

**3R - 433**

**SEP 2009**

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**11/17/2009**

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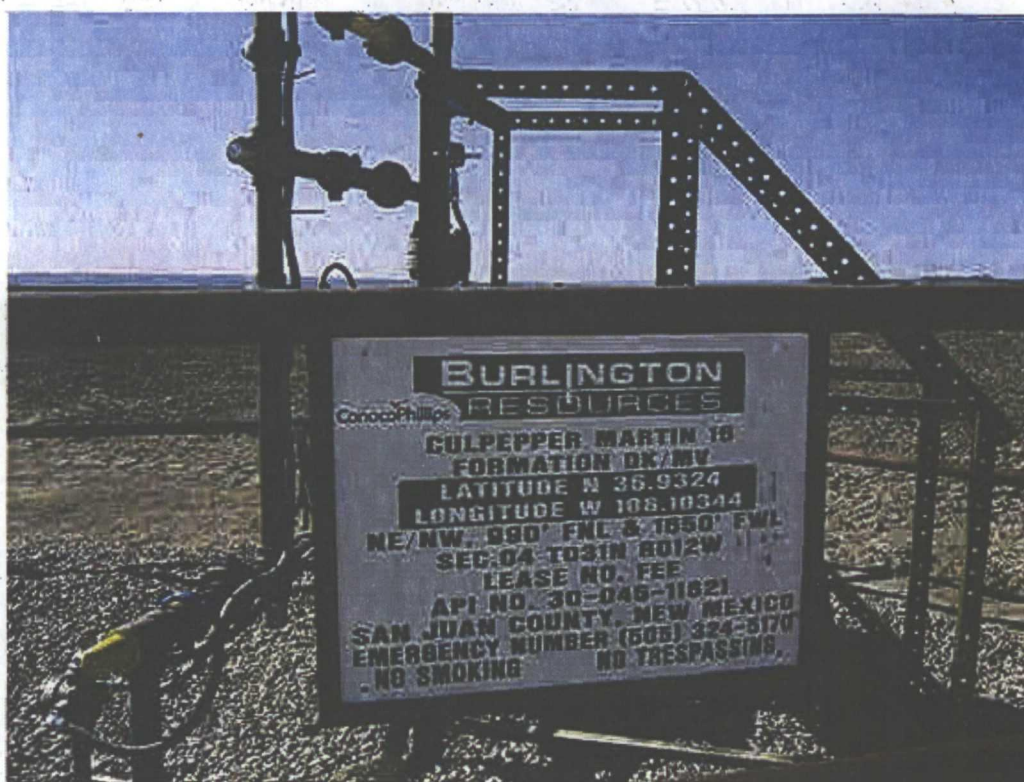


# envirotech

## CONFIRMATION SAMPLING REPORT

LOCATED AT:  
BURLINGTON RESOURCES  
CULPEPPER MARTIN #16  
SECTION 4, TOWNSHIP 31N, RANGE 12W  
SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:  
CONOCOPHILLIPS  
MS. GWEN FROST  
3401 EAST 30<sup>TH</sup> STREET  
FARMINGTON, NEW MEXICO 87401



PROJECT NO. 92115-1095  
SEPTEMBER 2009



November 17, 2009

Project No. 92115-1095

Ms. Gwen Frost  
ConocoPhillips  
3401 East 30<sup>th</sup> Street  
Farmington, New Mexico 87401

Phone (505) 599-3403

**RE: CONFIRMATION SAMPLING REPORT FOR THE CULPEPPER MARTIN #16 WELL SITE, SAN JUAN COUNTY, NEW MEXICO**

Dear Ms. Frost,

Enclosed please find one (1) original and one (1) copy of the report entitled *Confirmation Sampling Report* detailing confirmation sampling activities located at the Burlington Resources Culpepper Martin #16 well site located in Section 4, Township 31N, Range 12W, San Juan County, New Mexico.

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.**

A handwritten signature in dark ink, appearing to read "James McDaniel", written over a horizontal line.

James McDaniel  
Project Scientist  
[jmcdaniel@envirotech-inc.com](mailto:jmcdaniel@envirotech-inc.com)

Enclosures: Two (2) Reports

Cc: Client File No. 92115

**CONOCOPhillips**  
**CONFIRMATION SAMPLING REPORT**  
**LOCATED AT**  
**BURLINGTON RESOURCES**  
**CULPEPPER MARTIN #16**  
**SECTION 4, TOWNSHIP 31N, RANGE 12W**  
**SAN JUAN COUNTY, NEW MEXICO**

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## INTRODUCTION

Envirotech, Inc. of Farmington, New Mexico, was contracted by ConocoPhillips to perform confirmation sampling activities at the Burlington Resources Culpepper Martin #16 well site located in Section 4, Township 31N, Range 12W, San Juan County, New Mexico; see **Figure 1, Vicinity Map**. Historical contamination was encountered on this site during upgrade activities. Confirmation sampling activities included sample collection, analysis, documentation and reporting.

## ACTIVITIES PERFORMED

Envirotech, Inc. was contacted on September 9, 2009, with a non-emergency request to respond to an excavation of historical contamination at the above mentioned location. On September 9, 2009, an Envirotech, Inc. scientist was on site to begin confirmation sampling activities. Upon arrival, a brief site assessment was conducted, and the site was ranked a 20 according to the New Mexico Oil Conservation Division (NMOCD) Guidelines for the Remediation of Leaks, Spills, and Releases. This was due to a wash at approximately 300 feet to the north of the site, and a depth to groundwater of less than 100 feet below ground surface (BGS). This set the closure standard for this site to 100 ppm total petroleum hydrocarbons (TPH) and 100 ppm organic vapors (OV). Prior to Envirotech's arrival, the contaminated area had been excavated to extents of approximately 30' x 33' x 25' deep by M&M Trucking. Five (5) samples were collected from this excavation. One (1) sample was collected from each of the four (4) walls and one (1) sample was collected from the bottom at 25' BGS. Each sample was analyzed in the field for TPH via USEPA Method 418.1 and for OV using a Photo-Ionization Detector (PID). The samples collected from the north wall, the west wall, and the south wall all returned results below the 100 ppm standard for TPH and OV; see enclosed **Table 1, Analytical Results** and **Appendix A, Analytical Results**. Samples collected from the bottom and the east wall returned results above the 100 ppm TPH standard and the 100 ppm OV standard; see enclosed **Table 1, Analytical Results** and **Appendix A, Analytical Results**. The samples collected from the east wall and the bottom were then collected into four (4)-ounce glass jars, capped headspace free, and transported with ice under chain of custody to Envirotech's laboratory for further analysis. The sample collected from the east wall was analyzed for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) via USEPA Method 8015, while the sample collected from the bottom was analyzed for DRO/GRO via USEPA Method 8015 and benzene, toluene, ethylbenzene, and total xylenes (BTEX) via USEPA Method 8021. Both samples returned results above the 100 ppm DRO/GRO standard determined for this site, and the sample collected from the bottom returned results above the 50 ppm standard for total BTEX at 146 ppm. Additional excavation would have to be performed.

On September 28, 2009, Envirotech, Inc. returned to the site to continue confirmation sampling activities. Prior to Envirotech's arrival, the excavation had been extended by M&M Trucking to extents of approximately 63' x 33' x 33' deep; see enclosed **Figure 2, Site Map**. Two (2) samples were collected from the excavation. One (1) sample was collected from the east wall, which had been excavated approximately 30' from its extents during the previous visit, and one (1) sample was collected from the bottom at 33' deep. Both samples were analyzed in the field

for TPH via USEPA Method 418.1 and for OV using a PID. The sample collected from the east wall returned results below the 100 ppm TPH standard and the 100 ppm OV standard; see enclosed *Table 1, Analytical Results* and *Appendix A, Analytical Results*. The sample collected from the bottom at 33' returned results above the 100 ppm TPH and the 100 ppm OV standards determined for this site; see *Table 1, Analytical Results* and *Appendix A Analytical Results*. Due to the depth of the impacts, excavation could not safely continue beyond this depth.

All accessible contaminated material was removed and transported to IEI's NMOCD Permitted Soil Remediation Facility located near Crouch Mesa, New Mexico; see enclosed *Appendix B, Bill of Lading*.

#### SUMMARY AND CONCLUSIONS

Confirmation sampling activities were performed at the Burlington Resources Culpepper Martin #16 well site located in Section 4, Township 31N, Range 12W, San Juan County, New Mexico. All accessible contaminated soil was transported to IEI's NMOCD Permitted Soil Remediation Facility near Crouch Mesa, New Mexico. Envirotech, Inc. recommends that borings be conducted in the spill area to assess the extents of contamination, and an alternative remediation method be explored.

#### STATEMENT OF LIMITATIONS

Envirotech, Inc. has completed the confirmation sampling activities for a historical release located at the Burlington Resources Culpepper Martin #16 well site located in Section 4, Township 31N, Range 12W, San Juan County, New Mexico. The work and services provided by Envirotech, Inc. were in accordance with the New Mexico Oil Conservation Division standards. All observations and conclusions provided here are based on the information and current site conditions found at the site of the incident.

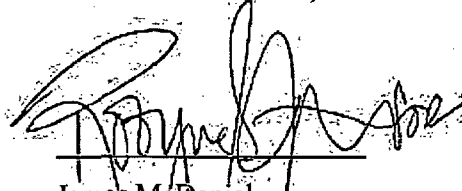
The undersigned has conducted this service at the above referenced site. This work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry, and hydrogeology.

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.

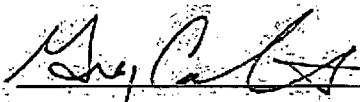
Respectfully Submitted,

Reviewed by:

ENVIROTECH, INC.



James McDaniel  
Project Scientist  
[jmcdaniel@envirotech-inc.com](mailto:jmcdaniel@envirotech-inc.com)



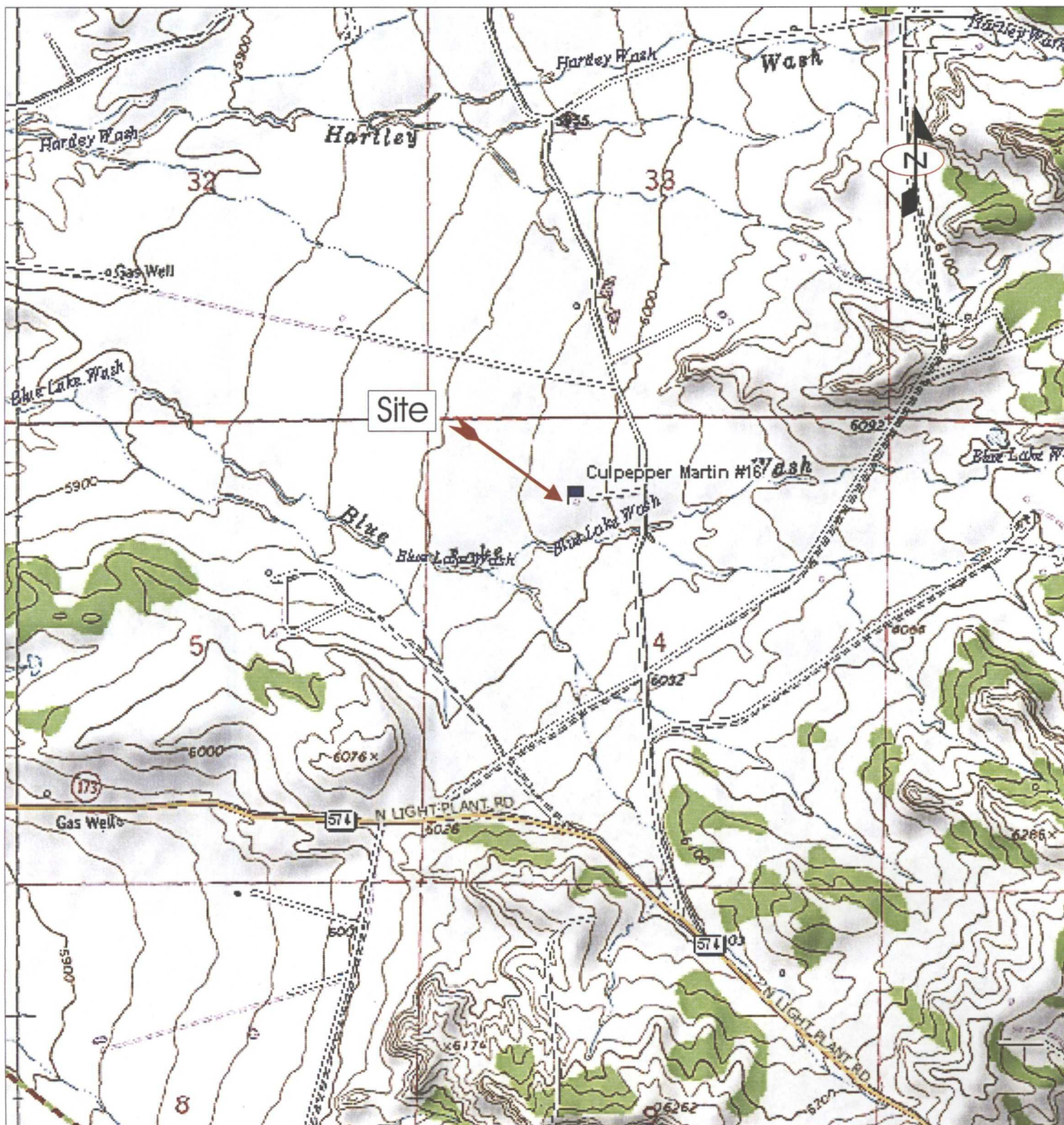
Greg Crabtree, EIT  
Project Engineer/Manager  
[gcrabtree@envirotech-inc.com](mailto:gcrabtree@envirotech-inc.com)

**FIGURES**

Figure 1, Vicinity Map

Figure 2, Site Map





Source: Aztec, New Mexico 7.5 Minute U.S.G.S. Topographic Quadrangle Map  
 Scale: 1:24,000 1" = 2000'

Burlington Resources  
 Culpepper Martin #16  
 Section 04, Township 31N, Range 12W  
 San Juan County, NM

PROJECT No 92115-1095 Date Drawn: 10/13/09

## ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS  
 5796 U.S. HIGHWAY 64  
 FARMINGTON, NEW MEXICO 87401

PHONE (505) 632-0615

Vicinity Map

Figure 1

DRAWN BY:  
 Toni McKnight

PROJECT MANAGER:  
 Greg Crabtree

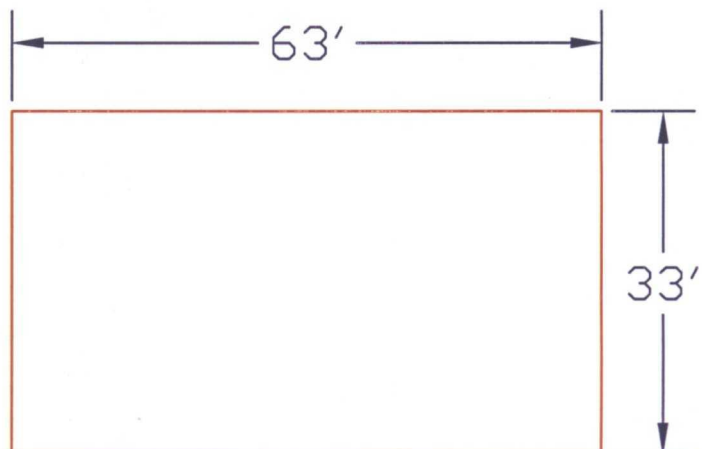




AST



SEP



## LEGEND

⊕ Well Head

□ Excavation Area

□ Fencing

## Site Map

ConocoPhillips  
Culpepper Martin #16  
Sec 04, Twp 31N, Rng 12W

SCALE: NTS

PROJECT NO92115-1095

FIGURE NO. 2

REV

### REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP	DRWN	JPM	DATE 10/19/09



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

## TABLES

Table 1, Analytical Results

**Table 1, Analytical Results**  
 ConocoPhillips  
 Confirmation Sampling Report  
 Culpepper Martin #16  
 Project No. 92115-1095  
 September 2009

Sample Number	Sample Description	Date	BTEX (ppm) EPA Method 8021	Benzene (ppm) EPA Method 8021	TPH (ppm) EPA Method 418.1	Organic Vapors (ppm)	DRO/GRO (ppm) EPA Method 8015
NA	NMOCD Standards	NA	50	10	100	100	100
1	Bottom Composite @ 25'	9/9/2009	146	2.8	4,210	1,061	13,900
2	Wall #1 (North)	9/9/2009	NS	NS	48	5.9	NS
3	Wall #2 (West)	9/9/2009	NS	NS	64	7.2	NS
4	Wall #3 (East)	9/9/2009	NS	NS	1,330	381	732
5	Wall #4 (South)	9/9/2009	NS	NS	68	4	NS
1	Bottom Composite (33')	9/28/2009	174	10.4	3,200	1,794	15,400
2	East Wall	9/28/2009	NS	NS	20	4.1	NS

**APPENDIX A**

**Analytical Results**



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client:	Burlington	Project #:	92115-1095
Sample No.:	1	Date Reported:	10/19/2009
Sample ID:	Bottom @ 25' BGS	Date Sampled:	9/9/2009
Sample Matrix:	Soil	Date Analyzed:	9/9/2009
Preservative:	Cool	Analysis Needed:	TPH-418.1
Condition:	Cool and Intact		


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	4,210	5.0

ND = Parameter not detected at the stated detection limit.

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

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
Printed

  
Review

Sherry Auckland  
Printed





EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: Burlington  
Sample No.: 2  
Sample ID: Wall #1 (North)  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/19/2009  
Date Sampled: 9/9/2009  
Date Analyzed: 9/9/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----------	--------------------------	--------------------------

Total Petroleum Hydrocarbons

48


5.0

ND = Parameter not detected at the stated detection limit.


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

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
Printed

  
Review

Sherry Auckland  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: Burlington  
Sample No.: 3  
Sample ID: Wall #2 (West)  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/19/2009  
Date Sampled: 9/9/2009  
Date Analyzed: 9/9/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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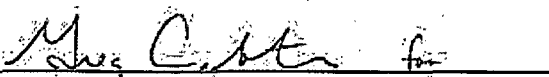
Total Petroleum Hydrocarbons	64	5.0
------------------------------	----	-----

ND = Parameter not detected at the stated detection limit.

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

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
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Sherry Auckland  
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EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: Burlington  
Sample No.: 4  
Sample ID: Wall #3 (East)  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/19/2009  
Date Sampled: 9/9/2009  
Date Analyzed: 9/9/2009  
Analysis Needed: TPH-418.1


Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,330	5.0

ND = Parameter not detected at the stated detection limit.

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

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
Printed

  
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Sherry Auckland  
Printed



EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Client: Burlington  
Sample No.: 5  
Sample ID: Wall #4 (South)  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/19/2009  
Date Sampled: 9/9/2009  
Date Analyzed: 9/9/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
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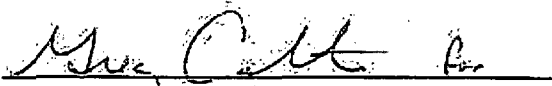
Total Petroleum Hydrocarbons	68	5.0
------------------------------	----	-----

ND = Parameter not detected at the stated detection limit.

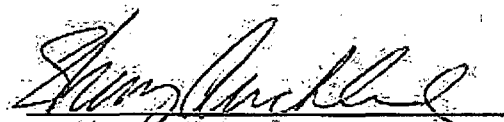
References: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No. 4551, 1978.

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
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Sherry Auckland  
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CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 9-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	
	200	190
	500	
	1000	

The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

Maria Cabete  
Analyst

11/17/09  
Date

Scott Gonzales  
Print Name

Sherry Auckland  
Review

11/17/09  
Date

Sherry Auckland  
Print Name





**envirotech**  
Analytical Laboratory

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

Client:	Burlington	Project #:	92115-1095
Sample ID:	East Wall Comp	Date Reported:	09-14-09
Laboratory Number:	51600	Date Sampled:	09-09-09
Chain of Custody No:	7939	Date Received:	09-11-09
Sample Matrix:	Soil	Date Extracted:	09-11-09
Preservative:	Cool	Date Analyzed:	09-14-09
Condition:	Intact	Analysis Requested:	8015 TPH

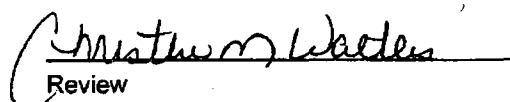
Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	301	0.2
Diesel Range (C10 - C28)	431	0.1
Total Petroleum Hydrocarbons	732	0.2

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: **Culpepper Martin #16**

  
Analyst

  
Review



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Analytical Laboratory

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

### Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-14-09 QA/QC	Date Reported:	09-14-09
Laboratory Number:	51583	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-14-09
Condition:	N/A	Analysis Requested:	TPH

	Lab Date	Lab RE	Lab RE	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.0738E+003	1.0742E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.0788E+003	1.0792E+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	ND	ND	0.0%	0 - 30%

Spike Conc. (mg/kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	248	99.2%	75 - 125%
Diesel Range C10 - C28	ND	250	257	103%	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 51583, 51595, 51598, 51600 - 51602, and 51604.

Analyst

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7039

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**envirotech**  
Analytical Laboratory

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

Client:	Burlington	Project #:	92115-1095
Sample ID:	Bottom @ 25'	Date Reported:	09-14-09
Laboratory Number:	51576	Date Sampled:	09-09-09
Chain of Custody No:	7927	Date Received:	09-09-09
Sample Matrix:	Soil	Date Extracted:	09-10-09
Preservative:	Cool	Date Analyzed:	09-11-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	11,900	0.2
Diesel Range (C10 - C28)	2,030	0.1
Total Petroleum Hydrocarbons	13,900	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: **Culpepper Martin #16**

Analyst

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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:	09-11-09 QA/QC	Date Reported:	09-14-09
Laboratory Number:	51493	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-11-09
Condition:	N/A	Analysis Requested:	TPH

	Lab Data	Cal RE	Cal RE	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.2262E+003	1.2267E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	1.2639E+003	1.2644E+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	ND	ND	0.0%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	ND	250	246	98.4%	75 - 125%
Diesel Range C10 - C28	ND	250	258	103%	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 51493 - 51497, 51574 - 51576, and 51585 - 51586.

Analyst

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Analytical Laboratory

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Burlington	Project #:	92115-1095
Sample ID:	Bottom @ 25'	Date Reported:	09-14-09
Laboratory Number:	51576	Date Sampled:	09-09-09
Chain of Custody:	7927	Date Received:	09-09-09
Sample Matrix:	Soil	Date Analyzed:	09-11-09
Preservative:	Cool	Date Extracted:	09-10-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	2,880	0.9
Toluene	59,000	1.0
Ethylbenzene	10,500	1.0
p,m-Xylene	54,900	1.2
o-Xylene	18,800	0.9
Total BTEX	146,000	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

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

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

Comments: Culpepper Martin #16

Analyst

Review



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Analytical Laboratory

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-11-BT QA/QC	Date Reported:	09-14-09
Laboratory Number:	51493	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-11-09
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	LCAL RE	CCAL RE	% Bias	Blank Score	Detect Limit
	Accept Range 0-15%				

Benzene	2.0127E+006	2.0167E+006	0.2%	ND	0.1
Toluene	1.9208E+006	1.9247E+006	0.2%	ND	0.1
Ethylbenzene	1.7422E+006	1.7457E+006	0.2%	ND	0.1
p,m-Xylene	4.5314E+006	4.5405E+006	0.2%	ND	0.1
o-Xylene	1.6779E+006	1.6813E+006	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	% Diff	Accept Range	Detect Limit
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Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	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	47.4	94.8%	39 - 150
Toluene	ND	50.0	47.7	95.4%	46 - 148
Ethylbenzene	ND	50.0	46.3	92.6%	32 - 160
p,m-Xylene	ND	100	96.2	96.2%	46 - 148
o-Xylene	ND	50.0	46.8	93.6%	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 51493 - 51497, 51574 - 51576, and 51585 - 51586.

Analyst

Review

## 7027

**envirotech**  
Analytical Laboratory

5796 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • lab@envirotech-inc.com



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client: Burlington  
Sample No.: 1  
Sample ID: Bottom Comp  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/1/2009  
Date Sampled: 9/28/2009  
Date Analyzed: 9/28/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----------	--------------------------	--------------------------

Total Petroleum Hydrocarbons	3,200	500.0
------------------------------	-------	-------

ND = Parameter not detected at the stated detection limit.


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

Comments: Culpepper Martin #16

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales  
Printed

  
Review

Toni McKnight  
Printed



**EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS**

Client: Burlington  
Sample No.: 2  
Sample ID: East wall Comp  
Sample Matrix: Soil  
Preservative: Cool  
Condition: Cool and Intact

Project #: 92115-1095  
Date Reported: 10/1/2009  
Date Sampled: 9/28/2009  
Date Analyzed: 9/28/2009  
Analysis Needed: TPH-418.1

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
-----------	--------------------------	--------------------------

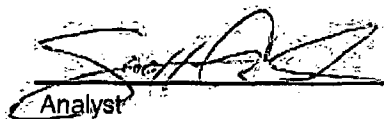
Total Petroleum Hydrocarbons	20	5.0
------------------------------	----	-----

ND = Parameter not detected at the stated detection limit.

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

Comments: **Culpepper Martin #16**

Instrument calibrated to 200 ppm standard. Zeroed before each sample

  
Analyst

Scott Gonzales

Printed

  
Review

Toni McKnight

Printed



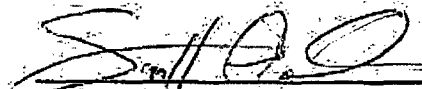


CONTINUOUS CALIBRATION  
EPA METHOD 418.1  
TOTAL PETROLEUM  
HYDROCARBONS

Cal. Date: 28-Sep-09

Parameter	Standard Concentration mg/L	Concentration Reading mg/L
TPH	100	202
	200	
	500	
	1000	

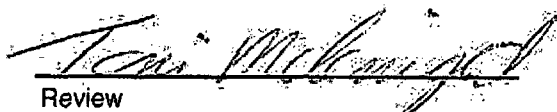
The accepted percent relative deviation (%RSD) of the calibration factor is less than 20% over the working range.

  
\_\_\_\_\_  
Analyst

Scott Gonzales

Print Name

10-1-2009  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Review

Toni McKnight

Print Name

10/2/09  
\_\_\_\_\_  
Date



**envirotech**  
Analytical Laboratory

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

Client:	Burlington	Project #:	92115-1095
Sample ID:	5pt Comp Bottom	Date Reported:	10-01-09
Laboratory Number:	51864	Date Sampled:	09-28-09
Chain of Custody No:	8074	Date Received:	09-28-09
Sample Matrix:	Soil	Date Extracted:	09-29-09
Preservative:	Cool	Date Analyzed:	09-30-09
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	14,300	0.2
Diesel Range (C10 - C28)	1,110	0.1
Total Petroleum Hydrocarbons	15,400	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: Culpepper Martin #16

Analyst

Review



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Analytical Laboratory

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

### Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-30-09 QA/QC	Date Reported:	10-01-09
Laboratory Number:	51864	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-30-09
Condition:	N/A	Analysis Requested:	TPH

	Sample	Lab Ref	C-Cal Ref	% Difference	Accept Range
Gasoline Range C5 - C10	05-07-07	1.0899E+003	1.0903E+003	0.04%	0 - 15%
Diesel Range C10 - C28	05-07-07	9.4921E+002	9.4959E+002	0.04%	0 - 15%

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

Duplicate Concentration (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	14,300	14,200	0.7%	0 - 30%
Diesel Range C10 - C28	1,110	1,100	0.9%	0 - 30%

Spike Conc (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	14,300	250	14,500	99.7%	75 - 125%
Diesel Range C10 - C28	1,110	250	1,300	95.6%	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 51864, 51865, 51871 - 51874, and 51883 - 51886.

Analyst

Review



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Analytical Laboratory

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Burlington	Project #:	92115-1095
Sample ID:	5pt Comp Bottom	Date Reported:	10-01-09
Laboratory Number:	51864	Date Sampled:	09-28-09
Chain of Custody:	8074	Date Received:	09-28-09
Sample Matrix:	Soil	Date Analyzed:	09-30-09
Preservative:	Cool	Date Extracted:	09-29-09
Condition:	Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	10,400	0.9
Toluene	64,800	1.0
Ethylbenzene	11,700	1.0
p,m-Xylene	67,200	1.2
o-Xylene	19,800	0.9
Total BTEX	174,000	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	96.0 %
	1,4-difluorobenzene	96.0 %
	Bromochlorobenzene	96.0 %

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

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

Comments: Culpepper Martin #16

Analyst

Review



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Analytical Laboratory

## EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-30-BT QA/QC	Date Reported:	10-01-09
Laboratory Number:	51864	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-30-09
Condition:	N/A	Analysis:	BTEX

Calibration	Conc	Amount	% Rm	Blank	Detect
Detection Limit (ppb)			Accept Range	Conc	Limit

Benzene	1.0664E+006	1.0685E+006	0.2%	ND	0.1
Toluene	7.4791E+005	7.4941E+005	0.2%	ND	0.1
Ethylbenzene	5.8216E+005	5.8333E+005	0.2%	ND	0.1
p,m-Xylene	1.2732E+006	1.2757E+006	0.2%	ND	0.1
o-Xylene	4.9753E+005	4.9853E+005	0.2%	ND	0.1

Duplicate Conc (ppb)	Sample	Duplicate	% Rm	Accept Range	Detect Limit
----------------------	--------	-----------	------	--------------	--------------

Benzene	10,400	10,300	1.0%	0 - 30%	0.9
Toluene	64,800	64,600	0.3%	0 - 30%	1.0
Ethylbenzene	11,700	11,700	0.0%	0 - 30%	1.0
p,m-Xylene	67,200	67,000	0.3%	0 - 30%	1.2
o-Xylene	19,800	19,800	0.0%	0 - 30%	0.9

Spiked Conc (ppb)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
-------------------	--------	---------------	---------------	------------	--------------

Benzene	10,400	50.0	10,400	99.5%	39 - 150
Toluene	64,800	50.0	65,000	100%	46 - 148
Ethylbenzene	11,700	50.0	11,800	100%	32 - 160
p,m-Xylene	67,200	100	67,100	99.7%	46 - 148
o-Xylene	19,800	50.0	19,800	99.7%	46 - 148

ND - Parameter not detected at the stated detection limit.

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

Comments: QA/QC for Samples 51864 - 51865 and 51871 - 51875.

Analyst

Review

8C74

[illegible]**envirotech**  
Analytical Laboratory

**APPENDIX B**

Bill of Lading





Industrial Ecosystems Inc.  
Soil Reclamation Center



P.O. Box 2043  
Farmington NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec NM 87410

## Material Entry Record

Date: 9-8-09 Burlington Company Representatives Name: Carlos Rey  
Generator of Material: Conoco Phone Number: \_\_\_\_\_  
Origin of Material (Location): Culpepper Paykey / Purchase Order Number: \_\_\_\_\_  
Material Transported by: Walmart H2S Gas ☒ Non-Detect ☐ Detect: Level \_\_\_\_  
Driver's Name: Larry Lloyd 212 Chlorides 6 PH \_\_\_\_ TDS \_\_\_\_  
Driver's Cell #: \_\_\_\_\_  
Truck Number: 11  
Pile Number: \_\_\_\_\_  
☐ Logged in Corresponding BioPile Sheet ☒ Paint Filter Test: ☒ Passed ☐ Failed  
☐ Pit ☐ Tanks

☐ DENIED / REJECTED

### Type of Material

Soil

Gravel

Solidified Liquid

Other

Tank Bottom Sludge

Tank Cleaning Residue

Charcoal Filter Media

Washout by: \_\_\_\_\_

### Amount of Material

	Load #1	Load #2	Load #3	Load #4	Load #5	Load #6	Load #7	Load #8	Load #9	Load #10
Cubic Yards	20	20	20							
Barrels										

Truck #	11	11	11							
Time In	12:00	1:50	3:30							
Time Out	12:15	2:05	3:40							

### Status

Exempt

XXX

Non Exempt

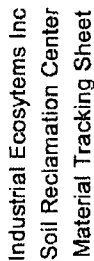
I certify that the quantity and type of waste is that listed above. To the best of my knowledge, no other quantities or types of wastes have been added or removed.

Driver's signature: Larry Lloyd

Attendant's Signature: Laura Macbeath

\*Attach copy of test results to C-138/COW





COMPANY NAME: Conoto

ORIGIN OF MATERIAL(LOCATION): Culpeper, Va.

NOTES:

COMPANY REP.  
PHONE #  
PAYKEY/P.O.#

H<sub>2</sub>S GAS ☐ NON DETECT ☐ DETECT

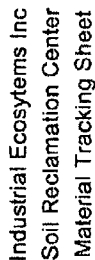
~~Chlorides~~ PH TDS

Paint Filter Test: ☐ Passed ☐ Failed ☐ Pit ☐ Tanks

Checked in by

Checked in by

1	9-10	1:10	W-M	16	18	Larry Loyd	Secy machine
2		1:10	W-M	99	18	Secy machine	Secy machine
3		1:10	W-M	99	18	Victor	Victor
4		1:10	W-M	99	18	Victor	Victor
5		1:20	Triple	31	18	Victor	Victor
6		1:10	Triple	33	18	Eldon Bell	Eldon Bell
7		2:45	W-M	11	18	Larry Loyd	Larry Loyd
8		2:45	W-M	99	18	Secy machine	Secy machine
9		2:45	W-M	99	18	Victor	Victor
10		2:55	W-M	99	18	Victor	Victor
11		2:55	Triple	33	18	Eldon Bell	Eldon Bell
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							



Date. 9-11-09

COMPANY NAME: Conoco

ORIGIN OF MATERIAL (LOCATION) Culpeper Machine #16

NOTES:

~~H<sub>2</sub>S GAS~~ ☐ NON DETECT ☐ DETECT

Chlorides \_\_\_\_\_ PH \_\_\_\_\_ TDS \_\_\_\_\_

**Paint Filter Test:**

☐ Passed ☐ Failed

☐ Pit ☐ Tanks

[illegible]

392014



Industrial Ecosystems Inc.  
Soil Reclamation Center

P.O. Box 2043  
Farmington NM 87499

Phone: (505) 632-1782  
Fax: (505) 632-1876

#49 CR 3150  
Aztec NM 87410

## Material Entry Record

Date: 9/28/09 Company Representatives Name: \_\_\_\_\_  
Generator of Material: Burlington Phone Number: Tested  
Origin of Material (Location): Culpepper Marsh, NM Paykey / Purchase Order Number: 9/11/09  
Material Transported by: mom / Keller Bee / mom H<sub>2</sub>S Gas ☐ Non-Detect ☐ Detect: Level \_\_\_\_\_  
Driver's Name: Sandy / Victor / Wilfred \_\_\_\_\_ Chlorides \_\_\_\_\_ PH \_\_\_\_\_ TDS  
Driver's Cell #: \_\_\_\_\_  
Truck Number: \_\_\_\_\_  
Pile Number: \_\_\_\_\_  
☒ Logged in Corresponding BioPile Sheet ☐ Paint Filter Test: ☐ Passed ☐ Failed  
☐ Pit ☐ Tanks

☐ DENIED / REJECTED

### Type of Material

Soil

Gravel

Solidified Liquid

Other \_\_\_\_\_

Tank Bottom Sludge

Tank Cleaning Residue

Charcoal Filter Media

Washout by: \_\_\_\_\_

### Amount of Material

	Load #1	Load #2	Load #3	Load #4	Load #5	Load #6	Load #7	Load #8	Load #9	Load #10
Cubic Yards	20	12	20	20	20					
Barrels	06	K-99	71	06	99					

Truck #

Time In

Time Out


### Status

Exempt

XXX

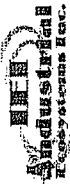
Non Exempt

I certify that the quantity and type of waste is that listed above. To the best of my knowledge, no other quantities or types of wastes have been added or removed.

Driver's signature: \_\_\_\_\_

Attendant's Signature: \_\_\_\_\_

\*Attach copy of test results to C-138/COW



Industrial Ecosystems Inc  
Soil Reclamation Center  
Material Tracking Sheet

Date: 9/29/90

COMPANY NAME: Burlington

COMPANY REP. J. P. F. O. D.  
PHONE #  
PAYKEY/P.O.#

ORIGIN OF MATERIAL (LOCATION): Caspepper Martin #116

NOTES:

H2S GAS ☐ NON DETECT ☐ DETECT  
Chlorides PH TDS

Paint Filter Test: ☐ Passed ☐ Failed ☐ Pit ☐ Tanks

Date	Time	Transported by	Truck#	Yards	Barrels	Driver's Name (Print)	Driver's Signature	Checked in by
9/29	9:10	Killer Bee	71	20		Wilfred Duncan	[Signature]	
	9:21	Triple F	32	12		Glen Williams	[Signature]	
	9:30	Prado Farms	P30	20		Roger P.	[Signature]	
	9:40	matm	11	20		Larry Loyd	[Signature]	
	9:48	matm	99	20		Glen Williams	[Signature]	
	9:50	matm	86	20		Glen Williams	[Signature]	
	10:45	Killer Bee	71	20		Wilfred Duncan	[Signature]	
	10:45	Triple F	32	12		Glen Williams	[Signature]	
	10:59	Prado Farms	P30	20		Roger P.	[Signature]	
	11:00	matm	11	20		Larry Loyd	[Signature]	
	11:18	matm	99	20		Glen Williams	[Signature]	
	11:23	matm	86	20		Glen Williams	[Signature]	
	11:58	Triple F	31	20		Jeff Walker	[Signature]	
	12:11	Killer Bee	71	20		Wilfred Duncan	[Signature]	
	12:15	Triple F	32	12		Glen Williams	[Signature]	
	12:30	Prado Farms	P30	20		Roger P.	[Signature]	
	12:40	Crazy S	08	20		Joel Gomez	[Signature]	
	1:00	matm	11	20		Larry Loyd	[Signature]	
	1:00	matm	99	20		Glen Williams	[Signature]	
	1:00	matm	86	20		Glen Williams	[Signature]	
	1:23	Triple F	31	20		Jeff Walker	[Signature]	
	1:47	Killer Bee	71	20		Glen Williams	[Signature]	
	1:47	Killer Bee	71	20		Wilfred Duncan	[Signature]	
	1:50	Prado	P30	20		R. Prado	[Signature]	
	2:12	Crazy S	08	20		Joel Gomez	[Signature]	

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