond level so that the aeration system will circulate the entire pond; and
 - iv. the operator must obtain daily analyses of dissolved sulfides in the pond.
- c. If an H₂S reading of 10.0 ppm or greater at the facility fence line is obtained:
 - i. the operator must immediately notify the Aztec office of the OCD and the following public safety agencies:

New Mexico State Police
San Juan County Sheriff
San Juan County Fire Marshall; and
 - ii. the operator must notify all persons residing within one-half (½) mile of the fence line and assist public safety officials with evacuation as requested.

CONCRETE MIXING IMPOUNDMENT OPERATION

1. Only solids and sludge generated at the Key surface waste management facility may be allowed in the concrete mixing impoundment.
2. All solids and sludge must be accepted into the concrete mixing impoundment for

solidification prior to landfarm application.

3. Adequate freeboard must be maintained to prevent any overtopping or slop over of material. The solids and sludge accepted into the concrete mixing impoundment that contain freestanding liquid must be netted until the freestanding liquid is removed. No free oil or liquids may be allowed in the concrete mixing impoundment. Any liquid that accumulates in the impoundment must be removed within 24 hours.
4. Liquid removed from the impoundment must be returned to the water treatment system.
5. OCD-approved remediated soil may be mixed with the tank bottoms and sludge to stabilize the material. Material received at the impoundment must be mixed and stabilized in a timely manner not to exceed 24 hours.
6. The concrete mixing impoundment and leak detection must be inspected weekly for containment leaks and overall integrity. Records of such inspections must be made available to the OCD upon request.

LANDFARM OPERATION

1. Only soils generated exclusively from operations at the Key surface waste management facility may be allowed for landfarming at the Key facility landfarm.
2. All contaminated soils received at the facility must be spread and disked within 72 hours of receipt.
3. Soils must be spread on the surface in lifts of six inches or less.
4. Soils must be disked a minimum of one time every two weeks (biweekly) to enhance biodegradation of contaminants.
5. Moisture may be added as necessary to enhance bioremediation and to control blowing dust. There may be no ponding, pooling or run-off of water allowed. Any ponding of precipitation must be removed within twenty-four (24) hours of discovery.
6. Contaminated soils may not be placed within one hundred (100) feet of the boundary of the facility.
7. Contaminated soils may not be placed within twenty (20) feet of any pipeline crossing the landfarm. In addition, no equipment may be operated within ten (10) feet of a pipeline. All pipelines crossing the facility must have surface markers identifying the location of the

Draft

pipelines.

8. The portion of the facility containing contaminated soils must be bermed to prevent runoff and runoff. A perimeter berm must be maintained such that it is capable of containing precipitation from a one-hundred year flood for the specific region.
9. Successive lifts of contaminated soils may not be spread until a laboratory measurement of total petroleum hydrocarbons (TPH) in the previous lift 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 application of successive lifts and/or removal of the remediated soils.
10. Enhanced bio-remediation through the application of microbes (bugs) and/or fertilizers requires 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.
11. Any design changes to the landfarm facility must be submitted to the OCD Santa Fe office for approval and a copy must be sent to the Aztec District office.
12. Landfarm inspection and maintenance must be conducted on at least a biweekly basis and immediately following each consequential rainstorm or windstorm. The OCD Santa Fe and Aztec offices must be notified within 24 hours if any defect is noted. Repairs must be made as soon as possible. If the defect will jeopardize the integrity of the landfarm, additional wastes may not be placed into the landfarm until repairs have been completed.

TREATMENT ZONE MONITORING

1. A treatment zone not to exceed three (3) feet beneath the landfarm native ground surface must be monitored. A minimum of one random soil sample must be taken from each individual cell, with no cell being larger than five (5) acres, six (6) months after the first contaminated soils are received in the cell and then quarterly thereafter. The sample must be taken at two (2) to three (3) feet below the native ground surface.
2. The soil samples must be analyzed using EPA-approved methods for total petroleum hydrocarbons (TPH) and volatile aromatic organics (BTEX) quarterly and for major cations/anions and Water Quality Control Commission (WQCC) metals annually.
3. After soil samples are obtained, the boreholes must be filled with an impermeable material such as cement or bentonite.

Draft

REPORTING

1. Analytical results from the treatment zone monitoring must be submitted to the OCD Santa Fe office **within thirty (30) days** of receipt from the laboratory.
2. Key must notify the **OCD Santa Fe and Aztec offices 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.
3. Records of landfarm inspection and maintenance must be kept and maintained for OCD review.
4. Records of inspection and maintenance of the produced water receiving, treatment, evaporation area and concrete mixing impoundment must be kept and maintained for OCD review.
5. Comprehensive records of all material disposed of at the facility must be maintained at the facility. The records for each load will include: 1) generator; 2) origin; 3) date received; 4) quantity; 5) certification of waste status as exempt or non-exempt with any necessary supporting documentation to certify non-hazardous status for non-exempt waste; 6) NORM status declaration; 7) transporter; 8) exact cell location; and 9) any addition of microbes, moisture, fertilizers, *etc.*
6. Analytical results of remediated soils and requests to close cells, apply successive lifts or remove remediated material must be submitted to the OCD Santa Fe office with a copy to the Aztec District office.
7. The OCD must be notified prior to the installation of any pipelines or wells or other construction within the boundaries of the facility.

WASTE ACCEPTANCE CRITERIA

1. The facility is authorized to accept only:
 - a. Oilfield wastes that are exempt from RCRA Subtitle C regulations and that do not contain Naturally Occurring Radioactive Material regulated pursuant to 20 NMAC 3.1 Subpart 1403 (NORM). All loads of these wastes received at the facility shall be accompanied by a "Generator Certificate of Waste Status" signed by the generator
 - b. "Non-hazardous" non-exempt oilfield wastes that do not contain NORM. These wastes may be accepted on a case-by-case basis after a hazardous waste determination

Draft

is made. Samples, if required, must be obtained from the wastes prior to removal from the generator's facility and without dilution in accordance with EPA SW-846 sampling procedures. All "non-hazardous" non-exempt wastes received at the facility must be accompanied by:

- i. An approved OCD Form C-138 "Request For Approval To Accept Solid Waste."
 - ii. A "Generator Certificate of Waste Status" signed by the generator.
 - iii. A verification of waste status issued by the appropriate agency, for wastes generated outside OCD jurisdiction. The agency verification is based on specific information on the subject waste submitted by the generator and demonstrating the exempt or non-hazardous classification of the waste.
- c. Non-oilfield wastes that are non-hazardous if ordered by the Department of Public Safety in a public health emergency. OCD approval must be obtained prior to accepting the wastes.
2. At no time may any OCD-permitted surface waste management facility accept wastes that are hazardous by either listing or characteristic testing.
 3. No free liquids or soils with free liquids may be accepted into the landfarm portion of the facility.
 4. Materials that may be accepted into the landfarm facility must pass a paint filter test by EPA Method 9095A prior to application.
 5. The transporter of any wastes to the facility must supply a certification that wastes delivered are those wastes received from the generator and that no additional materials have been added.

FINANCIAL ASSURANCE

1. Financial assurance in the amount of \$?? in the form of a surety or cash bond or a letter of credit, which is approved by the Division, is required from Key Four Corners, Inc. for the commercial surface waste management facility.

By March 1, 2000 Key Four Corners, Inc. must submit 25% of the financial assurance in the amount of **\$62,500.**

Draft

By March 1, 2001 Key Four Corners, Inc. must submit 50% of the financial assurance in the amount of **\$125,000.**

By March 1, 2002 Key Four Corners, Inc. must submit 75% of the financial assurance in the amount of **\$187,500.**

By March 1, 2003 Key Four Corners, Inc. must submit 100% of the financial assurance in the amount of **\$250,000.**

2. The facility is subject to periodic inspections by the OCD. The conditions of this permit and the facility will be reviewed no later than five (5) years from the date of this approval. In addition, the closure cost estimate will be reviewed according to prices and remedial work estimates at the time of review. The financial assurance may be adjusted to incorporate any closure cost changes.

CLOSURE

1. The OCD Santa Fe and Aztec offices must be notified when operation of the facility is to be discontinued for a period in excess of six (6) months or when the facility is to be dismantled. Within six (6) months after discontinuing use or within 30 days of deciding to dismantle the facility a closure plan must be submitted to the OCD Santa Fe office for approval. The operator must complete cleanup of constructed facilities and restoration of the facility site within six (6) months of receiving the closure plan approval, unless an extension of time is granted by the Director.
2. The closure plan to be submitted must include the following procedures:
 - a. No new material may be accepted.
 - b. Existing landfarm soils must be remediated until they meet the OCD standards in effect at the time of closure.
 - c. The treatment zone soils within each 5 acre cell must be sampled at two (2) to three (3) feet below the native ground surface and must be analyzed for total petroleum hydrocarbons (TPH), volatile aromatic organics (BTEX), major cations/anions and Water Quality Control Commission (WQCC) metals.
 - d. Contaminated soils exceeding OCD closure standards for the site must be removed or remediated.
 - e. The facility must be contoured, seeded with native grasses and allowed to return to

Draft

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 must be subject to OCD requirements in effect at the time of closure, and any other applicable local, state and/or federal regulations.

CERTIFICATION

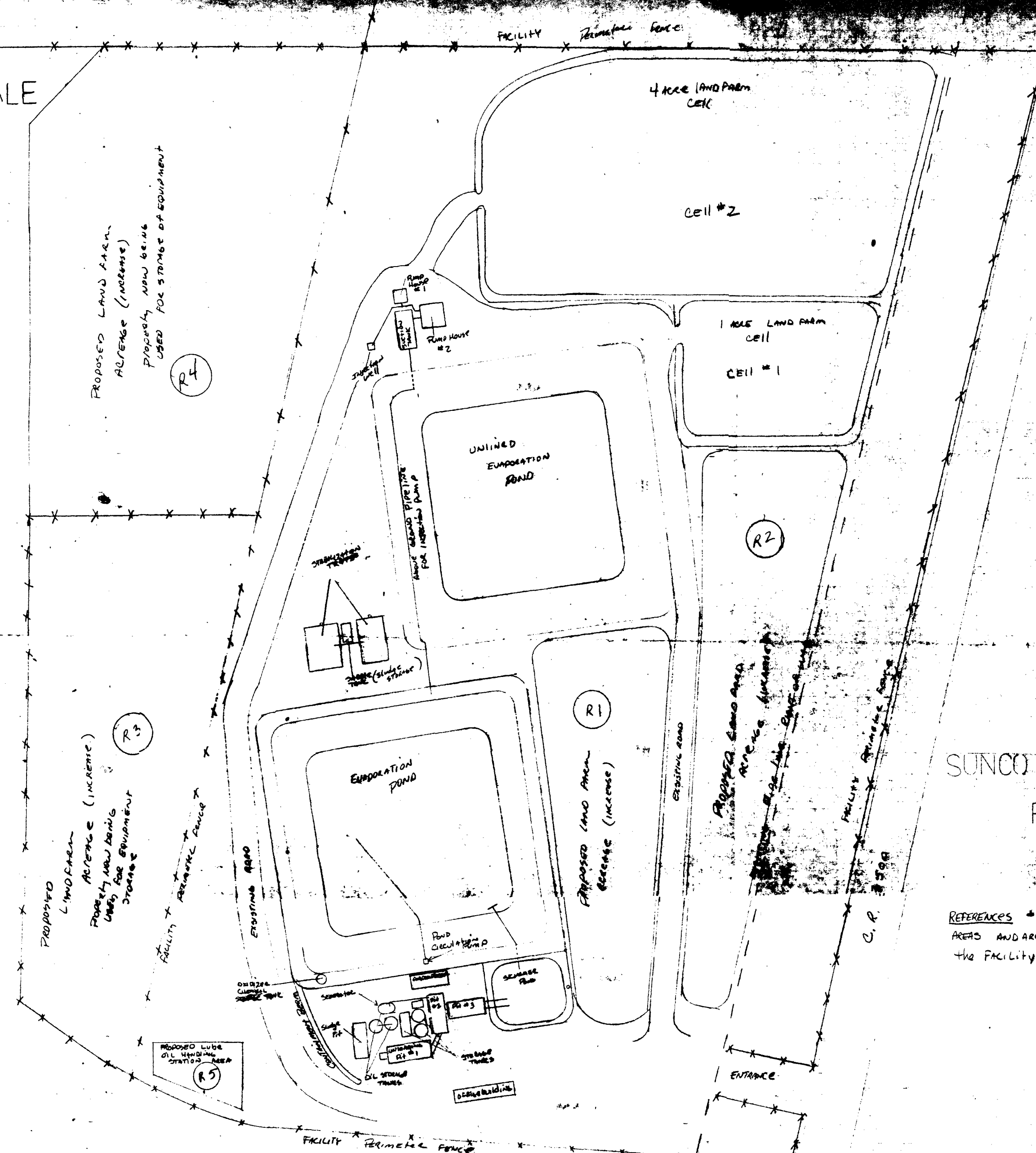
Key Four Corners, Inc., by the officer whose signature appears below, accepts this permit and agrees to comply with all terms and conditions contained herein. Key Four Corners, Inc. further acknowledges that these conditions and requirements of this permit may be changed administratively by the Division for good cause shown as necessary to protect fresh water, public health and the environment.

Accepted:

KEY FOUR CORNERS, INC.

Signature _____ Title _____ Date _____

EQUIPMENT STORAGE AREA



SUNCO WASTE MANAGEMENT
FACILITY

REFERENCES #1 thru #5 ARE JUST APPROXIMATE AREAS AND ARE IN NO WAY SCALE WITH THE RPT + OR THE FACILITY

RECEIVED

APR 01 1998

Environmental Bureau
Oil Conservation Division



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 19, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-509

Mr. Hal Stone
Sunco Trucking Company
P.O. Box 900
Farmington, NM 87499

**RE: Supplemental Environmental Program Order R-10738
Sunco Water Disposal Company/Key Four Corners, Inc.
Unit E, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico**

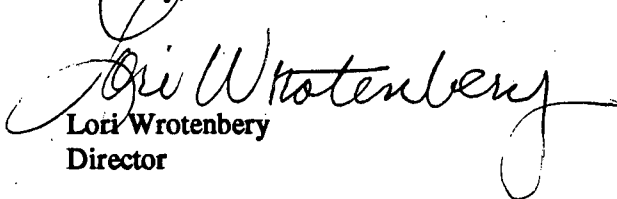
Dear Mr. Stone:

The New Mexico Oil Conservation Division (OCD) has received Sunco Trucking Company's (Sunco) letter dated January 20, 1999 regarding the supplemental environmental program (SEP). The OCD has reviewed the documentation presented pertaining to the Oil Conservation Commission Order R-10738, Part (b) requirement that a portion of the SEP include oil field environmental regulations and waste disposal education for the local high schools. After having approached seven local schools Sunco was successful in presenting an educational program that included a waste management facility tour to three of the local high schools.

The requirements set forth in the Oil Conservation Commission Order R-10738, regarding the Division approved SEP including Part (a) and Part (b) requirements have been completed.

If you have any questions, please contact Roger Anderson at (505) 827-7152.

Sincerely,


Lori Wrotenberg
Director

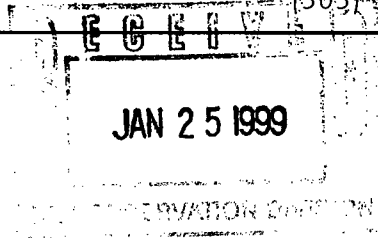
LW/mjk

xc: OCD Aztec Office
Mr. John A. Dean, Curtis & Dean Attorneys at Law



Key Four Corners, Inc.

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



January 20, 1999

Lori Wrotenberg
Director
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Supplemental Environmental Program

Dear Ms. Wrotenberg,

Please find the following documentation supporting part 2 of Key Energy Services SEP.

1. Listing of phone dialogs with local area high schools
2. Sign in sheets of the attending class
3. Copy of the quiz used on the Bloomfield H.S. students
4. Out line of lecture material

Key Energy believes that the necessary actions have been performed and the SEP has been completed.

If you have any questions and/or require additional information please call me at 505-334-6186(Disposal Facility) or 505-334-6416 (Crouch Mesa Office).

Best Regards,

Michael Talovich
Facility Manager

cc: R. Fellabaum KEY
H. Stone KEY
R. Anderson NMOCD
D. Foust NMOCD/AZTEC



Division of Key Energy Group, Inc.

Aztec High School

October 27, 1998 10:30 a.m. Called and spoke with Donna McGee, left message for Mr. Hicks, head of science department.

November 9, 1998 10:00 a.m. Called back and spoke to Donna McGee again, she said Mr. Hicks was out of school for a week with pneumonia.

November 9, 1998 2:00 p.m. Mr. Hicks returns call and says he will ask for permission to go on field trip.

November 10, 1998 12:30 p.m. Mr. Hicks calls and says they can not fit it into their agenda this semester, but asks if they can set up field trip for next semester.

Bloomfield High School

October 27, 1998 10:35 a.m. Called and spoke to Coleen Anderson, assistant principal, she said she would give the message to Mr. Katron, head of the science department.

November 2, 1998 9:30 a.m. Left another message with Ms. Anderson.

November 9, 10:30 a.m. Left another message with a student secretary named Jennifer.

November 9, 1998 12:30 p.m. Mr. Katron returns phone call and says he is very interested in coming but, does not think his principal will let them out of the classroom. He is not sure if they have enough money to pay the bus drivers. Mr. Katron says he will discuss it with his principal and call back.

November 12, 1998 9:45 a.m. Call back and ask to speak with Mr. Katron, he is out for the day, due to an illness.

November 13, 1998 3:55 p.m. Call back and ask to speak to Mr. Katron, says he spoke to his principal Mr. Cromarti, and does not want them away from the classroom. I tell him Sunco Trucking would like to help by donating two hundred dollars for any expenses they may have. He asks Mr. Cromarti again and he still says no.

Farmington High School

October 27, 1998 10:40 a.m. Call and speak with secretary named Michelle. She says the head of science department teacher Ann Gaddis is out for two days and to call back on October 29, 1998.

October 29, 1998 9:00 a.m. Call back and am put through to Ms. Gaddis' extension #233. I talk to her about the field trips and she is very enthusiastic about coming. She says she will ask for permission and call me back by November 11, 1998.

November 12, 1998 1:40 p.m. Ms. Gaddis calls and says she would like for the entire sophomore class to participate but there is a lack of funds.

November 13, 1998 4:03 p.m. Call and ask for Ms. Gaddis, she has already left for the day but I leave message with Michelle that Sunco Trucking would like to donate two hundred dollars to help with the costs of the field trip. Ms. Gaddis will return call on November 16, 1998.

Kirtland High School

October 27, 1998 10:45 a.m. Call and talk to secretary and leave message for Mr. Dennis Haroldson, head of the science department.

October 27, 1998 2:30 p.m. Mr. Haroldson returns call and says they are interested and will see if it is within their budget.

November 9, 1998 4:33 p.m. Mr. Haroldson calls and says they can bring forty students on November 17, 1998 from 9:00 to 10:30 a.m.

Piedra Vista High School

October 27, 1998 10:50 a.m. Call and leave a voice mail with Robin Price, head of the science department.

October 29, 1998 9:30 a.m. Call and leave a voice mail with Robin Price.

November 2, 1998 11:00 a.m. Call and leave a voice mail with Robin Price.

November 9, 1998 10:15 a.m. Call and leave a voice mail with Robin Price.

November 10, 1998 3:30 p.m. Call and leave a voice mail with Robin Price.

November 12, 1998 9:53 a.m. Call and leave a voice mail with Robin Price.

November 13, 1998 4:00 p.m. Call and get no answer.

Kirtland Middle School

November 13, 1998 4:10 p.m. Call and get no answer.

Koogler Middle School

November 13, 1998 4:05 p.m. Call and get no answer.

Bloomfield High School

November 27, 1998 11:30 a.m.- Mr. Katron calls and asks if the field trips are still available and if the two hundred dollar donation still stands. He received permission from his principal and would like to send Mrs. Pope's environmental class. I tell him yes and set up a December 8, 1998 fieltrip from 1:00 p.m. to 3:00 p.m.

Farmington High School

November 18, 1998 10:45 a.m.- Gail Jones calls on behalf of Ms. Gaddis and says they cannot fit the field trips into their itinerary this semester, but they appreciate the donation offer.

Piedra Vista High School

November 16, 1998 9:00 a.m. Call and leave a message with Renee. She says their voice mail has not been working.

November 16, 1998 10:15 a.m. Mr. Robin Price returns phone call and says they have an environmental class that can probably make it.

November 16, 1998, 3:30 p.m. Mr. Price calls back and confirms he can bring a class on November 18, 1998 from 9:00 to 10:30 a.m. During the field trip Mr. Price mentions that he may be able to bring more classes.

November 19, 1998, 11:05 a.m. Call and leave a message with student aide in regards to more field trips.

November 20, 1998, 9:30 a.m. Call and leave message with Renee in regards to more field trips.

November 20, 1998, 12:30 p.m. Mr. Price returns phone call and says no other teachers were interested in the field trips.

Koogler Middle School

November 16, 1998, 10:15 a.m. Call and leave message with Teresa for head of science dept., Mr. George Jewett.

November 16, 1998, 3:30 p.m. Mr Jewett calls and says he and the other teachers are not studying water treatment and are not interested at this time.

Kirtland Middle School

November 16, 1998, 10:20 a.m. Call and leave a message with Andy for Mr. Luco, head of the science department.

November 17, 1998, 9:00 a.m. Call and leave a message with Andy for Mr. Luco.

November 18, 1998, 9:15 a.m. Call and leave a message with a student aide for Mr. Luco.

November 19, 1998, 11:30 a.m. Mr. Luco returns phone call and says it is too close to their winter break and semester finals, but appreciates the offer.

BLOOMFIELD SCHOOL DISTRICT - BUS REQUEST

School BLOOMFIELD HIGH SCHOOL Activity Tech Chem class Date of Request 11/24/98
 Departure Date 12/8/98 Departure Time 12:30 p.m. NOV 01 1998
 F n Date 12/8/98 Return Time 3:00 p.m.
 Destination Town Crown Mesa (SunCo) Destination School _____
 Total Miles _____ Trip No. _____ Meals Provided? Yes / (No)

Fund No. 230100.08.5117.0000.0002.111

Science Club

BUS & DRIVER WILL STAY WITH GROUP UNLESS NOTED.

Bus & Driver will return to Bloomfield and come back to pick up group at _____ am / pm. Initial _____

Number of Students 48

Principle/Designee [Signature]

Number of Chaperons _____

Coach/Sponsor [Signature]

| | | | | | |
|------------------------|--------------|---|-------------|-----|--------------|
| Miles | <u>71.6</u> | x | <u>.35</u> | = A | <u>9.10</u> |
| Hours | <u>3</u> | x | <u>8.40</u> | = B | <u>25.20</u> |
| O.T. | | x | | = C | |
| Benefit | <u>.0765</u> | x | <u>B+C</u> | = D | <u>1.93</u> |
| Meals | | x | | = E | |
| TOTAL COST (A+B+C+D+E) | | | | | <u>36.23</u> |

Driver Randy Stevens 154

WHITE - TRANSPORTATION

YELLOW - TRANSPORTATION

PINK - RETAIN BY SCHOOL

153-410-7030

OK m. J.
Hae

Hart Pierce
Principal



(505) 599-8880

Piedra Vista High School

5700 College Blvd
Farmington, New Mexico 87402

www.fms.k12.nm.us/pvhs

Donny Ortiz
Vice Principal



(505) 599-8891 fax

November 18, 1998

Key Energy Services, Inc.
Four Corners Division
P.O. Box 900
Farmington, NM 87499

INVOICE

Science Class

Trip Ticket

Crouch Mesa Field Trip

\$55.00

NOV 25 1998

| | |
|-------------|-----------|
| Van # | Date Recd |
| Acct # | Amt. |
| Acct # | Amt. |
| Acct # | Amt. |
| Acct # | Amt. |
| Prepared By | Date |
| Approved By | Date |

Thank You
PVHS Panthers

KEY ENERGY SERVICES

DATE 11-17-98

WATER DISPOSAL HIGHSCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

| | |
|-------------------|---------------|
| Dennis Hordoban | KCHS 598-5881 |
| Carrie Hill | KCHS |
| NIKKI Golbe | KCHS |
| Johana Billy | KCHS |
| Sierra Blue | KCHS |
| candace Harris | KCHS |
| Angie Cano | KCHS |
| Tiffany Konieczka | KCHS |
| Jacelynn Bradley | KCHS |
| Gloria Baker | KCHS |
| Crystal Ray | KCHS |
| Jessica Nelson | KCHS |
| Shyla Willie | KCHS |
| Luanna Jones | KCHS |
| Melissa Manuelito | " " |
| Norma Tosie | " " |
| Bijiibaa Garrison | " " |
| Holly Pettigrew | " " |
| Nafali Ymzie | KCHS |

KEY ENERGY SERVICES

DATE 11-17-98

WATER DISPOSAL HIGHSCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

Sunshine Touchin

KCHS

Genita Begay

KCHS

Jonathan Newman

KCHS

Nolan Stewart

KCHS

Chris Julian

KCHS

Jan Yazzie

KCHS

AJ Collins

KCHS

Josh Kimball

KCHS

Serena Stewart

KCHS

Austin Jackson

KCHS

Derrick Hansen

"

Dana Thomas

"

Landon Belmont

KCHS

Jonell Fortz

KCHS

Carrie Hawkins

KCHS

Danielle Myers

KCHS

Nehemiah Seitz

KCHS

~~Mikeaux Barber~~~~Mikeaux Barber~~
KCHS

KEY ENERGY SERVICES

DATE 11-17-98

WATER DISPOSAL HIGHSCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

Kelvin Kinsell KCHS

Andrew Byers KCHS

Heather James KCHS

Hal Stone Key

Piedra Vista H.S.

KEY ENERGY SERVICES

DATE 11-17-98

WATER DISPOSAL HIGH SCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

| | |
|-----------------------|-----------------|
| Aaron Ashcroft | PVHS |
| Tim Tillerson | PVHS |
| Krista Norelstrom | PVHS |
| Celeste Negward | " " |
| Lisa Fisher | " " |
| Laurel Antonio | " " |
| Jordan Wilcken | " " |
| Dacia Krelaks (11) | PVHS |
| Lacey L. Armenta | PVHS |
| Sean Ingram | PVHS |
| Don Cook | PVHS |
| Jahi Puring | PVHS |
| TERED ANDERSON | PVHS |
| Steve Sample | PVHS |
| Aaron Huber | |
| Robin PRICE (Teacher) | PVHS |
| Ernie Bosch | AGENCY NMDCS |
| Hal Stone | KEY |

KEY ENERGY SERVICES

DATE 12-8-98

WATER DISPOSAL HIGH SCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

Sarah Pope

BHS

Claudia Calderon

BHS

Ana Calderon

BHS

Judith Calderon

BHS

Cheri Black

BHS

Jericlysa Silverman

BHS

Eric Harrison

BHS

Connie Gonzales

BHS

Maree Hankins

BHS

Lynn Carr

BHS

Culim Marshall

BHS

Denise Yezzer

BHS

Mike Omean

BHS

Katelyn Baker

BHS

Joseph Selph

BHS

L. STORIE

B

Eric Bilton

BHS

Pily Biles

BHS

Bonnie B. Barrera

BHS

KEY ENERGY SERVICES

DATE 12-8-98

WATER DISPOSAL HIGHSCHOOL TOUR

SIGNUP SHEET

NAME

SCHOOL

Charlene Chapman

BHS

Tabatha Davis

BHS

Jamara Lee

BHS

Hal Stone

Key Energy Services

B.S. Z

UNOCO

QUIZ

Thursday 8, 1998

NAME _____

1. Hydrocarbons (oil) are heavier than Water. True False
2. Which drilled for Energy source is most abundant in San Juan Basin Crude Oil or Natural Gas
3. Key Energy Services Inection System pumps fluid into the a) San Juan River b) Ground c) Farmington Lake
4. Anaerobic Bacteria is a form of Bacteria that requires oxygen and cold temperatures to survive.
True False
5. Hydrogen Sulfide Gas (H₂S) is a non-poisonous Gas that is safe to breath . True False
6. H₂S Gas in low concentrations smells like rotten eggs . True False
7. Secondary Containment is not required when burying Tanks, Pits or Sumps. True False
8. Production Water from Gas wells tastes good and is safe to drink . True False
9. Micro Organisms naturally occurring in soil can break down , oil-based compounds in contaminated soils.
True or False
10. Which 2 substances help speed up Bio-Remediation. a) Sand and Gravel b) Moister and Fertilizer
11. NMOCD stands New Mexico Oil Conservation Division . True False
12. Key Energy Services Disposal operates under a permit issued by a) Environmental Protection Agency
b) NMOCD c) Mr. Burns of "The Simpson's" TV show.

S.E.P.
NOTES

* TYPES OF OILFIELD WASTES:

-PRODUCED WATER

-SOLIDS AND SOLID LADEN FLUIDS
(muds,workover solids and plant wastes)

-WASTE OILS

-INCIDENTAL CRUDE OILS

*PROPER DISPOSAL METHODS

-WATERS AND OILS GO TO MOST WATER DISPOSALS

-SOLIDS AND SOLID- LADEN FLUIDS GO TO COMMERCIAL LAND FARMS

*DANGERS TO HUMAN HEALTH THAT CAN TAKE PLACE

THE MAJOR CONCERN H₂S

H₂S IS A POISONOUS GAS (rotten egg smell in small concentrations--- in high levels cannot smell)

IF INHALED IN SUFFICIENT AMOUNTS CAN BE FATAL

WE MONITOR FOR H₂S USING THE FOLLOWING;

-H₂S MONITORS

-WATER TESTS

HEAVIER THAN AIR GAS ALWAYS STAY UP WIND GAS CAN SETTLE TO THE GROUND

TREATMENT AND CONTROL OF H₂S

CHEMICALS AND AERATION

STRONG OXIDIZER CHEMICALS- SODIUM HYPOCHLORITE, POTASSIUM
PERMANGANATE, HYDROGEN PEROXIDE. ETC.

EXPLAIN WHAT IT DOES

ANAEROBIC BACTERIA

HOW IT IS APPLIED TO THE POND (TANK ,LINE TO THE SUCTION OF PUMP ETC.)

*POLLUTION PREVENTION:

CATCHES FOR OIL AND WATER.

SECONDARY CONTAINMENT (SHOW LINERS AND LEAK DETECTORS AND
EXPLAIN) BIRDNETTING

BERMING

*WASTE MINIMIZATION

CATCH AND CONTAIN ALL SPILLS
ABILITY TO REACT QUICKLY AND CLEAN UP BEFORE IT SOAKS IN.
FUEL SPILLS SOAK IN TO THE GROUND QUICKLY

EXPLAIN THE AMOUNT OF WASTE CREATED WHEN A GALLON OF FUEL
IS SPILLED INTO THE GROUND

*INJECTION WELL

WELL SCHEMATIC

WHERE DOES THE WATER GO?
FORMATION
PRESSURE
FILTRATION(show filter)

*LAND FARM

STABILIZATION TRAYS

MICRO ORGANISMS (explain the breakdown process)

HOW THE NATURAL ELEMENTS HELP TO SPEED UP THE BREAKDOWN PROCESS
BIO-REMEDIATION

FERTILIZERS, WATER, TEMPERATURES AND EXPLAIN WHY WE TILL WITH THE
TRACTOR

*HOW LONG IT TAKES TO CLEAN AND WHAT WE REUSE IT FOR AND WHERE

*WHO ISSUES ARE PERMIT TO OPERATE
NMOCD

GOVERNING BODY

INSPECTS THIS FACILITY TO ENSURE WE OPERATE CORRECTLY AND COMPLY
WITH THE RULES OF THE PERMIT.



INDICATES PATH OF fluid

Injection Rate

gauge (2000 psi @ 170 BPH)

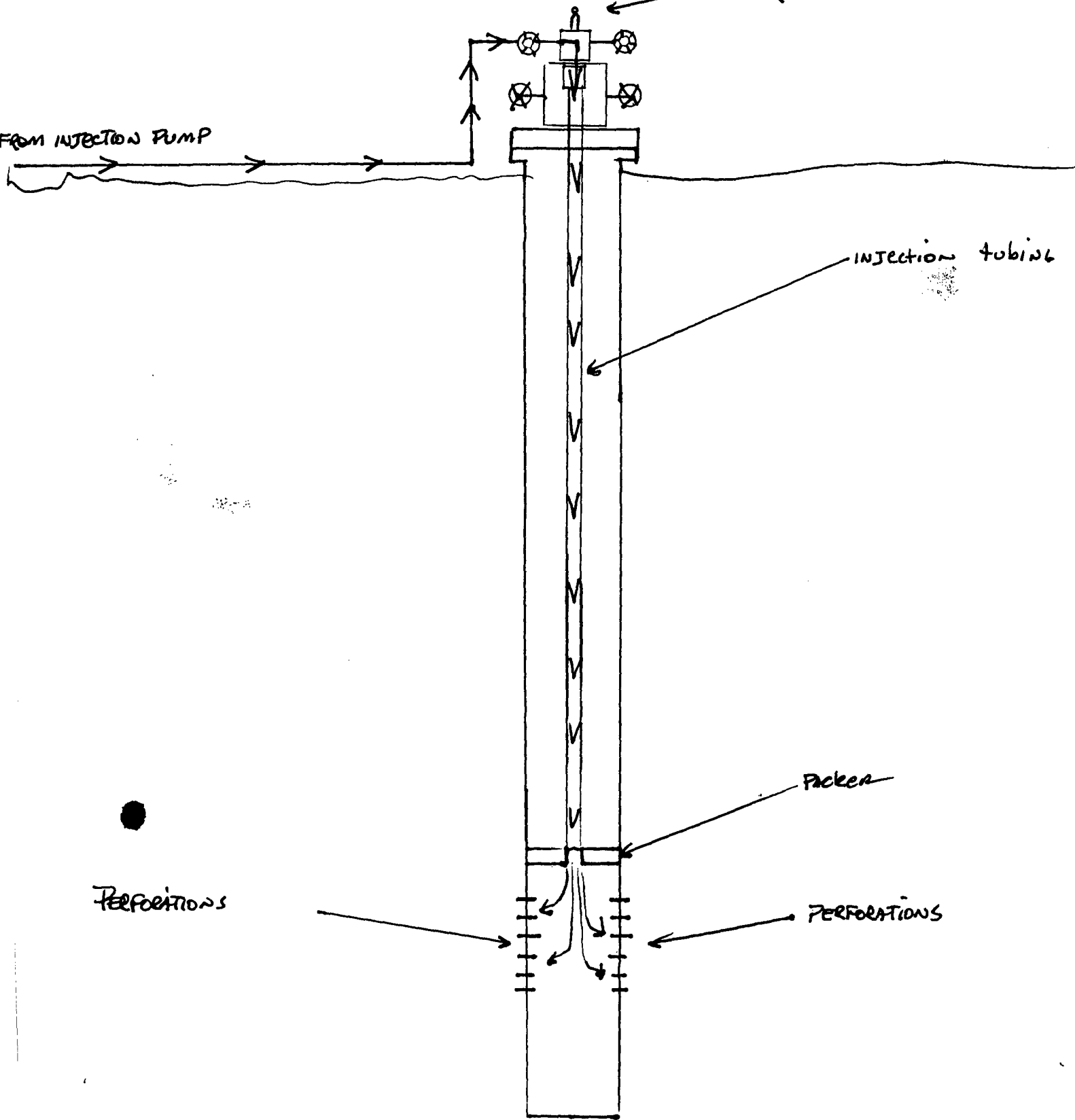
FROM INJECTION PUMP

INJECTION tubing

Packer

PERFORATIONS

PERFORATIONS





NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 5, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-498

Mr. Michael Talovich
Key Energy Services, Inc.
P.O. Box 900
Farmington, NM 87499

RE: Approval To Recycle Soil

Dear Mr. Talovich:

The New Mexico Oil Conservation Division (OCD) has received Key Energy Services, Inc. (Key) letter of December 28, 1998 and has reviewed the analytical data concerning remediated soils within the east half Cell-1. Key's request to recycle approximately 208 cubic yards of soil located in the east half of Cell-1 all generated by Key's surface waste management facility is hereby approved with the following recycling uses:

1. Soil stabilization at the facility stabilization trays.

Application of these soils in the approved projects listed above must not result in run-off into any waters of the U.S. If Key wants to move the soils from Cell-1 for any other use than those approved here separate OCD authorization must be granted.

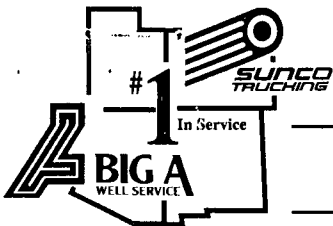
Please be advised that OCD approval does not relieve Key of liability should their operation result in pollution of the ground water, surface water of the environment. In addition, OCD approval does not relieve Key of the responsibility for compliance with other federal state and/or local regulations.

If you have any further questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,

Martyne J. Kielling
Environmental Geologist

xc: OCD Aztec Office



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

December 28, 1998

DEC 30 1998

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

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

RE: Key Energy Services Inc. Landfarm

Dear Sirs,

Key Energy Services Inc. would like to request clearance for a area of remediated soil at our landfarm . Please find attached, analysis and simple diagram describing the cell and the amount we would like to clear. A five point sampling technique was used when obtaining these samples and these points are indicated on the diagram.

Key Energy intentions are to remove and stockpile this soil for reuse near the stabilization trays of the facility.

Key Energy Services would appreciate a response at your earliest convenience. I can be reached for additional information at (505) 334-6186.

Best Regards,

Michael Talovich
Disposal Manager
Key Energy Services

OK
12-4-99

Prospective

10-22-98

CELL #2

Sunco sample -2
sample obtained 24"
below surface

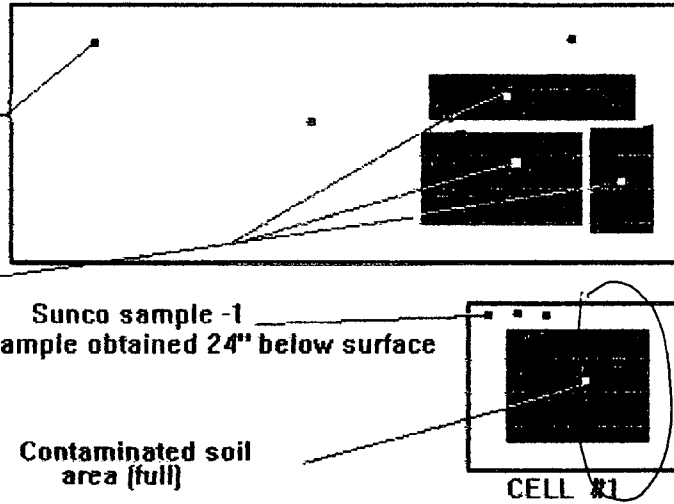
Contaminated
soil area

Sunco sample -1
sample obtained 24" below surface

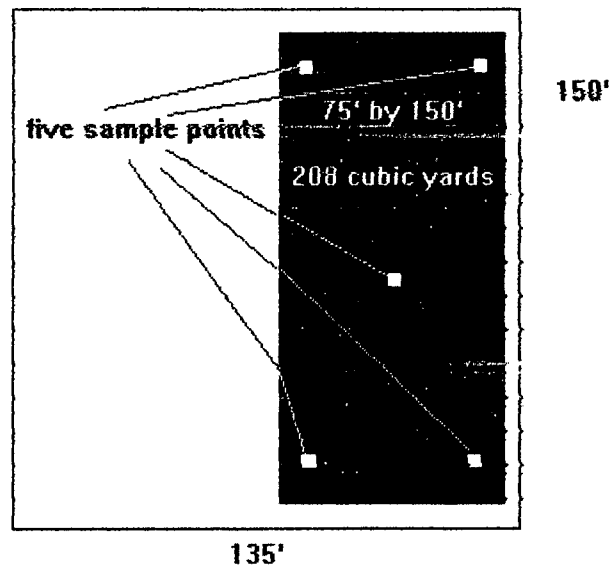
Contaminated soil
area (full)

CELL #1

THIS
AREA



CELL #1



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

October 8, 1998

Mr. Mike Talovich
Sunco, Inc.
P.O. Box 900
Farmington, New Mexico 87499

Project No.: 98065-01

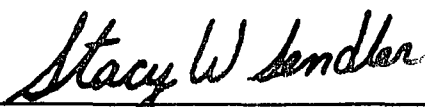
Dear Mr. Talovich,

Enclosed are the analytical results for the sample collected from the location designated as "Landfarm - Cell#1, East Half". One soil sample was collected by Sunco, Inc. designated personnel on 10/06/98, and received by the Envirotech laboratory on 10/06/98 for Total Petroleum Hydrocarbons (TPH) analysis per USEPA Method 8015, Modified, and for Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) per USEPA Method 8021.

The sample was documented on Envirotech Chain of Custody No. 6344 and assigned Laboratory No. E030 for tracking purposes. The sample was extracted and analyzed 10/07/98 using USEPA or equivalent methods.

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

Respectfully submitted,
Envirotech, Inc.



Stacy W. Sender
Environmental Scientist/Laboratory Manager

enc.

SWS\sws

98065-01.lb1/wpd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

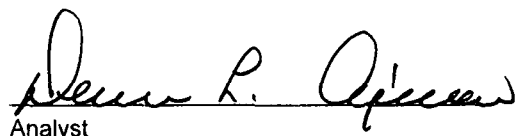
| | | | |
|----------------------|--------------------|---------------------|----------|
| Client: | Sunco Disposal | Project #: | 98065 |
| Sample ID: | Cell #1, East Half | Date Reported: | 10-07-98 |
| Laboratory Number: | E030 | Date Sampled: | 10-06-98 |
| Chain of Custody No: | 6344 | Date Received: | 10-06-98 |
| Sample Matrix: | Soil | Date Extracted: | 10-07-98 |
| Preservative: | Cool | Date Analyzed: | 10-07-98 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | 0.6 | 0.2 |
| Diesel Range (C10 - C28) | 65.8 | 0.1 |
| Total Petroleum Hydrocarbons | 66.4 | 0.2 |

ND - Parameter not detected at the stated detection limit.

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

Comments: **Landfarm.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 10-07-TPH QA/QC | Date Reported: | 10-07-98 |
| Laboratory Number: | E030 | Date Sampled: | N/A |
| Sample Matrix: | Methylene Chloride | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10-07-98 |
| Condition: | N/A | Analysis Requested: | TPH |

| | I-Cal Date | I-Cal RF | C-Cal RF | % Difference | Accept. Range |
|-------------------------|------------|-------------|-------------|--------------|---------------|
| Gasoline Range C5 - C10 | 04-28-98 | 4.9098E-002 | 4.9054E-002 | 0.09% | 0 - 15% |
| Diesel Range C10 - C28 | 04-28-98 | 3.9029E-002 | 3.9005E-002 | 0.06% | 0 - 15% |

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

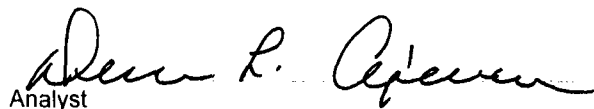
| Duplicate Conc. (mg/Kg) | Sample | Duplicate | % Difference | Accept. Range |
|-------------------------|--------|-----------|--------------|---------------|
| Gasoline Range C5 - C10 | 0.6 | 0.6 | 0.0% | 0 - 30% |
| Diesel Range C10 - C28 | 65.8 | 65.2 | 0.9% | 0 - 30% |

| Spike Conc. (mg/Kg) | Sample | Spike Added | Spike Result | % Recovery | Accept. Range |
|-------------------------|--------|-------------|--------------|------------|---------------|
| Gasoline Range C5 - C10 | 0.6 | 250 | 250 | 100% | 75 - 125% |
| Diesel Range C10 - C28 | 65.8 | 250 | 315 | 100% | 75 - 125% |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples E030 - E034.


Analyst


Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | Sunco Disposal | Project #: | 98065 |
| Sample ID: | Cell #1, East Half | Date Reported: | 10-07-98 |
| Laboratory Number: | E030 | Date Sampled: | 10-06-98 |
| Chain of Custody: | 6344 | Date Received: | 10-06-98 |
| Sample Matrix: | Soil | Date Analyzed: | 10-07-98 |
| Preservative: | Cool | Date Extracted: | 10-07-98 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | 130 | 8.8 |
| Toluene | ND | 8.4 |
| Ethylbenzene | ND | 7.6 |
| p,m-Xylene | 38.4 | 10.8 |
| o-Xylene | 24.5 | 5.2 |
| Total BTEX | 193 | |

ND - Parameter not detected at the stated detection limit.

193 mg/kg

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

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

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

Comments: Landfarm.


Analyst


Review

Client: N/A
Sample ID: 10-07-BTEX QA/QC
Laboratory Number: E030
Sample Matrix: Soil
Preservative: N/A
Condition: N/A

Project #: N/A
Date Reported: 10-07-98
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 10-07-98
Analysis: BTEX

| Calibration and Detection Limits (ug/L) | I-Cal RF: | C-Cal RF: | %Diff | Blank Conc | Detect. Limit |
|--|-------------|-----------------------|-------|---------------|------------------|
| | | Accept. Range 0 - 15% | | | |
| Benzene | 2.5958E-002 | 2.6042E-002 | 0.3% | ND | 0.2 |
| Toluene | 1.2323E-002 | 1.2365E-002 | 0.3% | ND | 0.2 |
| Ethylbenzene | 1.5586E-002 | 1.5645E-002 | 0.4% | ND | 0.2 |
| p,m-Xylene | 1.2472E-002 | 1.2535E-002 | 0.5% | ND | 0.2 |
| o-Xylene | 1.3243E-002 | 1.3283E-002 | 0.3% | ND | 0.1 |

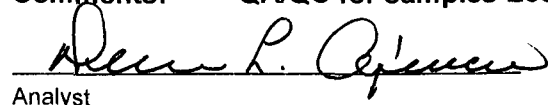
| Duplicate Conc. (ug/Kg) | Sample | Duplicate | %Diff | Accept Range | Detect. Limit |
|-------------------------|--------|-----------|-------|--------------|---------------|
| Benzene | 130 | 130 | 0.0% | 0 - 30% | 8.8 |
| Toluene | ND | ND | 0.0% | 0 - 30% | 8.4 |
| Ethylbenzene | ND | ND | 0.0% | 0 - 30% | 7.6 |
| p,m-Xylene | 38.4 | 38.4 | 0.0% | 0 - 30% | 10.8 |
| o-Xylene | 24.5 | 24.6 | 0.4% | 0 - 30% | 5.2 |

| Spike Conc. (ug/Kg) | Sample | Amount Spiked | Spiked Sample | % Recovery | Accept Range |
|---------------------|--------|---------------|---------------|------------|--------------|
| Benzene | 130 | 50.0 | 178 | 100% | 39 - 150 |
| Toluene | ND | 50.0 | 50.0 | 100% | 46 - 148 |
| Ethylbenzene | ND | 50.0 | 50.0 | 100% | 32 - 160 |
| p,m-Xylene | 38.4 | 100 | 138 | 99% | 46 - 148 |
| o-Xylene | 24.5 | 50.0 | 74.2 | 99% | 46 - 148 |

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for samples E030 - E034.


Analyst


Review

6344

ENVIROTECH INC.

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



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 2, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-439

Mr. Hal Stone
Sunco Trucking Company
P.O. Box 900
Farmington, NM 87499

RE: Supplemental Environmental Program Order R-10738
Sunco Water Disposal Company
Unit E, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico

Dear Mr Stone:

The New Mexico Oil Conservation Division (OCD) has received Sunco Trucking Company's (Sunco) letter dated May 18, 1998 requesting an extension of Sunco's supplemental environmental program (SEP) deadline. The extension request is based on the need for additional time due to the lengthy sale process that occurred in 1997 of Sunco Trucking Water Disposal Company to Key Four Corners, Inc. and the requirement that a portion of the SEP include oil field environmental regulations and waste disposal education for the local high schools. The school session will reconvene in the fall of 1998 giving Sunco one school semester to complete the remaining SEP requirements.

The deadline of December 31, 1997 for the implementation of the supplemental environmental program set in Order R-10738 and extended in the December 12, 1997 letter to June 1, 1998 is hereby extended to December 31, 1998.

If you have any questions, please contact Roger Anderson at (505) 827-7152.

Sincerely,

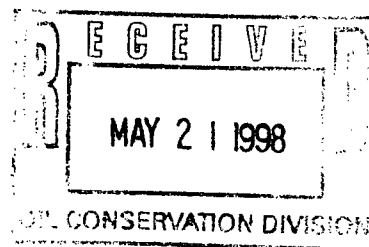
Lori Wrotenbery
Director

LW/mjk

xc: OCD Aztec Office



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



May 18, 1998

Mr. Roger Anderson
Environmental Bureau Chief
NMOCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RE: Time extension for Supplemental Environmental Program

Dear Mr. Anderson

Sunco Trucking Company would like to request a time extension for the part B of the SEP (Order R-10738). Sunco has been in contact with several of the Public schools and have determined that the fall of 1998 would better accommodate them. Therefore Sunco requests a final extension of December 31, 1998. Sunco understands that the remaining SEP requirements will be met by this date.

If you require additional information, please contact me at (505) 327-0416

Sincerely,

Hal Stone

Hal Stone
General Manager
Sunco Trucking

cc: OCD Aztec Office
Ron Fellabaum, Key Four Corners, Inc.



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

April 30, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-433

Mr. Phillip C. Nobis
Tierra Environmental Company, Inc.
P.O. Drawer 15250
Farmington, NM 87401

RE: Proposal To Form An Alliance With Sunco Disposal.

Dear Mr. Nobis:

The New Mexico Oil Conservation Division (OCD) received Tierra Environmental Company's, Inc. (Tierra) letter dated April 22, 1998 regarding the proposal to form an alliance with Sunco Trucking Water Disposal Facility (Sunco). The OCD has reviewed the proposal and approves the alliance with the following requirements:

1. Materials placed in the concrete impoundment for settling purposes shall not hold liquids for more than 24 hours.
2. All liquids separated and removed from the concrete impoundment will be transported to the Sunco waste management facility for disposal. Liquids will not be stored at the Tierra waste management facility.
3. Both Tierra and Sunco will submit appropriate OCD forms and supplemental information for the waste acceptance and retain copies of all documentation pertaining to each job for their disposal records.
4. Non-exempt materials to be processed in this manner will require sample analysis for hazardous waste characterization on the liquids portion.

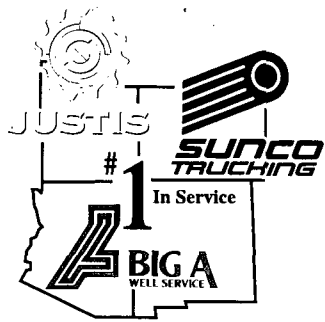
If you have any questions please do not hesitate to contact me at (505) 827-7153.

Sincerely,

Martyne J. Kielling
Environmental Geologist

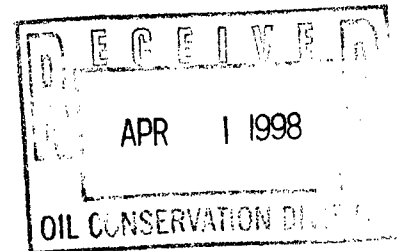
Attachments

xc: Aztec OCD Office
Ron Fellabaum, Sunco Trucking Water Disposal Facility.



Key Four Corners, Inc.

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



March 20, 1998

Martyne J. Kieling
Environmental Geologist
2040 South Pacheco
Santa Fe, NM 87505

RE: Response to permit deficiencies of the Sunco Waste Management Facility Inspection.

Dear Martyne,

The following is Sunco's response to Attachment 1 of your Inspection Report.

#1

Ponds Freeboard: The evaporation pond has freeboard markers, however, at the time of inspection these were very faded. Sunco will paint over these markers the next warm and dry day. These markers will be repainted by May 98.

The skimmer pond appears high because it is a gravity draining design. It remains at the depth until water is added to its volume and it starts to drain through the 8" pipe which extend down the evaporation pond bank. The system was designed so when the evaporation pond increases in depth the rate at which the skimmer pond drains decreases somewhat.

#9

Berms around above ground tanks: The berms around the unloading tanks can be increased some in height, however, the above ground tanks at the unloading area are located on the highest area of ground where any tank sits. As you know, the ground just west of this area slopes down hill quite sharply. Because of the runoff we have experienced during late summer rain storms we believe pit run-over or tank leaks will run directly to the west and be caught in the large berm. The large berm will be increased in height at the lowest corner where it intersects with the pond berm. This berm will be increased in height by May 98



Division of Key Energy Group, Inc.

#12

Tank labeling: The hazard labels for all pits, tanks, and saddle tanks are in the process of being ordered. When we receive them we will post on all the vessels by May 98.

#13

Below grade tanks/Sumps: We will set up Riley in May 98 and completely clean out the sumps, check seams, and sheet steel for leaks. The stabilization Trays will be emptied and washed with a steamer, check for cracks, and signs of any leakage. Cleaning and inspection will be done annually and records will be kept at the facility.

As of 03-20-98 Sunco records show DRY stabilization tray leak detectors.

#22

NORM: Sunco believes that the NMOCD could propose a state endorsed form that would be sent to all operators. We base this idea on our experience with Certificate of Waste Status Forms. Also are exempt wastes required to declare their waste for NORM? And what will be the procedure for non-exempt wastes in regard to NORM?

PROPOSED UPGRADES:

Sunco proposes an increase of farm land Acreage from 5 acres to possibly 15 acres this appears in the updated map of the Sunco Facility. These cells would be designed and constructed in accordance with State guidelines and requirements.

We also propose a compressor oil handling station located near the present unloading area. The station would consist of a series of upright tanks with tank burners, also, an above ground sump would be needed.

The station could be modified to accept other forms of oil field wastes. At the present time we are researching different technologies that would make this venture cost effective for both the operator and oil field industry.

We are in the process of establishing a Pipe Yard facility on Crouch Mesa. The new pipe yard will be located across the street from the Disposal and include a facility for cleaning frac tanks. We would propose that pipe yard tank sediment and wash water be disposed at the disposal facility under our permit. If this were possible what procedure regarding this waste streams would be required? We would also like to have NMOCD consider letting the pipe yard use farm land space at the facility. All testing and documentation would be performed in accordance with NMOCD policy. Most all sediment generated in these frac tanks is created from exempt waste streams. The pipe yard would maintain records of customer location and use of these tanks.

As your probably aware Big A/Sunco is also in the process of moving office and shop operations to the old Four Corners Drilling building and yard. (plan GW-156)

At the yard there is a wash sump that is used for cleaning company vehicles and equipment. We will also propose Facility Farm Land use for this sump. Sunco understand that this would be

performed after the necessary testing and filing are approved as required by NMOCD. We hope the above modifications can be incorporated into the new permit.

Please find enclosed are permit application, closure cost estimate and updated facility map.

Any additional information concerning these matters can be obtained from Michael Talovich, Facility Manager, the phone number is (505)334-6186.

Best Regards,

A handwritten signature in black ink, appearing to read "Ron Fellabaum". The signature is fluid and cursive, with the first name "Ron" being more prominent.

Ron Fellabaum
President/CEO

cc: Hal Stone
Mike Talovich

mt/che

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

RECEIVED

APR 01 1998

Form C-137

Originated 8/8/95
Revised 6/25/97

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to appropriate
District Office

APPLICATION FOR WASTE MANAGEMENT FACILITY
(Refer to the OCD Guidelines for assistance in completing the application)

☒ Commercial

☐ Centralized

1. Type: ☒ Evaporation ☒ Injection ☐ Other _____
☒ Solids/Landfarm ☐ Treating Plant

2. Operator: KEY FOUR CORNERS INC. SUNCO WATER DISPOSAL FACILITY

Address: PO BOX 900

Contact Person: MICHAEL TALOVICH Phone: (505) 334-6186

3. Location: SW 4 NW /4 Section 2 Township 29N Range 12W
Submit large scale topographic map showing exact location

4. Is this a modification of an existing facility? ☐ Yes ☒ No

5. Attach the name and address of the landowner of the facility site and landowners of record within one mile of the site.

6. Attach description of the facility with a diagram indicating location of fences, pits, dikes, and tanks on the facility.

7. Attach designs prepared in accordance with Division guidelines for the construction/installation of the following: pits or ponds, leak-detection systems, aerations systems, enhanced evaporation (spray) systems, waste treating systems, security systems, and landfarm facilities.

8. Attach a contingency plan for reporting and clean-up for spills or releases.

9. Attach a routine inspection and maintenance plan to ensure permit compliance.

10. Attach a closure plan.

11. Attach geological/hydrological evidence demonstrating that disposal of oil field wastes will not adversely impact groundwater. Depth to and quality of ground water must be included.

12. Attach proof that the notice requirements of OCD Rule 711 have been met.

13. Attach a contingency plan in the event of a release of H₂S.

14. Attach such other information as necessary to demonstrate compliance with any other OCD rules, regulations and orders.

15. CERTIFICATION

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: HAL STONE

Title: GENERAL MANAGER

Signature: Hal Stone
HAL STONE

Date: 03-30-98

[illegible]

EQUIPMENT STORAGE AREA

EQUIPMENT STORAGE AREA

DATE: 3-30-98

REFERENCES #1 thru #5 ARE JUST APPROXIMATE AREAS AND ARE IN NO WAY SCALE WITH THE REST OF THE FACILITY

RECEIVED

APR 01 1998

Environmental Bureau
Oil Conservation Division



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

January 13, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-326-936-381

Mr. John A. Dean
Curtis & Dean Attorneys at Law
506 West Arrington
P.O. Drawer 1259
Farmington, NM 87499

RE: Supplemental Environmental Program Order R-10738
Sunco Water Disposal Company
Unit E, Section 2, Township 29 North, Range 12 West, NMPM,
San Juan County, New Mexico

Dear Mr Dean:

The New Mexico Oil Conservation (OCD) has reviewed the supplemental environmental program (SEP) proposal dated December 2, 1997 and the addition to the SEP for a public school presentation dated December 15, 1997 submitted by Curtis & Dean Attorneys at Law for Sunco Water Disposal Company (Sunco). The above referenced SEP proposal addresses the Oil Conservation Commission Order R-10738, part (a) requirement, while the additional proposal of the public school tours at the Sunco waste management facility address the part (b) requirement. The above referenced SEP proposals dated December 2 and 15, 1997 are approved with the following conditions:

1. The OCD will require adequate advanced notice of class schedules for all courses to be held including those at the facility for the public schools so that a Santa Fe OCD representative may attend.
2. The waste education program for the local public school system at the Sunco facility will include information about the types and classifications of all wastes generated in the oil and gas industry, proper disposal methods, actual or potential damage to human health caused by improper handling, pollution prevention, and waste minimization techniques.

If you have any questions, please contact me at (505) 827-7152.

Sincerely,

Roger Anderson
Environmental Bureau Chief

RA/mjk

xc: OCD Aztec Office
Hal Stone, Sunco Trucking

TIERRA ENVIRONMENTAL COMPANY Inc.

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



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

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

October 14, 1997

Mr. Mike Talovich
Sunco Disposal
345 CR 3500
Aztec, NM 87410

RE: CLOSURE COST ESTIMATE SUNCO DISPOSAL FACILITY

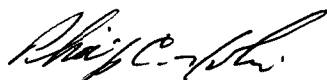
Dear Mr. Talovich:

The following is the cost estimate for the closure of the Sunco Disposal Facility. It considers the impoundment level to be at approximately 13'5" or 155,160 bbls. It also considers that the injection well is still in operation.

| | |
|--|--------------|
| Average capacity @ 155,160 bbls | |
| Estimated injection capacity 4100 bbls per day | |
| 38 days to complete injection @ 515.00 per day | \$ 19,570.00 |
| Dirtwork, fold in liner and cover impoundment | \$ 60,000.00 |
| Electric, chemical and maintenance costs | \$ 22,500.00 |
| Environmental Supervision and Closure Report | \$ 6,500.00 |
| Contingencies @ 15 % | \$ 16,275.00 |
| Total | \$124,775.00 |

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

Sincerely,


Philip C. Nobis
President



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

August 25, 1997

RECEIVED

SEP 01 1997

Environmental Bureau
Oil Conservation Division

Mr. William LeMay
Oil and Gas Conservation Director
2040 S. Pacheco Street
Santa Fe, N. M. 87505

RE: Sale of Sunco Trucking Water Disposal Facility

Dear Mr. LeMay:

This letter is to notify the State of New Mexico Oil Conservation Division of the upcoming sale of Sunco Trucking Company, which includes the O.C.D. approved facility known as Sunco Water Disposal. The sale includes the disposal pond, landfarm, and Class one Non-Hazardous disposal well. (Sunco Salt Water Disposal No. 1) The purchaser is Key Four Corners, Inc.

At this time Mr. George E. Coleman, Chairman of Sunco Trucking Company, and Mr. Kenneth V. Huseman Vice President of Key Four Corners Inc., would request that the permit for the landfarm, disposal pond, and class one well be transferred to Key Four Corners, Inc. At closing, which should be in the near future, Key Four Corners, Inc. will assume responsibility for the operations of the disposal facility and insure compliance with all regulatory rules and regulations. Please advise as to what steps need to be taken by us to accomplish a transfer to Key.


The personnel presently responsible for the day to day and normal routine operations of Sunco Water Disposal will remain the same after the sale.

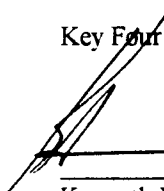
I enclosure for your information a list of Key Four Corners, Inc. officers and Directors, addresses and telephone numbers.

Sincerely,

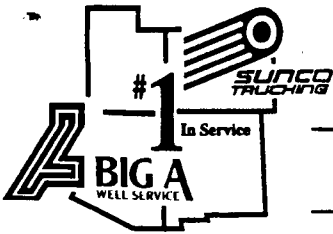
Coleman Oil & Gas/Sunco Trucking Co.

Key Four Corners, Inc.


George E. Coleman
Chairman


Kenneth V. Huseman
Vice President

attachments



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

KEY FOUR CORNERS, INC.
LIST of OFFICERS and DIRECTORS

OFFICERS:

| | | |
|---------------------|---|--|
| Francis D. John | President | Ph.: (908) 247-4822 Fax: (908) 247-5148 |
| Business Address: | Two Tower Center, Tenth Floor East Brunswick, New Jersey 08816 | |
| Kenneth V. Huseman | Vice President | Ph.: (915) 550-0300 Fax: (915) 550-0302 |
| Business Address: | 6010 Hwy. 191, Suite 212 Odessa, TX. 79762 | |
| Jack D. Loftis, Jr. | Secretary | Ph.: (908) 247-4822 Fax: (908) 247-5148 |
| Business Address: | Two Tower Center, Tenth Floor East Brunswick, New Jersey 08816 | |

DIRECTORS:

| | | |
|-------------------|---|--|
| Francis D. John | Director | Ph.: (908) 247-4822 Fax: (908) 247-5148 |
| Business Address: | Two Tower Center, Tenth Floor East Brunswick, New Jersey 08816 | |

NOTE: **Effective at closing date Ron Fellabaum will be appointed to Vice President of Key Four Corners, Inc. Currently Ron Fellabaum is President of Sunco Trucking Co. and will continue normal operations with the people currently in place.**

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| Ron Fellabaum | Vice President | Ph.: (505) 327-4935 Fax: (505) 327-4962 |
| Business Address: | P.O. Box 900 Farmington, N.M. 87499 | |