NM1 - 9

APPROVALS

YEAR(S):

2009

Hansen, Edward J., EMNRD

From: Powell, Brandon, EMNRD
Sent: Monday, April 20, 2009 8:59 AM
To: Hansen, Edward J., EMNRD
Subject: FW: Key Sunco Disposal Facility Pi Cleanout plan Dated March 13, 2009

Approval email

Thank You
Brandon Powell
Environmental Specialist
New Mexico Oil Conservation
1000 Rio Brazos Rd, Aztec NM 87410
Office: (505) 334-6178 ext. 15
E-mail: Brandon.Powell@state.nm.us

From: Price, Wayne, EMNRD
Sent: Wednesday, March 18, 2009 9:09 AM
To: Molleur, Loren
Cc: Griswold, Jim, EMNRD; Hansen, Edward J., EMNRD; Powell, Brandon, EMNRD
Subject: Key Sunco Disposal Facility Pi Cleanout plan Dated March 13, 2009

Dear Mr. Molleur:

The OCD is in receipt of you Pit cleanout plan for the above subject facility. The plan is hereby approved with the following conditions:

1. Notify the OCD Santa Fe and Aztec office 48 hours before starting operations.
2. Provide written and photo documentation during the significant stages of the project and submit a final report when completed.

Please be advised that approval of this plan does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

Wayne Price-Environmental Bureau Chief
Oil Conservation Division
1220 S. Saint Francis
Santa Fe, NM 87505
E-mail wayne.price@state.nm.us
Tele: 505-795-1222
Fax: 505-476-3462

Hansen, Edward J., EMNRD

From: Powell, Brandon, EMNRD
Sent: Monday, April 20, 2009 8:59 AM
To: Hansen, Edward J., EMNRD
Subject: FW: Sunco Workplan
Attachments: SKMBT_C35309031108470.pdf

Importance: High

Remediation plan

Thank You
Brandon Powell
Environmental Specialist
New Mexico Oil Conservation
1000 Rio Brazos Rd, Aztec NM 87410
Office: (505) 334-6178 ext. 15
E-mail: Brandon.Powell@state.nm.us

From: Price, Wayne, EMNRD
Sent: Wednesday, March 18, 2009 11:56 AM
To: Powell, Brandon, EMNRD
Subject: FW: Sunco Workplan
Importance: High

Here you go

From: Molleur, Loren [mailto:lmolleur@keyenergy.com]
Sent: Saturday, March 14, 2009 11:03 AM
To: Price, Wayne, EMNRD
Cc: Hobbs, Lonnie; Gibson, Dan; Miller, Robyn; Putman, HC; Chitwood, Bob
Subject: FW: Sunco Workplan
Importance: High

Wayne,
Here is a copy of the finalized workplan for the Sunco pit cleanout project. I will have signed copies of this same plan scanned to you tomorrow.
If you have any questions concerning this plan, please feel free to contact us and we will be glad to answer.
I look forward to seeing you on the 26th.
Thanks,
Loren

Key Energy Services
6 Desta Drive
Suite 4400
Midland, Texas 79705

Telephone: 432.620.0300
Facsimile: 432.571.7173
www.keyenergy.com

March 13, 2009

New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Frances Drive
Santa Fe, New Mexico 87505
Attn: Mr. Wayne Price

RE: Pit Cleanout Plan for Class I Disposal Well
Sunco Disposal Facility
Key Energy Services, LLC

Dear Mr. Price:

The purpose of this correspondence is to outline the planned activities to clean the evaporation pond and associated tanks at the Key Energy Services, Inc. (Key) Crouch Mesa Sunco Disposal Facility. The planned activities are designed to clean out the accumulated sediments so the upper liner in the evaporation pond can be inspected and repaired or replaced as necessary. These actions are being implemented in response to the evaporation pond's leak detection system that indicates the primary liner may have leaked. Key currently plans to resume operation of the pit after the repairs are complete. Based on the results of the liner inspection, Key may choose an alternative approach. In the event Key makes substantive deviations from this plan, the New Mexico Oil Conservation Commission (OCD) will be notified in advance and OCD concurrence will be obtained for such deviations.

Background

The Sunco Disposal is located northeast of Farmington, New Mexico in San Juan County. The facility consists of an unloading tank, several tanks used as settling tanks to collect solids, a lined settling pond measuring approximately 70 feet by 70 feet, and an evaporation pond used to store produced water and Class 1 non-hazardous fluids from the surrounding area. Fluids are pumped from the evaporation pond and injected into the disposal well located just north of the evaporation pond. The evaporation pond was constructed below grade with an approximate depth of 15 feet. The bottom of the pond covers approximately one acre. The sides of the pond have an approximate slope of 3:1. At the surface (top), the pond has an areal extent of approximately two acres.

As-built diagrams for the pond dated July 24, 1992 indicate the pond is equipped with a double liner with a leak detection system located between the liners. Each liner is 30 mils thick. Along the top of the pond, the liners are separated by approximately two inches of fill. The fill material increases in thickness with depth. At the base of the pond, the fill is approximately six inches thick. The bottom of the pond is sloped such that both the northern and southern portions of the pond slope toward the middle of the pond. The bottom of the pond is also sloped such that drainage from the middle of the pond flows from east to west. The liners and leak detection system follow this slope, such that any leak in the primary (upper) liner will flow first toward the middle of the pond and then to the west.

The leak detection system is located between the primary (upper) liner and the secondary (lower) liner. The leak detection system consists of a primary drain line with 10 secondary drain lines. The primary drain line extends east-west and is located in the middle of the pond. This line is constructed of 4-inch diameter perforated pipe. The secondary drain lines extend from the primary drain line to the north and south. Five of the secondary lines extend to the north and five secondary drain lines extend to the south from the primary drain line. The secondary drain lines are constructed of 2-inch perforated pipe. The primary drain line extends through the secondary liner and is connected to an 8-inch diameter vertical pipe that acts as a sump. The sump is located outside the pond, approximately in the middle of the west side of the pond. The location where the primary drain line penetrates the secondary liner is sealed with a liner boot and a stainless steel clamp to prevent any liquids from leaking through the secondary liner. The leak detection system is therefore designed to allow any liquids that leak through the primary liner to flow on top of the secondary liner toward the middle of the pond and then to the west where the fluids are collected in the sump. The presence of fluids in the sump indicates that the primary liner integrity has been compromised.

The 70-foot by 70-foot settling pond is lined and sloped similar to the evaporation pond. The leak detection system consists of a single east-west trending perforated drain line that connects to a sump located east of the settling pond.

Based on a review of discharge plans performed by Souder-Miller and Associates, depth to groundwater in the Crouch Mesa area is between 200 and 500 feet below grade.

Planned Activities

The following is a list of the anticipated activities necessary to complete this project.

1) **Remove the fluids, solids, and debris within the evaporation pond.**

   Key plans to use vacuum trucks or stationary pumps to remove the materials from the pond. Key anticipates using a pressure washer or similar high pressure sprayer to break up compacted material and increase the liquid content such that the material can be

pumped. During this process, any trash or debris that is encountered will be cleaned and removed for proper disposal.

2) **Dewater the sediments from the evaporation pond for appropriate disposal.**

Materials removed from the pond will be treated using a centrifuge to separate solids from liquids. During this process, flocculants and coagulants will be added to facilitate separation. The centrifuge process is designed to remove sufficient liquid such that the processed solids pass a paint filter test, which is required for landfill or landfarming disposal. If excess fluids are still present after the centrifuge process is complete, the solids will be stabilized using fly ash or soil to the extent necessary for the material to pass a paint filter test.

3) **Collect the fluids generated from the dewatering process for disposal within the on-site injection wells.**

Initially, processed fluids will be returned to the pond to increase the water content of the sediments so they are more easily removed. Excess fluids will be disposed of within the permitted on-site disposal well. Eventually, all fluids from the pond will be disposed through on-site injection.

4) **Dispose of the solids after the dewatering/stabilization is complete.**

To assess potential disposal options for the solids generated through the dewatering process, a sample was collected for analysis by Envirotech Analytical Laboratory for the following parameters:

- TCLP Benzene
- RCRA Metals
- RCI
- Total Petroleum Hydrocarbons
- Total Chlorides

In addition, an additional sample was submitted to Hall Environmental Analysis Laboratory to determine the BTU content of the material.

A summary table and the laboratory analytical reports for these analyses are attached.

The test results indicate the materials are not hazardous as defined by EPA. The analysis also indicates the chloride concentration is 320 mg/Kg. Two additional analyses (Total petroleum hydrocarbons (TPH) and BTU content) were performed to evaluate reclamation options. The treated material had a reported TPH concentration of 480,000 mg/Kg, or 48 percent by weight. The BTU content of the material was

reported as 4,997.68 BTU/lb. For comparison purposes, the BTU content in coal ranges from 7,000 to 12,000 BTU/lb.

Centrifuged solids will be disposed of at the IEI landfarm located near the Sunco facility and at the Bondad Landfill located near Bondad, Colorado. Because of the volume of materials requiring disposal, it is unlikely either one of the facilities could accept the total volume of waste material. Key anticipates sending the majority of the material to IEI and any overflow volume to the Bondad facility. Key attempted to recycle or reclaim the solids. Local power plants were contacted, but due to permit restrictions, could not accept the material as fuel. A local asphalt company was also contacted, but was not interested in reusing the material.

The analytical data used to classify the waste material that will be landfarmed or landfilled at an off site location was collected during a pilot test conducted on February 24, 2009.

5) **Cleaning of the pit liner adequate for visual inspections.**

After the ponded materials have been removed, the liner will be pressure washed to remove any excess staining or dirt to allow the liner to be inspected.

6) **Inspection of the primary liner.**

After the liner has been adequately cleaned, it will be inspected to verify that repair or replacement is viable. OCD will be notified 48 hours in advance so they can participate in the inspection, if desired.

7) **Repair or replacement of the primary liner.**

Based on the result of the inspection, Key anticipates replacing or repairing the liner.

8) **Treatment of the sediments currently located within the settling pond and unloading tanks.**

Key plans to process these sediments using the centrifuge and will dispose of this material as outlined in Task 4.

9) **Resume operations.**

At the completion of the activities outlined above, Key will request OCD permission to resume operations. After normal operation resumes, Key will dismantle the temporary facility currently in use.

Schedule

Key anticipates beginning this project within 30 days of receiving OCD approval. Key anticipates it will require 4 weeks to complete the pond emptying and cleaning process. During this time, the settling tanks and pond will also be emptied and cleaned. Furthermore, Key anticipates it will require an additional 3-4 weeks to replace or repair the liner. The total anticipated time required to complete the project once work is initiated is 7 to 8 weeks.

Please contact me at 432-570-5721 or Dan Gibson at 432-571-7536 if you have any questions.

Yours truly,

Loren Molleur
Senior Director, Fluid Management Services
Key Energy Services, Inc.

Attachment – Laboratory Data

Attachments

Key Energy Services, Inc.
Sunco Dispsal Facility
Summary of Analytical Testing

Analysis	Method/Reference	Result	Regulatory Limit
TCLP BTEX			
Benzene	5030B/8121B	0.0763 mg/L	0.5 mg/L
Toluene	5030B/8121B	0.687 mg/L	- mg/L
Ethylbenzene	5030B/8121B	0.0832 mg/L	- mg/L
p, m Xylenes	5030B/8121B	0.959 mg/L	- mg/L
o-Xylene	5030B/8121B	0.285 mg/L	- mg/L
Metals			
Arsenic	3050B/6010B	<0.01 mg/Kg	- mg/L
Barium	3050B/6010B	95.7 mg/Kg	- mg/L
Cadmium	3050B/6010B	0.048 mg/Kg	- mg/L
Chromium	3050B/6010B	3.44 mg/Kg	- mg/L
Lead	3050B/6010B	1.12 mg/Kg	- mg/L
Mercury	3050B/6010B	0.088 mg/Kg	- mg/L
Selenium	3050B/6010B	0.027 mg/Kg	- mg/L
Mercury	3050B/6010B	0.025 mg/Kg	- mg/L
RCI			
Reactivity	40 CFR 261 Sec. 231.21-261.23	Negative	-
Corrosivity	40 CFR 261 Sec. 231.21-261.23	6.52 s.u.	2-11 s.u.
Ignitability	40 CFR 261 Sec. 231.21-261.23	Negative	-
Organics			
TPH	418.1	480,000 mg/Kg	- mg/Kg
Inorganics			
Chloride	SM4500B	320 mg/Kg	1,000 mg/Kg
Other			
BTU Content	-	4,997.68 BTUs	- BTUs

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Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	SMA	Project #:	03012-0014
Sample ID:	Key Disposal Solids	Date Reported:	02-27-09
Laboratory Number:	49107	Date Sampled:	02-24-09
Chain of Custody:	6401	Date Received:	02-24-09
Sample Matrix:	TCLP Extract	Date Analyzed:	02-27-09
Preservative:	Cool	Date Extracted:	02-25-09
Condition:	Intact	Analysis Requested:	TCLP BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/Kg)
Benzene	**76.3**	**0.9**
Toluene	**687**	**1.0**
Ethylbenzene	**83.2**	**1.0**
p,m-Xylene	**959**	**1.2**
o-Xylene	**285**	**0.9**
Total BTEX	**2,090**	

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Key Disposal.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

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Analytical Laboratory

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	02-27-BTEX QA/QC	Date Reported:	02-17-09
Laboratory Number:	49107	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-27-09
Condition:	N/A	Analysis:	TCLP BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc:	Detect. Limit
Benzene	3.2760E+007	3.2826E+007	0.2%	ND	0.1
Toluene	2.6155E+007	2.6207E+007	0.2%	ND	0.1
Ethylbenzene	1.9679E+007	1.9718E+007	0.2%	ND	0.1
p,m-Xylene	4.4172E+007	4.4260E+007	0.2%	ND	0.1
o-Xylene	1.8862E+007	1.8899E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	76.3	76.2	0.1%	0 - 30%	0.9
Toluene	687	679	1.2%	0 - 30%	1.0
Ethylbenzene	83.2	83.0	0.2%	0 - 30%	1.0
p,m-Xylene	959	952	0.7%	0 - 30%	1.2
o-Xylene	285	284	0.2%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	76.3	50.0	124	98.3%	39 - 150
Toluene	687	50.0	733	99.4%	46 - 148
Ethylbenzene	83.2	50.0	132	99.1%	32 - 160
p,m-Xylene	959	100	1,050	99.2%	46 - 148
o-Xylene	285	50.0	332	99.2%	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 49107.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

6401

Client: SMA	Project Name / Location: KEY DISPOSAL
Client Address: 612 E MURRAY DR FARMINGTON NM	Sampler Name: Tami Ross
Client Phone No.: 325 56607	Client No.: ~~0312~~ 03012-0014

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative $HgCl_2$	Preservative HCl	TPH (Method 8015)	BTEX (Method 8021) TCLP	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
KEY DISPOSAL SOLIDS	2/24/09	1200	49107	Soil ~~Solid~~ (Sludge) Aqueous	3-4oz				✓		✓		✓			✓	✓				✓	✓
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tami Ross	2/24/09	1336	Christine M Walters	2/24/09	1336
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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

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Analytical Laboratory

TRACE METAL ANALYSIS

Client:	SMA	Project #:	03012-0014
Sample ID:	Key Disposal Solids	Date Reported:	02-26-09
Laboratory Number:	49107	Date Sampled:	02-24-09
Chain of Custody:	6401	Date Received:	02-24-09
Sample Matrix:	Sludge	Date Analyzed:	02-25-09
Preservative:	Cool	Date Digested:	02-25-09
Condition:	Intact	Analysis Needed:	Total Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	ND	0.001	5.0
Barium	95.7	0.001	100
Cadmium	0.048	0.001	1.0
Chromium	3.44	0.001	5.0
Lead	1.12	0.001	5.0
Mercury	0.088	0.001	0.2
Selenium	0.027	0.001	1.0
Silver	0.025	0.001	5.0

ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Key Disposal.**

Analyst

Review

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TRACE METAL ANALYSIS
Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	QA/QC
Sample ID:	02-25 TM QA/AC	Date Reported:	02-26-09
Laboratory Number:	49107	Date Sampled:	N/A
Sample Matrix:	Sludge	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	02-25-09
Condition:	N/A	Date Digested:	02-25-09

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/Kg)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Barium	ND	ND	0.001	95.7	94.8	0.9%	0% - 30%
Cadmium	ND	ND	0.001	0.048	0.050	4.0%	0% - 30%
Chromium	ND	ND	0.001	3.44	3.81	11.0%	0% - 30%
Lead	ND	ND	0.001	1.12	1.16	3.8%	0% - 30%
Mercury	ND	ND	0.001	0.088	0.085	3.7%	0% - 30%
Selenium	ND	ND	0.001	0.027	0.022	16.1%	0% - 30%
Silver	ND	ND	0.001	0.025	0.021	15.1%	0% - 30%

Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.250	ND	0.246	98.4%	80% - 120%
Barium	0.500	95.71	91.5	95.1%	80% - 120%
Cadmium	0.250	0.048	0.291	97.9%	80% - 120%
Chromium	0.500	3.435	4.46	113%	80% - 120%
Lead	0.500	1.121	1.39	86.0%	80% - 120%
Mercury	0.100	0.088	0.180	95.6%	80% - 120%
Selenium	0.100	0.027	0.104	82.2%	80% - 120%
Silver	0.100	0.025	0.104	82.7%	80% - 120%

ND - Parameter not detected at the stated detection limit.

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

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

Comments: **QA/QC for Sample 49107.**

Analyst

Review

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Analytical Laboratory

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	SMA	Project #:	03012-0014
Sample ID:	Key Disposal Solids	Date Reported:	02-26-09
Lab ID#:	49107	Date Sampled:	02-24-09
Sample Matrix:	Sludge	Date Received:	02-24-09
Preservative:	Cool	Date Analyzed:	02-24-09
Condition:	Intact	Chain of Custody:	6401

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 6.52**
REACTIVITY:	**Negative**	

RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. *(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)*
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. *(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)*
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. *(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)*

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: **Key Disposal.**

Analyst

Review

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Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYDROCARBONS

Client:	SMA	Project #:	03012-0014
Sample ID:	Key Disposal Solids	Date Reported:	02-26-09
Laboratory Number:	49107	Date Sampled:	02-24-09
Chain of Custody No:	6401	Date Received:	02-24-09
Sample Matrix:	Sludge	Date Extracted:	02-26-09
Preservative:	Cool	Date Analyzed:	02-26-09
Condition:	Intact	Analysis Needed:	TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	**480,000**	**500**

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **Key Disposal.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

envirotech
Analytical Laboratory

EPA METHOD 418.1
TOTAL PETROLEUM HYROCARBONS
QUALITY ASSURANCE REPORT

Client:	QA/QC	Project #:	N/A
Sample ID:	QA/QC	Date Reported:	02-26-09
Laboratory Number:	02-26-TPH.QA/QC 49107	Date Sampled:	N/A
Sample Matrix:	Freon-113	Date Analyzed:	02-26-09
Preservative:	N/A	Date Extracted:	02-26-09
Condition:	N/A	Analysis Needed:	TPH

Calibration	I-Cal Date	C-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
	02-13-09	02-26-09	1,500	1,610	7.3%	+/- 10%

Blank Conc. (mg/Kg)	Concentration	Detection Limit
TPH	ND	9.6

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
TPH	480,000	480,000	0.0%	+/- 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
TPH	480,000	2,000	576,000	120%	80 - 120%

ND = Parameter not detected at the stated detection limit.

References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: **QA/QC for Sample 49107.**

Analyst

Review

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Analytical Laboratory

Chloride

Client:	SMA	Project #:	03012-0014
Sample ID:	Key Disposal Solids	Date Reported:	02-26-09
Lab ID#:	49107	Date Sampled:	02-24-09
Sample Matrix:	Sludge	Date Received:	02-24-09
Preservative:	Cool	Date Analyzed:	02-26-09
Condition:	Intact	Chain of Custody:	6401

Parameter	Concentration (mg/Kg)
Total Chloride	**320**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Key Disposal.**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

CHAIN OF CUSTODY RECORD

6401

Client: SMA	Project Name / Location: KEY DISPOSAL
Client Address: 1012 E MURRAY DR FARMINGTON NM	Sampler Name: Tami Ross
Client Phone No.: 325 5667	Client No.: ~~0312~~ 03012-0014

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative $HgCl_2$	Preservative HCl		TPH (Method 8015)	BTEX (Method 8021) TCLP	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
KEY DISPOSAL SOLIDS	2/24/09	1200	49107	Soil ~~Solid~~ (Sludge) Aqueous	3-4oz					✓		✓		✓			✓	✓				✓	✓
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
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				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Tami Ross	2/24/09	1336	Christine M Walters	2/24/09	1336
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

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