



**Wolf Eagle Environmental**  
"Advancing Industry while Protecting the Environment"



**Mr. and Mrs. Timothy Ruggiero**

**415 Star Shell Road**

**Decatur, TX 76234**

**Wolf Eagle Environmental**

**January 2010**



**Wolf Eagle Environmental**  
"Advancing Industry while Protecting the Environment"



**Mr. and Mrs. Timothy Ruggiero**

**415 Star Shell Road**

**Decatur, Texas 76234**

**Environmental Studies**

**Fugitive Air Emissions Testing**

**Impacted Soil Testing**

**Presented by:**

**Wolf Eagle Environmental**

**February 2009**





# Wolf Eagle Environmental

"Advancing Industry while Protecting the Environment"



## Environmental Study

### Fugitive Air Emissions and Impacted Soil Testing

#### 1.0 Executive Summary

Wolf Eagle Environmental ("Wolf Eagle") was retained by Mr. and Mrs. Timothy Ruggiero ("Client") to perform a soil sample study on their residence in Wise County, Texas. The purpose of the study was to collect soil samples on property owned by Client believed to be impacted by hydrocarbons from natural gas industrial operations. Additional testing was ordered to characterize the presence of fugitive air emission discovered at the time of soil sampling.

#### 2.0 Background Information

Wolf Eagle Environmental was contact by Client due to repeated environmental impact from natural gas drilling operations on pad site located on Client's property. Client purchased approximately 10 acres from a large land holder in 2004 and established their residence on the land parcel. Client is a surface right owner, not a mineral right owner of said property.

Aruba Petroleum began natural gas drilling operations on Client's property in the fall of 2009 directly in front of their residence on approximately 2 acres of Client's 10 acre site. Client stated Aruba gave no advance warning prior to development of a pad site on September 16<sup>th</sup>, 2009. Application for drilling permit was not submitted to the Railroad Commission of Texas (RRC) until September 21<sup>st</sup> 2009. It was approved September 24<sup>th</sup> and drilling commenced on October 6<sup>th</sup>, 2009.

Numerous complaints have been filed by Client with Texas Commission on Environmental Quality ("TCEQ") and Railroad Commission of Texas ("RRC") in 2009 and 2010, due to environmental concerns including:

- October 29, 2009 - Violation of Statewide Rule 8 ; release of drilling fluids and migration to adjacent landowners' properties;

- November 4 -18, 2009 – Compliance investigation (TCEQ) investigation of air quality/odor; test confirmed maximum NOx concentrations (1-hour) predicted at 380 ppb with National Ambient Air Quality Standard (NAAQS) for NOx at 53 ppb avg one year.
- December 2 , 2009 – Violation of Statewide Rule 20 – associated crude oil, gas, geothermal resources lost;
- January 11, 2010 – Violation of RRC Statewide (SWR) 8(d)(1) – produced water affected soil observed near one of frac tanks.
- January 17-21, 2010 – Compliance investigation – Odor releases

Wolf Eagle was contacted after the produced water spill estimated at 10,000 gallons of fluid (produced water/condensate) impacted pad site and migrated off pad site on to Client's horse pasture and into the adjacent Black Creek. Authorities were notified of the spill. Wolf Eagle performed soil sampling and analysis to verify if fluid spilled on Client's property contained hydrocarbons from drilling operation.

Upon arrival, Wolf Eagle identified frac pond contents (soil, water and pond liner) being removed by a contractor directly adjacent to Client's property. Client's previous complaints to regulatory authorities included compromised frac pond berm and resultant spill. Wolf Eagle observed the contractor removing the contents of frac pond and spreading the contents of the pond (water, sludge, soil and liner) across the surface of the pad site. Wolf Eagle technicians identified a berm break on the east side of the pad site with fluid flowing from the frac pond impacting Clients horse pasture. Wolf Eagle technicians also noticed a very strong acrid odor, and suggested to Client that an air test be performed to verify if fugitive air emissions were present. Sampling details are presented in section 4.0.

### **3.0 Weather Conditions**

Weather conditions on January 11, 2010, were confirmed for Decatur Municipal Airport (953964), Decatur, Texas. Sky conditions were reported clear with visibility of 10.0 (SM). Temperature ranges from a low of 25 degrees Fahrenheit to a high of 55 degrees Fahrenheit . Winds were reported calm out of the south/southwest at an average wind speed of 7.6 miles per hour with occasional gusts up to 16.0 miles per hour.

### **4.0 Environmental Sampling**

#### **4.1 Ambient Air Sampling –**

On January 11, 2010, with favorable weather conditions for ambient air testing, Wolf Eagle began air monitoring at one (1) location on Client's property. Monitor location

was chosen east of pad site, in Client's horse pasture which is located in the front of Client's residence approximately 20 yards from pad site fence line.

Wolf Eagle performed whole air emissions sampling for hydrocarbons (volatile organic compounds (VOCs)). Sampling procedures followed ASTM Method 31357 using certified sterilized evacuated pressurized stainless steel Summa canister with 24-hour flow regulator (certified mass flow 24-hour meter) obtained from a certified air testing laboratory (GD Air Testing, Inc., 551 N. Plano Parkway, #429, Richardson, TX). Test was run for 24-hours consecutively. The canister was certified with a canister number and canister batch number from the laboratory verifying proper evacuation and pressurization. The canister location was verified by GPS coordinates. The initial time of can depressurization (opening) was noted and recorded on the chain of custody. Upon completion of sampling the hand valve was closed, brass cap secured and time of closure noted. The canister was collected on January 12, 2010, inspected for damage or dents that could impact quality of sample. No dents or damage to any canister or flow meter was noted. The canister was returned to the certified testing laboratory in a timely fashion to insure quality of sample and chain of custody.

A TO-14 (Toxic Organic Compound) VOC analysis or multiple volatile organic compounds, and a Tentatively Identified Compounds (TIC), along with Light Hydrocarbons (Methane) laboratory analysis were requested and subsequent report characterizing compounds was produced by the certified independent laboratory.

#### 4.2 Soil Sampling

Soil sampling was performed at three locations on Client's property. The first soil sampling location was collected next to the fence of the pad site where the contractor was spreading pond sludge ('sludge pit spread'). The fence line is located to the north of the pad site on Client's property. The second sampling location was directly east of the frac pond in Client's horse pasture where water was identified flowing from the berm wall of the frac pond ('sludge pit berm'). The berm walls were intact, however, a breach of the berm was noted at the base of the pond and fluids were identified flowing in a south east direction towards Client's property and towards Black Creek. The third location was on pad site where condensate tank valve had been left open. At time of sampling it was noted that sand had replaced soil at location of spill. All samples were tested for volatile organic compounds (Volatiles by EPA 8260).

## 5.0 Laboratory Results

### Ambient Air Sampling Results

***Laboratory results of ambient air samples confirmed the presence of numerous hydrocarbons identified as Recognized and Suspected human carcinogens and neurotoxins, (Benzene, Dichlorodifluoromethane (F12), Dichlorotetrafluoroethane (F114) Toluene, m&p Xylenes, Propane, Isobutane, Butane, Isopentane, Pentane, Methyl Pentane, Hexane, Methyl Cyclohexane). The compounds identified are known to emanate from processes directly related to the natural gas industry. The laboratory results confirmed fugitive air emissions exceeding TCEQ Effects Screening Levels (ESLs) for Benzene (Long-Term), and Propane (Short-Term and Long-Term). In addition, concentrations of Methane were identified in levels that exceed ambient background concentrations. Methane is identified as an asphyxiant.***

### Soil Sampling Results

***Laboratory results of soil samples confirmed the presence of numerous hydrocarbons identified as Recognized and Suspected human carcinogens and neurotoxins (1,2,4 Trimethylbenzene, 1,3,5 Trimethylbenzene, 4-Isopropyltoluene, Acetone, Benzene, Carbon disulfide, Ethylbenzene, Isopropylbenzene, m&m Xylene, n-Butylbenzene, n-Propylbenzene, o-Xylene, sec-Butylbenzene, tert-Butylbenzene, Toluene). The compounds identified are known to emanate from processes directly related to the natural gas industry.***

## 6.0 Discussion

Based on scientific probability, compounds identified in air and soil samples are chemicals that emanate from processes directly related to the natural gas industry (exploration, mining, compression, storage and treatment). Many of these same compounds have been identified by Wolf Eagle at numerous sites in and around the Dallas/Fort Worth metroplex where natural gas activities are occurring. The location of Client's property is identified as rural residential. No other industrial activities that produce these compounds exist in this area. No other business was identified, other than the natural gas industry in or near the area. Cattle operations were not in concentrations that would account for high concentration of methane.

The process of spreading contents of frac/sludge ponds on surface property commonly referred to in the industry as "land farming" is not a recommended process due to the potential for multiple sources of environmental contamination, although frequent used. Historically, land farming is a practice that has occurred in primarily unpopulated rural areas. In hot summer months, spreading hydrocarbon contaminated soil on surface soils can actually aid in (increasing ) the rate of volatility of the hydrocarbons in the soil and drive the hydrocarbons from a solid state to a gaseous state dispersing the compounds into the atmosphere. Although

effective, it is an antiquated practice with inherent risks for contamination of sensitive ecosystems, waterways, animals populations as well as human populations. It appears, Aruba has a policy of landfarming hydrocarbon impacted soil in Wise County as evidenced by landfarming being performed at the intersection of Allison Slidell and Star Shell Road. In this specific case, Client was exposed to carcinogenic and neurotoxin compounds from this practice reflected by laboratory results.

Atmospheric concentrations of Recognized and Suspected carcinogens, and neurotoxins were identified through laboratory testing. Given the presence of hydrocarbon impacted soil near Client's property, it is probable that hydrocarbons escaping soil into the air was reflected in the air laboratory results. However, given the high concentration of methane identified in the atmosphere, it is scientifically probable that emissions from the existing wellheads (Wright Lease 7H, 8H) as well as fugitive emissions from condensate tanks are major contributors to atmospheric methane rather than from the spill. Similar methane concentrations have been identified by Wolf Eagle in areas surrounding compression stations.

## **7.0 Conclusion**

Air and soil analysis on property owned by Mr. and Mrs. Ruggiero confirmed the presence of concentrations of hydrocarbons including, Recognized and Suspected carcinogens and neurotoxin compounds in the ambient air and soil on Client's property. The compounds identified in the air exist in concentrations in excess of what would normally be anticipated in ambient background conditions of a residential rural community. Many of these compounds, verified by laboratory analysis were in concentrations exceeding TCEQ Effects Screening Levels. Effects Screening Levels were established by TCEQ based on data concerning health effects, odor/nuisance potential and effects on vegetation. Of primary concern are high levels of methane identified on Client's property. ESLs have not been established at this time to compare exceedences on either a short term or long term exposure; however, the level of methane present in this sampling is considered potentially harmful due to its capability as an asphyxiant. Volatile organic compounds by their intrinsic nature are highly volatile and may, under different meteorological conditions, produce additional compounds not identified in this study.

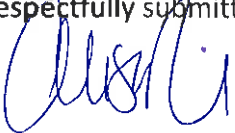
This study is not considered to be a comprehensive study nor complete in characterizing fugitive air emissions apparent under all meteorological conditions. Continued monitoring is strongly recommended given the high concentrations of carcinogenic compounds that were identified exceeding TCEQ ESLs and specifically the high concentration of methane, a known asphyxiant. Based on reasonable scientific probability the concentrations identified during this test may represent chemical concentrations at minimal levels when averaged on an annual basis. Effort should be made to minimize any further exposure to fugitive air emissions in these concentrations due to the potential for adverse health effects.



### **8.0 Statement of Confidentiality**

This report was prepared exclusively for the use and reliance of Client. The content shall not be disseminated, in whole or in part, without the written consent of any authorized representative of same. The scope of this report is specific to Client, and may not be suitable for other users. Wolf Eagle accepts no responsibility for the unauthorized manipulation or misuse of this report whether intentional or unintentional.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Alisa Rich', is written over the text 'Respectfully submitted,'.

Alisa Rich, MPH, PhD (ABD)

President

Wolf Eagle Environmental

682-502-6056 office

682-502-6069 fax

[www.wolfeagleenvironmental.com](http://www.wolfeagleenvironmental.com)

## Air Lab Results

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Mr. and Mrs. Anthony Ruggiero  
Air Monitoring Results

Monitor Location: Ruggiero West Fence Line

January 11, 2010

TCEQ Exceedence Estimation

Monitor #62417

Pollutant	CAS	MW	Results ug/m3	Results ppbv	TCEQ Sht Term	TCEQ Sht Term	Exceeds TCEQ Sht Term	TCEQ Lg Term	TCEQ Lg Term	Exceeds TCEQ Lg Term	TCEQ Short Term
TO-14					ESL ug/m3	ESL (ppb)		ESL ug/m3	ESL (ppb)		ESL Basis
Benzene	71432	78.0	8.17	2.56	170.00	54.00	No	4.50	1.40	Yes	Health
Chloromethane/ Methyl chloride	74873	50.0	ND	ND	1030.00	500.00	No	103.00	50.00	No	Health
Dichlorodifluoromethane (F12)	75718	120.9	3.13	0.63	50000.00	10000.00	No	5000.00	1000.00	No	Health
Dichlorotetrafluoroethane (F114)	76142	170.9	4.65	0.655	50000.00	10000.00	No	50000.00	1000.00	No	Health
1,2-Dichloroethane (EDC)*	107062	98.0	ND	ND	160.00	40.00	No	4.00	1.00	No	Health
1,1,2,2-Tetrachloroethane		167.0	ND	ND	70.00	10.00	No	7.00	1.00	No	Health
Tetrachloroethene (PCE)	127184	166.0	ND	ND	2000.00	300.00	No	26.00	3.80	No	Health
Toluene	108883	92.0	6.50	1.73	640.00	170.00	No	1200.00	330.00	No	Odor
1,3,5-Trimethylbenzene/ 4-Ethyltoluene	108678	120.0	ND	ND	1250.00	250.00	No	125.00	25.00	No	Health
Trichloroethene (TCE)	79016	131.0	ND	ND	540.00	100.00	No	54.00	10.00	No	Health
1,2,4-Trimethylbenzene	95636	120.0	ND	ND	1250.00	250.00	No	125.00	25.00	No	Health
m&p Xylenes	1330207	106.0	2.40	0.56	350.00	80.00	No	180.00	42.00	No	Odor
o-Xylene	106423	106.0	ND	ND	1600.00	380.00	No	180.00	42.00	No	Odor

Pollutant	CAS	MW	Results ug/m3	Results ppbv	TCEQ Sht Term	TCEQ Sht Term	Exceeds TCEQ Sht Term	TCEQ Lg Term	TCEQ Lg Term	Exceeds TCEQ Lg Term	TCEQ Short Term
TIC					ESL ug/m3	ESL (ppb)		ESL ug/m3	ESL (ppb)		ESL Basis
Propane	78986	44	113.00	62.90	135.0	55.0	Yes	2.60	1.10	Yes	Odor
Isobutane	75285	58	80.70	34.00	4800.0	2040.0	No	480.00	204.00	No	Odor
Butane	106978	58	164.00	69.00	19000.0	8000.0	No	1900.00	800.00	No	Health
Methyl butane/isopentane	78784	72	188.00	64.00	4800.0	2040.0	No	480.0	204.0	No	Health
Pentane	109660	72	124.00	42.00	3500.0	1200.0	No	350.0	120.0	No	Health

Mr. and Mrs. [redacted] Jothy Ruggiero  
 Air Monitoring Results

Monitor Location: Ruggiero West Fence 1  
 January 11, 2010

Monitor #2877

Pollutant	CAS	MW	Results	Results	TCEQ	TCEQ	Exceeds	TCEQ	TCEQ	Exceeds	TCEQ	Short Term
			ug/m3	ppbv	Sht Term	Sht Term	TCEQ	Lg Term	Lg Term	TCEQ	Lg Term	ESL Basis
TIC					ESL ug/m3	ESL (ppb)	Sht Term					
Methyl Pentane	96140	86	92.90	26.40	3500	1000	No	350	100	No	No	Health
Hexane	110543	86	29.20	8.60	5300	1600	No	200	57	No	No	Health
Methyl Cyclohexane	108872	98	15.20	3.80	16100	4000	No	1610	400	No	No	Health
C8 Hydrocarbon		114	7.13	1.53								

NOx												
NOx			ND									

Methane												
Methane ppmv												

Color Indicators	
Is within TCEQ ESL Limits	
Is within TCEQ ESL Limits <10%	
Is not within TCEQ ESL Limits	

\*24-hr and annual for monitoring  
 \*\*Indicates the constituent has disaster potential

## Laboratory Results

### Air Monitoring

**GD Air Testing Inc.**

www.gdair.com

CLIENT: Aissa Rich  
 Wolf Eagle  
 PO Box 270541  
 Flowermound, TX 75022

GD Air Testing Lab. ID: GD10-0007-001  
 Revised Report Date: 26-Jan-10  
 Date Analyzed: 13-Jan-10  
 Analyzed by: LAJ  
 GD Air QC Batch: QC-011310TO14  
 Method: EPATO14  
 NELAP Certification #: T104704384-09-TX

Project No.: NA

**REVISED****REPORT OF ANALYTICAL RESULTS**

Page 1 of 2

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY		SAMPLED DATE /RECEIVED		NOTE
		MW	CAS	01/11/10	01/13/10	
Ragglero West Fence Line	Air		David S.			
CONSTITUENT				PQL* ppbv	RESULT ppbv	ug/cu M
Benzene	78	71432		1.6	2.56	8.17
Benzylchloride	126.6	100447		0.3	ND	ND
Bromomethane (Methyl Bromide)	94.9	74839		0.3	ND	ND
Carbon tetrachloride	153.8	56235		0.3	ND	ND
Chlorobenzene	112.6	108907		0.3	ND	ND
Chloroethane (Ethyl Chloride)	64.5	75003		0.3	ND	ND
Chloroform	119	67663		0.3	ND	ND
Chloromethane (Methyl Chloride)	50.4	74873		0.3	ND	ND
1,2-Dibromoethane (EDB)	187.9	106934		0.3	ND	ND
1,2-Dichlorobenzene	147	95501		0.3	ND	ND
1,3-Dichlorobenzene	147	541731		0.3	ND	ND
1,4-Dichlorobenzene	147	106487		0.3	ND	ND
1,1-Dichloroethane	89	75343		0.3	ND	ND
1,1-Dichloroethene	97	75354		0.3	ND	ND
Dichlorodifluoromethane (F12)	120.9	75718		0.3	0.63	3.13
Dichlorotetrafluoroethane (F114)	170.9	76142		0.3	0.665	4.65
1,2-Dichloroethane (EDC)	99	107062		0.3	ND	ND
cis-1,2-Dichloroethene	97	158694		0.3	ND	ND
trans-1,2-Dichloroethene	97	158605		0.3	ND	ND
Dichloromethane (Methylene chloride)	84.9	75092		0.3	ND	ND
1,2-Dichloropropane	113	78875		0.3	ND	ND
cis-1,3-Dichloropropene	111	10061015		0.3	ND	ND
trans-1,3-Dichloropropene	111	10061026		0.3	ND	ND
Ethylbenzene	106	100411		0.3	ND	ND
Hexachlorobutadiene	260.8	87883		0.7	ND	ND
Styrene	104	100425		0.3	ND	ND
1,1,2,2-Tetrachloroethane	167.9	79345		0.3	ND	ND
Tetrachloroethene (PCE)	165.8	127184		0.3	ND	ND
Toluene	92	108883		0.3	1.73	6.5
1,1,1-Trichloroethane (TCA)	133.4	71556		0.3	ND	ND
1,1,2-Trichloroethane	133.4	79005		0.3	ND	ND
1,3,5-Trimethylbenzene/4-Ethyltoluene	120.2	108678		0.3	ND	ND
1,2,4-Trimethylbenzene	120.2	95636		0.3	ND	ND
1,2,4-Trichlorobenzene	181.5	120821		0.7	ND	ND
Trichloroethene (TCE)	131.3	78016		0.3	ND	ND

PAGE 2 OF 3

**GD Air Testing Inc.**

www.gdair.com

CLIENT: Ailsa Rich  
 Wolf Eagle  
 PO Box 270541  
 Flowermound, TX 75022

GD Air Testing Lab. ID: GD10-0007-001  
 Revised Report Date: 26-Jan-10  
 Date Analyzed: 13-Jan-10  
 Analyzed by: LAJ  
 GD Air QC Batch: QC-011310TO14  
 Method: EPATO14  
 NELAP Certification #: T104704364-09-TX

Project No.: NA

**REVISED****REPORT OF ANALYTICAL RESULTS**

Page 2 of 2

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY	SAMPLED DATE /RECEIVED		
Raggiero West Fence Line	Air	David S.	01/11/10	01/13/10	
CONSTITUENT	MW	CAS	PQL* ppbv	RESULT ppbv	NOTE ug/cu M
Trichlorofluoromethane (F-11)	137.4	75694	0.3	ND	ND
Trichlorotrifluoroethane (F-113)	187.4	76131	0.3	ND	ND
Vinyl Chloride	62.5	75104	0.3	ND	ND
m&p-Xylenes	106	1330207	0.3	0.56	2.4
o-Xylene	106	95476	0.3	ND	ND
<b>Tentatively Identified Compounds (TICs)</b>					
Propane	44		1.3	62.9	113 CN
Isobutane	58		1.3	34.0	80.7 CN
Butane	58		1.3	69.0	164 CN
Methyl butane	72		1.3	64.0	188 CN
Pentane	72		1.3	42.0	124 CN
Methyl pentane	86		1.3	26.4	92.9 CN
Hexane	86		1.3	8.30	29.2 CN
Methyl cyclohexane	98		1.3	3.80	15.2 CN
C8 Hydrocarbon	114		1.3	1.53	7.13
<b>Surrogate Recovery Report</b>			<b>Spiked ppbv</b>	<b>Found ppbv</b>	<b>R%</b>
1,4-Difluorobenzene (SS1)	118.1	540363	5.00	5.73	115
Bromofluorobenzene (SS2)	175	460004	5.00	6.06	121

\*Comparison with the method blank this sample run with a dilution factor of:

1.31

CN: See Case Narrative.

Canister #62417 was received at an initial pressure of -0.15psi and pressurized to 4.4psi.

\*RESULTS Listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit).

\* The control limit for Surrogate Recovery % of all spiked compound is 70% - 130%. Only one is required to pass.

Respectfully submitted  
 GD Air Testing, Inc.

  
 George Dai, Ph.D.  
 Laboratory Director

Data File: chem\gd5973.1\011310.B\01131014.D

Report File: GDAIR D:\Client-Report\GD10-0007-001

PAGE 3 OF 3



CLIENT: Alisa Rich  
Wolf Eagle  
PO Box 270541  
Flowermound, TX 75022

GD Air Testing Lab. ID: GD10-0007-001  
Report Date: 15-Jan-10  
Date Analyzed: 13-Jan-10  
Analyzed by: LAJ  
GD Air QC Batch: QC-011310TO14  
Method: EPATO14  
NELAP Certification #: T104704364-09-TX

Project No.: NA

REPORT OF ANALYTICAL RESULTS

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY	SAMPLED DATE /RECEIVED		
Ragglero West Fence Line	Air	David S.	01/11/10	01/13/10	
CONSTITUENT	MW	CAS	PQL*	RESULT	NOTE
			ppbv	ppbv	ug/cu M
Benzene	78	71432	1.6	2.56	8.17
Benzylchloride	126.6	100447	0.3	ND	ND
Bromomethane (Methyl Bromide)	94.9	74839	0.3	ND	ND
Carbon tetrachloride	153.8	56235	0.3	ND	ND
Chlorobenzene	112.6	108907	0.3	ND	ND
Chloroethane (Ethyl Chloride)	64.5	75003	0.3	ND	ND
Chloroform	119	67663	0.3	ND	ND
Chloromethane (Methyl Chloride)	50.4	74873	0.3	ND	ND
1,2-Dibromoethane (EDB)	187.9	106934	0.3	ND	ND
1,2-Dichlorobenzene	147	95501	0.3	ND	ND
1,3-Dichlorobenzene	147	541731	0.3	ND	ND
1,4-Dichlorobenzene	147	106467	0.3	ND	ND
1,1-Dichloroethane	99	75343	0.3	ND	ND
1,1-Dichlorethene	97	75354	0.3	ND	ND
Dichlorodifluoromethane (F12)	120.9	75718	0.3	0.63	3.13
Dichlorotetrafluoroethane (F114)	170.9	76142	0.3	0.665	4.65
1,2-Dichloroethane (EDC)	99	107062	0.3	ND	ND
cis-1,2-Dichloroethene	97	156694	0.3	ND	ND
trans-1,2-Dichloroethene	97	156605	0.3	ND	ND
Dichloromethane (Methylene chloride)	84.9	75092	0.3	ND	ND
1,2-Dichloropropane	113	78875	0.3	ND	ND
cis-1,3-Dichloropropene	111	10061015	0.3	ND	ND
trans-1,3-Dichloropropene	111	10061026	0.3	ND	ND
Ethylbenzene	106	100411	0.3	ND	ND
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Styrene	104	100425	0.3	ND	ND
1,1,2,2-Tetrachloroethane	167.9	79345	0.3	ND	ND
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1,3,5-Trimethylbenzene/4-Ethyltoluene	120.2	108678	0.3	ND	ND
1,2,4-Trimethylbenzene	120.2	95636	0.3	ND	ND
1,2,4-Trichlorobenzene	181.5	120821	0.7	ND	ND
Trichloroethene (TCE)	131.3	79016	0.3	ND	ND





CLIENT: Alisa Rich
Wolf Eagle
PO Box 270541
Flowermound, TX 75022

GD Air Testing Lab. ID: GD10-0007-001
Report Date: 15-Jan-10
Date Analyzed: 13-Jan-10
Analyzed by: LAJ
GD Air QC Batch: QC-011310TO14
Method: EPATO14
NELAP Certification #: T104704364-09-TX

Project No.: NA

REPORT OF ANALYTICAL RESULTS

Table with columns: SAMPLE DESCRIPTION, MATRIX, SAMPLE BY, SAMPLED DATE /RECEIVED, CONSTITUENT, MW, CAS, PQL+ ppbv, RESULT ppbv, NOTE ug/cu M. Includes data for Trichlorofluoromethane, Trichlorotrifluoroethane, Vinyl Chloride, m&p-Xylenes, o-Xylene, and Tentatively Identified Compounds (TICs).

Surrogate Recovery Report

Table with columns: Surrogate Recovery Report, Spiked ppbv, Found ppbv, R%. Includes data for 1,4-Difluorobenzene (SS1) and Bromofluorobenzene (SS2).

\*Comparison with the method blank this sample run with a dilution factor of: 1.31
Canister #62417 was received at an initial pressure of -0.15psi and pressurized to 4.4psi.
\*RESULTS Listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit).
\* The control limit for Surrogate Recovery % of all spiked compound is 70% - 130%. Only one is required to pass.
\*Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg.K.
\*QA/QC reports followed this report include: Method blank, Blank spike (BS) and Blank spike duplicate (BSD)

Respectfully submitted
GD Air Testing, Inc.

Handwritten signature of George Dai, Ph.D.

George Dai, Ph.D.
Laboratory Director
Data File: chem\gd5973.I\011310.B\01131014.D
Report File: GDAIR D:\Client-Report\GD10-0007-001



CLIENT: Alisa Rich  
Wolf Eagle  
PO Box 270541  
Flower Mound, TX 75027

GD Air Testing Lab. ID: GD10-0007-1F  
Report Date: 1/20/2010  
Date Analyzed: 1/14/2010  
Analyzed by: JCA  
GD QC Batch: QC-011410F  
Method: ASTM 1945

Site: NA

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE /RECEIVED	
Raggiro West Fence Line	Air	David S.	01/11/10	01/13/10

CONSTITUENT	MW	PQL* ppmv	RESULT ppmv	NOTE
Methane	16.0	1.3	3.0	
Ethane	30.0	1.3	ND	
Propane	44.0	1.3	ND	
Butane	58.0	1.3	ND	
Pentane	72.0	1.3	ND	
Hexane	86.0	1.3	ND	

Canister #62417 was received at an initial pressure of -0.15psi and was pressurized to 4.4psi.

\*Comparison with the method blank this sample run with a dilution factor of: 1.3

\*RESULTS Listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit).

\* The control limit for Surrogate Recovery % of all spiked compound is 70% - 130%. Only one is required to pass.

\*QA/QC reports followed this report include: Method blank, Blank spike (BS) and Blank spike duplicate (BSD)

Respectfully submitted  
GD Air Testing, Inc.

George Dai, Ph.D.  
Laboratory Director

Data File: C:\STAR\MODULE16\01140006.RUN

Report File: GDAIR D:\Client\_Report\gd10-0007-1F

Laboratory Results

Air Monitoring

QA/QC Blanks



CLIENT: GD Air Testing, Inc.

GD Air Testing Lab. ID:

Method Blank

Report Date:

01/13/10

Date Analyzed:

01/13/10

Analyzed by:

LAJ

GD Air QC Batch:

QC-011310

Project No.:

Method:

EPATO14

NELAP Certification #:

T104704364-09-TX

REPORT OF METHOD BLANK RESULTS

Page 1 of 2

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY	SAMPLED DATE /RECEIVED			
BLK	Air					
CONSTITUENT	MW	CAS	PQL* ppbv	RESULT ppbv	NOTE ug/cu M	
Benzene	78	71432	1.20	ND	ND	
Benzylchloride	126.6	100447	0.20	ND	ND	
Bromomethane (Methyl Bromide)	94.9	74839	0.20	ND	ND	
Carbon tetrachloride	153.8	56235	0.20	ND	ND	
Chlorobenzene	112.6	108907	0.20	ND	ND	
Chloroethane (Ethyl Chloride)	64.5	75003	0.20	ND	ND	
Chloroform	119	67663	0.20	ND	ND	
Chloromethane (Methyl Chloride)	50.4	74873	0.20	ND	ND	
1,2-Dibromoethane (EDB)	187.9	106934	0.20	ND	ND	
1,2-Dichlorobenzene	147	95501	0.20	ND	ND	
1,3-Dichlorobenzene	147	541731	0.20	ND	ND	
1,4-Dichlorobenzene	147	106467	0.20	ND	ND	
1,1-Dichloroethane	99	75343	0.20	ND	ND	
1,1-Dichlorethene	97	75354	0.20	ND	ND	
Dichlorodifluoromethane (F12)	120.9	75718	0.20	ND	ND	
Dichlorotetrafluoroethane (F114)	170.9	76142	0.20	ND	ND	
1,2-Dichloroethane (EDC)	99	107062	0.20	ND	ND	
cis-1,2-Dichloroethene	97	156694	0.20	ND	ND	
trans-1,2-Dichloroethene	97	156605	0.20	ND	ND	
Dichloromethane (Methylene chloride)	84.9	75092	0.20	ND	ND	
1,2-Dichloropropane	113	78875	0.20	ND	ND	
cis-1,3-Dichloropropene	111	10061015	0.20	ND	ND	
trans-1,3-Dichloropropene	111	10061026	0.20	ND	ND	
Ethylbenzene	106	100411	0.20	ND	ND	
Hexachlorobutadiene	260.8	87683	0.50	ND	ND	
Styrene	104	100425	0.20	ND	ND	
1,1,2,2-Tetrachloroethane	167.9	79345	0.20	ND	ND	
Tetrachloroethene (PCE)	165.8	127184	0.20	ND	ND	
Toluene	92	108883	0.20	ND	ND	
1,1,1-Trichloroethane (TCA)	133.4	71556	0.20	ND	ND	
1,1,2-Trichloroethane	133.4	79005	0.20	ND	ND	
1,3,5-Trimethylbenzene/4-Ethyltoluene	120.2	108678	0.20	ND	ND	
1,2,4-Trimethylbenzene	120.2	95636	0.20	ND	ND	
1,2,4-Trichlorobenzene	181.5	120821	0.50	ND	ND	
Trichloroethene (TCE)	131.3	79016	0.20	ND	ND	



CLIENT: GD Air Testing, Inc.

GD Air Testing Lab. ID:

Method Blank

Report Date:

01/13/10

Date Analyzed:

01/13/10

Analyzed by:

LAJ

Project No.: QC

GD Air QC Batch:

QC-011310

Method:

EPATO14

NELAP Certification #:

T104704364-09-TX

REPORT OF ANALYTICAL RESULTS

Page 2 of 2

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY	SAMPLED DATE /RECEIVED		
BLK	Air				
CONSTITUENT	MW	CAS	PQL* ppbv	RESULT ppbv	NOTE ug/cu M
Trichlorofluoromethane (F-11)	137.4	75694	0.20	ND	ND
Trichlorotrifluoroethane (F-113)	187.4	76131	0.20	ND	ND
Vinyl Chloride	62.5	75104	0.20	ND	ND
m&p-Xylenes	106	1330207	0.50	ND	ND
o-Xylene	106	95476	0.20	ND	ND
<b>Surrogate Recovery Report</b>			Spiked ppbv	Found ppbv	R%
1,4-Difluorobenzene (SS1)	118.1	540363	5.00	4.64	92.8
Bromofluorobenzene (SS2)	175	460004	5.00	4.89	97.8

\*Comparison with the method blank this sample run with a dilution factor of: 1.0

\*RESULTS Listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit).

\* The control limit for Surrogate Recovery % of all spiked compound is 70% - 130%. Only one is required to pass.

\*Concentrations in ug/cu M reported at 760 mm Hg pressure and 298 deg.K.

\*QA/QC reports followed this report include: Method blank, Blank spike (BS) and Blank spike duplicate (BSD)

Respectfully submitted

GD Air Testing, Inc.

*Signature*  
George Dai, Ph.D.  
Laboratory Director

Data File: c:\chem\gd5973.I\011310.B\01131007.D

Report File: GD SR\ID\QC10-TO14\Blank



CLIENT: GD Air Testing, Inc.

GD Air Testing Lab. ID:

BS/BSD

Report Date:

01/13/10

Date Analyzed:

01/13/10

Project No.:

Analyzed by:

LAJ

GD Air QC Batch:

QC-011310

Method:

EPATO14

NELAP Certification #:

T104704364-09-TX

REPORT OF BLANK SPIKE RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY		SAMPLED DATE /RECEIVED		
BS/BSD	Air					
Spike Control Compounds	Spiked	Found and Recovery				
	ppbv	BS/ppbv	BS R%	BSD	BSD R%	% RPD
<b>VOLATILE ORGANICS BY EPA TO-14</b>						
Vinyl Chloride	10.0	12.8	128	10.7	107	17.9
Methylene chloride (Dichloromethane)	10.0	10.6	106	9.6	96	10.2
1,1,1-Trichloroethane	10.0	11.5	115	11.0	110	4.4
1,2-Dichloroethane (EDC)	10.0	12.2	122	11.5	115	5.9
Benzene	10.0	9.8	98	9.3	93	5.9
Carbon tetrachloride	10.0	11.6	116	10.8	108	7.1
Trichloroethene (TCE)	10.0	10.3	103	10.2	102	1.0
Toluene	10.0	11.6	116	10.8	108	7.1
Chlorobenzene	10.0	10.8	108	10.3	103	4.7
Ethylbenzene	10.0	11.8	118	11.3	113	4.3
o-Xylene	10.0	11.40	114	10.5	105	8.2
<b>Surrogate Recovery Report</b>						
1,4-Difluorobenzene (SS1)	5.0	5.17	103.4	5.12	102.4	1.0
Bromofluorobenzene (SS2)	5.0	4.98	99.6	4.79	95.8	3.9

\* The control limit for BS Recovery % of all spiked compound is 70% - 130%

\* The control limit for relative percentage difference of BS/BSD is 30%

\* If any control compound is not within the control limit, please see the case narrative for more details.

\* The control limit for Surrogate Recovery % of all spiked compound is 70% - 130%. Only one is required to pass.

Respectfully submitted  
GD Air Testing, Inc.

George Dai, Ph.D.  
Laboratory Director

Data File: c:\chem\gd5973.I\011310.B\01131004.D and 01131005.D

Report File: GD\SR\ID\QC-TO14\BS-BSD



CLIENT: GD Air Testing Inc. QA

GD Air Testing Lab. ID: QC-BLK-011410F

Report Date: 1/20/2010

Date Analyzed: 1/14/2010

Analyzed by: JCA

Method: ASTM 1945

REPORT OF METHOD BLANK RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY	SAMPLED DATE /RECEIVED		
Method Blank	GAS				
CONSTITUENT	MW	PQL* ppmv	RESULT ppmv	NOTE	
Methane	16	1.00	ND		
Ethane	30	1.00	ND		
Propane	44	1.00	ND		
Butane	58	1.00	ND		
Pentane	72	1.00	ND		
Hexane	86	1.00	ND		

\*RESULTS Listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit).

\* The control limit for method blank is < 1.0 ppmv for each compound.

\* If any compound is out of control limit, please see the case narrative for more details.

Respectfully submitted  
GD Air Testing, Inc.

George Dai, Ph.D.  
Laboratory Director

Data File: Varian 3400/C:\STAR\MODULE 16\01140002.RUN

Report File: GDAIR D:\Client\_Report\Method-18-blk-011410



CLIENT: GD Air Testing Inc. QA

GD Air Testing Lab. ID:

QC-011410F

Report Date: 1/20/2010

Date Analyzed: 1/14/2010

Analyzed by: JCA

Method:

ASTM 1945

REPORT OF BLANK SPIKE RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLE BY		SAMPLED DATE /RECEIVED		
BS/BSD	GAS					
CONSTITUENT	Spiked ppmv	Found and Recovery			NOTE	
		BS	BS, R%	BSD	BSD, R%	RPD %
Methane	50.0	46.9	94	52.7	105	11.6
Ethane	50.0	48.3	97	54.2	108	11.5
Propane	50.0	48.4	97	54.1	108	11.1
Butane	50.0	48.0	96	53.2	106	10.3
Pentane	50.0	48.0	96	51.6	103	7.2
Hexane	100.0	102.0	102	97.2	97	4.8

\* The control limit for BS Recovery % of all spiked compound is 70% - 130%

\*\* The control limit for relative percentage difference of BS/BSD is 30%

\*\*\* If any control compound is not within the control limit, please see the case narrative for more details.

Respectfully submitted  
GD Air Testing, Inc.

  
George Dai, Ph.D.  
Laboratory Director

Data File: C:\STAR\MODULE16\01140003, 01140004.RUN  
Report File: GDAIR D:\Client\_Report\ASTM 1945-bs-011410F







## Case Narrative

January 21, 2010

Alisa Rich  
Wolf Eagle  
PO Box 270541  
Flowermound, TX 75022


**RE: Presence of benzene in the method blank**

One air canister was submitted to GD Air Testing, Inc. for the analysis of VOCs and Light Hydrocarbons on 01/13/2010.

The method blank that ran with this sample showed the presence of benzene at 1.1ppbv. The detection limit for benzene was increased from 0.2ppbv to 1.2ppbv to reflect this issue. The sample that ran with this QC batch had benzene at a concentration of 2.56ppbv. The detection limit was raised, and the result was not blank subtracted.

If you have any questions, please do not hesitate to contact us.

Sincerely,

  
Dr. George Dai  
GD Air Testing Inc.  
Lab Director

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**Soil Lab Results**

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Volatiles by EPA 8260 - Solid Matrix	CAS Number	Tot Soil mg/kg	Sludge Pit Spread Results In ug/kg	Sludge Pit Spread Results converted to mg/kg	Sludge Pit Berm Results In ug/kg	Sludge Pit Berm Results converted to mg/kg	Sludge Pit Condensate Spill Results In ug/kg	Sludge Pit Condensate Spill Results converted to mg/kg
1,1,1,2 - Tetrachloroethane	67641	6.50E+01	ND		ND		ND	
1,1,1 - Trichloroethane	71556	5.20E+02	ND		ND		ND	
1,1,2,2 - Tetrachloroethane	79345	6.90E+00	ND		ND		ND	
1,1,2 - Trichloroethane	79005	1.80E+01	ND		ND		ND	
1,1 - Dichloroethane	75343	4.50E+03	ND		ND		ND	
1,1 - Dichloroethane	75354	2.30E+03	ND		ND		ND	
1,1 - Dichloropropene	563586	3.60E+01	ND		ND		ND	
1,2,3 - Trichloropropane	96184	8.70E-01	ND		ND		ND	
1,2,4 - Trimethylbenzene	95636	1.30E+02	1500	1.5	ND		140	0.14
1,2 - Dibromoethane			ND		ND		ND	
1,2 - Dichlorobenzene	95501	7.20E+02	ND		ND		ND	
1,2-Dichloroethane	107062	1.10E+01	ND		ND		ND	
1,2 - Dichloropropane	78875	6.10E+01	ND		ND		ND	
1,4 - Dichlorobenzene	106467	2.50E+02	ND		ND		ND	
2,2 - Dichloropropane	594207	6.10E+01	ND		ND		ND	
2-Butanone			ND		ND		ND	
2-Chlorotoluene	95498	1.00E+03	ND		ND		ND	
4- Isopropyltoluene/(MEK)	78933	3.40E+04	23	0.023	ND		4	0.004
Acetone	67641	9.80E+03	40	0.04	ND		ND	
Benzene	71432	6.60E+01	29	0.029	ND		20	0.02
Bromobenzene	108861	1.50E+02	ND		ND		ND	
Bromochloromethane			ND		ND		ND	
Bromodichloromethane	75247	9.80E+01	ND		ND		ND	
Bromoform	75352	4.00E+02	ND		ND		ND	
Bromomethane	74839	4.60E+01	ND		ND		ND	

Volatiles by EPA 8260 - Solid Matrix	CAS Number	Top Soil mg/kg	Sludge Pit Spread Results In ug/kg	Sludge Pit Spread Results converted to mg/kg	Sludge Pit Berm Results In ug/kg	Sludge Pit Berm Results converted to mg/kg	Sludge Pit Condensate Spill Results In ug/kg	Sludge Pit Condensate Spill Results converted to mg/kg
Carbon disulfide	75150	4.60E+03	3.3	0.0033	ND		ND	
Carbon tetrachloride	56235	1.60E+01	ND		ND		ND	
Chlorobenzene	108907	5.20E+02	ND		ND		ND	
Chloroethane	75003	2.70E+04	ND		ND		ND	
Chloroform	67663	1.60E+01	ND		ND		ND	
Chloromethane	74873	1.40E+02	ND		ND		ND	
cis-1,2-Dichloroethene	156592	7.70E+02	ND		ND		ND	
cis-1,3-Dichloropropene	10061015	7.60E+00	ND		ND		ND	
Dibromochloromethane	124481	7.20E+01	ND		ND		ND	
Dibromomethane			ND		ND		ND	
Ethylbenzene	100414	5.30E+03	52	0.052	ND		16	0.016
Isopropylbenzene (Cumene)	98828	4.30E+03	21	0.021	ND		4.2	0.0042
m&p-Xylene	108383	8.90E+03	590	0.59	ND		290	0.29
Methylene chloride	75092	3.90E+02	ND		ND		ND	
n-Butylbenzene	104518	1.90E+03	45	0.045	ND		7	0.007
n-Propylbenzene	103651	2.20E+03	41	0.041	ND		7.8	0.0078
o-Xylene	95476	4.80E+04	190	0.19	ND		75	0.075
sec-Butylbenzene	135988	2.10E+03	22	0.022	ND		2.1	0.0021
Styrene	100425	6.70E+03	ND		ND		ND	
tert-Butylbenzene	98066	1.90E+03	2	0.002	ND		ND	
Tetrachlorethene			ND		ND		ND	
Toluene	108883	5.90E+03	130	0.13	ND		160	0.16
trans-1,2-Dichloroethene			ND		ND		ND	
trans-1,3-Dichloropropene	10061026	3.60E+01	ND		ND		ND	
Trichlorethene			ND		ND		ND	
Vinyl Chloride	75014	3.70E+00	ND		ND		ND	
1,3,5 Trimethylbenzene	108678	1.10E+02	210	0.21	ND		81	0.081

Laboratory Results

Soil Samples

Sludge Pit Spread

Anachem, Inc.



Certificate No. T104704198

Date: 19-Jan-10

CLIENT: Wolf Eagle Environmental  
 Project: Ruggiero  
 Location: Decatur  
 Client Sample: Sludge Pit Spread

Lab Order: 1001048  
 Lab ID: 1001048-01  
 Collection Date: 1/11/2010 3:13:00 PM  
 Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY EPA 8260 - SOLID</b>						
					Batch: R58678	Analyst: tp
1,1,1,2-Tetrachloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,1,1-Trichloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,1,2,2-Tetrachloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,1,2-Trichloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,1-Dichloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,1-Dichloroethene	ND	2.0		µg/Kg	1	1/15/2010
1,1-Dichloropropene	ND	2.0		µg/Kg	1	1/15/2010
1,2,3-Trichloropropane	ND	2.0		µg/Kg	1	1/15/2010
1,2,4-Trimethylbenzene	1500	28		µg/Kg	14	1/18/2010
1,2-Dibromoethane	ND	2.0		µg/Kg	1	1/15/2010
1,2-Dichlorobenzene	ND	2.0		µg/Kg	1	1/15/2010
1,2-Dichloroethane	ND	2.0		µg/Kg	1	1/15/2010
1,2-Dichloropropane	ND	2.0		µg/Kg	1	1/15/2010
1,3,5-Trimethylbenzene	210	2.0		µg/Kg	1	1/15/2010
1,3-Dichlorobenzene	ND	2.0		µg/Kg	1	1/15/2010
1,3-Dichloropropane	ND	2.0		µg/Kg	1	1/15/2010
1,4-Dichlorobenzene	ND	2.0		µg/Kg	1	1/15/2010
2,2-Dichloropropane	ND	2.0		µg/Kg	1	1/15/2010
2-Butanone	ND	20		µg/Kg	1	1/15/2010
2-Chlorotoluene	ND	2.0		µg/Kg	1	1/15/2010
4-Chlorotoluene	ND	2.0		µg/Kg	1	1/15/2010
4-Isopropyltoluene	23	2.0		µg/Kg	1	1/15/2010
Acetone	40	20		µg/Kg	1	1/15/2010
Benzene	29	2.0		µg/Kg	1	1/15/2010
Bromobenzene	ND	2.0		µg/Kg	1	1/15/2010
Bromochloromethane	ND	2.0		µg/Kg	1	1/15/2010
Bromodichloromethane	ND	2.0		µg/Kg	1	1/15/2010
Bromoform	ND	2.0		µg/Kg	1	1/15/2010
Bromomethane	ND	10		µg/Kg	1	1/15/2010
Carbon disulfide	3.3	2.0		µg/Kg	1	1/15/2010
Carbon tetrachloride	ND	2.0		µg/Kg	1	1/15/2010
Chlorobenzene	ND	2.0		µg/Kg	1	1/15/2010
Chloroethane	ND	10		µg/Kg	1	1/15/2010
Chloroform	ND	2.0		µg/Kg	1	1/15/2010
Chloromethane	ND	10		µg/Kg	1	1/15/2010
cis-1,2-Dichloroethene	ND	2.0		µg/Kg	1	1/15/2010
cis-1,3-Dichloropropene	ND	2.0		µg/Kg	1	1/15/2010
Dibromochloromethane	ND	2.0		µg/Kg	1	1/15/2010
Dibromomethane	ND	2.0		µg/Kg	1	1/15/2010

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Estimated Value
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	N	Not Included on NELAC Scope of Accreditation	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		



CLIENT: Wolf Eagle Environmental  
 Project: Ruggiero  
 Location: Decatur  
 Client Sample: Sludge Pit Spread

Lab Order: 1001048  
 Lab ID: 1001048-01  
 Collection Date: 1/11/2010 3:13:00 PM  
 Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY EPA 8260 - SOLID</b>				Batch: <b>R58678</b>	Analyst: tp	
Ethylbenzene	52	2.0		µg/Kg	1	1/15/2010
Isopropylbenzene	21	2.0		µg/Kg	1	1/15/2010
m,p-Xylene	590	4.0		µg/Kg	1	1/15/2010
Methylene chloride	ND	10		µg/Kg	1	1/15/2010
n-Butylbenzene	45	2.0		µg/Kg	1	1/15/2010
n-Propylbenzene	41	2.0		µg/Kg	1	1/15/2010
o-Xylene	190	2.0		µg/Kg	1	1/15/2010
sec-Butylbenzene	22	2.0		µg/Kg	1	1/15/2010
Styrene	ND	2.0		µg/Kg	1	1/15/2010
tert-Butylbenzene	2.0	2.0		µg/Kg	1	1/15/2010
Tetrachloroethene	ND	2.0		µg/Kg	1	1/15/2010
Toluene	130	2.0		µg/Kg	1	1/15/2010
trans-1,2-Dichloroethene	ND	2.0		µg/Kg	1	1/15/2010
trans-1,3-Dichloropropene	ND	2.0		µg/Kg	1	1/15/2010
Trichloroethene	ND	2.0		µg/Kg	1	1/15/2010
Vinyl chloride	ND	2.0		µg/Kg	1	1/15/2010

Qualifiers:



- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- N Not Included on NELAC Scope of Accreditation
- S Spike Recovery outside accepted recovery limits

- E Estimated Value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit



Laboratory Results

Soil Samples

Sludge Pit Berm

Anachem, Inc.



Certification No. T104704194

Date: 19-Jan-10

CLIENT: Wolf Eagle Environmental
Project: Ruggiero
Location: Decatur
Client Sample: Sludge Pit Berm

Lab Order: 1001048
Lab ID: 1001048-02
Collection Date: 1/11/2010 3:30:00 PM
Matrix: SOLID

Table with columns: Analyses, Result, Limit, Qual, Units, DF, Date Analyzed. Includes a section for VOLATILES BY EPA 8260 - SOLID with various chemical names and their corresponding results (ND) and limits.

Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
N Not Included on NELAC Scope of Accreditation
S Spike Recovery outside accepted recovery limits
E Estimated Value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit



Anachem, Inc.



Certification No. T104704191

Date: 19-Jan-10

CLIENT: Wolf Eagle Environmental  
Project: Ruggiero  
Location: Decatur  
Client Sample: Sludge Pit Berm

Lab Order: 1001048  
Lab ID: 1001048-02  
Collection Date: 1/11/2010 3:30:00 PM  
Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY EPA 8260 - SOLID</b>				Batch: <b>R58678</b>	Analyst: <b>tp</b>	
Ethylbenzene	ND	2.0		µg/Kg	1	1/15/2010
Isopropylbenzene	ND	2.0		µg/Kg	1	1/15/2010
m,p-Xylene	ND	4.0		µg/Kg	1	1/15/2010
Melhylene chloride	ND	10		µg/Kg	1	1/15/2010
n-Butylbenzene	ND	2.0		µg/Kg	1	1/15/2010
n-Propylbenzene	ND	2.0		µg/Kg	1	1/15/2010
o-Xylene	ND	2.0		µg/Kg	1	1/15/2010
sec-Butylbenzene	ND	2.0		µg/Kg	1	1/15/2010
Styrene	ND	2.0		µg/Kg	1	1/15/2010
terl-Butylbenzene	ND	2.0		µg/Kg	1	1/15/2010
Tetrachloroethene	ND	2.0		µg/Kg	1	1/15/2010
Toluene	ND	2.0		µg/Kg	1	1/15/2010
trans-1,2-Dichloroethene	ND	2.0		µg/Kg	1	1/15/2010
trans-1,3-Dichloropropene	ND	2.0		µg/Kg	1	1/15/2010
Trichloroethene	ND	2.0		µg/Kg	1	1/15/2010
Vinyl chloride	ND	2.0		µg/Kg	1	1/15/2010

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- N Not Included on NELAC Scope of Accreditation
- S Spike Recovery outside accepted recovery limits

- E Estimated Value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit



**Laboratory Results**

**Soil Samples**

**Condensate Spill**

Anachem, Inc.



Certification No. T104704198

Date: 19-Jan-10

CLIENT: Wolf Eagle Environmental
Project: Ruggiero
Location: Decatur
Client Sample: Condensate Spill

Lab Order: 1001048
Lab ID: 1001048-03
Collection Date: 1/11/2010 3:51:00 PM
Matrix: SOLID

Table with columns: Analyses, Result, Limit, Qual, Units, DF, Date Analyzed. Includes section header 'VOLATILES BY EPA 8260 - SOLID' and a list of 40 chemical compounds with their respective results and limits.



Qualifiers: B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
N Not Included on NELAC Scope of Accreditation
S Spike Recovery outside accepted recovery limits

E Estimated Value
J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit



CLIENT: Wolf Eagle Environmental  
 Project: Ruggiero  
 Location: Decatur  
 Client Sample: Condensate Spill

Lab Order: 1001048  
 Lab ID: 1001048-03  
 Collection Date: 1/11/2010 3:51:00 PM  
 Matrix: SOLID

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILES BY EPA 8260 - SOLID</b>				Batch: <b>R58678</b>	Analyst: tp	
Ethylbenzene	16	2.0		µg/Kg	1	1/15/2010
Isopropylbenzene	4.2	2.0		µg/Kg	1	1/15/2010
m,p-Xylene	290	4.0		µg/Kg	1	1/15/2010
Methylene chloride	ND	10		µg/Kg	1	1/15/2010
n-Butylbenzene	7.0	2.0		µg/Kg	1	1/15/2010
n-Propylbenzene	7.8	2.0		µg/Kg	1	1/15/2010
o-Xylene	75	2.0		µg/Kg	1	1/15/2010
sec-Butylbenzene	2.1	2.0		µg/Kg	1	1/15/2010
Styrene	ND	2.0		µg/Kg	1	1/15/2010
tert-Butylbenzene	ND	2.0		µg/Kg	1	1/15/2010
Tetrachloroethene	ND	2.0		µg/Kg	1	1/15/2010
Toluene	160	2.0		µg/Kg	1	1/15/2010
trans-1,2-Dichloroethene	ND	2.0		µg/Kg	1	1/15/2010
trans-1,3-Dichloropropene	ND	2.0		µg/Kg	1	1/15/2010
Trichloroethene	ND	2.0		µg/Kg	1	1/15/2010
Vinyl chloride	ND	2.0		µg/Kg	1	1/15/2010

Qualifiers:

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- N Not Included on NELAC Scope of Accreditation
- S Spike Recovery outside accepted recovery limits
- E Estimated Value
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit



Laboratory Results

Soil Sample

QA/QC Blanks

Anachem, Inc.

Date: 19-Jan-10

CLIENT: WolfEagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT

BatchID: R58678

Sample ID: MBLK      SampType: MBLK      Batch ID: R58678      Units: µg/Kg      Prep Date:      RunNo: 58678  
 Test Name: Volatiles by EPA 8260 - Solid      Analysis Date: 1/15/2010      SeqNo: 630808

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	2.0									
1,1,1-Trichloroethane	ND	2.0									
1,1,2,2-Tetrachloroethane	ND	2.0									
1,1,2-Trichloroethane	ND	2.0									
1,1-Dichloroethane	ND	2.0									
1,1-Dichloroethene	ND	2.0									
1,1-Dichloropropene	ND	2.0									
1,2,3-Trichloropropane	ND	2.0									
1,2,4-Trimethylbenzene	ND	2.0									
1,2-Dibromoethane	ND	2.0									
1,2-Dichlorobenzene	ND	2.0									
1,2-Dichloroethane	ND	2.0									
1,2-Dichloropropane	ND	2.0									
1,3,5-Trimethylbenzene	ND	2.0									
1,3-Dichlorobenzene	ND	2.0									
1,3-Dichloropropane	ND	2.0									
1,4-Dichlorobenzene	ND	2.0									
2,2-Dichloropropane	ND	2.0									
2-Bulane	ND	20									
2-Chlorotoluene	ND	2.0									
4-Chlorotoluene	ND	2.0									
4-Isopropyltoluene	ND	2.0									
Acetone	ND	20									
Benzene	ND	2.0									
Bromobenzene	ND	2.0									
Bromochloromethane	ND	2.0									
Bromodichloromethane	ND	2.0									
Bromoform	ND	2.0									

Qualifiers: E Estimated Value      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 N Not Included on NELAP Scope of Accreditation      ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits





CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



Certification No. T101704195

ANALYTICAL QC SUMMARY REPORT

BatchID: R58678

Sample ID MBLK      SampType: MBLK      Batch ID: R58678      Units: µg/Kg      Prep Date:      RunNo: 58678  
 Test Name: Volatiles by EPA 8260 - Solid      Analysis Date: 1/15/2010      SeqNo: 630808

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromomethane	ND	10									
Carbon disulfide	ND	2.0									
Carbon tetrachloride	ND	2.0									
Chlorobenzene	ND	2.0									
Chloroethane	ND	10									
Chloroform	ND	2.0									
Chloromethane	ND	10									
cis-1,2-Dichloroethene	ND	2.0									
cis-1,3-Dichloropropene	ND	2.0									
Dibromochloromethane	ND	2.0									
Dibromomethane	ND	2.0									
Ethylbenzene	ND	2.0									
Isopropylbenzene	ND	2.0									
m,p-Xylene	ND	4.0									
Methylene chloride	ND	10									
n-Butylbenzene	ND	2.0									
n-Propylbenzene	ND	2.0									
o-Xylene	ND	2.0									
sec-Butylbenzene	ND	2.0									
Styrene	ND	2.0									
tert-Butylbenzene	ND	2.0									
Tetrachloroethene	ND	2.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	2.0									
trans-1,3-Dichloropropene	ND	2.0									
Trichloroethene	ND	2.0									
Vinyl chloride	ND	2.0									

Qualifiers: E Estimated Value      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation      ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT  
 BatchID: R58678

Sample ID	LCS	SamplType: LCS	Batch ID: R58678	Units: µg/Kg	Prep Date:	RunNo: 58678
Test Name:	Volatiles by EPA 8260 - Solid		Analysis Date: 1/15/2010	SeqNo: 630805		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21.60	2.0	20	0	108	61.2	148	0	0	0	
1,2-Dichlorobenzene	20.35	2.0	20	0	102	77.3	115	0	0	0	
1,2-Dichloropropane	20.79	2.0	20	0	104	75.1	111	0	0	0	
1,3,5-Trimethylbenzene	21.42	2.0	20	0	107	76.6	112	0	0	0	
1,3-Dichloropropane	21.04	2.0	20	0	105	81.6	113	0	0	0	
1,4-Dichlorobenzene	19.98	2.0	20	0	99.9	75.8	114	0	0	0	
Acetone	22.43	2.0	20	0	112	56.4	195	0	0	0	
Benzene	20.66	2.0	20	0	103	74.6	111	0	0	0	
Bromobenzene	20.90	2.0	20	0	104	77.8	116	0	0	0	
Bromochloromethane	20.89	2.0	20	0	104	79	117	0	0	0	
Carbon tetrachloride	20.98	2.0	20	0	105	54.1	136	0	0	0	
Dibromochloromethane	21.03	2.0	20	0	105	80.2	120	0	0	0	
Ethylbenzene	21.12	2.0	20	0	106	76.5	114	0	0	0	
n-Butylbenzene	21.83	2.0	20	0	109	73.4	111	0	0	0	
o-Xylene	21.37	2.0	20	0	107	77	115	0	0	0	
sec-Butylbenzene	21.49	2.0	20	0	107	75.5	109	0	0	0	
Tetrachloroethene	20.48	2.0	20	0	102	69.2	118	0	0	0	
Toluene	21.05	2.0	20	0	105	73.3	110	0	0	0	
trans-1,2-Dichloroethene	20.98	2.0	20	0	105	59.5	133	0	0	0	
trans-1,3-Dichloropropane	21.84	2.0	20	0	109	75.3	124	0	0	0	

Sample ID	LCS	SamplType: LCS	Batch ID: R58678	Units: µg/Kg	Prep Date:	RunNo: 58678
Test Name:	Volatiles by EPA 8260 - Solid		Analysis Date: 1/15/2010	SeqNo: 630807		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	21.47	2.0	20	0	107	61.2	148	21.6	0.604	23.3	
1,2-Dichlorobenzene	20.94	2.0	20	0	105	77.3	115	20.35	2.86	13.7	
1,2-Dichloropropane	20.86	2.0	20	0	104	75.1	111	20.79	0.336	12.8	
1,3,5-Trimethylbenzene	21.95	2.0	20	0	110	76.6	112	21.42	2.44	14.9	
1,3-Dichloropropane	21.63	2.0	20	0	108	81.6	113	21.04	2.77	12.6	

Qualifiers: E Estimated Value H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



Certificate No. T10175/1198

ANALYTICAL QC SUMMARY REPORT

BatchID: R58678

Sample ID	LCSD	Sample Type	LCSD	Batch ID	R58678	Units	µg/Kg	Prep Date		RunNo	58678
Test Name	Volatiles by EPA 8260 - Solid							Analysis Date	1/15/2010	SeqNo	630807
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual

1,4-Dichlorobenzene	20.62	2.0	20	0	103	75.8	114	19.98	3.15	14.8	
Acetone	25.55	2.0	20	0	128	56.4	195	22.43	13.0	30.9	
Benzene	20.42	2.0	20	0	102	74.6	111	20.66	1.17	12.9	
Bromobenzene	21.40	2.0	20	0	107	77.8	116	20.9	2.36	14.6	
Bromochloromethane	21.29	2.0	20	0	106	79	117	20.89	1.90	13.2	
Carbon tetrachloride	20.95	2.0	20	0	105	54.1	136	20.98	0.143	15.2	
Dibromochloromethane	21.10	2.0	20	0	106	80.2	120	21.03	0.332	13.1	
Ethylbenzene	21.87	2.0	20	0	109	76.5	114	21.12	3.49	14.3	
n-Butylbenzene	22.29	2.0	20	0	111	73.4	111	21.83	2.09	17.2	S
o-Xylene	22.17	2.0	20	0	111	77	115	21.37	3.67	13.1	
sec-Butylbenzene	21.76	2.0	20	0	109	75.5	109	21.49	1.25	16.7	
Tetrachloroethene	20.53	2.0	20	0	103	69.2	118	20.48	0.244	17.1	
Toluene	20.90	2.0	20	0	104	73.3	110	21.05	0.715	13.6	
trans-1,2-Dichloroethene	21.18	2.0	20	0	106	59.5	133	20.98	0.949	31.5	
trans-1,3-Dichloropropene	21.93	2.0	20	0	110	75.3	124	21.84	0.411	11.2	

Sample ID	1001031-19AMS	Sample Type	MS	Batch ID	R58678	Units	µg/Kg	Prep Date		RunNo	58678
Test Name	Volatiles by EPA 8260 - Solid							Analysis Date	1/15/2010	SeqNo	630803
Analyte	Result	PQL	SPK value	SPK RefVal	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual

1,1-Dichloroethene	23.28	2.0	20	0	116	60	140	0	0	0	
1,2-Dichlorobenzene	20.26	2.0	20	0	101	60	140	0	0	0	
1,2-Dichloropropane	19.68	2.0	20	0	98.4	60	140	0	0	0	
1,3,5-Trimethylbenzene	26.90	2.0	20	0	134	60	140	0	0	0	
1,3-Dichloropropane	15.25	2.0	20	0	76.2	60	140	0	0	0	
1,4-Dichlorobenzene	21.38	2.0	20	0	107	60	140	0	0	0	
Acetone	ND	2.0	20	0	73.2	60	140	0	0	0	
Benzene	21.59	2.0	20	0	108	60	140	0	0	0	
Bromobenzene	21.75	2.0	20	0	109	60	140	0	0	0	
Bromochloromethane	16.20	2.0	20	0	81	60	140	0	0	0	

Qualifiers: E Estimated Value H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT

BatchID: R58678

Sample ID 1001031-19AMS    SampType: MS    Batch ID: R58678    Units: µg/Kg    Prep Date: 1/15/2010    RunNo: 58678  
 Test Name: Volatiles by EPA 8260 - Solid    Analysis Date: 1/15/2010    SeqNo: 630803

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	23.29	2.0	20	0	116	60	140	0	0	25	
Dibromochloromethane	16.15	2.0	20	0	80.8	60	140	0	0	25	
Ethylbenzene	24.44	2.0	20	0	122	60	140	0	0	25	
n-Butylbenzene	29.13	2.0	20	0	146	60	140	0	0	25	S
o-Xylene	23.74	2.0	20	0	119	60	140	0	0	25	
sec-Butylbenzene	28.71	2.0	20	0	144	60	140	0	0	25	S
Tetrachloroethene	23.91	2.0	20	0	120	60	140	0	0	25	
Toluene	22.34	2.0	20	0	112	60	140	0	0	25	
trans-1,2-Dichloroethene	21.86	2.0	20	0	109	60	140	0	0	25	
trans-1,3-Dichloropropene	15.25	2.0	20	0	76.2	60	140	0	0	25	

Sample ID 1001031-19AMS    SampType: MS    Batch ID: R58678    Units: µg/Kg    Prep Date: 1/15/2010    RunNo: 58678  
 Test Name: Volatiles by EPA 8260 - Solid    Analysis Date: 1/15/2010    SeqNo: 630804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	22.35	2.0	20	0	112	60	140	23.28	4.08	25	
1,2-Dichlorobenzene	19.37	2.0	20	0	96.8	60	140	20.26	4.49	25	
1,2-Dichloropropane	18.84	2.0	20	0	94.2	60	140	19.68	4.36	25	
1,3,5-Trimethylbenzene	25.86	2.0	20	0	129	60	140	26.9	3.94	25	
1,3-Dichloropropane	14.42	2.0	20	0	72.1	60	140	15.25	5.59	25	
1,4-Dichlorobenzene	20.26	2.0	20	0	101	60	140	21.38	5.38	25	
Acelone	ND	20	20	0	67.6	60	140	14.65	0	25	
Benzene	20.76	2.0	20	0	104	60	140	21.59	3.92	25	
Bromobenzene	20.79	2.0	20	0	104	60	140	21.75	4.51	25	
Bromochloromethane	15.51	2.0	20	0	77.6	60	140	16.2	4.35	25	
Carbon tetrachloride	22.69	2.0	20	0	113	60	140	23.29	2.61	25	
Dibromochloromethane	15.16	2.0	20	0	75.8	60	140	16.15	6.32	25	
Ethylbenzene	23.18	2.0	20	0	116	60	140	24.44	5.29	25	
n-Butylbenzene	27.77	2.0	20	0	139	60	140	29.13	4.78	25	
o-Xylene	22.02	2.0	20	0	110	60	140	23.74	7.52	25	

Qualifiers: E Estimated Value    H Holding times for preparation or analysis exceeded    J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation    ND Not Detected at the Reporting Limit    R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT  
 BatchID: R58678

Sample ID 1001031-19AMSD SampType: MSD Batch ID: R58678 Units: µg/Kg Prep Date: RunNo: 58678  
 Test Name: Volatiles by EPA 8260 - Solid Analysis Date: 1/15/2010 SeqNo: 630804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Bulybenzene	27.42	2.0	20	0	137	60	140	28.71	4.60	25	
Tetrachloroethene	22.80	2.0	20	0	114	60	140	23.91	4.75	25	
Toluene	21.39	2.0	20	0	107	60	140	22.34	4.34	25	
trans-1,2-Dichloroethene	21.07	2.0	20	0	105	60	140	21.86	3.68	25	
trans-1,3-Dichloropropene	15.09	2.0	20	0	75.5	60	140	15.25	1.05	25	

Qualifiers: E Estimated Value H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT

BatchID: R58681

Sample ID	MBLK	SamplType: MBLK	Batch ID: R58681	Units: µg/Kg	Prep Date:	RunNo: 58681					
Test Name:	Volatiles by EPA 8260 - Solid				Analysis Date: 1/18/2010	SeqNo: 630844					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	2.0									
1,1,1-Trichloroethane	ND	2.0									
1,1,2,2-Tetrachloroethane	ND	2.0									
1,1,2-Trichloroethane	ND	2.0									
1,1-Dichloroethane	ND	2.0									
1,1-Dichloroethane	ND	2.0									
1,1-Dichloropropane	ND	2.0									
1,2,3-Trichloropropane	ND	2.0									
1,2,4-Trimethylbenzene	ND	2.0									
1,2-Dibromoethane	ND	2.0									
1,2-Dichloroethane	ND	2.0									
1,2-Dichloropropane	ND	2.0									
1,3,5-Trimethylbenzene	ND	2.0									
1,3-Dichlorobenzene	ND	2.0									
1,3-Dichloropropane	ND	2.0									
1,4-Dichlorobenzene	ND	2.0									
2,2-Dichloropropane	ND	2.0									
2-Butanone	ND	20									
2-Chlorololuene	ND	2.0									
4-Chlorololuene	ND	2.0									
4-Isopropyltoluene	ND	2.0									
Acetone	ND	20									
Benzene	ND	2.0									
Bromobenzene	ND	2.0									
Bromochloromethane	ND	2.0									
Bromodichloromethane	ND	2.0									
Bromoform	ND	2.0									
Bromomethane	ND	10									
Carbon disulfide	ND	2.0									

Qualifiers:	E	Estimated Value	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	N	Not Included on NELAP Scope of Accreditation	ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits
	S	Spike Recovery outside accepted recovery limits				



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



ANALYTICAL QC SUMMARY REPORT

BatchID: R58681

Sample ID MBLK      SampType: MBLK      Batch ID: R58681      Units: µg/Kg      Prep Date:      RunNo: 58681  
 Test Name: Volatiles by EPA 8260 - Solid      Analysis Date: 1/18/2010      SeqNo: 630844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Carbon tetrachloride	ND	2.0									
Chlorobenzene	ND	2.0									
Chloroethane	ND	10									
Chloroform	ND	2.0									
Chloromethane	ND	10									
cis-1,2-Dichloroethene	ND	2.0									
cis-1,3-Dichloropropene	ND	2.0									
Dibromochloromethane	ND	2.0									
Dibromomethane	ND	2.0									
Ethylbenzene	ND	2.0									
Isopropylbenzene	ND	2.0									
m,p-Xylene	ND	4.0									
Methylene chloride	ND	10									
n-Butylbenzene	ND	2.0									
n-Propylbenzene	ND	2.0									
o-Xylene	ND	2.0									
sec-Butylbenzene	ND	2.0									
Styrene	ND	2.0									
tert-Butylbenzene	ND	2.0									
Tetrachloroethene	ND	2.0									
Toluene	ND	2.0									
trans-1,2-Dichloroethene	ND	2.0									
trans-1,3-Dichloropropene	ND	2.0									
Trichloroethene	ND	2.0									
Vinyl chloride	ND	2.0									

Sample ID LCS      SampType: LCS      Batch ID: R58681      Units: µg/Kg      Prep Date:      RunNo: 58681  
 Test Name: Volatiles by EPA 8260 - Solid      Analysis Date: 1/18/2010      SeqNo: 630841

Qualifiers: E Estimated Value      H Holding times for preparation or analysis exceeded      J Analyte detected below quantitation limits  
 N Not Included on NELAC Scope of Accreditation      ND Not Detected at the Reporting Limit      R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits



CLIENT: Wolf Eagle Environmental  
 Work Order: 1001048  
 Project: Ruggiero



Certification No. T104704199

ANALYTICAL QC SUMMARY REPORT

BatchID: R58681

Sample ID	LCS	SamplType:	LCS	Batch ID:	R58681	Units:	µg/Kg	Prep Date:		RunNo:	58681
Test Name:	Volatiles by EPA 8260 - Solid		Batch ID:	R58681	Units:	µg/Kg	Prep Date:	1/18/2010	SeqNo:	630841	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.98	2.0	20	0	89.9	61.2	148	0	0	0	
1,2-Dichlorobenzene	19.25	2.0	20	0	96.2	77.3	115	0	0	0	
1,2-Dichloropropane	17.76	2.0	20	0	88.8	75.1	111	0	0	0	
1,3,5-Trimethylbenzene	18.87	2.0	20	0	94.4	76.6	112	0	0	0	
1,3-Dichloropropane	18.77	2.0	20	0	93.8	81.6	113	0	0	0	
1,4-Dichlorobenzene	19.00	2.0	20	0	95	75.8	114	0	0	0	
Acetone	31.26	2.0	20	0	156	56.4	195	0	0	0	
Benzene	18.03	2.0	20	0	90.2	74.6	111	0	0	0	
Bromobenzene	19.32	2.0	20	0	96.6	77.8	116	0	0	0	
Bromochloromethane	18.05	2.0	20	0	90.2	79	117	0	0	0	
Carbon tetrachloride	18.66	2.0	20	0	93.3	54.1	136	0	0	0	
Dibromochloromethane	20.22	2.0	20	0	101	80.2	120	0	0	0	
Ethylbenzene	19.57	2.0	20	0	97.8	76.5	114	0	0	0	
n-Butylbenzene	19.17	2.0	20	0	95.8	73.4	111	0	0	0	
o-Xylene	19.76	2.0	20	0	98.8	77	115	0	0	0	
sec-Butylbenzene	18.82	2.0	20	0	94.1	75.5	109	0	0	0	
Tetrachloroethene	19.82	2.0	20	0	99.1	69.2	118	0	0	0	
Toluene	19.21	2.0	20	0	96	73.3	110	0	0	0	
trans-1,2-Dichloroethene	15.01	2.0	20	0	75	59.5	133	0	0	0	
trans-1,3-Dichloropropene	19.26	2.0	20	0	96.3	75.3	124	0	0	0	

Sample ID	LCS	SamplType:	LCS	Batch ID:	R58681	Units:	µg/Kg	Prep Date:		RunNo:	58681
Test Name:	Volatiles by EPA 8260 - Solid		Batch ID:	R58681	Units:	µg/Kg	Prep Date:	1/18/2010	SeqNo:	630843	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.69	2.0	20	0	88.4	61.2	148	17.98	1.63	23.3	
1,2-Dichlorobenzene	20.27	2.0	20	0	101	77.3	115	19.25	5.16	13.7	
1,2-Dichloropropane	18.27	2.0	20	0	91.4	75.1	111	17.76	2.83	12.8	
1,3,5-Trimethylbenzene	19.70	2.0	20	0	98.5	76.6	112	18.87	4.30	14.9	
1,3-Dichloropropane	19.08	2.0	20	0	95.4	81.6	113	18.77	1.64	12.6	

Qualifiers: E Estimated Value H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits  
 N Not Included on NELAP Scope of Accreditation ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits







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**NCTCOG Maps**  
[www.dfwmaps.com](http://www.dfwmaps.com)

**DISCLAIMER**  
This data has been compiled for NCTCOG. Various official and unofficial sources were used to gather this information. Every effort was made to ensure the accuracy of this data, however, no guarantee is given or implied as to the accuracy of said data.



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Yellow: Soil Monitoring Location  
Red: Air Monitoring Location

Pictures

**Environmental Study**  
**Fugitive Air Emissions Sampling**  
**Impacted Soil Sampling**

Mr. and Mrs. Timothy Rugeiro  
415 Star Shell Road  
Decatur, Texas 76234

**Condensate Tanks on Pad Site**



Hydrocarbon impacted soil removed from tank spill



Location of air monitor



Spill from pond flowing into Creek



Spill directly behind condensate tanks flowing in direction of creek



Spill from berm breach on Ruggiero's horse pasture



Pad site with pond contents spread





Location of pump jack near Ruggiero's property

