

GW-045

**Evaporation
Pond
Closure**

**DATE:
03.05.12**

GW-45



Environmental Affairs
188 County Road 4900
Bloomfield, NM 87413
505/632-4600
505/632-4781 Fax

March 5, 2012

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

RE: Notification of Waste Water Evaporation Pond Removal from Service at the Kutz Gas Plant

Dear Mr. Lowe:

The purpose of this letter is to inform the Oil Conservation Division (OCD) of the activities completed to remove the Waste Water Evaporation Pond (pond) from service at the Williams Four Corners, LLC (WFC) Kutz Gas Plant located in NW/4 NW/4 Section 13 & SW/4 Section 12, Township 28 North, Range 11 West, San Juan County, New Mexico. The pond was removed from service during November 2008 after it was determined that there was a potential leak in the pond liner. This letter documents the activities completed to dispose of the waste contained within the pond after the pond was removed from service as well as investigation activities completed to determine if a potential release impacted soil beneath the liner.

Background

Prior to removing the pond from service, WFC operated the pond in compliance with OCD Discharge Permit for the Kutz Gas Plant (GW-045) which is currently active through June 28, 2013. The pond was constructed with a double liner and leak detection system. Monitoring of the leak detection system was performed monthly by WFC in accordance with OCD regulations. The fluid level within the leak detection well increased 7.8 feet between December 2007 and January 2008. This initial increase indicated that there was a potential leak in the pond liner. Fluids were also observed in the leak detection well during an OCD inspection performed on July 31, 2008 and documented in a letter to WFC from OCD dated September 30, 2008.

Pond Integrity Investigation

Immediately following the OCD inspection performed on July 31, 2008, WFC contracted Envirotech to perform investigation activities to determine if the pond liner was leaking. Envirotech collected water samples from the pond and leak detection well on August 28, 2008 and submitted the samples for the following analyses: benzene, toluene, ethylbenzene, xylenes (BTEX) by Method 8021, total dissolved solids (TDS) by Method 160.1, and pH by Method 150.1. A second sample was collected from the pond for TDS and pH on September 4, 2008. Pumping and monitoring of the fluids within the leak detection well was performed between August 28, 2008 and September 5, 2008. Based on the analytical results for Total BTEX and TDS obtained from the pond

and leak detection well, and the leak detection well pumping results, it appeared that there was a potential leak in the liner. The sampling, pumping, and monitoring activities were documented in the Envirotech report *Leak Detection System Sampling of an Evaporation Pond at the Kutz Plant, Bloomfield, New Mexico* dated October 8, 2008, included as Attachment A. Instead of repairing the pond liner, WFC decided to remove the pond from service. Waste water currently generated at the plant is disposed of at an offsite OCD regulated disposal facility.

Waste Characterization and Disposal

To prepare to remove the pond from service, the fluids were removed from the pond using a vacuum truck between October 8, 2008 and February 3, 2009. The fluids were disposed of offsite at an OCD regulated disposal facility. The sediment/sludge remaining in the pond was sampled on July 14, 2009 by Envirotech to characterize the waste for disposal. The waste characterization samples were submitted to an analytical laboratory for the following analyses: toxicity characteristic leaching procedure (TCLP) volatile organic compounds (VOCs) by Method 1311/8260; TCLP semi-volatile organic compounds (SVOCs) by Method 1311/8270; TCLP phenols by Method (1311/8040); TCLP Resource Conservation and Recovery Act (RCRA) 8 metals by Method 1311/6010; chloride by Method 4500; and reactivity, corrosivity, and ignitability (RCI). Based on the analytical results, the waste was determined to be non-hazardous. The waste characterization results are presented in the Envirotech analytical laboratory report included as Attachment A.

A total of 1,407 cubic yards of sludge/sediment was removed from the pond and disposed of at the Envirotech Remediation Facility (Permit # NM-01-0011) during November 2009 and December 2009. Photographs of the pond following removal of the sludge/sediment prior to removal of the liner are presented in Attachment A. After the majority of the sludge/sediment was removed, the pond liner was washed to remove the remaining residual waste. The wash water and residual waste was removed from the pond using a vacuum truck. Following removal of all the waste, the pond liner, leak detection system, and other operating components (i.e., aerators, piping, etc.) were removed and disposed of offsite OCD regulated disposal facility. Photographs of the pond following removal of the liner are presented in Attachment B.

Release Confirmation Sampling

Following removal of the pond liner, soil sampling was performed beneath the former pond liner to determine if a release had occurred. A total of twenty-eight soil samples were collected from an area approximately 180 feet by 160 feet. Sampling was performed using a 10 foot by 10 foot grid layout as presented in the Envirotech report included as Attachment A. Areas that were not visually impacted were evaluated by collecting a sample from each cell. The individual cell samples were then composited into a sample for each row. Grid spaces where visual impacts were observed were sampled by collecting a discrete sample from the impacted area. A total of sixteen composite row samples (ROW A through ROW P); and total of twelve discrete cell samples (CELL 1B, CELL 3A, CELL 4A, CELL 4B, CELL 5A, CELL 5B, CELL 6A, CELL 7A, CELL 8A, CELL 9A, CELL 10A, and WALL) were collected on June 2, 2010 from the pond area as depicted in the attached Figure 1 included in Attachment A. The confirmation samples were submitted to an analytical laboratory for

March 5, 2012
Mr. Leonard Lowe
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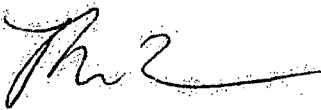
the following analyses: BTEX by Method 8021 and total petroleum hydrocarbons (TPH) by Method 8015. Additional sampling was performed on July 11, 2011 to evaluate chloride concentrations beneath the pond. A total of six composite samples were collected from CELL 1B, CELLS 3A & 4A, CELLS 4B & 5B, CELLS 5A & 6A, CELLS 7A & 8A, and CELLS 9A & 10A and submitted for analysis of chloride by Method 4500. The soil confirmation results are presented in the Envirotech analytical laboratory report included as Attachment A.

Based on the OCD site ranking criteria determined for the site: (1) depth to water greater than 100 feet below ground surface; (2) no private, domestic, or water sources located within 1,000 feet; and (3) no surface water bodies located within 1,000 feet; the remediation action levels were determined to be 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total BTEX, and 5,000 mg/kg for total TPH. The remediation standard for chloride was determined to be 250 mg/kg based on other applicable OCD remediation/closure requirements. A summary of the pond confirmation sample results are presented in Table 1. The confirmation results for benzene, TPH, BTEX, and chloride are all below the applicable OCD remediation standards. These results indicate a release from operation of the former waste water pond did not occur above the applicable OCD standards and no further action is required.

As depicted in the site photographs included in Attachment B, the pond was not backfilled following completion of confirmation sampling because WFC may potentially decide to reinstall a waste water evaporation pond in accordance the OCD requirements if deemed necessary. As noted above, waste water generated at the Kutz Gas Plant is currently disposed of at an offsite OCD regulated disposal facility. If a determination is made to reinstall a waste water evaporation pond, WFC will notify the OCD and the Bureau of Land Management (BLM) of the proposed activities.

Please contact Mark Potochnik at (505) 632-4606 or myself at (505) 632-4442 with any questions regarding this notification.

Sincerely,



Matt Webre, P.G.
Environmental Specialist

Attachments

cc: William Liess (BLM)
Vern Rothlisberger (WFC)
Mark Potochnik (WFC)

Tables

TABLE 1. Summary of Kutz Pond Soil Analytical Results

Sample ID	Sample Location	Sample Date	TPH-GRO mg/kg	TPH-DRO mg/kg	Total TPH mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	m,p-Xylenes mg/kg	o-Xylene mg/kg	Total/BTEX mg/kg	Chloride mg/kg
Analytical Method			8015	8015	5,000	10			8021		50	4500
NMOCD Standards (mg/kg)												250
ROW A	ROW A	6/2/2010	<0.2	2.8	2.8	<0.009	<0.010	0.0023	<0.0012	<0.0009	0.0023	
ROW B	ROW B	6/2/2010	1.0	0.4	1.4	<0.009	<0.010	0.0016	0.0104	<0.0009	0.0120	
ROW C	ROW C	6/2/2010	2.3	23.4	25.7	<0.009	<0.010	0.0016	<0.0012	<0.0009	0.0016	
ROW D	ROW D	6/2/2010	<0.2	31.0	31.0	<0.009	<0.010	0.0017	0.0030	<0.0009	0.0047	
ROW E	ROW E	6/2/2010	<0.2	16.2	16.2	<0.009	<0.010	0.0013	0.0019	<0.0009	0.0032	
ROW F	ROW F	6/2/2010	3.2	55.8	59.0	0.0039	0.0102	0.0032	0.0089	0.0082	0.0344	
ROW G	ROW G	6/2/2010	1.3	17.5	18.8	0.0060	0.0162	0.0120	0.0289	0.0181	0.0812	
ROW H	ROW H	6/2/2010	0.8	11.5	12.3	0.0019	0.0093	0.0036	0.0103	0.0074	0.0325	
ROW I	ROW I	6/2/2010	0.3	0.5	0.8	0.0037	0.0044	0.0026	0.0072	0.0060	0.0239	
ROW J	ROW J	6/2/2010	1.8	0.7	2.5	0.0028	0.0028	0.0023	0.0083	0.0057	0.0219	
ROW K	ROW K	6/2/2010	1.6	63.9	65.5	0.0110	0.0184	0.0181	0.190	0.0699	0.307	
ROW L	ROW L	6/2/2010	0.9	275	276	0.0015	0.0047	0.0011	0.0166	0.0063	0.0302	
ROW M	ROW M	6/2/2010	0.2	81.4	81.6	0.0078	0.0169	0.0023	0.0174	0.0088	0.0532	
ROW N	ROW N	6/2/2010	1.5	41.8	43.3	0.0031	0.0052	0.0017	0.0125	0.0055	0.0280	
ROW O	ROW O	6/2/2010	0.9	86.4	87.3	0.0011	0.0056	<0.0010	0.0050	0.0042	0.0159	
ROW P	ROW P	6/2/2010	1.9	50.2	52.1	0.0011	0.0068	0.0031	0.0221	0.0093	0.0424	
Sec #1B	CELL 1B	6/2/2010	5.4	0.2	5.6	0.0094	0.0112	0.0098	0.0353	0.0209	0.0866	30
Sec #3A	CELL 3A	6/2/2010	28.9	44.5	73.4	<0.0009	0.0141	0.0073	0.111	0.0355	0.168	50
Sec #4A	CELL 4A	6/2/2010	4.1	22.2	26.3	0.0043	0.0124	0.0113	0.0829	0.0317	0.143	
Sec #4B	CELL 4B	6/2/2010	1.7	9.8	11.5	<0.0009	<0.0010	<0.0010	<0.0012	<0.0009	ND	10
Sec #5B	CELL 5B	6/2/2010	3.7	0.4	4.1	<0.0009	0.0058	0.0046	0.0353	0.0095	0.0552	
Sec #5A	CELL 5A	6/2/2010	5.7	35.7	41.4	<0.0009	0.0092	0.0089	0.0631	0.0150	0.0962	30
Sec #6A	CELL 6A	6/2/2010	5.3	0.8	6.1	0.0013	0.0016	<0.0010	0.0053	0.0019	0.0101	
Sec #7A	CELL 7A	6/2/2010	<0.2	73.4	73.4	0.0012	0.0099	0.0118	0.245	0.115	0.383	30
Sec #8A	CELL 8A	6/2/2010	1.0	2.9	3.9	<0.0009	0.0051	0.0030	0.0173	0.0099	0.0353	
Sec #9A	CELL 9A	6/2/2010	5.5	0.2	5.7	0.0016	0.0031	0.0058	0.0277	0.0105	0.0487	20
Sec #10A	CELL 10A	6/2/2010	0.2	1.0	1.2	0.0032	0.0116	0.0163	0.0962	0.0372	0.165	
N Wall up to 4' Sec #3-8	North Wall	6/2/2010	<0.2	<0.2	<0.2	0.0053	0.0032	<0.0010	<0.0010	0.0046	0.0131	

TPH - Total Petroleum Hydrocarbon

GRO - Gasoline Range Organics

DRO - Diesel Range Organics

BTEX - Benzene, Toluene, Ethylbenzene, Xylenes

mg/kg - milligram per kilogram

NMOCD - New Mexico Oil Conservation Division

< - indicates result was lower than laboratory detection limit

ND - result not detected

Attachment A

Envirotech, Inc. Reports

ENVIROTECH INC.

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

October 8, 2008

Project No. 00068-0086

Mr. David Bays
Williams Field Service
188 CR 4900
Bloomfield, New Mexico 87413

Phone (505) 632-4778
Fax (505) 632-4781

RE: LEAK DETECTION SYSTEM SAMPLING OF AN EVAPORATION POND AT THE KUTZ PLANT, BLOOMFIELD, NEW MEXICO

Dear Mr. Bays,

Envirotech, Inc. was contacted to perform sampling of the leak detection system of an evaporation pond located at the Kutz Plant in Bloomfield, New Mexico. This letter report details the leak detection sampling activities and results.

August 28, 2008

An Envirotech field technician arrived onsite to conduct the sampling of the leak detection system. At 12:27 pm a product level of 8.06 feet was measured from inside the well monitor. A sample was collected from within the pond, and a sample was collected from within the leak detection system; see attached *Site Map*. Both samples were delivered to Envirotech's Laboratory for BTEX analysis via USEPA Method 8021, total dissolved solids analysis, and pH analysis; see attached *Analytical Results*. The laboratory results from both samples were very similar; see attached *Table 1: Laboratory Analysis Results*. A vacuum pump was used for six hours to vacuum the product from the well monitor. The removed product was then placed back into the pond for disposal.

September 4, 2008

An Envirotech field technician returned to the site and collected a sample from within the pond. The sample was delivered to Envirotech's Laboratory for total dissolved solids analysis; see attached *Table 1: Laboratory Analysis Results* and *Analytical Results*.

September 5, 2008

An Envirotech field technician returned to the site. At 9:25 am a product level of 10.04 feet was measured from inside the well monitor. A vacuum pump was used for 8 hours to vacuum the product from the well monitor. The removed product was then placed back into the pond for disposal. At 4:31 pm another product level measurement was taken from within the well monitor and recorded at 15.00 feet.

September 11, 2008

An Envirotech field technician returned to the site. At 8:32 am a product level of 11.09 feet was measured from inside the well monitor.

We appreciate the opportunity to be of service. If you have any questions please do not hesitate to contact our office at (505) 632-0615.

Sincerely,

ENVIROTECH, INC.

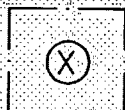

Roynell Benally
Field Technician
rbenally@envirotech-inc.com

Attachment: Site Map
Table 1: Laboratory Analysis Results
Analytical Results

Cc: Client File 00068



WELL
MONITOR



EVAPORATION
POND

X

LEGEND

- BERM
- FENCE
- X SAMPLE POINTS

SITE MAP WILLIAMS FIELD SERVICES KUTZ PLANT EVAPORATION POND LEAK DETECTION SAMPLING BLOOMFIELD, NM

SCALE: NTS

PROJECT NOD0068-0086

FIGURE NO. 1

REV

REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	RB		BASE DRWN

ENVIRONMENTAL SCIENTISTS & ENGINEERS
ENVIROTECH

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87410 505-632-0615

TABLE 1: LABORATORY ANALYSIS RESULTS

Sample Date	Sample Description	BTEX (ppm)	TDS (ppm)	pH
08/28/08	Pond	0.254	22,000	8.81
08/28/08	Leak Detection (LD)	0.164	20,100	6.34
09/04/08	Pond	NS	23,400	9.03

NS = Not Sampled

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client: Williams
Sample ID: Pond
Chain of Custody: 5158
Laboratory Number: 46969
Sample Matrix: Aqueous
Preservative: HgCl2
Condition: Cool & Intact

Project #: 00068-0086
Date Reported: 09-03-08
Date Sampled: 08-28-08
Date Received: 08-28-08
Date Analyzed: 09-02-08
Analysis Requested: BTEX

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	47.3	1	0.2
Toluene	109	1	0.2
Ethylbenzene	8.6	1	0.2
p,m-Xylene	70.8	1	0.2
o-Xylene	18.7	1	0.1

Total BTEX 254

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	4-bromochlorobenzene	99 %

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: Kutz Plant

Analyst

Review

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams	Project #:	00068-0086
Sample ID:	LD	Date Reported:	09-03-08
Chain of Custody:	5158	Date Sampled:	08-28-08
Laboratory Number:	46970	Date Received:	08-28-08
Sample Matrix:	Aqueous	Date Analyzed:	09-02-08
Preservative:	HgCl2	Analysis Requested:	BTEX
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	55.2	1	0.2
Toluene	24.4	1	0.2
Ethylbenzene	15.2	1	0.2
p,m-Xylene	52.2	1	0.2
o-Xylene	17.3	1	0.1

Total BTEX **164**

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	96 %
	1,4-difluorobenzene	96 %
	4-bromochlorobenzene	96 %

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

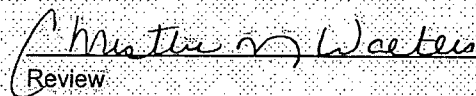
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **Kutz Plant**

Analyst



Review



ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client: N/A
Sample ID: 09-02-TPH QA/QC
Laboratory Number: 46955
Sample Matrix: Water
Preservative: N/A
Condition: N/A

Project #: N/A
Date Reported: 09-03-08
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 09-02-08
Analysis: BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept Range	0 - 15%		
Benzene	8.3971E+007	8.4223E+007	0.30%	ND	0.2
Toluene	6.3994E+007	6.4186E+007	0.30%	ND	0.2
Ethylbenzene	5.0956E+007	5.1109E+007	0.30%	ND	0.2
p,m-Xylene	1.0551E+008	1.0583E+008	0.30%	ND	0.2
o-Xylene	4.8840E+007	4.8987E+007	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff	Accept Limit
Benzene	5.4	4.8	11.5%	0 - 30%
Toluene	234	231	1.4%	0 - 30%
Ethylbenzene	0.6	0.6	0.0%	0 - 30%
p,m-Xylene	2.1	2.0	5.2%	0 - 30%
o-Xylene	1.3	1.4	7.4%	0 - 30%

Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Benzene	5.4	50.0	55.3	99.8%	39 - 150
Toluene	234	50.0	281	98.9%	46 - 148
Ethylbenzene	0.6	50.0	50.5	99.8%	32 - 160
p,m-Xylene	2.1	100	103	101%	46 - 148
o-Xylene	1.3	50.0	51.2	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

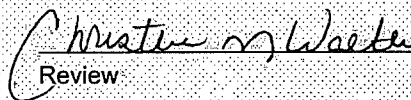
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Sample 46955, 46969 - 46970, 46994, and 47004 - 47006.

Analyst



Review



Client:	Williams	Project #:	00068-0086
Sample ID:	Pond	Date Reported:	09-05-08
Laboratory Number:	46969	Date Sampled:	08-28-08
Sample Matrix:	Aqueous	Date Received:	08-28-08
Preservative:	Cool	Date Analyzed:	08-29-08
Condition:	Cool & Intact	Chain of Custody:	5158

Parameter	Analytical Result	Units
pH	8.81	su
Total Dissolved Solids @ 180C	22,000	mg/L

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

Comments: **Kutz Plant.**

Analyst

Review

Client:	Williams	Project #:	00068-0086
Sample ID:	LD	Date Reported:	09-05-08
Laboratory Number:	46970	Date Sampled:	08-28-08
Sample Matrix:	Aqueous	Date Received:	08-28-08
Preservative:	Cool	Date Analyzed:	08-29-08
Condition:	Cool & Intact	Chain of Custody:	5158

Parameter	Analytical Result	Units
pH	6.34	su
Total Dissolved Solids @ 180C	20,100	mg/L

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

Comments: Kutz Plant.

Analyst

Review

5158

[illegible]

ENVIROTECH INC.

Client:	Willaims	Project #:	00068-0086
Sample ID:	Pond	Date Reported:	09-08-08
Laboratory Number:	47083	Date Sampled:	09-04-08
Chain of Custody:	5209	Date Received:	09-04-08
Sample Matrix:	Aqueous	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	09-04-08
Condition:	Cool & Intact		

Parameter	Analytical Result	Units
pH	9.03	su
Total Dissolved Solids @ 180C	23,400	mg/L

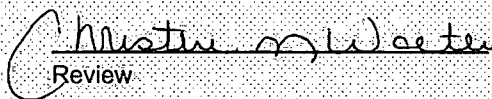
Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.

Comments: **Kutz Plant.**

Analyst



Review



5209

[illegible]

ENVROTECH INC.



August 6, 2009

Project No. 00068-0121

Ms. Charlotte Chivers
Williams Field Service
188 CR 4900
Bloomfield, New Mexico 87413

Phone: (505) 632-4829

RE: SLUDGE SAMPLING RESULTS FOR THE POND AT KUTZ PLANT, BLOOMFIELD, NEW MEXICO

Dear Ms. Chivers,

Enclosed please find the analytical results for a five (5) point composite sample of sludge collected from a 250' x 250' pond at Kutz Plant located in Bloomfield, New Mexico. The sample was analyzed in Envirotech's laboratory for Toxicity Characteristic Leaching Procedure (TCLP) and for total chlorides via USEPA Method 4500B.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Sincerely,
ENVIROTECH, INC.


Toni McKnight
Staff Geologist
tmcknight@envirotech-inc.com

Enclosure: Analytical Results

Cc: Client File No. 00068



envirotech

Analytical Laboratory

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-22-09
Lab ID#:	50838	Date Sampled:	07-14-09
Sample Matrix:	Sludge	Date Received:	07-14-09
Preservative:	Cool	Date Analyzed:	07-14-09
Condition:	Intact	Chain of Custody:	7418

Parameter	Result
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IGNITABILITY: Negative

CORROSIVITY: Negative pH = 8.56

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: TCLP Sample / Kutz Plant Pond.

Analyst

Review



envirotech

Analytical Laboratory

EPA METHOD 8260 AROMATIC / HALOGENATED VOLATILE ORGANICS

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-21-09
Laboratory Number:	50838	Date Sampled:	07-14-09
Chain of Custody:	7418	Date Received:	07-14-09
Sample Matrix:	Sludge	Date Extracted:	07-15-09
Preservative:	Cool	Date Analyzed:	07-20-09
Condition:	Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limits (mg/L)
Vinyl Chloride	ND	0.0001	0.2
1,1-Dichloroethene	ND	0.0001	0.7
2-Butanone (MEK)	ND	0.0001	200
Chloroform	0.0113	0.0001	6.0
Carbon Tetrachloride	ND	0.0001	0.5
Benzene	0.0014	0.0001	0.5
1,2-Dichloroethane	ND	0.0001	0.5
Trichloroethene	ND	0.0003	0.5
Tetrachloroethene	ND	0.0005	0.7
Chlorobenzene	ND	0.0003	100
1,4-Dichlorobenzene	ND	0.0002	7.5

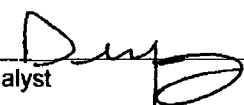
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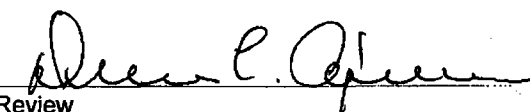
QA/QC Acceptance Criteria	Parameter	Percent Recovery
	Fluorobenzene	100.0%
	1,4-difluorobenzene	100.0%
	4-bromochlorobenzene	100.0%

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: TCLP Sample / Kutz Plant Pond

Analyst 

Review 



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EPA METHOD 8270 TCLP PHENOLS

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-21-09
Laboratory Number:	50838	Date Sampled:	07-14-09
Chain of Custody:	7389	Date Received:	07-14-09
Sample Matrix:	TCLP Extract	Date Extracted:	07-15-09
Preservative:	Cool	Date Analyzed:	7-20-09
Condition:	Intact	Analysis Requested:	TCLP

Parameter	Concentration (mg/L)	Detection Limit (mg/L)	Regulatory Limit (mg/L)
o-Cresol	ND	0.004	200
p,m-Cresol	ND	0.004	200
2,4,6-Trichlorophenol	ND	0.004	2.0
2,4,5-Trichlorophenol	ND	0.004	400
Pentachlorophenol	ND	0.004	100

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-Fluorophenol	99.6%
	2,4,6-Tribromophenol	98.2%

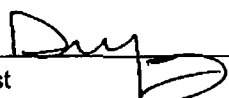
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

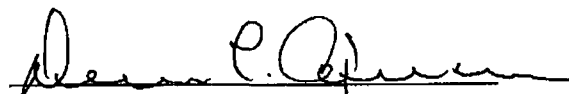
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: TCLP Sample / Kutz Plant Pond


Analyst


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EPA METHOD 8270
Nitroaromatics and Cyclic Ketones

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-21-09
Laboratory Number:	50838	Date Sampled:	07-14-09
Chain of Custody:	7418	Date Received:	07-14-09
Sample Matrix:	TCLP Extract	Date Extracted:	07-15-09
Preservative:	Cool	Date Analyzed:	07-20-09
Condition:	Intact	Analysis Requested:	8091

Parameter	Concentration (mg/Kg)	Detection Limit (mg/Kg)	Regulatory Limit (mg/Kg)
Pyridine	ND	0.004	5.0
Hexachloroethane	ND	0.004	3.0
Nitrobenzene	ND	0.004	2.0
Hexachlorobutadiene	ND	0.004	0.5
2,4-Dinitrotoluene	ND	0.004	0.13
HexachloroBenzene	ND	0.004	0.13

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	2-fluorobiphenyl	92%

References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: TCLP Sample / Kutz Plant Pond

Analyst

Review



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**EPA METHOD 1311
TOXICITY CHARACTERISTIC
LEACHING PROCEDURE
TRACE METAL ANALYSIS**

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-22-09
Laboratory Number:	50838	Date Sampled:	07-14-09
Chain of Custody:	7418	Date Received:	07-14-09
Sample Matrix:	TCLP Extract	Date Analyzed:	07-16-09
Preservative:	Cool	Date Extracted:	07-15-09
Condition:	Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Arsenic	0.052	0.001
Barium	0.121	0.001
Cadmium	0.023	0.001
Chromium	0.152	0.001
Lead	ND	0.001
Mercury	ND	0.001
Selenium	ND	0.001
Silver	ND	0.001

ND - Parameter not detected at the stated detection limit.

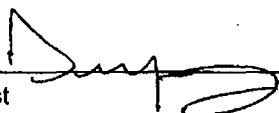
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

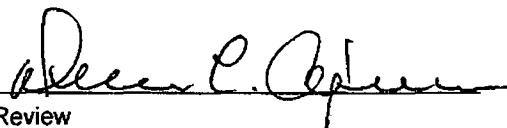
Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

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

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

Comments: **TCLP Sample / Kutz Plant Pond.**

Analyst 

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**QUALITY ASSURANCE / QUALITY CONTROL
DOCUMENTATION**



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EPA METHOD 8260 AROMATIC / HALOGENATED VOLATILE ORGANICS Quality Assurance Report

Client: QA/QC
Sample ID: 0720VCAL QA/QC
Laboratory Number: 50838
Sample Matrix: N/A
Preservative: N/A
Condition: N/A

Project #: N/A
Date Reported: 07-21-09
Date Sampled: N/A
Date Received: N/A
Date Analyzed: 07-20-09
Analysis Requested: TCLP

Blanks & Duplicate Concentration (mg/L)	Detection Limit	Laboratory Blank	Method Blank	Sample Conc.	Duplicate Conc.	Percent Difference
Vinyl Chloride	0.0001	ND	ND	ND	ND	0.0%
1,1-Dichloroethene	0.0001	ND	ND	ND	ND	0.0%
2-Butanone (MEK)	0.0001	ND	ND	ND	ND	0.0%
Chloroform	0.0001	ND	ND	0.0113	0.0110	2.1%
Carbon Tetrachloride	0.0001	ND	ND	ND	ND	0.0%
Benzene	0.0001	ND	ND	0.0014	0.0014	2.1%
1,2-Dichloroethane	0.0001	ND	ND	ND	ND	0.0%
Trichloroethene	0.0003	ND	ND	ND	ND	0.0%
Tetrachloroethene	0.0005	ND	ND	ND	ND	0.0%
Chlorobenzene	0.0003	ND	ND	ND	ND	0.0%
1,4-Dichlorobenzene	0.0002	ND	ND	ND	ND	0.0%

Matrix Spike Concentration (mg/L)	Amount Spiked	Sample Result	Spike Result	Percent Recovery	Acceptable Range
Vinyl Chloride	0.1000	ND	0.0974	97.4%	26-163
1,1-Dichloroethene	0.1000	ND	0.1007	101%	43-143
2-Butanone (MEK)	0.1000	ND	0.0986	98.6%	47-132
Chloroform	0.1000	0.0113	0.1100	98.9%	49-133
Carbon Tetrachloride	0.1000	ND	0.0924	92.4%	43-143
Benzene	0.1000	0.0014	0.1010	100%	39-150
1,2-Dichloroethane	0.1000	ND	0.1024	102%	51-147
Trichloroethene	0.1000	ND	0.1020	102%	35-146
Tetrachloroethene	0.1000	ND	0.1056	106%	26-162
Chlorobenzene	0.1000	ND	0.1143	114%	38-150
1,4-Dichlorobenzene	0.1000	ND	0.1033	103%	42-143

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Comments: QA/QC for Samples 50838, 50868, 50902.

Analyst

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EPA METHOD 8270 TCLP PHENOLS Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	0720A200 QA/QC	Date Reported:	07-21-09
Laboratory Number:	50838	Date Sampled:	N/A
Sample Matrix:	2-Propanol	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-20-09
Condition:	N/A	Analysis Requested:	TCLP

Blanks & Duplicate Conc (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	Percent Diff.
o-Cresol	ND	ND	0.004	ND	ND	0.0%
p,m-Cresol	ND	ND	0.004	ND	ND	0.0%
2,4,6-Trichlorophenol	ND	ND	0.004	ND	ND	0.0%
2,4,5-Trichlorophenol	ND	ND	0.004	ND	ND	0.0%
Pentachlorophenol	ND	ND	0.004	ND	ND	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8041, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Comments: QA/QC for Samples 50838, 50868, 50902

Analyst

Review



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EPA METHOD 8270

Nitroaromatics and Cyclic Ketones

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	0720B200 QA/QC	Date Reported:	07-21-09
Laboratory Number:	50838	Date Sampled:	N/A
Sample Matrix:	Hexane	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	07-20-09
Condition:	N/A	Analysis Requested:	TCLP

Blanks & Duplicate Conc (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	Percent Diff.
Pyridine	ND	ND	0.004	ND	ND	0.0%
Hexachloroethane	ND	ND	0.004	ND	ND	0.0%
Nitrobenzene	ND	ND	0.004	ND	ND	0.0%
Hexachlorobutadiene	ND	ND	0.004	ND	ND	0.0%
2,4-Dinitrotoluene	ND	ND	0.004	ND	ND	0.0%
HexachloroBenzene	ND	ND	0.004	ND	ND	0.0%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Comments: QA/QC for Samples 50838, 50868, 50902

Analyst

Review



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EPA METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE TRACE METAL ANALYSIS Quality Assurance Report

Client:	N/A	Project #:	N/A
Sample ID:	07-16 TCM QA/QC	Date Reported:	07-22-09
Laboratory Number:	50868	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	07-16-09
Condition:	N/A	Date Extracted:	07-15-09

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance Range
Arsenic	ND	ND	0.001	0.013	0.012	5.6%	0% - 30%
Barium	ND	ND	0.001	0.824	0.825	0.1%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.154	0.150	2.1%	0% - 30%
Lead	ND	ND	0.001	0.256	0.258	0.6%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.003	0.003	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.250	0.013	0.231	87.8%	80% - 120%
Barium	0.500	0.824	1.22	92.5%	80% - 120%
Cadmium	0.250	ND	0.244	97.6%	80% - 120%
Chromium	0.500	0.154	0.606	92.7%	80% - 120%
Lead	0.500	0.256	0.708	93.6%	80% - 120%
Mercury	0.100	ND	0.089	88.8%	80% - 120%
Selenium	0.100	0.003	0.095	92.5%	80% - 120%
Silver	0.100	ND	0.108	108%	80% - 120%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals,
SW-846, USEPA, December 1996.

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

Comments: QA/QC for Samples 50838 and 50868.

Analyst

Review

7418

Client: Williams		Project Name / Location: TLP Sample/Kutz Plant Pond				ANALYSIS / PARAMETERS															
Client Address:		Sampler Name: Toni McKnight																			
Client Phone No.:		Client No.: 00068-0121																			
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with 1M	PAH	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
Kutz Plant Pond Sludge	7/14/09	9:35	90838	Soil Solid	1/602	✓							✓							✓	✓
				Sludge Aqueous																	
				Soil Solid																	
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Chloride

Client:	Williams	Project #:	00068-0121
Sample ID:	Kutz Plant Pond Sludge	Date Reported:	07-30-09
Lab ID#:	50838	Date Sampled:	07-14-09
Sample Matrix:	Sludge	Date Received:	07-14-09
Preservative:	Cool	Date Analyzed:	07-30-09
Condition:	Intact	Chain of Custody:	7418

Parameter	Concentration (mg/Kg)
-----------	-----------------------

Total Chloride

2,190

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: Kutz Plant Pond.

Analyst

Review

7418

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July 8, 2010

Project No. 00068-0159

Mr. Aaron Dailey
Williams Field Service
188 CR 4900
Bloomfield, New Mexico 87413

Phone: (505) 801-2536

**RE: SAMPLING OF SOIL UNDERNEATH THE REMOVED POND LINER AT KUTZ PLANT,
BLOOMFIELD, NEW MEXICO**

Dear Mr. Dailey,

Enclosed please find the site map and analytical results for soil sampling activities conducted at the Kutz Plant, located in Bloomfield, New Mexico. Twenty-eight (28) samples of soil were collected from underneath the removed pond liner in the 180' x 160' bottom of the evaporation pond. The pond was sampled using a 10' x 10' grid layout; see attached *Site Map*. Areas that were not visually contaminated were sampled by each row as a composite. Grid spaces where visual contamination was observed were sampled individually; see attached *Site Map* for locations. The samples were placed into four (4)-ounce glass jars, capped headspace free, and transported on ice under chain of custody to Envirotech's laboratory to be analyzed for total petroleum hydrocarbons (TPH) using USEPA Method 8015 and for benzene and BTEX using USEPA Method 8021; see attached *Site Map* and *Analytical Results*.

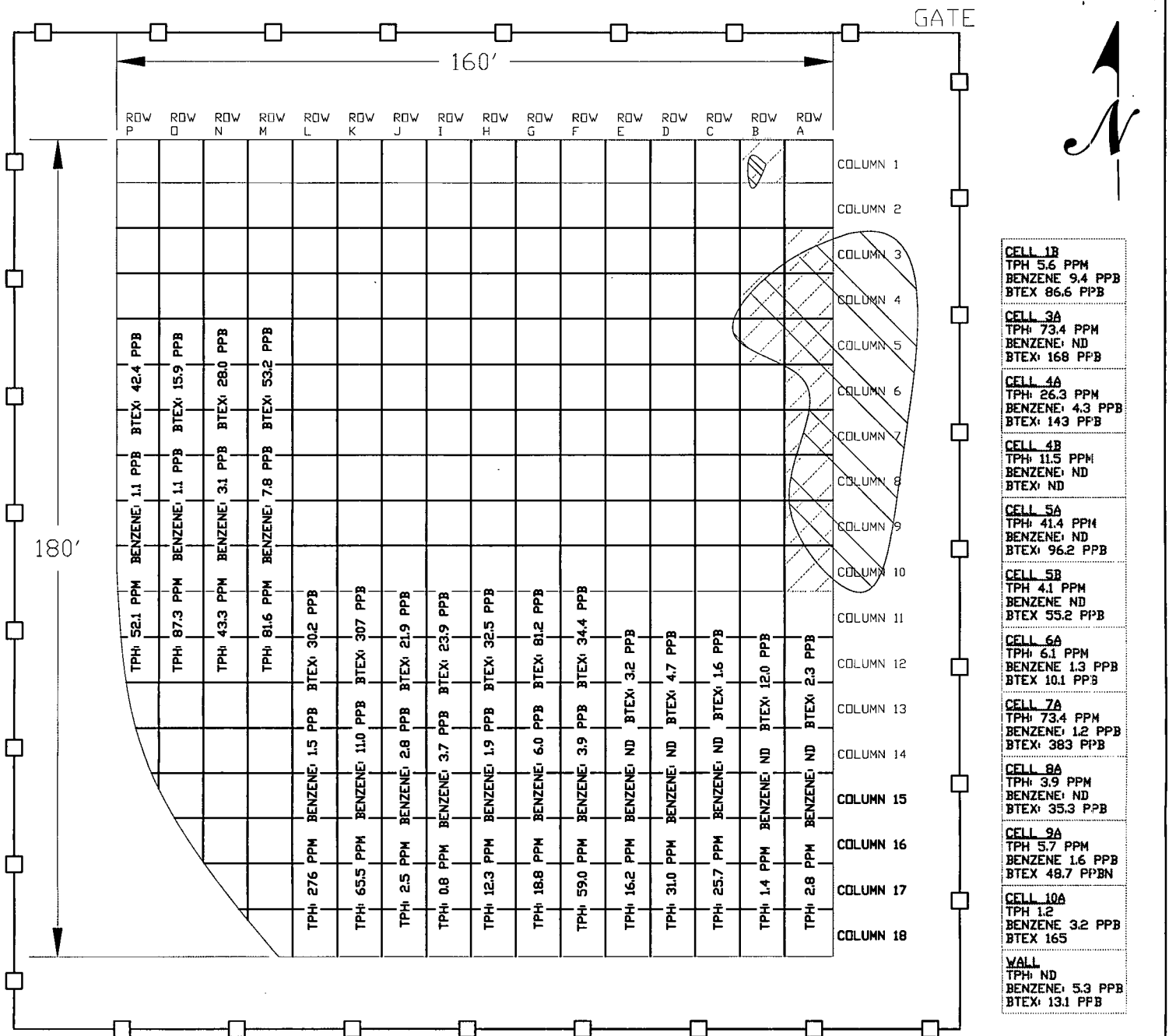
We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,
ENVIROTECH, INC.

Sarah Rowland, EIT
Staff Engineer
srowland@envirotech-inc.com

Enclosure: Site Map
Analytical Results

Cc: Client File No. 00068
Mr. Randy Smith, Williams Field Service



LEGEND

- FENCE
- EDGE OF FLAT BOTTOM OF FORMER POND - 8' BGS
- ROW P 10' WIDE ROWS
- COLUMN 18 10' WIDE COLUMNS
- OBSERVED STAINING
- SAMPLED SEPARATELY

SITE MAP WILLIAMS FIELD SERVICE KUTZ PLANT EVAPORATION POND CLOSURE SAMPLING

SCALE:		FIGURE NO. 1	REV
PROJECT N000068-0159			
REVISIONS			
NO.	DATE	BY	DESCRIPTION
MAP DRWN	SR	6/21/10	BASE DRWN



5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



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

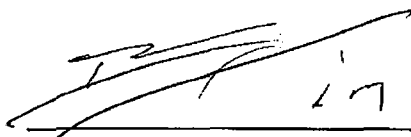
Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row A	Date Reported:	06-18-10
Laboratory Number:	54524	Date Sampled:	06-02-10
Chain of Custody No:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-03-10
Preservative:	Cool	Date Analyzed:	06-04-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	2.8	0.1
Total Petroleum Hydrocarbons	2.8	0.2

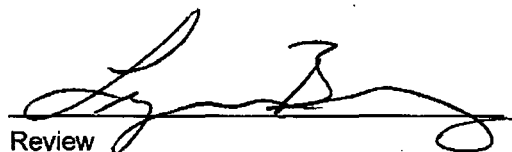
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row B	Date Reported:	06-18-10
Laboratory Number:	54525	Date Sampled:	06-02-10
Chain of Custody No:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-03-10
Preservative:	Cool	Date Analyzed:	06-04-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.0	0.2
Diesel Range (C10 - C28)	0.4	0.1
Total Petroleum Hydrocarbons	1.4	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row C	Date Reported:	06-18-10
Laboratory Number:	54526	Date Sampled:	06-02-10
Chain of Custody No:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-03-10
Preservative:	Cool	Date Analyzed:	06-04-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	2.3	0.2
Diesel Range (C10 - C28)	23.4	0.1
Total Petroleum Hydrocarbons	25.7	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**

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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row D	Date Reported:	06-18-10
Laboratory Number:	54527	Date Sampled:	06-02-10
Chain of Custody No:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-03-10
Preservative:	Cool	Date Analyzed:	06-04-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	31.0	0.1
Total Petroleum Hydrocarbons	31.0	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: **Kutz Plant Pond**



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row E	Date Reported:	06-18-10
Laboratory Number:	54528	Date Sampled:	06-02-10
Chain of Custody No:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-03-10
Preservative:	Cool	Date Analyzed:	06-04-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	16.2	0.1
Total Petroleum Hydrocarbons	16.2	0.2

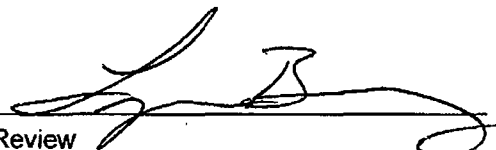
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References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Kutz Plant Pond**



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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-04-10 QA/QC	Date Reported:	06-18-10
Laboratory Number:	54524	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-04-10
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RE	C-Cal RE	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9960E+002	1.0000E+003	0.04%	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	2.8	2.6	7.1%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	250	100%	75 - 125%
Diesel Range C10 - C28	2.8	250	268	106%	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 54522-54528 and 54561-54563.

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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row A	Date Reported:	06-18-10
Laboratory Number:	54524	Date Sampled:	06-02-10
Chain of Custody:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-04-10
Preservative:	Cool	Date Extracted:	06-03-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	2.3	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	2.3	

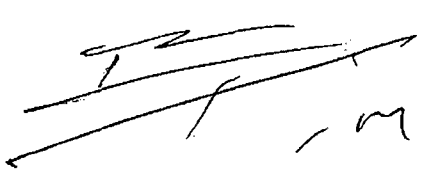
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Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	108 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row B	Date Reported:	06-18-10
Laboratory Number:	54525	Date Sampled:	06-02-10
Chain of Custody:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-04-10
Preservative:	Cool	Date Extracted:	06-03-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	1.6	1.0
p,m-Xylene	10.4	1.2
o-Xylene	ND	0.9
Total BTEX	12.0	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	115 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

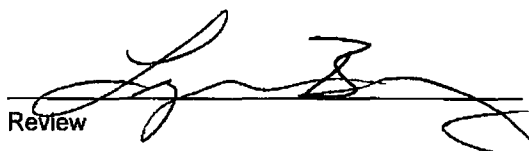
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row C	Date Reported:	06-18-10
Laboratory Number:	54526	Date Sampled:	06-02-10
Chain of Custody:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-04-10
Preservative:	Cool	Date Extracted:	06-03-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	1.6	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	1.6	

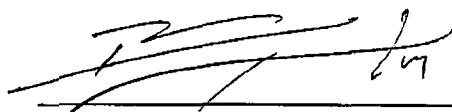
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Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	104 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

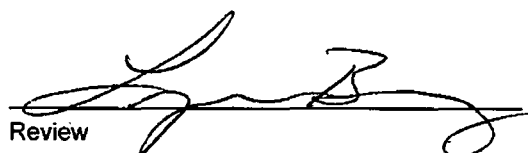
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row D	Date Reported:	06-18-10
Laboratory Number:	54527	Date Sampled:	06-02-10
Chain of Custody:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-04-10
Preservative:	Cool	Date Extracted:	06-03-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	1.7	1.0
p,m-Xylene	3.0	1.2
o-Xylene	ND	0.9
Total BTEX	4.7	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	104 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row E	Date Reported:	06-18-10
Laboratory Number:	54528	Date Sampled:	06-02-10
Chain of Custody:	9514	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-04-10
Preservative:	Cool	Date Extracted:	06-03-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	1.3	1.0
p,m-Xylene	1.9	1.2
o-Xylene	ND	0.9
Total BTEX	3.2	

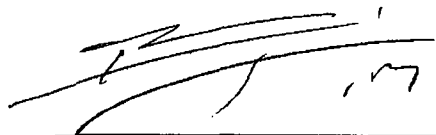
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Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	114 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

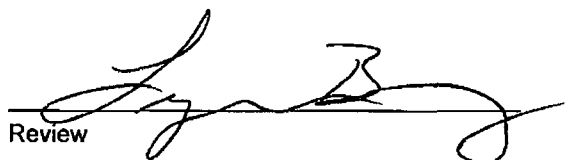
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	0604BLK2 QA/QC	Date Reported:	06-18-10
Laboratory Number:	54524	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-04-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limit (ug/L)	Headspace	C-Cal RE	%Diff	Blank Conc	Detect Limit
		Accept Range: 0 - 15%			
Benzene	3.7087E+006	3.7161E+006	0.2%	ND	0.1
Toluene	3.6681E+006	3.6755E+006	0.2%	ND	0.1
Ethylbenzene	2.3639E+006	2.3687E+006	0.2%	ND	0.1
p,m-Xylene	6.4403E+006	6.4532E+006	0.2%	ND	0.1
o-Xylene	2.5494E+006	2.5545E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	2.3	2.2	4.3%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	50.0	47.8	95.6%	39 - 150
Toluene	ND	50.0	43.2	86.4%	46 - 148
Ethylbenzene	2.3	50.0	43.4	83.0%	32 - 160
p,m-Xylene	ND	100	86.5	86.5%	46 - 148
o-Xylene	ND	50.0	44.1	88.1%	46 - 148

ND - Parameter not detected at the stated detection limit.

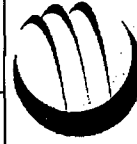
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photolionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 54524-54528, 54561-54563 and 54522-54523.

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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row F	Date Reported:	06-21-10
Laboratory Number:	54529	Date Sampled:	06-02-10
Chain of Custody No:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	3.2	0.2
Diesel Range (C10 - C28)	55.8	0.1
Total Petroleum Hydrocarbons	59.0	0.2

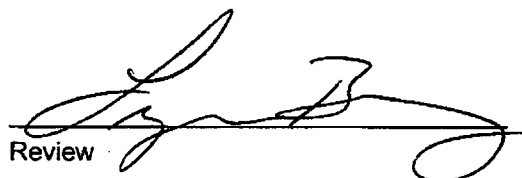
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row G	Date Reported:	06-21-10
Laboratory Number:	54530	Date Sampled:	06-02-10
Chain of Custody No:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

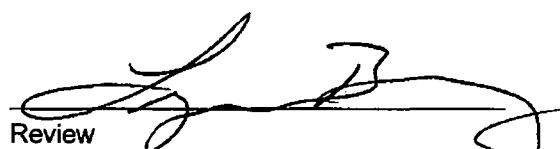
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.3	0.2
Diesel Range (C10 - C28)	17.5	0.1
Total Petroleum Hydrocarbons	18.8	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**


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

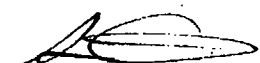
Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row H	Date Reported:	06-21-10
Laboratory Number:	54531	Date Sampled:	06-02-10
Chain of Custody No:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.8	0.2
Diesel Range (C10 - C28)	11.5	0.1
Total Petroleum Hydrocarbons	12.3	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row I	Date Reported:	06-21-10
Laboratory Number:	54532	Date Sampled:	06-02-10
Chain of Custody No:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	0.5	0.1
Total Petroleum Hydrocarbons	0.8	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row J	Date Reported:	06-21-10
Laboratory Number:	54533	Date Sampled:	06-02-10
Chain of Custody No:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.8	0.2
Diesel Range (C10 - C28)	0.7	0.1
Total Petroleum Hydrocarbons	2.5	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-05-10 QA/QC	Date Reported:	06-21-10
Laboratory Number:	0605 REC	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-05-10
Condition:	N/A	Analysis Requested:	TPH

	Lab Date	Lab Ref	C-Cal Ref	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9960E+002	1.0000E+003	0.04%	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	3.2	3.9	21.9%	0 - 30%
Diesel Range C10 - C28	55.8	52.1	6.6%	0 - 30%

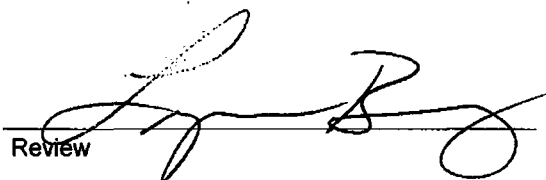
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	3.2	250	248	97.9%	75 - 125%
Diesel Range C10 - C28	55.8	250	339	111%	75 - 125%

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 54529-54533 and 54540-54544.


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row F	Date Reported:	06-21-10
Laboratory Number:	54529	Date Sampled:	06-02-10
Chain of Custody:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.9	0.9
Toluene	10.2	1.0
Ethylbenzene	3.2	1.0
p,m-Xylene	8.9	1.2
o-Xylene	8.2	0.9
Total BTEX	34.4	

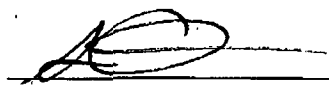
ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row G	Date Reported:	06-21-10
Laboratory Number:	54530	Date Sampled:	06-02-10
Chain of Custody:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	6.0	0.9
Toluene	16.2	1.0
Ethylbenzene	12.0	1.0
p,m-Xylene	28.9	1.2
o-Xylene	18.1	0.9
Total BTEX	81.2	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	102 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	105 %

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: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row H	Date Reported:	06-21-10
Laboratory Number:	54531	Date Sampled:	06-02-10
Chain of Custody:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.9	0.9
Toluene	9.3	1.0
Ethylbenzene	3.6	1.0
p,m-Xylene	10.3	1.2
o-Xylene	7.4	0.9
Total BTEX	32.5	

ND - Parameter not detected at the stated detection limit.

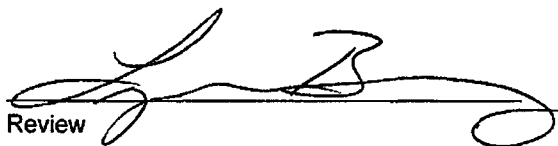
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

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

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

Comments: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row I	Date Reported:	06-21-10
Laboratory Number:	54532	Date Sampled:	06-02-10
Chain of Custody:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.7	0.9
Toluene	4.4	1.0
Ethylbenzene	2.6	1.0
p,m-Xylene	7.2	1.2
o-Xylene	6.0	0.9
Total BTEX	23.9	

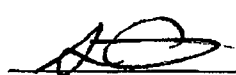
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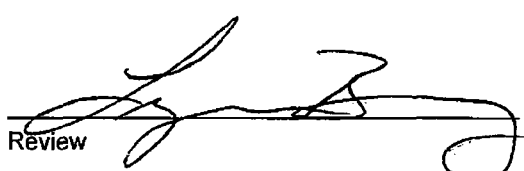
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	105 %
	1,4-difluorobenzene	103 %
	Bromochlorobenzene	107 %

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: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row J	Date Reported:	06-21-10
Laboratory Number:	54533	Date Sampled:	06-02-10
Chain of Custody:	9515	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2.8	0.9
Toluene	2.8	1.0
Ethylbenzene	2.3	1.0
p,m-Xylene	8.3	1.2
o-Xylene	5.7	0.9
Total BTEX	21.9	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	117 %
	1,4-difluorobenzene	115 %
	Bromochlorobenzene	112 %

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: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	0605BBLK QA/QC	Date Reported:	06-21-10
Laboratory Number:	54529	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-05-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limit (ug/L)	I-Cal RE	C-Cal RE	%Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	1.1732E+006	1.1756E+006	0.2%	ND	0.1
Toluene	1.0820E+006	1.0842E+006	0.2%	ND	0.1
Ethylbenzene	9.7904E+005	9.8100E+005	0.2%	ND	0.1
p,m-Xylene	2.4131E+006	2.4179E+006	0.2%	ND	0.1
o-Xylene	8.7859E+005	8.8035E+005	0.2%	ND	0.1

Duplicate Conc (ug/kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	3.9	3.2	17.9%	0 - 30%	0.9
Toluene	10.2	9.8	3.9%	0 - 30%	1.0
Ethylbenzene	3.2	2.7	15.6%	0 - 30%	1.0
p,m-Xylene	8.9	7.5	15.7%	0 - 30%	1.2
o-Xylene	8.2	6.0	26.8%	0 - 30%	0.9

Spike Conc (ug/Kg)	Sample	Amount Spiked	Spiked Sample	%Recovery	Accept Range
Benzene	3.9	50.0	47.8	88.6%	39 - 150
Toluene	10.2	50.0	51.2	85.0%	46 - 148
Ethylbenzene	3.2	50.0	51.2	96.3%	32 - 160
p,m-Xylene	8.9	100	102	93.3%	46 - 148
o-Xylene	8.2	50.0	51.7	88.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

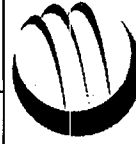
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 54540-54544 and 54529-54533.

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

Client:	Williams Field Services	Project #:	00068-0159
Sample ID:	Row K	Date Reported:	06-12-10
Laboratory Number:	54534	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.6	0.2
Diesel Range (C10 - C28)	63.9	0.1
Total Petroleum Hydrocarbons	65.5	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**

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

Client:	Williams Field Services	Project #:	00068-0159
Sample ID:	Row L	Date Reported:	06-12-10
Laboratory Number:	54535	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.9	0.2
Diesel Range (C10 - C28)	275	0.1
Total Petroleum Hydrocarbons	276	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: **Kutz Plant Pond**

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

Client:	Williams Field Services	Project #:	00068-0159
Sample ID:	Row M	Date Reported:	06-12-10
Laboratory Number:	54536	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.2	0.2
Diesel Range (C10 - C28)	81.4	0.1
Total Petroleum Hydrocarbons	81.6	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**

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

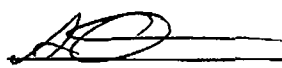
Client:	Williams Field Services	Project #:	00068-0159
Sample ID:	Row N	Date Reported:	06-12-10
Laboratory Number:	54537	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.5	0.2
Diesel Range (C10 - C28)	41.8	0.1
Total Petroleum Hydrocarbons	43.3	0.2

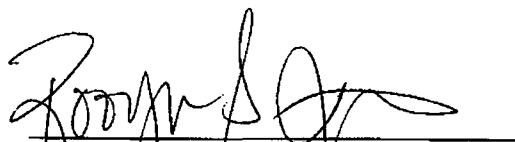
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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

Client:	Williams Field Services	Project #:	00068-0159
Sample ID:	Row O	Date Reported:	06-12-10
Laboratory Number:	54538	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.9	0.2
Diesel Range (C10 - C28)	86.4	0.1
Total Petroleum Hydrocarbons	87.3	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**

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

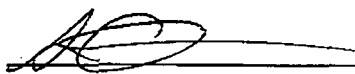
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Sample ID:	Row P	Date Reported:	06-12-10
Laboratory Number:	54539	Date Sampled:	06-02-10
Chain of Custody No:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-08-10
Preservative:	Cool	Date Analyzed:	06-09-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.9	0.2
Diesel Range (C10 - C28)	50.2	0.1
Total Petroleum Hydrocarbons	52.1	0.2

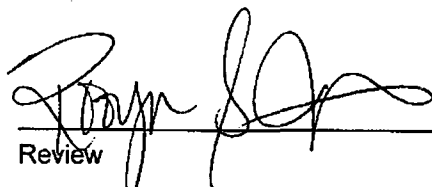
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



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EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-09-10 QA/QC	Date Reported:	06-12-10
Laboratory Number:	54534	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-09-10
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.0835E+003	1.0839E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.1124E+003	1.1128E+003	0.04%	0 - 15%

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

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	1.6	1.4	12.5%	0 - 30%
Diesel Range C10 - C28	63.9	58.7	8.1%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	1.6	250	254	101%	75 - 125%
Diesel Range C10 - C28	63.9	250	279	89.0%	75 - 125%

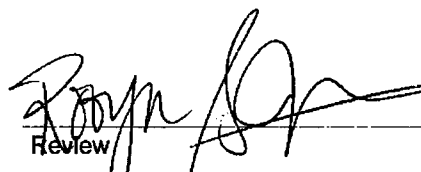
ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 54534-54539, 54618 and 54641-54643.



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row K	Date Reported:	06-11-10
Laboratory Number:	54534	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	11.0	0.9
Toluene	18.4	1.0
Ethylbenzene	18.1	1.0
p,m-Xylene	190	1.2
o-Xylene	69.9	0.9
Total BTEX	307	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	105 %
	1,4-difluorobenzene	103 %
	Bromochlorobenzene	112 %

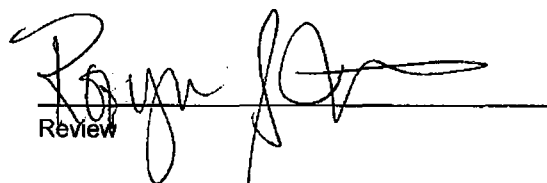
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Willams Field Service	Project #:	00068-0159
Sample ID:	Row L	Date Reported:	06-11-10
Laboratory Number:	54535	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.5	0.9
Toluene	4.7	1.0
Ethylbenzene	1.1	1.0
p,m-Xylene	16.6	1.2
o-Xylene	6.3	0.9
Total BTEX	30.2	

ND - Parameter not detected at the stated detection limit.

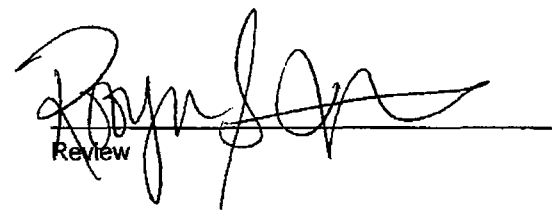
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	107 %
	1,4-difluorobenzene	105 %
	Bromochlorobenzene	110 %

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: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row M	Date Reported:	06-11-10
Laboratory Number:	54536	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	7.8	0.9
Toluene	16.9	1.0
Ethylbenzene	2.3	1.0
p,m-Xylene	17.4	1.2
o-Xylene	8.8	0.9
Total BTEX	53.2	

ND - Parameter not detected at the stated detection limit.

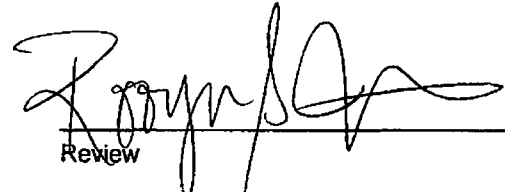
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	115 %
	1,4-difluorobenzene	112 %
	Bromochlorobenzene	113 %

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: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Willams Field Service	Project #:	00068-0159
Sample ID:	Row N	Date Reported:	06-11-10
Laboratory Number:	54537	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.1	0.9
Toluene	5.2	1.0
Ethylbenzene	1.7	1.0
p,m-Xylene	12.5	1.2
o-Xylene	5.5	0.9
Total BTEX	28.0	

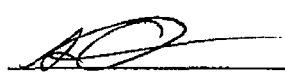
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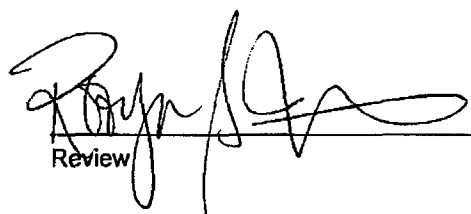
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	111 %
	1,4-difluorobenzene	109 %
	Bromochlorobenzene	107 %

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: Kutz Plant Pond


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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row O	Date Reported:	06-11-10
Laboratory Number:	54538	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.1	0.9
Toluene	5.6	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	5.0	1.2
o-Xylene	4.2	0.9
Total BTEX	15.9	

ND - Parameter not detected at the stated detection limit.

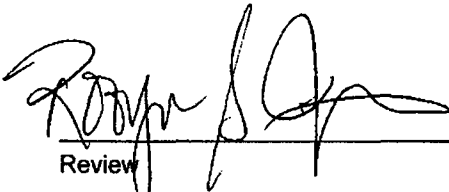
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	116 %
	1,4-difluorobenzene	113 %
	Bromochlorobenzene	104 %

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: Kutz Plant Pond


Analyst


Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Row P	Date Reported:	06-11-10
Laboratory Number:	54539	Date Sampled:	06-02-10
Chain of Custody:	9516	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-09-10
Preservative:	Cool	Date Extracted:	06-08-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.1	0.9
Toluene	6.8	1.0
Ethylbenzene	3.1	1.0
p,m-Xylene	22.1	1.2
o-Xylene	9.3	0.9
Total BTEX	42.4	

ND - Parameter not detected at the stated detection limit.

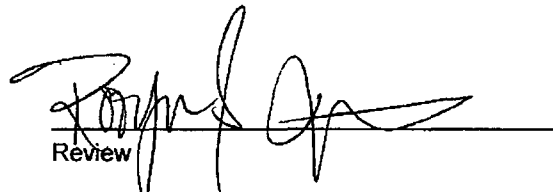
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	113 %
	1,4-difluorobenzene	112 %
	Bromochlorobenzene	105 %

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: Kutz Plant Pond


Analyst


Review



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EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	0609BBLK QA/QC	Date Reported:	06-11-10
Laboratory Number:	54618	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-09-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	Cal. RF	C-Cal. RE	% Diff	Blank Conc.	Detect Limit
		Accept. Range 0 - 15%			
Benzene	1.2429E+006	1.2454E+006	0.2%	ND	0.1
Toluene	1.1322E+006	1.1344E+006	0.2%	ND	0.1
Ethylbenzene	1.0129E+006	1.0150E+006	0.2%	ND	0.1
p,m-Xylene	2.5089E+006	2.5140E+006	0.2%	ND	0.1
o-Xylene	9.3446E+005	9.3633E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	% Diff	Accept. Range	Detect. Limit
Benzene	382	400	4.5%	0 - 30%	0.9
Toluene	427	370	13.4%	0 - 30%	1.0
Ethylbenzene	603	561	7.0%	0 - 30%	1.0
p,m-Xylene	13,000	12,800	1.5%	0 - 30%	1.2
o-Xylene	3,580	3,470	3.1%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept. Range
Benzene	382	50.0	433	100%	39 - 150
Toluene	427	50.0	482	101%	46 - 148
Ethylbenzene	603	50.0	663	102%	32 - 160
p,m-Xylene	13,000	100	13,100	100%	46 - 148
o-Xylene	3,580	50.0	3,650	101%	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 54618, 54534-54539, and 54641-54643.

Analyst

Review

CHAIN OF CUSTODY RECORD

09516

Client: Williams Field Service		Project Name / Location: Ketz Plant Pond		ANALYSIS / PARAMETERS														
Client Address:		Sampler Name: Scott / Sarah		VOC (Method 8260) BTEX (Method 8021) RCRA 8 Metals Cation / Anion RCI TCLP with H/P PAH TPH (418.1) CHLORIDE														
Client Phone No.:		Client No.: 00068-0159		Sample Intact Sample Cool														
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No. Volume of Containers	Preservative	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	Date	Time
Row K	6/2/10	13:30	54534	Soil Solid	1/4oz	X	X	X									6/2/10	15:30
Row L			54535	Soil Solid		X	X	X										
Row M			54536	Soil Solid		X	X	X										
Row N			54537	Soil Solid		X	X	X										
Row O			54538	Soil Solid		X	X	X										
Row P			54539	Soil Solid		X	X	X										
Relinquished by: (Signature) Sarah Rowland				Time				Received by: (Signature) David Thompson				Date				Time		
Relinquished by: (Signature)								Received by: (Signature)										
Relinquished by: (Signature)								Received by: (Signature)										



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #6A	Date Reported:	06-21-10
Laboratory Number:	54540	Date Sampled:	06-02-10
Chain of Custody No:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

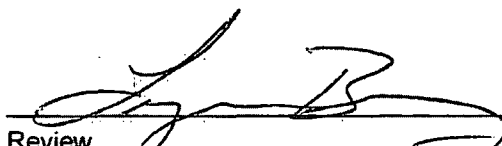
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.3	0.2
Diesel Range (C10 - C28)	0.8	0.1
Total Petroleum Hydrocarbons	6.1	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst

Review



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #5B	Date Reported:	06-21-10
Laboratory Number:	54541	Date Sampled:	06-02-10
Chain of Custody No:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	3.7	0.2
Diesel Range (C10 - C28)	0.4	0.1
Total Petroleum Hydrocarbons	4.1	0.2

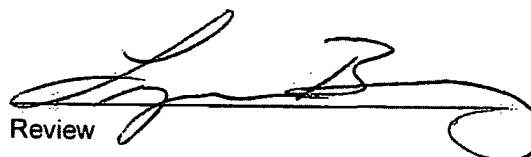
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #10A	Date Reported:	06-21-10
Laboratory Number:	54542	Date Sampled:	06-02-10
Chain of Custody No:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	0.2	0.2
Diesel Range (C10 - C28)	1.0	0.1
Total Petroleum Hydrocarbons	1.2	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review



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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #9A	Date Reported:	06-21-10
Laboratory Number:	54543	Date Sampled:	06-02-10
Chain of Custody No:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.5	0.2
Diesel Range (C10 - C28)	0.2	0.1
Total Petroleum Hydrocarbons	5.7	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**

Analyst

Review

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

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #1B	Date Reported:	06-21-10
Laboratory Number:	54544	Date Sampled:	06-02-10
Chain of Custody No:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-04-10
Preservative:	Cool	Date Analyzed:	06-05-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.4	0.2
Diesel Range (C10 - C28)	0.2	0.1
Total Petroleum Hydrocarbons	5.6	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst

Review

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

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-05-10 QA/QC	Date Reported:	06-21-10
Laboratory Number:	0605 REC	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-05-10
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9960E+002	1.0000E+003	0.04%	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	3.2	3.9	21.9%	0 - 30%
Diesel Range C10 - C28	55.8	52.1	6.6%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	3.2	250	248	97.9%	75 - 125%
Diesel Range C10 - C28	55.8	250	339	111%	75 - 125%

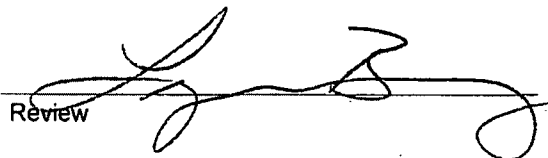
ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 54529-54533 and 54540-54544.



Analyst



Review



**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #6A	Date Reported:	06-21-10
Laboratory Number:	54540	Date Sampled:	06-02-10
Chain of Custody:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.3	0.9
Toluene	1.6	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	5.3	1.2
o-Xylene	1.9	0.9
Total BTEX	10.1	

ND - Parameter not detected at the stated detection limit.

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

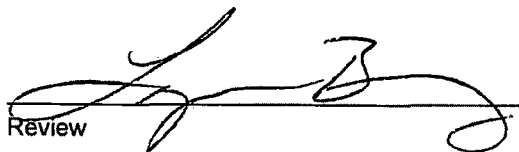
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: **Kutz Plant Pond**



Analyst



Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #5B	Date Reported:	06-21-10
Laboratory Number:	54541	Date Sampled:	06-02-10
Chain of Custody:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	5.8	1.0
Ethylbenzene	4.6	1.0
p,m-Xylene	35.3	1.2
o-Xylene	9.5	0.9
Total BTEX	55.2	

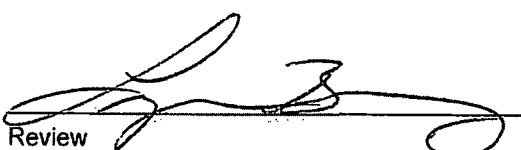
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	109 %
	1,4-difluorobenzene	107 %
	Bromochlorobenzene	112 %

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: **Kutz Plant Pond**

Analyst

Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #10A	Date Reported:	06-21-10
Laboratory Number:	54542	Date Sampled:	06-02-10
Chain of Custody:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	3.2	0.9
Toluene	11.6	1.0
Ethylbenzene	16.3	1.0
p,m-Xylene	96.2	1.2
o-Xylene	37.2	0.9
Total BTEX	165	

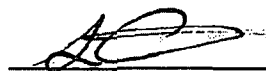
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Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

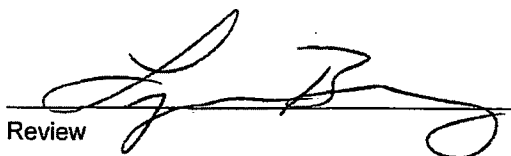
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



Analyst



Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #9A	Date Reported:	06-21-10
Laboratory Number:	54543	Date Sampled:	06-02-10
Chain of Custody:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.6	0.9
Toluene	3.1	1.0
Ethylbenzene	5.8	1.0
p,m-Xylene	27.7	1.2
o-Xylene	10.5	0.9
Total BTEX	48.7	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	108 %
	1,4-difluorobenzene	104 %
	Bromochlorobenzene	108 %

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: Kutz Plant Pond



Analyst

Review



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**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0159
Sample ID:	Sec. #1B	Date Reported:	06-21-10
Laboratory Number:	54544	Date Sampled:	06-02-10
Chain of Custody:	9518	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-05-10
Preservative:	Cool	Date Extracted:	06-04-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	9.4	0.9
Toluene	11.2	1.0
Ethylbenzene	9.8	1.0
p,m-Xylene	35.3	1.2
o-Xylene	20.9	0.9
Total BTEX	86.6	

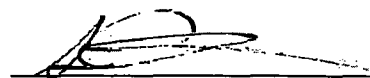
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Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	100 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	100 %

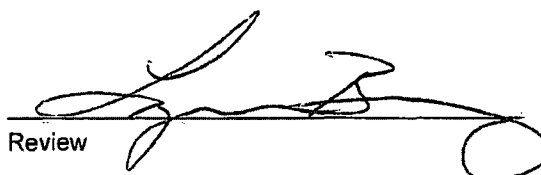
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: **Kutz Plant Pond**



Analyst



Review

**EPA METHOD 8021
 AROMATIC VOLATILE ORGANICS**

Client:	N/A	Project #:	N/A
Sample ID:	0605BBLK QA/QC	Date Reported:	06-21-10
Laboratory Number:	54529	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-05-10
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	F-Cal RF	C-Cal RF	%Diff	Blank Conc	Detect Limit
		Accept Range 0 - 15%			
Benzene	1.1732E+006	1.1756E+006	0.2%	ND	0.1
Toluene	1.0820E+006	1.0842E+006	0.2%	ND	0.1
Ethylbenzene	9.7904E+005	9.8100E+005	0.2%	ND	0.1
p,m-Xylene	2.4131E+006	2.4179E+006	0.2%	ND	0.1
o-Xylene	8.7859E+005	8.8035E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	3.9	3.2	17.9%	0 - 30%	0.9
Toluene	10.2	9.8	3.9%	0 - 30%	1.0
Ethylbenzene	3.2	2.7	15.6%	0 - 30%	1.0
p,m-Xylene	8.9	7.5	15.7%	0 - 30%	1.2
o-Xylene	8.2	6.0	26.8%	0 - 30%	0.9

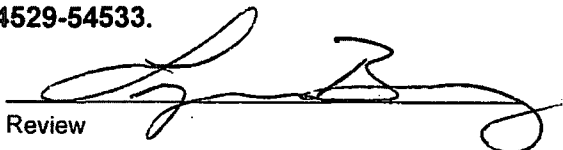
Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	3.9	50.0	47.8	88.6%	39 - 150
Toluene	10.2	50.0	51.2	85.0%	46 - 148
Ethylbenzene	3.2	50.0	51.2	96.3%	32 - 160
p,m-Xylene	8.9	100	102	93.3%	46 - 148
o-Xylene	8.2	50.0	51.7	88.8%	46 - 148

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 54540-54544 and 54529-54533.


 Analyst


 Review

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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec: # 7A	Date Reported:	06-15-10
Laboratory Number:	54545	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	73.4	0.1
Total Petroleum Hydrocarbons	73.4	0.2

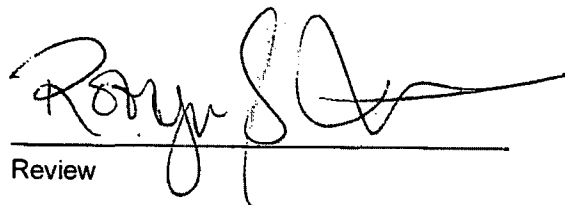
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 5A	Date Reported:	06-15-10
Laboratory Number:	54546	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.7	0.2
Diesel Range (C10 - C28)	35.7	0.1
Total Petroleum Hydrocarbons	41.4	0.2

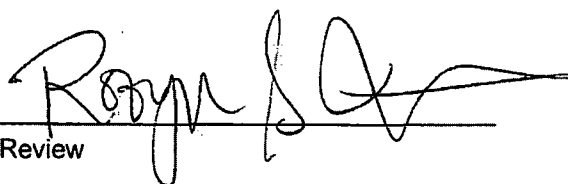
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 4B	Date Reported:	06-15-10
Laboratory Number:	54547	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	Intact	Analysis Requested:	8015 TPH

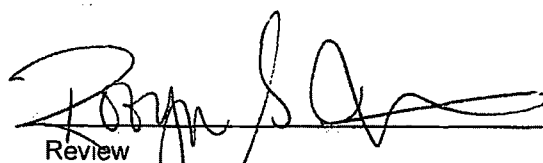
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.7	0.2
Diesel Range (C10 - C28)	9.8	0.1
Total Petroleum Hydrocarbons	11.5	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst

Review

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

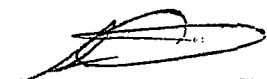
Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 3A	Date Reported:	06-15-10
Laboratory Number:	54548	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	10 Jun 2010
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	28.9	0.2
Diesel Range (C10 - C28)	44.5	0.1
Total Petroleum Hydrocarbons	73.4	0.2

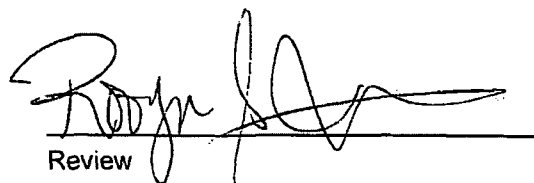
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 4A	Date Reported:	06-15-10
Laboratory Number:	54549	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	4.1	0.2
Diesel Range (C10 - C28)	22.2	0.1
Total Petroleum Hydrocarbons	26.3	0.2

ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 8A	Date Reported:	06-15-10
Laboratory Number:	54550	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	1.0	0.2
Diesel Range (C10 - C28)	2.9	0.1
Total Petroleum Hydrocarbons	3.9	0.2

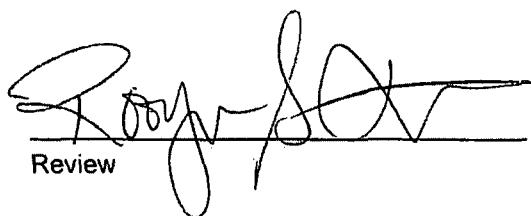
ND - Parameter not detected at the stated detection limit.

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

Comments: **Kutz Plant Pond**



Analyst



Review

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

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	N Wall up to 4' Sec. # 3-8	Date Reported:	06-15-10
Laboratory Number:	54551	Date Sampled:	06-02-10
Chain of Custody No:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Extracted:	06-09-10
Preservative:	Cool	Date Analyzed:	06-10-10
Condition:	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: **Kutz Plant Pond**



Analyst

Review

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	06-10-10 QA/QC	Date Reported:	06-15-10
Laboratory Number:	54545	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-10-10
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept. Range
Gasoline Range C5 - C10	05-07-07	9.9960E+002	1.0000E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.9925E+002	9.9965E+002	0.04%	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

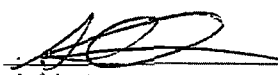
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%
Diesel Range C10 - C28	73.4	59.7	18.7%	0 - 30%

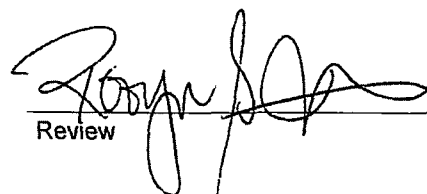
Spike Conc. (mg/Kg)	Sample	Spike/Added	Spike/Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	253	101%	75 - 125%
Diesel Range C10 - C28	73.4	250	246	75.9%	75 - 125%

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 54545-54551, 54596, 54597 and 54619.


 Analyst


 Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 7A	Date Reported:	06-15-10
Laboratory Number:	54545	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	1.2	0.9
Toluene	9.9	1.0
Ethylbenzene	11.8	1.0
p,m-Xylene	245	1.2
o-Xylene	115	0.9
Total BTEX	383	

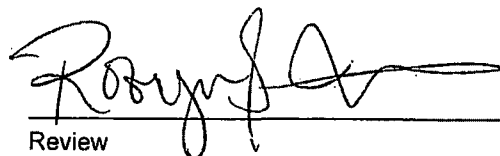
ND - Parameter not detected at the stated detection limit.

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

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

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

Comments: **Kutz Plant Pond**

Analyst

Review

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 5A	Date Reported:	06-15-10
Laboratory Number:	54546	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	9.2	1.0
Ethylbenzene	8.9	1.0
p,m-Xylene	63.1	1.2
o-Xylene	15.0	0.9
Total BTEX	96.2	

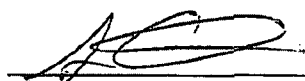
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	104 %
	1,4-difluorobenzene	100 %
	Bromochlorobenzene	105 %

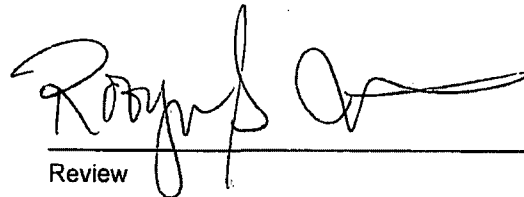
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



Analyst



Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 4B	Date Reported:	06-15-10
Laboratory Number:	54547	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	ND	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	ND	0.9
Total BTEX	ND	

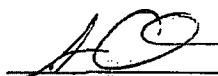
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	107 %
	1,4-difluorobenzene	105 %
	Bromochlorobenzene	108 %

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: Kutz Plant Pond



Analyst

Review

**EPA METHOD 8021
 AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 3A	Date Reported:	06-15-10
Laboratory Number:	54548	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	14.1	1.0
Ethylbenzene	7.3	1.0
p,m-Xylene	111	1.2
o-Xylene	35.5	0.9
Total BTEX	168	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	116 %
	1,4-difluorobenzene	113 %
	Bromochlorobenzene	111 %

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: **Kutz Plant Pond**


 Analyst


 Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 4A	Date Reported:	06-15-10
Laboratory Number:	54549	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	4.3	0.9
Toluene	12.4	1.0
Ethylbenzene	11.3	1.0
p,m-Xylene	82.9	1.2
o-Xylene	31.7	0.9
Total BTEX	143	

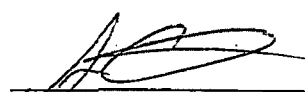
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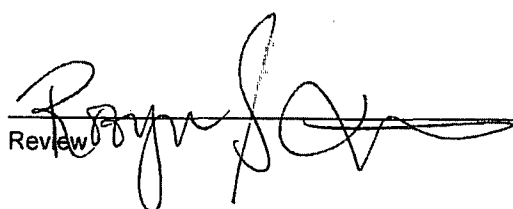
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	105 %
	1,4-difluorobenzene	103 %
	Bromochlorobenzene	109 %

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: Kutz Plant Pond



Analyst

Review

**EPA METHOD 8021
AROMATIC VOLATILE ORGANICS**

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	Sec. # 8A	Date Reported:	06-15-10
Laboratory Number:	54550	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	ND	0.9
Toluene	5.1	1.0
Ethylbenzene	3.0	1.0
p,m-Xylene	17.3	1.2
o-Xylene	9.9	0.9
Total BTEX	35.3	

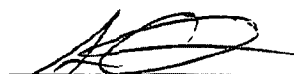
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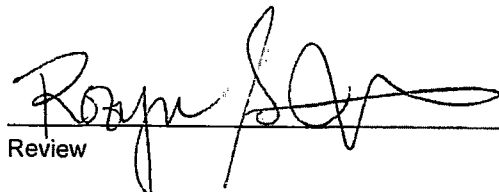
Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	117 %
	1,4-difluorobenzene	114 %
	Bromochlorobenzene	111 %

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: Kutz Plant Pond


 Analyst


 Review

Client:	Williams Field Service	Project #:	00068-0142
Sample ID:	N Wall up to 4' Sec. #3-8	Date Reported:	06-15-10
Laboratory Number:	54551	Date Sampled:	06-02-10
Chain of Custody:	9519	Date Received:	06-02-10
Sample Matrix:	Soil	Date Analyzed:	06-10-10
Preservative:	Cool	Date Extracted:	06-09-10
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	5.3	0.9
Toluene	3.2	1.0
Ethylbenzene	ND	1.0
p,m-Xylene	ND	1.2
o-Xylene	4.6	0.9
Total BTEX	13.1	

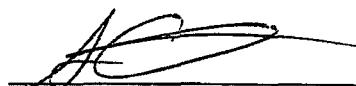
ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	105 %
	1,4-difluorobenzene	103 %
	Bromochlorobenzene	100 %

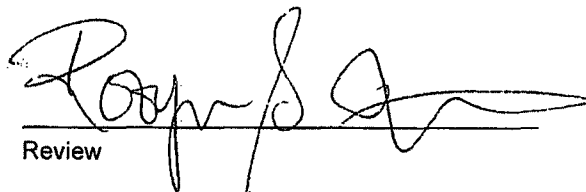
References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

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

Comments: Kutz Plant Pond



Analyst



Review

Client:	N/A	Project #:	N/A
Sample ID:	0610BBLK QA/QC	Date Reported:	06-15-10
Laboratory Number:	54596	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	06-10-10
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	1.4079E+006	1.4107E+006	0.2%	ND	0.1
Toluene	1.2853E+006	1.2879E+006	0.2%	ND	0.1
Ethylbenzene	1.1497E+006	1.1520E+006	0.2%	ND	0.1
p,m-Xylene	2.8774E+006	2.8832E+006	0.2%	ND	0.1
o-Xylene	1.0454E+006	1.0475E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff	Accept Range	Detect Limit
Benzene	7.7	7.0	9.1%	0 - 30%	0.9
Toluene	6.3	4.7	25.4%	0 - 30%	1.0
Ethylbenzene	6.5	7.6	16.9%	0 - 30%	1.0
p,m-Xylene	217	212	2.2%	0 - 30%	1.2
o-Xylene	56.7	50.6	10.8%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	%Recovery	Accept Range
Benzene	7.7	50.0	48.2	83.6%	39 - 150
Toluene	6.3	50.0	53.1	94.2%	46 - 148
Ethylbenzene	6.5	50.0	52.6	93.1%	32 - 160
p,m-Xylene	217	100	314	99.1%	46 - 148
o-Xylene	56.7	50.0	97.0	90.9%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 54545-54551, 54619, 54596, and 54597.


 Analyst

Review

CHAIN OF CUSTODY RECORD

Client:				ANALYSIS / PARAMETERS										Date		Time								
Project Name / Location:																								
Client Address:																								
Sampler Name:																								
Client No.:																								
Sample No. / Identification				Sample Date	Sample Time	Lab No.	Sample Matrix	No. / Volume of Containers	Preservative			TPH (Method 8015)	BTX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact	
Sec. # 7A				6/2/10	13:30	54545	Soil	Sludge Aqueous	1/4oz				X	X									X	X
Sec. # 5A						54546	Soil	Sludge Aqueous				X	X									X	X	
Sec. # 4B						54547	Soil	Sludge Aqueous				X	X									X	X	
Sec. # 3A						54548	Soil	Sludge Aqueous				X	X									X	X	
Sec. # 4A						54549	Soil	Sludge Aqueous				X	X									X	X	
Sec. # 8A						54550	Soil	Sludge Aqueous				X	X									X	X	
N Wall up to 4' Sec. # 3-8						54551	Soil	Sludge Aqueous				X	X									X	X	
Relinquished by: (Signature)				Date	Time	Received by: (Signature)	Time	Received by: (Signature)	Date	Time	Received by: (Signature)	Time	Received by: (Signature)	Date	Time	Received by: (Signature)	Time	Received by: (Signature)	Date	Time	Received by: (Signature)	Time	Received by: (Signature)	
Sarah Rowland				6/2/10	15:45																			
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August 26, 2011

Project Number 00068-0191

Ms. Carol Cauthen
Williams Field Services
P.O. Box 21218
Tulsa, Oklahoma 74121-1218

Phone: (505) 632-4704
Cell: (505) 947-2129

RE: CHLORIDE SAMPLING DOCUMENTATION FOR THE KUTZ PLANT, SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Cauthen:

Enclosed please find analytical results for the chloride sampling activities performed at the Kutz Plant located in Section 25, Township 26 North, Range 4 West, San Juan County, New Mexico. Six (6) composite samples were collected from various cell locations; see enclosed *Site Map*. The samples were placed into four (4)-ounce glass jars, and transported on ice, under chain of custody, to Envirotech's Analytical Laboratory to be analyzed for Chlorides (Cl-) using USEPA Method 4500B. The samples returned results below the regulatory standards for Cl-; see enclosed *Analytical Results*. Envirotech, Inc. recommends no further action in regards to this incident.

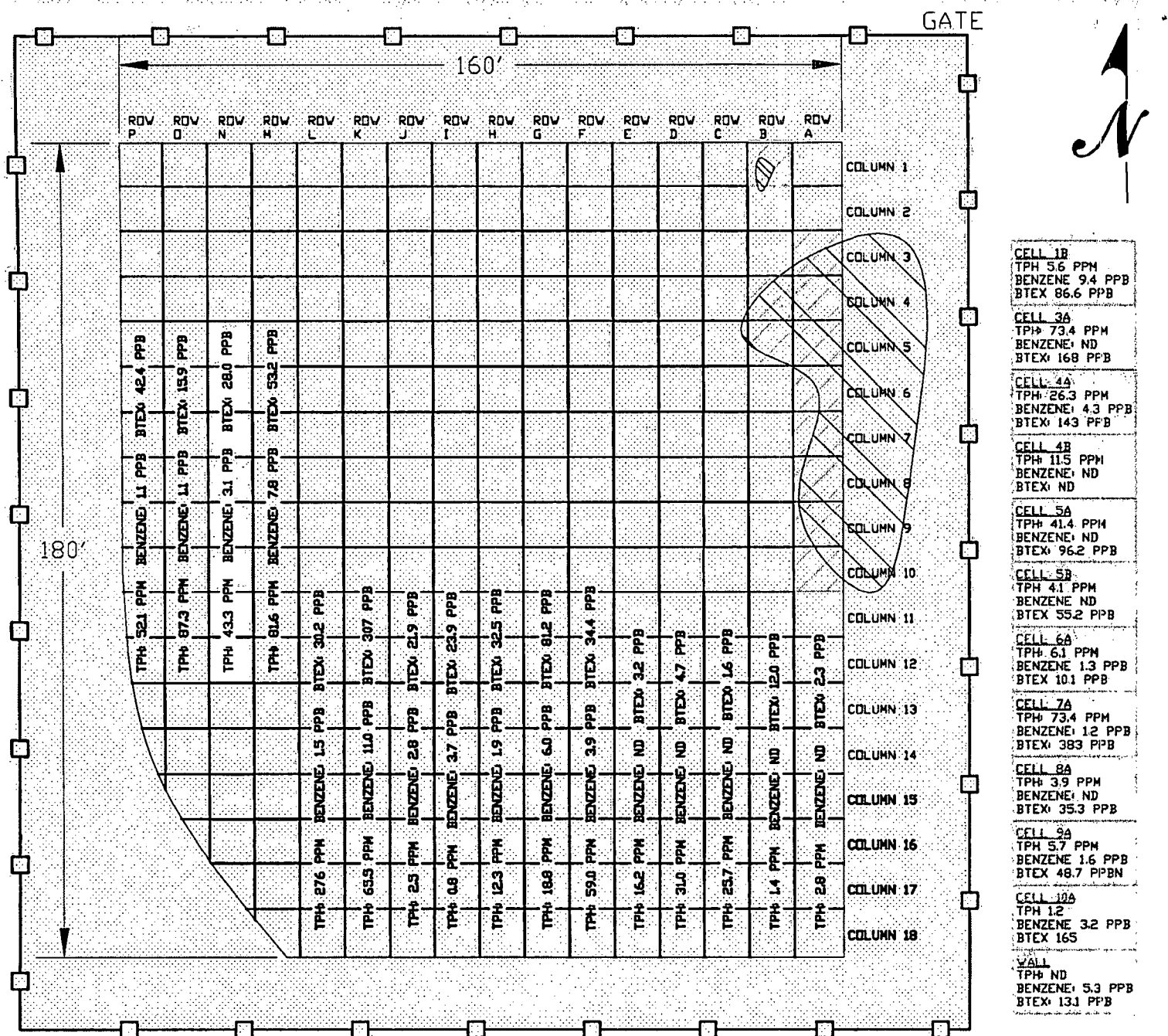
We appreciate the opportunity to be of service. Should you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,
ENVIROTECH, INC.


Toni McKnight, EIT
Environmental Project Manager
tmcknight@envirotech-inc.com

Enclosure(s): Site Map
Analytical Results

Cc: Client File 00068



LEGEND

- FENCE
- EDGE OF FLAT BOTTOM OF FORMER POND - 8' BGS
- ROW P 10' WIDE ROWS
- COLUMN 18 10' WIDE COLUMNS
- OBSERVED STAINING
- SAMPLED SEPARATELY

SITE MAP WILLIAMS FIELD SERVICE KUTZ PLANT EVAPORATION POND CLOSURE SAMPLING

SCALE:	FIGURE NO. 1	REV
PROJECT N000068-0159		
REVISIONS		
NO.	DATE	BY
MAP DRWN	SR	6/21/10
BASE DRWN		
DESCRIPTION		

envirotech

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



envirotech
Analytical Laboratory

Chloride

Client: Williams Field Service
Sample ID: Cell 1B
Lab ID#: 58892
Sample Matrix: Soil
Preservative: Cool
Condition: Intact

Project #: 00068-0191
Date Reported: 07/13/11
Date Sampled: 07/11/11
Date Received: 07/11/11
Date Analyzed: 07/13/11
Chain of Custody: 12159

Parameter	Concentration (mg/Kg)
Total Chloride	30

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:

Kutz Plant.

Analyst

Review



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Analytical Laboratory

Chloride

Client:	Williams Field Service	Project #:	00068-0191
Sample ID:	Cells 3A & 4A	Date Reported:	07/13/11
Lab ID#:	58893	Date Sampled:	07/11/11
Sample Matrix:	Soil	Date Received:	07/11/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12159

Parameter	Concentration (mg/Kg)
-----------	-----------------------

Total Chloride

50

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:

Kutz Plant.

Analyst

Review



envirotech
Analytical Laboratory

Chloride

Client:	Williams Field Service	Project #:	00068-0191
Sample ID:	Cells 4B & 5B	Date Reported:	07/13/11
Lab ID#:	58894	Date Sampled:	07/11/11
Sample Matrix:	Soil	Date Received:	07/11/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12159

Parameter	Concentration (mg/Kg)
-----------	-----------------------

Total Chloride

10

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:

Kutz Plant.

Analyst

Review



envirotech
Analytical Laboratory

Chloride

Client: Williams Field Service
Sample ID: Cells 5A & 6A
Lab ID#: 58895
Sample Matrix: Soil
Preservative: Cool
Condition: Intact

Project #: 00068-0191
Date Reported: 07/13/11
Date Sampled: 07/11/11
Date Received: 07/11/11
Date Analyzed: 07/13/11
Chain of Custody: 12159

Parameter	Concentration (mg/Kg)
Total Chloride	30

Reference:

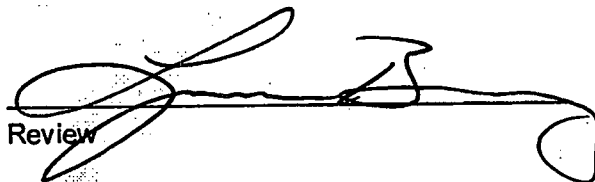
U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments:

Kutz Plant.



Analyst



Review



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Analytical Laboratory

Chloride

Client:	Williams Field Service	Project #:	00068-0191
Sample ID:	Cells 7A & 8A	Date Reported:	07/13/11
Lab ID#:	58896	Date Sampled:	07/11/11
Sample Matrix:	Soil	Date Received:	07/11/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12159

Parameter	Concentration (mg/Kg)
-----------	-----------------------

Total Chloride

30

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: **Kutz Plant.**

Analyst

Review



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Analytical Laboratory

Chloride

Client:	Williams Field Service	Project #:	00068-0191
Sample ID:	Cells 9A & 10A	Date Reported:	07/13/11
Lab ID#:	58897	Date Sampled:	07/11/11
Sample Matrix:	Soil	Date Received:	07/11/11
Preservative:	Cool	Date Analyzed:	07/13/11
Condition:	Intact	Chain of Custody:	12159

Parameter	Concentration (mg/Kg)
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Total Chloride

20

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: **Kutz Plant.**

Analyst

Review

CHAIN OF CUSTODY RECORD

12159

Client: Williams Field Service		Project Name / Location: KUTZ PLANT		ANALYSIS / PARAMETERS														
Client Address:		Sampler Name: T. McNEIGH																
Client Phone No.:		Client No.: 00068-0191																
Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	Sample Cool	Sample Intact
Cell 1B	7/11/11	15:00	58892	Soil Aqueous	1/402		✓									✓	✓	✓
Cells 3A & 4A	7/11/11	15:05	58893	Soil Aqueous	1/462		✓									✓	✓	✓
Cells 4B & 5B	7/11/11	15:10	58894	Soil Aqueous	1/462		✓									✓	✓	✓
Cells 5A & 6A	7/11/11	15:15	58895	Soil Aqueous	1/402		✓									✓	✓	✓
Cells 7A & 8A	7/11/11	15:20	58896	Soil Aqueous	1/402		✓									✓	✓	✓
Cells 9A & 10A	7/11/11	15:25	58897	Soil Aqueous	1/402		✓									✓	✓	✓
				Soil Aqueous														
				Soil Aqueous														
				Soil Aqueous														
				Soil Aqueous														
Relinquished by: (Signature)				Date	Time	Received by: (Signature)											Date	Time
Relinquished by: (Signature)				7/11/11	16:35	Received by: (Signature)											7/11/11	16:35
Relinquished by: (Signature)						Received by: (Signature)												



Attachment B

Photographs

Photographic Log



Photograph 1: Eastern portion of the waste water evaporation pond after removal of fluids and a majority of the sludge/sediment. Pond liner still in place. Facing South.



Photograph 2: Western portion of the waste water evaporation pond after removal of fluids and a majority of the sludge/sediment. Pond liner still in place. Facing Southwest.

Photographic Log



Photograph 3: Eastern portion of the waste water evaporation pond after removal of pond liner. Facing North.



Photograph 4: Western portion of the waste water evaporation pond after removal of pond liner. Facing Northwest.