Appendix F Landfill Gas Sampling Report August 2, 2010

6322 NW 18th Drive
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August 2nd, 2010

Mr. Joseph L. Miller
Post, Buckley, Schuh, & Jernigan, Inc.
482 South Keller Road
Orlando, Florida 32810
(407) 806-4153 Phone

RE: Landfill gas sampling at the Manatee County Lena Road Landfill in Bradenton, Florida.

Mr. Joseph L. Miller,

TRC – Air Measurements, Gainesville Office (TRC) conducted landfill gas sampling at the Manatee County Lena Road Landfill in Bradenton, Florida on June 9th and 10th, 2010. The purpose of these tests was to conduct an engineering study of the landfill gas for use in determination of suitability of a gas to energy project.

Testing consisted of collection of two sets of samples of the landfill gas for analysis of various components of the landfill gas as part of an engineering study coordinated by Post, Buckley, Schuh, & Jernigan, Inc. (PBS&J). Per the request of PBS&J, each set of samples was collected on a different day. The first set of tests was conducted beginning at 11:25 am and concluded at 16:07 pm on June 9th, 2010. The second set of test was collected from 08:00 am to 11:31 am on June 10th, 2010. All samples were shipped to their respective analytical laboratory the same day of sample collection. Samples were shipped to the Gas Technology Institute in Des Plaines, Illinois for analysis of permanent gases (compositional analysis), heating value determination, and sulfur compounds. Samples were shipped to Air Toxics of Folsom, California for analysis of siloxanes and toxic organic compounds.

Four Tedlar® bag samples were collected and analyzed using ASTM Method D1946 for basic compositional analysis. Two of the four Tedlar® bag samples were additionally used to provide sample for analysis of sulfur compounds using ASTM D6628. Two samples were collected for siloxanes analysis using a midget bubbler system in accordance with Air Toxics Ltd. Method @71. Two samples were collected into 1 liter SUMMA passivated canisters for analysis of toxic organics and chlorinated compounds using EPA Method TO-15 with modifications as per the labs quality assurance plan. In

addition two flow measurements were conducted each day one at the start of the day and one at the end of the day.

Table 1, the executive summary, shows the analytical results of these tests; see *Attachments*. More detailed results of the analyses and any lab quality assurance procedures may be found in the lab results, also provided in the *Attachments* to this report.

EPA Method 2C was used for determination of LFG inlet flow (to the flare) during each run. A "standard" pitot tube and Shortridge AirData digital manometer were used to measure differential pressures across the inlet pipe. Stack temperatures were determined with a K-type thermocouple and digital thermometer. In direct comparison to the flare station flow meter, the EPA reference method was 10.16% higher than the station flow meter.

Moisture content on the landfill gas was determined using a wet bulb/dry bulb apparatus. The wet and dry temperatures were then used to determine specific humidity of the landfill gas and thus moisture content. This method was used in lieu of EPA Method 4 due to safety precautions. Since landfill gas is highly combustible, it is dangerous to exhaust this gas from the pump outlet into the surrounding area.

Sampling for compositional analysis was conducted in accordance with EPA Method 18 procedures. Sampling was conducted on the pressure side of the main header. Each sample was collected into 10 liter Tedlar® bags from the landfill gas main line and analyzed using ASTM Method D1946 for component analysis. Ambient temperature, barometric pressure, source temperature were recorded during this testing.

Sampling for sulfur compounds was conducted in accordance with EPA Method 18 procedures. Sampling was conducted on the pressure side of the main header. These samples were collected into the same 10 liter Tedlar bags as the ASTM Method D1946 samples. Sample collection was postponed until the end of the sampling event each day in order to reduce sulfur compound hold times and obtain more accurate results. Due to the highly reactive nature of the sulfur compounds, the sample was analyzed as close to within 24 hours of sample collection as possible per ASTM D6228.

Sampling for siloxane concentrations was conducted in accordance with ATL Method @71. Sampling was conducted on the main header of the landfill gas line. The sample probe and lines were purged for 5 minutes using the inherent positive pressure of the landfill gas at the sampling location. The sample lines were then connected to a liquid absorption solution sampling train. This sampling train consisted of 2 midget bubblers, each containing a 10 ml methanol solution. Sampling was conducted at a flow rate of approximately 220 ml/min of landfill gas using a precision flow meter for a 2-hour sample period. The samples were recovered at the end of each test and kept chilled until arrival at the analytical laboratory.

Sampling for toxic organic compounds and chlorinated compounds was conducted by collecting sample gas into a 1 liter SUMMA passivated sample canister. Sampling was conducted on the main header of the landfill gas line. The sample probe, lines, and flow controller were purged for 5 minutes using the inherent positive pressure of the landfill gas at the sampling location. The sample lines were then connected to the sampling canister. Sampling was conducted over a 20-minute period at a flow rate of 40.4 ml/minute using an Omega flowmeter. The canister was supplied by Air Toxics.

Please contact me at (352) 378-0332 or send an email to lbrenner@trcsolutions.com if I may be of further service or if you need any additional information.

Sincerely,

Leonard Brenner,
Senior Project Manager

Air Measurements – Gainesville Office
6322 NW 18th Drive, Suite 170
Gainesville, Florida 32653
(352) 378-0332 Office
(352) 378-0354 Facsimile
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Email: lbrenner@trcsolutions.com

ATTACHMENTS:
Table 1: Executive Summary
Flare Station Flow Rates
Field Sample Collection Data Forms
Operational Data Collected from Plant Flow Panel
Gas Technology Institute Lab Results – Composition and Sulfur Analysis (ASTM D1946 and ASTM D6228)
Air Toxics Lab Results - Siloxanes (ATL Method@71)
Air Toxics Lab Results - Toxic Organic Compounds (TO-15)

ATTACHMENTS

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Trace Sulfur Determination by ASTM D6228-98

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-003
Sample Description: Bag-3 Landfill Gas 6/9/10
Date Analyzed: 10-Jun-10
Analyst: KFB

Component Name	PPMV	Component Name	PPMV
Hydrogen Sulfide	89.1	Thiophene	0.07
Sulfur Dioxide		C1-Thiophenes	
Carbonyl Sulfide	0.32	C2-Thiophenes	
Carbon Disulfide	0.04	C3-Thiophenes	
Methyl Mercaptan	0.43	Benzothiophene	
Ethyl Mercaptan	0.05	C1-Benzothiophenes	
i-Propyl Mercaptan	0.36	C2-Benzothiophenes	
n-Propyl Mercaptan			
t-Butyl Mercaptan	0.14	Thiophane	
		Thiophenol	
Dimethyl Sulfide	0.28		
Methyl Ethyl Sulfide		Individual Unidentified	
Diethyl Sulfide		Sulfur Compounds	
Di-t-Butyl Sulfide		(all as monosulfides)	
Dimethyl Disulfide		Unidentified Compound 1:	0.23
Methyl Ethyl Disulfide			
Methyl i-Propyl Disulfide			
Diethyl Disulfide			
Methyl n-Propyl Disulfide			
Methyl t-Butyl Disulfide			
Ethyl i-Propyl Disulfide			
Ethyl n-Propyl Disulfide			
Ethyl t-Butyl Disulfide			
Di-i-Propyl Disulfide		Total Unidentified:	0.23
i-Propyl n-Propyl Disulfide		Total Identified:	90.8
Di-n-Propyl Disulfide			
i-Propyl t-Butyl Disulfide		**Total Sulfur Content**	
n-Propyl t-Butyl Disulfide		As molar PPM	91.1
Di-t-Butyl Disulfide		As Grains/100 SCF @ STP	5.69
Dimethyl Trisulfide		As Grains/100 SCF @ 14.73	5.40
Diethyl Trisulfide		psia, 60°F	
Di-t-Butyl Trisulfide			

Notes:
Component Detection Limit:
0.05 ppmv of sulfur
All blank values are below detection limit.
STP= 14.696psia, 0°C

Gas Technology Institute | 1700 S. Mount Prospect Rd. | Des Plaines, IL 60018 | T: 847 768 0500 | F: 847 768 0501 | www.gastechnology.org

Major Component Gas Analysis By Gas Chromatography (ASTM D1945 / D1946)

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-004
Sample Description: Bag-4 Landfill Gas 6/10/10
Date Analyzed: 11-Jun-10 **Analyst:** KFB

Component	Mol %	Det. Limit	Weight %
Helium		0.1%	
Hydrogen		0.1%	
Carbon Dioxide	**35.8%**	0.03%	**57.5%**
Oxygen/Argon	**1.33%**	0.03%	**1.57%**
Nitrogen	**9.65%**	0.03%	**9.85%**
Carbon Monoxide		0.03%	
Methane	**53.2%**	0.002%	**31.1%**
Ethane		0.002%	
Ethene		0.002%	
Ethyne		0.002%	
Propane	**0.002%**	0.002%	**0.003%**
Propene		0.002%	
Propadiene		0.002%	
Propyne		0.002%	
i-Butane		0.002%	
n-Butane		0.002%	
1-Butene		0.002%	
i-Butene		0.002%	
trans-2-Butene		0.002%	
cis-2-Butene		0.002%	
1,3-Butadiene		0.002%	
i-Pentane		0.002%	
n-Pentane		0.002%	
neo-Pentane		0.002%	
Pentenes		0.002%	
Hexane Plus		0.002%	
Hydrogen Sulfide	**0.0140%**	0.000005%	**0.0174%**
Carbonyl Sulfide	**0.000045%**	0.000005%	**0.000099%**
Total	**100.0%**		**100.0%**

Calculated Real Gas Properties per ASTM D3588-98(03)

Temp. (°F) =	**60.0**	**60.0**
Press. (psia) =	**14.696**	**14.73**
Compressibility Factor [z] (Dry) =	0.99722	0.99721
Compressibility Factor [z] (Sat.) =	0.99687	0.99686
Relative Density (Dry) =	0.9496	0.9496
Gross HV (Dry) (Btu/ft³) =	538.8	540.1
Gross HV (Sat.) (Btu/ft³) =	529.6	530.8
Wobbe Index =	552.9	554.2
Net HV (Dry) (Btu/ft³) =	485.1	486.3
Net HV (Sat.) (Btu/ft³) =	476.9	478.0

Notes: All blank values are below detection limit
N.A. - Not Analyzed

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Trace Sulfur Determination by ASTM D6228-98

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-004
Sample Description: Bag-4 Landfill Gas 6/10/10
Date Analyzed: 11-Jun-10
Analyst: KFB

Component Name	PPMV	Component Name	PPMV
Hydrogen Sulfide	140	Thiophene	0.06
Sulfur Dioxide		C1-Thiophenes	
Carbonyl Sulfide	0.45	C2-Thiophenes	
Carbon Disulfide		C3-Thiophenes	
Methyl Mercaptan	0.66	Benzothiophene	
Ethyl Mercaptan	0.09	C1-Benzothiophenes	
i-Propyl Mercaptan	0.43	C2-Benzothiophenes	
n-Propyl Mercaptan			
t-Butyl Mercaptan	0.14	Thiophane	
		Thiophenol	
Dimethyl Sulfide	0.28		
Methyl Ethyl Sulfide		Individual Unidentified	
Diethyl Sulfide		Sulfur Compounds	
Di-t-Butyl Sulfide		(all as monosulfides)	
Dimethyl Disulfide		Unidentified Compound 1:	0.26
Methyl Ethyl Disulfide			
Methyl i-Propyl Disulfide			
Diethyl Disulfide			
Methyl n-Propyl Disulfide			
Methyl t-Butyl Disulfide			
Ethyl i-Propyl Disulfide			
Ethyl n-Propyl Disulfide			
Ethyl t-Butyl Disulfide			
Di-i-Propyl Disulfide		Total Unidentified:	0.26
i-Propyl n-Propyl Disulfide		Total Identified:	142
Di-n-Propyl Disulfide			
i-Propyl t-Butyl Disulfide		**Total Sulfur Content**	
n-Propyl t-Butyl Disulfide		As molar PPM	142
Di-t-Butyl Disulfide		As Grains/100 SCF @ STP	8.90
Dimethyl Trisulfide		As Grains/100 SCF @ 14.73	8.44
Diethyl Trisulfide		psia, 60°F	
Di-t-Butyl Trisulfide			

Notes:
Component Detection Limit:
0.05 ppmv of sulfur
All blank values are below detection limit.
STP= 14.696psia, 0°C

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6/10/2010 Manatee County Lena Road Landfill

	8:03	8:21	8:45	09:00	09:15	09:30	09:45
Flare Flow	1516	1546	1526	1521	1520	1535	1547
Plant Flow	398	394	423	432	432	420	408
Discharge Press	22.9	22.9	23.0	23.0	23.0	22.9	23.3
Flare Temp	828	854	798.0	906	861	801	848
	10.00	10:15	10:30	10:46	11:00	11:15	11:30
Flare Flow	1552	1547	1535	1547	1547	1562	1548
Plant Flow	382	393	417	395	393	378	376
Discharge Press	22.8	23.3	22.9	22.8	23.2	22.9	23.3
Flare Temp	865	792	804	840	826	763	817
	11:43						29.94
Flare Flow	1756						96.3
Plant Flow	60						77
Discharge	823.0						
Flare Temp	827						
	29.94						
	100						
	79						
Gem Readings	8:05	8:30	10:55	11:18	11:40		
CH4	53.9	52.7	53.9	53.3	52.8		
CO_2	41.0	40.1	40.5	40.3	40.7		
O_2	1.2	1.4	1.1	1.5	1.7		
Bal	3.9	5.8	4.5	4.9	4.8		
CH4							
O_2							
O_2							
Bal							

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Analytical Report

Batch # : 101390
June 22, 2010

Prepared for:

Leonard Brenner
Phone: (352) 378-0332

TRC Environmental Corp.
6322 NW 18th Drive
Suite 170
Gainesville, FL 32653

Purchase Order No: 24508

Received Date: June 10, 2010

Disclaimer:

Neither GTI nor any person acting on behalf of GTI assumes any liability with respect to the use of, or for damages resulting from the use of, any information presented in this report.

The results in this report relate only to the items tested.

Submitted by: Karen Crippen, (847) 768-0604
Chemical Research Services

Technical contact for this report: _____

Russell J. Bora (847) 768-0693

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Major Component Gas Analysis By Gas Chromatography (ASTM D1945 / D1946)

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-001
Sample Description: Bag-1 Landfill Gas 6/9/10
Date Analyzed: 15-Jun-10 **Analyst:** KFB

Component	Mol %	Det. Limit	Weight %
Helium		0.1%	
Hydrogen		0.1%	
Carbon Dioxide	**34.4%**	0.03%	**55.8%**
Oxygen/Argon	**1.57%**	0.03%	**1.87%**
Nitrogen	**10.0%**	0.03%	**10.4%**
Carbon Monoxide		0.03%	
Methane	**54.0%**	0.002%	**32.0%**
Ethane		0.002%	
Ethene		0.002%	
Ethyne		0.002%	
Propane	**0.002%**	0.002%	**0.003%**
Propene		0.002%	
Propadiene		0.002%	
Propyne		0.002%	
i-Butane		0.002%	
n-Butane		0.002%	
1-Butene		0.002%	
i-Butene		0.002%	
trans-2-Butene		0.002%	
cis-2-Butene		0.002%	
1,3-Butadiene		0.002%	
i-Pentane		0.002%	
n-Pentane		0.002%	
neo-Pentane		0.002%	
Pentenes		0.002%	
Hexane Plus		0.002%	
Hydrogen Sulfide		0.10%	
Carbonyl Sulfide	**N.A.**	0.000005%	**N.A.**
Total	**100.0%**		**100.0%**

Calculated Real Gas Properties per ASTM D3588-98(03)

Temp. (°F) =	**60.0**	**60.0**
Press. (psia) =	**14.696**	**14.73**
Compressibility Factor [z] (Dry) =	0.99728	0.99728
Compressibility Factor [z] (Sat.) =	0.99693	0.99693
Relative Density (Dry) =	0.9383	0.9383
Gross HV (Dry) (Btu/ft³) =	547.2	548.5
Gross HV (Sat.) (Btu/ft³) =	537.9	539.1
Wobbe Index =	564.9	566.2
Net HV (Dry) (Btu/ft³) =	492.7	493.9
Net HV (Sat.) (Btu/ft³) =	484.3	485.4

Notes: All blank values are below detection limit
N.A. - Not Analyzed

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Major Component Gas Analysis By Gas Chromatography (ASTM D1945 / D1946)

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-002
Sample Description: Bag-2 Landfill Gas 6/9/10
Date Analyzed: 15-Jun-10 **Analyst:** KFB

Component	Mol %	Det. Limit	Weight %
Helium		0.1%	
Hydrogen		0.1%	
Carbon Dioxide	**34.6%**	0.03%	**56.0%**
Oxygen/Argon	**1.57%**	0.03%	**1.87%**
Nitrogen	**10.1%**	0.03%	**10.4%**
Carbon Monoxide		0.03%	
Methane	**53.8%**	0.002%	**31.7%**
Ethane		0.002%	
Ethene		0.002%	
Ethyne		0.002%	
Propane		0.002%	
Propene		0.002%	
Propadiene		0.002%	
Propyne		0.002%	
i-Butane		0.002%	
n-Butane		0.002%	
1-Butene		0.002%	
i-Butene		0.002%	
trans-2-Butene		0.002%	
cis-2-Butene		0.002%	
1,3-Butadiene		0.002%	
i-Pentane		0.002%	
n-Pentane		0.002%	
neo-Pentane		0.002%	
Pentenes		0.002%	
Hexane Plus		0.002%	
Hydrogen Sulfide		0.10%	
Carbonyl Sulfide	**N.A.**	0.000005%	**N.A.**
Total	**100.0%**		**100.0%**

Calculated Real Gas Properties per ASTM D3588-98(03)

Temp. (°F) =	**60.0**	**60.0**
Press. (psia) =	**14.696**	**14.73**
Compressibility Factor [z] (Dry) =	0.99728	0.99727
Compressibility Factor [z] (Sat.) =	0.99693	0.99692
Relative Density (Dry) =	0.9406	0.9406
Gross HV (Dry) (Btu/ft³) =	544.4	545.7
Gross HV (Sat.) (Btu/ft³) =	535.1	536.4
Wobbe Index =	561.4	562.7
Net HV (Dry) (Btu/ft³) =	490.2	491.3
Net HV (Sat.) (Btu/ft³) =	481.8	483.0

Notes: All blank values are below detection limit
N.A. - Not Analyzed

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Major Component Gas Analysis By Gas Chromatography (ASTM D1945 / D1946)

Report Date: 22-Jun-10
Client Name: TRC Environmental Corp.
GTI Sample Number: 101390-003
Sample Description: Bag-3 Landfill Gas 6/9/10
Date Analyzed: 10-Jun-10 **Analyst:** KFB

Component	Mol %	Det. Limit	Weight %
Helium		0.1%	
Hydrogen		0.1%	
Carbon Dioxide	**35.9%**	0.03%	**57.5%**
Oxygen/Argon	**1.35%**	0.03%	**1.59%**
Nitrogen	**9.65%**	0.03%	**9.84%**
Carbon Monoxide		0.03%	
Methane	**53.1%**	0.002%	**31.1%**
Ethane		0.002%	
Ethene		0.002%	
Ethyne		0.002%	
Propane	**0.002%**	0.002%	**0.003%**
Propene		0.002%	
Propadiene		0.002%	
Propyne		0.002%	
i-Butane		0.002%	
n-Butane		0.002%	
1-Butene		0.002%	
i-Butene		0.002%	
trans-2-Butene		0.002%	
cis-2-Butene		0.002%	
1,3-Butadiene		0.002%	
i-Pentane		0.002%	
n-Pentane		0.002%	
neo-Pentane		0.002%	
Pentenes		0.002%	
Hexane Plus	**0.003%**	0.002%	**0.008%**
Hydrogen Sulfide	**0.00891%**	0.000005%	**0.0111%**
Carbonyl Sulfide	**0.000032%**	0.000005%	**0.000070%**
Total	**100.0%**		**100.0%**

Calculated Real Gas Properties per ASTM D3588-98(03)

Temp. (°F) =	**60.0**	**60.0**
Press. (psia) =	**14.696**	**14.73**
Compressibility Factor [z] (Dry) =	0.99722	0.99721
Compressibility Factor [z] (Sat.) =	0.99687	0.99686
Relative Density (Dry) =	0.9500	0.9500
Gross HV (Dry) (Btu/ft³) =	538.4	539.7
Gross HV (Sat.) (Btu/ft³) =	529.2	530.5
Wobbe Index =	552.4	553.7
Net HV (Dry) (Btu/ft³) =	484.8	485.9
Net HV (Sat.) (Btu/ft³) =	476.5	477.6

Notes: All blank values are below detection limit
N.A. - Not Analyzed

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METHOD 2 - VELOCITY TRAVERSE DATA SHEET (3-RUN)

Client Name	PBS&J			Project No.	177265.0000.0000
Plant Name	Manatee County Lena Road Landfill			Date	6/10/2010
City / State	Bradenton / Florida			P barometer, "Hg	29.94
Test Location	Main Header	Pitot ID	standard	Thermocouple ID	Standard-1
Personnel	Rpo	Pitot Coeff	0.99	Digital Manometer	M95826

	Run No:	2B (Port 1)
	Run Time:	11:31
	P static	+ 13.7
	Pitot Check:	Pre ✓ Post ✓
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1	1.319	132.3
2	1-2	1.331	132.7
3	1-3	1.441	133.1
4	1-4	1.469	133.4
5	1-5 ~~2-1~~	1.788	133.2
6	1-6 ~~2-2~~	1.932	133.0
7	1-7 ~~2-3~~	1.887	132.9
8	1-8 ~~2-4~~	1.720	132.2
28			
	Avg		

	Run No:	2B (Port 2)
	Run Time:	11:24
	P static	+ 13.7
	Pitot Check:	Pre ✓ Post ✓
	Tester Signature	

Point No.	Delta P in. H2O	Temp Deg. F
2-1 ~~1-1~~	1.587	136.1
2-2 ~~1-2~~	1.566	135.5
2-3 ~~1-3~~	1.667	135.1
2-4 ~~1-4~~	1.604	134.7
2-5	1.584	134.5
2-6	1.713	134.6
2-7	1.567	134.4
2-8	1.570	134.0
Avg		

	Run No:	3
	Run Time:	
	P static	
	Pitot Check:	Pre ___ Post ___
	Tester Signature	

Point No.	Delta P in. H2O	Temp Deg. F
1-1		
1-2		
1-3		
1-4		
2-1		
2-2		
2-3		
2-4		
Avg		

Avg Tem 133.9

Gas Temp Wet °F	40.1 °C 104.1	Gas Temp Wet °F		Gas Temp Wet °F	
Gas Temp Dry °F	133.9	Gas Temp Dry °F		Gas Temp Dry °F	

Checked By: _____ Date: 7/1/2010
(Project Manager or QA Manager)

Tedlar Bag Sampling Data Sheet

Date: 6/9/10
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FL
Source: Main Header to Flare
Technician: RLO

Atm. Pressure ("Hg): 29.93
Ambient Temp (°F): 103 °F
Wet Bulb Temp (°F): 77.4 °F
Sample Pump ID: A.t. Thomas pump 1
Flow Meter ID: 0106070317735 / 002

Bag 1

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments
0	14:39	113.4	148.0	251.3	
5	14:44	115.8	148.0	251.3	29.93 / 102.8 / 77.1
10	14:49	108.6	148.0	251.3	
15	14:54	113.0	148.0	251.3	
20	14:59	113.3	148.0	251.3	29.93 / 103.2 / 77.7
Averages:					

Tedlar Bag Sampling Data Sheet

Date: 6/9/10
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FL
Source: Main header to flare
Technician: KHO

Atm. Pressure ("Hg): 29.93
Ambient Temp (°F): 100.5
Wet Bulb Temp (°F): 77.05
Sample Pump ID: Thomas pump 1
Flow Meter ID: 0106070317735/002

Bag-2

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments
~~15:02~~ 0	15:03	110.7	148	251.3	
5	15:08	110.6	148	251.3	29.93 / 104.0 / 77.1
10	15:13	111.2	148	251.3	
15	15:18	104.2	148	251.3	29.93 / ~~105~~ 97 ~~PM~~ 77
20	15:23	110.2	148	251.3	
Averages:					

Tedlar Bag Sampling Data Sheet

Date: 6/9/2010
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FL
Source: Main header to Flare
Technician: RPO

Atm. Pressure ("Hg): 29.92
Ambient Temp (°F): 98
Wet Bulb Temp (°F): 77.67
Sample Pump ID: Thomas Pump 1
Flow Meter ID: 0106070317735/002

Bag 3

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments
0	15:26	111.8	148	251.3	29.92 / 98.0 / 77.0
5	15:31	108.0	148	251.3	
10	15:36	101.6	148	251.3	29.92 / 98.0 / 78
15	15:41	101.4	148	251.3	
20	15:46	100.1	148	251.3	29.92 / 98 / 78
Averages:					

Tedlar Bag Sampling Data Sheet

Date: 6-10-2016
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FL
Source: Main header to Flare
Technician: RAO

Atm. Pressure ("Hg): 29.946
Ambient Temp (°F): 97.5
Wet Bulb Temp (°F): 78.3
Sample Pump ID: Thomas Pump 1
Flow Meter ID: 0106070317735/002

Bag 4

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments
0	10:57	120	148	251.3	29.95/97/78.2
5	11:02	121	148	251.3	
10	11:07	122	148	251.3	29.95/95.5/77.8
15	11:12	123	148	251.3	
20	11:17	122	148	251.3	29.94/100/79
Averages:					

TO-15

~~Tedlar Bag~~ Sampling Data Sheet

Date: 6/9/10
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FC
Source: Landfill Gas Header
Technician: RPO

Atm. Pressure ("Hg): 29.95
Ambient Temp (°F): 101.9
Wet Bulb Temp (°F): 77.4
Sample Pump ID: n/a
Flow Meter ID: 010707 03 44268

TANK # 34669 Run # TO-15-1

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments	
0	13:35	134.4	59	40.4	49	30
5	13:40	131.3	59	40.4	64	
10	13:45	130.2	59	40.4	78	
15	13:50	131.4	59	40.4	108	
20	13:55	132.0	59	40.4	134	2
Averages:		131.86				

101.8 / 77.2
29.95
29.95 / 102 / 7
29.95 / 102 / 7

TRC

~~Tedlar Bag~~ Sampling Data Sheet

TO-15

Date: 6-10-2010
Plant: Manatee County Lena Road Landfill
Location: Bradenton, FL
Source: Main header to Flare
Technician: CLO

Atm. Pressure ("Hg): 29.96
Ambient Temp (°F): 90.7
Wet Bulb Temp (°F): 76.85
Sample Pump ID: N/A
Flow Meter ID: 0107070344268/1002

Tank # 2119 Run # TO-15-2

	Start	End
	29.96	29.96
	89.9	91.5
	76.5	77.2

Sampling Time (minutes)	Clock Time (HH:MM)	Source Temp (° F)	Sample Flow Scale (mm)	Sample Flow Rate (ml/min)	Comments	
0	9:11	101	59	40.4		30"
5	09:16	101	~~90~~59	40.4		25"
10	09:21	101	59	40.4		20"
15	09:26	100	59	40.4		14.8
20	09:31	99	59	40.4		6"
Averages:		100.4				

IMPINGER SAMPLING DATA SHEET

Date: 6/9/10
Plant:Manatee County Lena Road Landfill
Location:Bradenton , Florida
Source: Landfill Gas Main Header
Technicians: RPO

Test Run: Siloxanes - 1
Probe Material: Teflon
Barometric Pressure: 29.958

Pollutant Sampled: Siloxanes

Target Sample Rate: 220.0 (ml/min)

Sample Time Interval: 120 (minutes)

	Sampling Time (min)	Clock Time (24 hr)	Start Flow Rate (l/min)	End Flow Rate (l/min)	Sample Volume (ml)	Last Impinger Temp. (°F)	Ice Bath Temp. (°F)	Comments	
0	~~12:470~~	12:17	0.22			67	33	29.97	
1	15	12:32	0.22	0.22	3300	54	33		
2	30	12:47	0.22	0.22	6600	53	33	29.97	102.2 / 78
3	45	13:02	0.22	0.22	9900	56	33		
4	60	13:17	0.22	0.22	13200	59	33	29.96	102 / 78
5	75	13:32	0.22	0.22	16500	60	33		
6	90	13:47	0.22	0.22	19800	61	33	29.95	102 / 77.5
7	105	14:02	0.22	0.22	23100	61	33		
8	120	14:17		0.22	26400	63	34	29.94	101.8 / 77.2
9									
10									
11									
12									

IMPINGER SAMPLING DATA SHEET

Date: 6/10/2010
Plant:Manatee County Lena Road Landfill
Location:Bradenton , Florida
Source: Landfill Gas Main Header
Technicians: RPO

Test Run: Siloxanes-2
Probe Material: Teflon
Barometric Pressure: 29.954

Pollutant Sampled: Siloxanes

Target Sample Rate: 220.0 (ml/min)

Sample Time Interval: 120 (minutes)

	Sampling Time (min)	Clock Time (24 hr)	Start Flow Rate (l/min)	End Flow Rate (l/min)	Sample Volume (ml)	Last Impinger Temp. (°F)	Ice Bath Temp. (°F)	Comments
0	0	09:40	0.22			59	33	29.95/90.1/76.8
1	15	08:55	0.22	0.22	3300	43	33	
2	30	09:10	0.22	0.22	6600	42	33	29.96/89.9/76.5
3	45	09:25	0.22	0.22	9900	46	33	
4	60	09:40	0.22	0.22	13200	47	33	29.96/94/78
5	75	09:55	0.22	0.22	16500	44	33	
6	90	10:10	0.22	0.22	19800	49	34	29.95/93/77.4
7	105	10:25	0.22	0.22	23100	47	33	
8	120	10:40		0.22	26400	48	33	29.95/96/78
9								
10								
11								
12								

11:23 29.97 / 1012 / 77.5

11:46 29.97 / 101.8 / 77.8

6/9/10 11:45

Flare Flow 1554 SCFM

plant flow 371 SCFM

Discharge Press 23" wc

Flare Temp 1050 °F

11:55 12:16

GEM Readings Bal due to cal recal. in truck

CH_4	=	60.4	52.2
CO_2	=	38.2	40.3
O_2	=	1.3	1.3
Bal	=	0.1	6.2

		12:30	12:45	13:00	13:20	13:30	13:45
Flare	Flow	1560 SCFM	1555	1545	15:48	15:44	1550
Plant	flow	364 SCFM	368	378	378	376	374
Discharge	Press	23.3" WC	23.2	22.8	22.8	23.0	22.9
Flare	Temp	930 °F	870	1021	1086	1020	996
		14:00	14:15	14:45	15:00	15:15	15:30
Flare	Flow	1548	1544	1555	1556	1559	1553
plant	flow	378	376	374	378	376	368
Discharge	Press	23.0	23.2	23.2	22.9	23.1	23.1
Flare	Temp	969	1071	986	888	1036	902
						15:45	16:00
Flare	flow					1548	1548
plant	flow					379	382
Discharge	Press					23.1	23.3
Flare	Temp					965	1088

~~GEM-2000 Readings~~

	14:38	14:58	15:26	15:48
GEM. 2000	Readings			
CH_4	52.6	52	52.7	~~51.1~~ 52.1
CO_2	40.0	39.4	40.	39.8
O_2	1.3	1.4	1.5	1.8
Bal	6.1	7.2	5.8	6.3

16:15

Flare flow

plant flow

Dz Press

flare Temp

TABLE 1
Executive Summary (Page 1 of 2)

Run Number / Component ID	Run 1A	Run 1B	Run 1C	Run 2	Average	Units
Date	**6/9/2010**			**6/10/2010**		
Start Time	**11:25**			**08:00**		
End Time	**16:07**			**11:31**		
Compositional and Btu Analysis (ASTM D1946)						
Sample ID Number	Bag 1	Bag 2	Bag 3	Bag 4		
Start Time	14:39	15:03	15:26	10:57		
End Time	14:59	15:23	15:46	11:17		
Carbon Dioxide (dry basis, per ASTM D1946)	34.4	34.6	35.9	35.8	35.18	Mol %
Oxygen (dry basis, per ASTM D1946)	1.57	1.57	1.35	1.33	1.46	Mol %
Nitrogen (dry basis, per ASTM D1946)	10.0	10.1	9.65	9.65	9.85	Mol %
Methane (dry basis, per ASTM D1946)	54.0	53.8	53.1	53.2	53.53	Mol %
Propane (dry basis, per ASTM D1946)	0.002	0.000	0.002	0.002	0.00	Mol %
Total Volume (ASTM D1946 sample results)	100.0	100.1	100.0	100.0	100.01	Mol %
Methane (GEM Analyzer)	52.3	52.4	52.4	53.6	52.66	Mol %
Carbon Dioxide (GEM Analyzer)	39.7	39.7	39.9	40.4	39.93	Mol %
Oxygen (GEM Analyzer)	1.35	1.45	1.65	1.30	1.44	Mol %
Balance Gas (GEM Analyzer)	6.65	6.50	6.05	4.70	5.98	Mol %
Total Volume (GEM Analyzer Results)	100.0	100.0	100.0	100.0	100.0	Mol %
Moisture Content (per EPA Method 4 modified)	6.38	6.21	5.96	6.19	6.30	Mol %
Landfill Gas Heat Input Data						
Gross Heating Value (Dry basis at 14.696 psia and 60 °F)	547.2	544.4	538.4	538.8	545.8	Btu/SCF
Gross Heating Value (Wet basis at 14.696 psia and 60 °F)	537.9	535.1	529.2	529.6	536.5	Btu/SCF
Gas Flow Rate to Flare (Flare Flow Meter)	1555	1559	1553	1547	1557	
Gas Flow Rate to Flare (Plant Flow Meter)	374	376	368	393	375	
Heating Input from Landfill during test (based on GHV, wet)	50.19	50.05	49.31	49.16	50.12	MMBtu/hr
Sulfur Analysis (ASTM D6228)						
Sample ID Number			Bag 3	Bag 4		
Hydrogen Sulfide (per ASTM D-6228)			89.1	140	114.6	ppmv
Carbonyl Sulfide (per ASTM D-6228)			0.32	0.45	0.39	ppmv
Carbon Disulfide (per ASTM D-6228)			0.04	0.66	0.35	ppmv
Methyl Mercaptan (per ASTM D-6228)			0.43	0.09	0.26	ppmv
Ethyl Mercaptan (per ASTM D-6228)			0.05	0.43	0.24	ppmv
i-Propyl Mercaptan (per ASTM D-6228)			0.36	0	0.18	ppmv
t-Butyl Mercaptan (per ASTM D-6228)			0.14	0.14	0.14	ppmv
Dimethyl Sulfide (per ASTM D-6228)			0.28	0.28	0.28	ppmv
Thiophene (per ASTM D-6228)			0.07	0.06	0.07	ppmv
Unidentified Sulfur Compound (per ASTM D-6228)			0.23	0.26	0.25	ppmv
Total Sulfur Content (per ASTM D-6228)			91.1	142	116.6	ppmv
Siloxanes Analysis (Air Toxics @71)						
Sample ID Number	Siloxanes-1			Siloxanes-2		
Start Time	12:17			08:40		
End Time	14:17			10:40		
Octamethylcyclotetrasiloxane (D4) (per ATL @71)	1.30			1.30	1.30	ppmv
Decamethylcyclopentasiloxane (D5) (per ATL @71)	0.52			0.53	0.53	ppmv
Hexamethyldisiloxane (per ATL @71)	0.11			0.11	0.11	ppmv

Testing conducted by TRC Environmental Corporation - Gainesville Office

TABLE 1
Executive Summary (Page 2 of 2)

Run Number / Component ID	meq of Cl⁻	Run 1	meq of Cl⁻	Run 2	meq of Cl⁻	Averages	Units
Toxic Organics Analysis (EPA TO-15 modified)							
Sample ID Number		TO-15-1		TO-15-2			
Date		6/9/2010		6/10/2010			
Start Time		13:35		09:11			
End Time		13:55		09:31			
Freon 12 (per Modified EPA Method TO-15)	2	300	600	300	600	300	ppbv
Freon 114 (per Modified EPA Method TO-15)	2	66	132	63	126	65	ppbv
Vinyl Chloride (per Modified EPA Method TO-15)	1	430	430	440	440	435	ppbv
Freon 11 (per Modified EPA Method TO-15)	3	22	66	22	66	22	ppbv
Ethanol (per Modified EPA Method TO-15)		10,000		9,800		9,900	ppbv
Acetone (per Modified EPA Method TO-15)		2,300		2,300		2,300	ppbv
2-Propanol (per Modified EPA Method TO-15)		3,000		2,800		2,900	ppbv
Carbon Disulfide (per Modified EPA Method TO-15)		66		38		52	ppbv
Methylene Chloride (per Modified EPA Method TO-15)	2	31	62	24	48	28	ppbv
Methyl tert-butyl ether (per Modified EPA Method TO-15)		16				16	ppbv
Hexane (per Modified EPA Method TO-15)		470		450		460	ppbv
1,1-Dichloroethane (per Modified EPA Method TO-15)	2	18	36			18	ppbv
2-Butanone (per Modified EPA Method TO-15)		3,000		2,900		2,950	ppbv
cis-1,2-Dichloroethene (per Modified EPA Method TO-15)	2	380	760	340	680	360	ppbv
Tetrahydrofuran (per Modified EPA Method TO-15)		2,000		2,000		2,000	ppbv
Cyclohexane (per Modified EPA Method TO-15)		440		420		430	ppbv
2,2,4 Trimethylpentane (per Modified EPA Method TO-15)		220		220		220	ppbv
Benzene (per Modified EPA Method TO-15)		960		920		940	ppbv
1,2 Dichloroethane (per Modified EPA Method TO-15)	2	53	106	51	102	52	ppbv
Heptane (per Modified EPA Method TO-15)		760		730		745	ppbv
Trichloroethane (per Modified EPA Method TO-15)	3	100	300	97	291	99	ppbv
1,2-Dichlopropane (per Modified EPA Method TO-15)	2	22	44	23	46	23	ppbv
4-methyl-2-pentanone (per Modified EPA Method TO-15)		290		260		275	ppbv
Toluene (per Modified EPA Method TO-15)		10,000		9,900		9,950	ppbv
Tetrachloroethane (per Modified EPA Method TO-15)	4	200	800	190	760	195	ppbv
Chlorobenzene (per Modified EPA Method TO-15)	1	120	120	120	120	120	ppbv
Ethyl Benzene (per Modified EPA Method TO-15)		13,000		13,000		13,000	ppbv
m,p-Xylene (per Modified EPA Method TO-15)		10,000		10,000		10,000	ppbv
o-Xylene (per Modified EPA Method TO-15)		3,000		3,000		3,000	ppbv
Styrene (per Modified EPA Method TO-15)		1,300		1,300		1,300	ppbv
Cumene (per Modified EPA Method TO-15)		890		900		895	ppbv
Propylbenzene (per Modified EPA Method TO-15)		530		540		535	ppbv
4-Ethyltoluene (per Modified EPA Method TO-15)		2,100		2,100		2,100	ppbv
1,3,5 Trimethylbenzene (per Modified EPA Method TO-15)		700		730		715	ppbv
1,2,4 Trimethylbenzene (per Modified EPA Method TO-15)		2,000		2,100		2,050	ppbv
1,4-Dichlorobenzene (per Modified EPA Method TO-15)	2	550	1100	600	1200	575	ppbv
Chlorodifluoromethane (per Modified EPA Method TO-15)	1	1,200	1200	1,200	1200	1,200	ppbv
Dichlorofluoromethane (per Modified EPA Method TO-15)	2	78	156	75	150	77	ppbv
Total Toxic Organics (per Modified EPA Method TO-15)		70,612	5912	69,953	5829	70,283	ppbv

Testing conducted by TRC Environmental Corporation - Gainesville Office

SIGN IN SHEET

PROJECT NAME: PBSEJ / Manatee County Lena Road Landfill **DATE:** 6/9/10 - 6/10/10

PROJECT NO.: 177265.0000.0000 **PERMIT NO.:** n/a

FACILITY/LOCATION: Manatee County Lena Road Landfill / Bradenton, FL

SOURCE(S):

PARTICIPANTS
TRC - Air Measurements, Gainesville Office

REPRESENTATIVES:

NAME	AFFLIATION	JOB TITLE	PHONE NUMBER	Job Safety Review (Y/N)?
Roger Paul Osier	TRC	Environmental Scientist II	352 378-0332	Y
Ray Castro				

Flare Station Flow Rates
EPA Methods 1a, 2a, 3c, and 4 (mod): Velocity, Molecular Weight, Moisture Content, and Volumetric Flow Rates

TEST RUN NUMBER	1A	1B	2A	2B
Date	06/09/10	06/09/10	06/10/10	06/10/10
Start Time	11:25	15:58	08:06	11:24
Stop Time	11:45	16:07	08:17	11:31
Stack Moisture & Molecular Weight				
CH_4 (% volume, dry per M-3c)	52.2000	52.1000	53.9000	52.8000
CO_2 (%volume, dry per M-3c)	40.3000	39.8000	41.0000	40.7000
O_2 (%volume, dry per M-3c)	1.3000	1.8000	1.2000	1.7000
N_2 (%volume, dry per M-3c)	6.2000	6.3000	3.9000	4.8000
Atmospheric Pressure ("Hg, absolute)	29.97	29.91	29.98	29.94
LFG Temperature (°F): Dry bulb	128.8	132.9	127.5	133.9
(°F): Wet bulb	104.1	104.0	102.2	104.1
Moisture Content (lbs H_2O/lb landfill gases)	0.0396	0.0386	0.0370	0.0385
LFG Inlet Gas Moisture (% volume)	6.38	6.21	5.96	6.19
Dry Gas Fraction	0.9362	0.9379	0.9404	0.9381
Stack Gas Molecular Wt. (lbs/lb-mole)	27.58	27.55	27.54	27.61
Velocity Pitot Tube Data				
ΔP #1	1.3540	1.3500	1.0580	1.3190
ΔP #2	1.3750	1.3820	1.2930	1.3310
ΔP #3	1.4000	1.4210	1.3710	1.4410
ΔP #4	1.4060	1.4380	1.4240	1.4690
ΔP #5	1.6770	1.8020	1.7660	1.7880
ΔP #6	1.9510	1.8010	1.8080	1.9320
ΔP #7	1.8700	1.7060	1.9100	1.8870
ΔP #8	1.5710	1.5810	1.5990	1.7200
ΔP #9	1.5290	1.6640	1.5240	1.5870
ΔP #10	1.6590	1.7030	1.7060	1.5660
ΔP #11	1.7440	1.8140	1.6410	1.6670
ΔP #12	1.6120	1.7350	1.6240	1.6040
ΔP #13	1.6230	1.6690	1.5570	1.5840
ΔP #14	1.6900	1.7530	1.6320	1.7130
ΔP #15	1.5490	1.4530	1.5860	1.5670
ΔP #16	1.5240	1.5230	1.5670	1.5700
Pitot Tube Factor	0.99	0.99	0.99	0.99
Sum of Square Root of Vertical Component	20.1857	20.2910	19.9825	20.2679
Number of Traverse Points	16	16	16	16
Average Square Root of ΔP's	1.26161	1.26819	1.24890	1.26674
Average Temperature (°F)	128.8	132.9	127.5	133.9
Static Pressure ("H_2O)	13.54	14.11	13.27	13.7
Equivalent Stack Diameter (inches)	8.00	8.00	8.00	8.00
Stack Area (ft^2)	0.3491	0.3491	0.3491	0.3491
Reference Method Velocity (ft/min)	5319	5370	5265	5363
Reference Method Flow, wet (ACFM)	1857	1874	1838	1872
Reference Method Flow, wet (SCFH)	103,395	103,593	102,534	103,288
Reference Method Flow, wet (SCFM)	**1723.3**	**1726.6**	**1708.9**	**1721.5**
Flare Station Meter Flow, wet (SCFM)	1,554.0	1,548.0	1,531.0	1,548.0
% Difference (Flare Station from Reference Method)	-9.82%	-10.34%	-10.41%	-10.08%

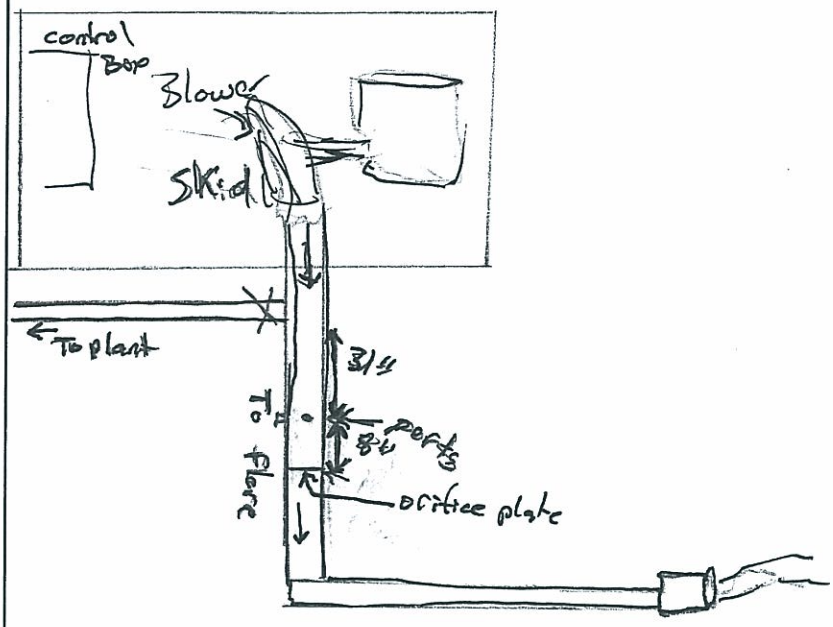
Circular Stack Sampling Traverse Point Layout

(EPA Method 1, Gaseous Sampling Locations)

Date: June 9, 2010
Client: PBS&J
Plant: Manatee County Lena Rd Landfill
Source: Landfill Gas Collection System
Technician(s): RPO

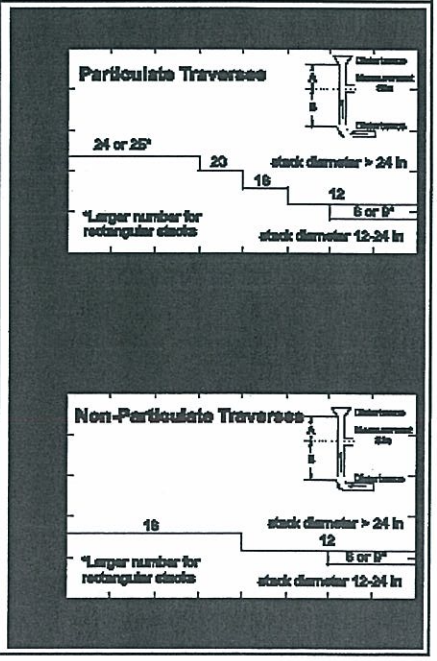
Port + Stack ID (in):	9.0
Port Extension (in):	1.00
Stack ID (in):	8.00
Stack Area (ft^2):	0.349
Duct Diameters **upstream** from flow disturbance (A):	1.00
Duct Diameters **downstream** from flow disturbance (B):	3.88
Total Required Traverse Points:	16
No. of Traverse Points per Diameter:	8

Stack Diagram
(Draw side view showing major components, dimensions, upstream/downstream flow disturbances)



Traverse Point Number	Number of Traverse Points on a Diameter					*Calculated Traverse Point	*Traverse Point with Port Extension
	4	6	8	12	Other		
1	6.7	4.4	3.2	2.1		0.50	1.50
2	25.0	14.6	10.5	6.7		0.84	1.84
3	75.0	29.6	19.4	11.8		1.55	2.55
4	93.3	70.4	32.3	17.7		2.58	3.58
5		85.4	67.7	25.0		5.42	6.42
6		95.6	80.6	35.6		6.45	7.45
7			89.5	64.4		7.16	8.16
8			96.8	75.0		7.50	8.50
9				82.3			
10				88.2			
11				93.3			
12				97.9			

**Stack diameters > 24 in shall have no traverse points located within 1-inch of the stack wall*
**Stack diameters ≤ 24 in shall have no traverse points located within 0.5-inch of the stack wall*



METHOD 2 - VELOCITY TRAVERSE DATA SHEET (3-RUN)

Client Name	PBS&J			Project No.	177265.0000.0000
Plant Name	Manatee County Lena Road Landfill			Date	Wednesday, June 09, 2010
City / State	Bradenton / Florida			P barometer, "Hg	29.97
Test Location	Main Header	Pitot ID	standard	Thermocouple ID	standard -1
Personnel	Rpo	Pitot Coeff	0.99	Digital Manometer	M95826

	Run No:	1A (Port 1)
	Run Time:	11:25
	P static	+ 13.54
	Pitot Check:	Pre ✓ Post ✓
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1	1.354	129
2	1-2	1.375	129
3	1-3	1.400	129
4	1-4	1.406	129
5	~~2-1~~ 1-5	1.677	129
6	~~2-2~~ 1-6	1.951	128
7	~~2-3~~ 1-7	1.870	128
8	~~2-4~~ 1-8	1.571	127
28			
	Avg	—	—

	Run No:	1A (Port 2)
	Run Time:	11:45
	P static	13.54
	Pitot Check:	Pre ✓ Post ✓
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	~~2~~-1	1.529	129
2	~~2~~-2	1.659	129
3	~~2~~-3	1.744	129
4	~~2~~-4	1.612	129
5	2-~~5~~	1.623	129
6	2-~~6~~	1.690	129
7	2-~~7~~	1.549	129
8	2-~~8~~	1.524	129
	Avg	—	—

	Run No:	3
	Run Time:	
	P static	
	Pitot Check:	Pre ____ Post ____
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1		
2	1-2		
3	1-3		
4	1-4		
5	2-1		
6	2-2		
7	2-3		
8	2-4		
	Avg		

Avg Temp 128.8

Gas Temp Wet °F	40/2 104.1	Gas Temp Wet °F		Gas Temp Wet °F	
Gas Temp Dry °F	128.8	Gas Temp Dry °F		Gas Temp Dry °F	

2-6 1.690

Checked By: Roger Paul Osier Date: 7/1/2010
(Project Manager or QA Manager)

METHOD 2 - VELOCITY TRAVERSE DATA SHEET (3-RUN)

Client Name	PBS&J			Project No.	177265.0000.0000
Plant Name	Manatee County Lena Road Landfill			Date	6/9/2010
City / State	Bradenton / Florida			P barometer, "Hg	29.91
Test Location	Main Header	Pitot ID	standard	Thermocouple ID	standard 1
Personnel	Rpo	Pitot Coeff	0.99	Digital Manometer	M95826

	Run No:	1B (Port 1)
	Run Time:	15:58
	P static	+14.11
	Pitot Check:	Pre ✓ Post ✓
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1	1.350	133.7
2	1-2	1.382	133.3
3	1-3	1.421	133.1
4	1-4	1.438	133.3
5	~~2-1~~ 2-5	1.802	132.8
6	~~2-2~~ 1-6	1.801	132.8
7	~~2-3~~ 1-7	1.706	132.3
8	~~2-4~~ 1-8	1.581	131.9
28			
	Avg	—	—

	Run No:	1B (Port 2)
	Run Time:	16:07
	P static	+14.11
	Pitot Check:	Pre ___ Post ___
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	~~1-1~~ 2-1	1.664	132.3
2	~~1-2~~ 2-2	1.703	132.3
3	~~1-3~~ 2-3	1.814	132.4
4	~~1-4~~ 2-4	1.735	132.8
5	2-5	1.669	133.2
6	2-6	1.753	133.4
7	2-7	1.453	133.6
8	2-8	1.523	133.4
	Avg	—	—

	Run No:	~~3~~
	Run Time:	
	P static	
	Pitot Check:	Pre ___ Post ___
	Tester Signature	

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1		
2	1-2		
3	1-3		
4	1-4		
5	2-1		
6	2-2		
7	2-3		
8	2-4		
	Avg		

Avg Temp. 132.9

Gas Temp Wet °F 40°C	104.0°F	Gas Temp Wet °F		Gas Temp Wet °F	
Gas Temp Dry °F 132.9	132.9°F	Gas Temp Dry °F		Gas Temp Dry °F	

Checked By: _____ Date: 7/1/2010
(Project Manager or QA Manager)

29.91 / 104 / 78 End

METHOD 2 - VELOCITY TRAVERSE DATA SHEET (3-RUN)

Client Name	PBS&J			Project No.	177265.0000.0000
Plant Name	Manatee County Lena Road Landfill			Date	6/10/2010
City / State	Bradenton / Florida			P barometer, "Hg	29.98
Test Location	Main Header	Pitot ID	standard	Thermocouple ID	Standard -1
Personnel	Rpo	Pitot Coeff	0.99	Digital Manometer	M95826

Run No:	2 A (Port 1)	
Run Time:	8:06	
P static	+ 13.27	
Pitot Check:	Pre ~	Post ~
Tester Signature		

	Point No.	Delta P in. H2O	Temp Deg. F
1	1-1	1.058	127
2	1-2	1.293	127
3	1-3	1.371	127
4	1-4	1.424	127
5	1-5 ~~2-1~~	1.766	127
6	1-6 ~~2-2~~	1.808	127
7	1-7 ~~2-3~~	1.910	127
8	1-8 ~~2-4~~	1.599	127
28			
	Avg	—	127

Run No:	2 A (Port 2)	
Run Time:	08:17	
P static	+ 13.27	
Pitot Check:	Pre ~	Post ~
Tester Signature		

Point No.	Delta P in. H2O	Temp Deg. F
2-1 ~~1-1~~	1.524	128
2-2 ~~1-2~~	1.706	128
2-3 ~~1-3~~	1.641	128
2-4 ~~1-4~~	1.624	128
2-5	1.557	128
2-6	1.632	128
2-7	1.586	128
2-8	1.567	128
Avg	—	128

Run No:	~~3~~	
Run Time:		
P static		
Pitot Check:	Pre ___	Post ___
Tester Signature		

Point No.	Delta P in. H2O	Temp Deg. F
1-1		
1-2		
1-3		
1-4		
2-1		
2-2		
2-3		
2-4		
Avg		

Avg 127.5

Gas Temp Wet °F	39°C	102.2	Gas Temp Wet °F		Gas Temp Wet °F
Gas Temp Dry °F		127.5	Gas Temp Dry °F		Gas Temp Dry °F

Checked By: _____ Date: 7/1/2010
(Project Manager or QA Manager)

29.98 / 81 / 75.3

Sample Batch Report

Login #: 101390
Customer: TRC TRC Environmental Corp.
Contact: Leonard Brenner
P.O. Number: 24508

Today's date: 06/11/2010
Date Received: 06/10/2010
Date Due: 06/24/2010
Preferred Report Method:

Lab#	Received	Sample ID	Cyl #	Note
101390-001	6/10/2010	Bag-1 Landfill Gas 6/9/10		
	SYNGAS			
	ZZZ S&H ANAL			
101390-002	6/10/2010	Bag-2 Landfill Gas 6/9/10		
	SYNGAS			
101390-003	6/10/2010	Bag-3 Landfill Gas 6/9/10		Sample analysis same day as sample receipt.
	SLFRTG			
	SYNGAS			
101390-004	6/11/2010	Bag-4 Landfill Gas 6/10/10		Sample analysis same day as sample receipt.
	SLFRTG			
	SYNGAS			

Gas Technology Institute | 1700 S. Mount Prospect Rd. | Des Plaines, IL 60018 | T: 847 768 0500 | F: 847 768 0501 | www.gastechnology.org

Chain Of Custody Record

Report To: TRC - Air Measurements, Gainesville Offfice
Lab Contact: Leonard Brenner
6322 NW 18th Drive, Suite 170
Gainesville, Florida 32653
Telephone: (352) 378-0332

Bill To: TRC Environmental Corp
5540 Centerview Drive, Ste 100
Raleigh, North Carolina 27606
Project Reference: 177265.0000.0000
P.O. No.: 24508

Sample ID	Sample Description	Date Collected	Container Type	Required Analyses	Special Instructions
Bag-1	Landfill Gas	6/9/2010	Tedlar bag	ASTM D1946	Normal
Bag-2	Landfill Gas	6/9/2010	Tedlar bag	ASTM D1946	Normal
Bag-3	Landfill Gas	6/9/2010	Tedlar bag	ASTM D1946 and ASTM D 6228	**Run analyses same day as received**

Turnaround Time Required:
Normal Rush Report By: Normal

Hazard Identification:

Relinquished by: Roger Paul Osier Roger Paul Osier 6/9/2010 Date: 6/9/2010
Affiliation: TRC - Air Measurements, Gainesville Offfice

Other Instructions:

Received by: Kathey Bizeaky Date: 6/10/10 11:00AM
Affiliation: CTT

please email results to lbrenner@trcsolutions.com

TRC

TRC - Air Measurements
Gainesville Office
6322 NW 18th Drive, Suite 170
(352) 378-0332

Chain Of Custody Record

Report To: TRC - Air Measurements, Gainesville Offfice
Lab Contact: Leonard Brenner
6322 NW 18th Drive, Suite 170
Gainesville, Florida 32653
Telephone: (352) 378-0332

Bill To: TRC Environmental Corp
5540 Centerview Drive, Ste 100
Raleigh, North Carolina 27606
Project Reference: 177265.0000.0000
P.O. No.: 24508

Sample ID	Sample Description	Date Collected	Container Type	Required Analyses	Special Instructions
Bag-4	Landfill Gas	6/10/2010	Tedlar bag	ASTM D1946 and ASTM D 6228	**Run analyses same day as received**

Turnaround Time Required:
Normal (Rush)
Report By: Normal

Relinquished by: Roger Paul Osier Date: 6/10/2010
Affiliation: TRC - Air Measurements, Gainesville Offfice

Received by: Kathy Buzecky Date: 6/11/10 10:56AM
Affiliation: GTI

Hazard Identification:

Other Instructions:

please email results to lbrenner@trcsolutions.com

TRC - Air Measurements
Gainesville Office
6322 NW 18th Drive, Suite 170
(352) 378-0332

Air Toxics LTD.
Laboratory Services Since 1989

6/25/2010
Mr. Leonard Brenner
TRC Companies, Inc.
6322 Northwest 18th Drive
Suite 170
Gainesville FL 32653

Project Name: TRC/PBS&J Manatee County Lena Road landf
Project #: 177265.0000.0000
Workorder #: 1006276

Dear Mr. Leonard Brenner

The following report includes the data for the above referenced project for sample(s) received on 6/11/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Siloxanes are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A Scott

Ausha Scott
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1006276

Work Order Summary

CLIENT:	Mr. Leonard Brenner TRC Companies, Inc. 6322 Northwest 18th Drive Suite 170 Gainesville, FL 32653	**BILL TO:**	Accounts Payable TRC Companies, Inc. 5540 Centerview Drive Suite 100 Raleigh, NC 27606
PHONE:	352-378-0332	**P.O. #**	24509
FAX:	352-378-0354	**PROJECT #**	177265.0000.0000 TRC/PBS&J Manatee County Lena Road landf
DATE RECEIVED:	06/11/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	06/25/2010		

FRACTION #	NAME	TEST
01AB	Siloxanes-1 front/Back	Siloxanes
01ABB	Siloxanes-1 front/Back Lab Duplicate	Siloxanes
02AB	Siloxanes-2 front/Back	Siloxanes
03A	Lab Blank	Siloxanes
03B	Lab Blank	Siloxanes
04A	LCS	Siloxanes
04B	LCS	Siloxanes

CERTIFIED BY: Linda J. Fruman

Laboratory Director

DATE: 06/25/10

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

Air Toxics LTD.
Laboratory Services Since 1989

LABORATORY NARRATIVE
Siloxanes
TRC Companies, Inc.
Workorder# 1006276

Four Vial samples were received on June 11, 2010. The laboratory performed analysis for siloxanes by GC/MS. A sample volume of 1.0 uL was injected directly onto the GC column. Initial results are in ug/mL. The units are converted to total micrograms (ug) by multiplying the result (ug/mL) by the total volume (mL) contained in the impinger. See the data sheets for the reporting limits for each compound.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Impinger volumes were measured at the laboratory using a graduated cylinder and documented in the analytical logbook.

A front and back impinger was received for each sample. Each impinger was analyzed separately. The results for each analyte were then additively combined and reported as a single concentration. The reported surrogate recovery is derived from the front impinger analysis only.

Sampling volume was supplied by the client. A sample volume of 26.4 L was assumed for all QC samples.

Definition of Data Qualifying Flags

Six qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated Value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
SILOXANES - GC/MS

Client Sample ID: Siloxanes-1 front/Back

Lab ID#: 1006276-01AB

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.088	410	1.3
Decamethylcylopentasiloxane (D5)	28	0.070	210	0.52
Hexamethyldisiloxane	28	0.16	19	0.11

Client Sample ID: Siloxanes-1 front/Back Lab Duplicate

Lab ID#: 1006276-01ABB

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.088	380	1.2
Decamethylcylopentasiloxane (D5)	28	0.070	200	0.50
Hexamethyldisiloxane	28	0.16	20	0.11

Client Sample ID: Siloxanes-2 front/Back

Lab ID#: 1006276-02AB

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.086	420	1.3
Decamethylcylopentasiloxane (D5)	28	0.069	210	0.53
Hexamethyldisiloxane	28	0.16	19	0.11

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Siloxanes-1 front/Back

Lab ID#: 1006276-01AB

SILOXANES - GC/MS

File Name:	**k061409**	**Date of Collection: 6/9/10 2:17:00 PM**
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/10 01:38 PM**
		Date of Extraction: NA

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.088	410	1.3
Decamethylcylopentasiloxane (D5)	28	0.070	210	0.52
Dodecamethylcyclohexasiloxane (D6)	56	0.12	Not Detected	Not Detected
Hexamethyldisiloxane	28	0.16	19	0.11
Octamethyltrisiloxane	28	0.11	Not Detected	Not Detected

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 28.2
Container Type: Vial

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	85	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Siloxanes-1 front/Back Lab Duplicate

Lab ID#: 1006276-01ABB

SILOXANES - GC/MS

File Name:	**k062213**	**Date of Collection: 6/9/10 2:17:00 PM**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/22/10 02:00 PM**	
		Date of Extraction: NA	

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.088	380	1.2
Decamethylcylopentasiloxane (D5)	28	0.070	200	0.50
Dodecamethylcyclohexasiloxane (D6)	56	0.12	Not Detected	Not Detected
Hexamethyldisiloxane	28	0.16	20	0.11
Octamethyltrisiloxane	28	0.11	Not Detected	Not Detected

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 28.2
Container Type: Vial

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	85	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Siloxanes-2 front/Back

Lab ID#: 1006276-02AB

SILOXANES - GC/MS

File Name:	**k061411**	**Date of Collection: 6/9/10 2:17:00 PM**
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/10 02:26 PM**
		Date of Extraction: NA

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	28	0.086	420	1.3
Decamethylcylopentasiloxane (D5)	28	0.069	210	0.53
Dodecamethylcyclohexasiloxane (D6)	55	0.12	Not Detected	Not Detected
Hexamethyldisiloxane	28	0.16	19	0.11
Octamethyltrisiloxane	28	0.11	Not Detected	Not Detected

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 27.7

Container Type: Vial

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	88	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1006276-03A

SILOXANES - GC/MS

File Name:	**k061406**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/10 12:09 PM**	
		Date of Extraction: NA	

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	1.0	0.0031	Not Detected	Not Detected
Decamethylcylopentasiloxane (D5)	1.0	0.0025	Not Detected	Not Detected
Dodecamethylcyclohexasiloxane (D6)	2.0	0.0042	Not Detected	Not Detected
Hexamethyldisiloxane	1.0	0.0057	Not Detected	Not Detected
Octamethyltrisiloxane	1.0	0.0039	Not Detected	Not Detected

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 1.00

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	96	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1006276-03B

SILOXANES - GC/MS

File Name:	**k062206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/22/10 10:29 AM**	
		Date of Extraction: NA	

Compound	Rpt. Limit (ug)	Rpt. Limit (ppmv)	Amount (ug)	Amount (ppmv)
Octamethylcyclotetrasiloxane (D4)	1.0	0.0031	Not Detected	Not Detected
Decamethylcylopentasiloxane (D5)	1.0	0.0025	Not Detected	Not Detected
Dodecamethylcyclohexasiloxane (D6)	2.0	0.0042	Not Detected	Not Detected
Hexamethyldisiloxane	1.0	0.0057	Not Detected	Not Detected
Octamethyltrisiloxane	1.0	0.0039	Not Detected	Not Detected

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS
Lab ID#: 1006276-04A
SILOXANES - GC/MS

File Name:	**k061405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/14/10 11:35 AM**	
		Date of Extraction: NA	

Compound	%Recovery
Octamethylcyclotetrasiloxane (D4)	121
Decamethylcylopentasiloxane (D5)	120
Dodecamethylcyclohexasiloxane (D6)	112
Hexamethyldisiloxane	110
Octamethyltrisiloxane	129

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	101	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS
Lab ID#: 1006276-04B
SILOXANES - GC/MS

File Name:	**k062205**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 6/22/10 10:01 AM**
		Date of Extraction: NA

Compound	%Recovery
Octamethylcyclotetrasiloxane (D4)	125
Decamethylcylopentasiloxane (D5)	122
Dodecamethylcyclohexasiloxane (D6)	115
Hexamethyldisiloxane	109
Octamethyltrisiloxane	124

Air Sample Volume(L): 26.4
Impinger Total Volume(mL): 1.00
Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Hexamethyl disiloxane -d18	100	70-130

SORBENT SAMPLE COLLECTION

@Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Leonard Brenner
Collected by: (Print and Sign) Roger Paul Oser
Company: TRC Email: lbrenner@trcsolutions.com
Address: 6322 NW 18th Dr. Suite 170 City: Gainesville, State: FL Zip: 32653
Phone: 352-378-0332 Fax: 352-378-0354

Project Info:
P.O. #: 24509
Project #: 177265.0000.0000 TRC/PBJ&J Manatee County
Project Name: Lena Road Landfill

Turn Around Time: ☑ Normal ☐ Rush _____ specify

Circle Reporting Units: ppbv (ppmv) ug/m³ mg/m³

Lab I.D.	Field Sample I.D. (Location)	Tube # / Cartridge #	Date of Collection	Start Time	End Time	Duration	Final Volume	Analysis Requested
01A	Siloxanes - 1 front (Blo Back)	1F	6/9/10	12:17	14:17	120	26.4 L	Air Toxics @ 71
02A 01B	Siloxanes - 1 Back	1B	6/9/10	12:17	14:17	120	26.4 L	"
03A 02A	Siloxanes - 2 front	2F	6/10/10	08:40	10:40	120	26.4 L	"
04A 02B	Siloxanes - 2 back	2B	6/10/10	08:40	10:40	120	26.4 L	"

Relinquished by: (signature) Roger Paul Oser Date/Time 6/10/10 16:30
Received by: (signature) Brian Whittaker ATL Date/Time 6/11/10 910

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time

Pump Calibration Information
Pre-test Flow Rate: N/A
Post-test Flow Rate:
Average Flow Rate:
Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		6°C	GOOD	Yes No (None)	1006276

Air Toxics LTD.
Laboratory Services Since 1989

6/24/2010
Mr. Leonard Brenner
TRC Companies, Inc.
6322 Northwest 18th Drive
Suite 170
Gainesville FL 32653

Project Name: TRC/PBS&J Manatee County Lena Road landf
Project #: 177265.0000.0000
Workorder #: 1006294

Dear Mr. Leonard Brenner

The following report includes the data for the above referenced project for sample(s) received on 6/11/2010 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A Scott

Ausha Scott

Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1006294

Work Order Summary

CLIENT:	Mr. Leonard Brenner TRC Companies, Inc. 6322 Northwest 18th Drive Suite 170 Gainesville, FL 32653	**BILL TO:**	Accounts Payable TRC Companies, Inc. 5540 Centerview Drive Suite 100 Raleigh, NC 27606
PHONE:	352-378-0332	**P.O. #**	24509
FAX:	352-378-0354	**PROJECT #**	177265.0000.0000 TRC/PBS&J Manatee County Lena Road landf
DATE RECEIVED:	06/11/2010	**CONTACT:**	Ausha Scott
DATE COMPLETED:	06/24/2010		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	TO-15-2	Modified TO-15 (5&20 ppbv	5.8 "Hg	15 psi
01AA	TO-15-2 Lab Duplicate	Modified TO-15 (5&20 ppbv	5.8 "Hg	15 psi
02A	TO-15-1	Modified TO-15 (5&20 ppbv	2.0 "Hg	15 psi
03A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
04A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
05A	LCS	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: Linda S. Freeman DATE: 06/24/10

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Soil Gas
TRC Companies, Inc.
Workorder# 1006294

Two 1 Liter Summa Canister samples were received on June 11, 2010. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	*TO-15*	*ATL Modifications*
Daily CCV	+- 30% Difference	</= 30% Difference with two allowed out up to </=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS

Client Sample ID: TO-15-2

Lab ID#: 1006294-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	18	300	88	1500
Freon 114	18	63	120	440
Vinyl Chloride	18	440	46	1100
Freon 11	18	22	100	130
Ethanol	71	9800	130	18000
Acetone	71	2300	170	5400
2-Propanol	71	2800	180	6900
Carbon Disulfide	18	38	56	120
Methylene Chloride	18	24	62	84
Hexane	18	450	63	1600
2-Butanone (Methyl Ethyl Ketone)	18	2900	53	8600
cis-1,2-Dichloroethene	18	340	71	1300
Tetrahydrofuran	18	2000	53	5900
Cyclohexane	18	420	61	1400
2,2,4-Trimethylpentane	18	220	83	1000
Benzene	18	920	57	3000
1,2-Dichloroethane	18	51	72	210
Heptane	18	730	73	3000
Trichloroethene	18	97	96	520
1,2-Dichloropropane	18	23	82	110
4-Methyl-2-pentanone	18	260	73	1100
Toluene	18	9900	67	37000
Tetrachloroethene	18	190	120	1300
Chlorobenzene	18	120	82	570
Ethyl Benzene	18	13000	78	57000
m,p-Xylene	18	10000	78	45000
o-Xylene	18	3000	78	13000
Styrene	18	1300	76	5600
Cumene	18	900	88	4400
Propylbenzene	18	540	88	2600
4-Ethyltoluene	18	2100	88	10000
1,3,5-Trimethylbenzene	18	730	88	3600

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS

Client Sample ID: TO-15-2

Lab ID#: 1006294-01A

1,2,4-Trimethylbenzene	18	2100	88	10000
1,4-Dichlorobenzene	18	600	110	3600
Chlorodifluoromethane	71	1200	250	4200
Dichlorofluoromethane	71	75	300	320

Client Sample ID: TO-15-2 Lab Duplicate

Lab ID#: 1006294-01AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	12	280	62	1400
Freon 114	12	60	87	420
Vinyl Chloride	12	380	32	960
Freon 11	12	20	70	110
Ethanol	50	9500	94	18000
Acetone	50	2200	120	5200
2-Propanol	50	2700	120	6800
Carbon Disulfide	12	34	39	110
Methylene Chloride	12	22	43	78
Methyl tert-butyl ether	12	15	45	56
Hexane	12	430	44	1500
1,1-Dichloroethane	12	15	50	63
2-Butanone (Methyl Ethyl Ketone)	12	2900	37	8600
cis-1,2-Dichloroethene	12	390	50	1500
Tetrahydrofuran	12	2000	37	5800
Cyclohexane	12	410	43	1400
2,2,4-Trimethylpentane	12	210	58	970
Benzene	12	910	40	2900
1,2-Dichloroethane	12	50	50	200
Heptane	12	720	51	3000
Trichloroethene	12	98	67	520
1,2-Dichloropropane	12	21	58	99
4-Methyl-2-pentanone	12	280	51	1200
Toluene	12	10000	47	38000

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS

Client Sample ID: TO-15-2 Lab Duplicate

Lab ID#: 1006294-01AA

Tetrachloroethene	12	200	85	1400
Chlorobenzene	12	120	58	570
Ethyl Benzene	12	14000 E	54	59000 E
m,p-Xylene	12	11000	54	46000
o-Xylene	12	3100	54	13000
Styrene	12	1300	53	5700
Cumene	12	930	61	4600
Propylbenzene	12	540	61	2700
4-Ethyltoluene	12	2200	61	11000
1,3,5-Trimethylbenzene	12	740	61	3600
1,2,4-Trimethylbenzene	12	2200	61	11000
1,4-Dichlorobenzene	12	610	75	3700
Chlorodifluoromethane	50	1100	180	3800
Dichlorofluoromethane	50	70	210	300

Client Sample ID: TO-15-1

Lab ID#: 1006294-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	15	300	76	1500
Freon 114	15	66	110	460
Vinyl Chloride	15	430	39	1100
Freon 11	15	22	87	120
Ethanol	62	10000	120	19000
Acetone	62	2300	150	5600
2-Propanol	62	3000	150	7400
Carbon Disulfide	15	66	48	200
Methylene Chloride	15	31	54	110
Methyl tert-butyl ether	15	16	56	56
Hexane	15	470	54	1600
1,1-Dichloroethane	15	18	62	71
2-Butanone (Methyl Ethyl Ketone)	15	3000	46	8800
cis-1,2-Dichloroethene	15	380	61	1500

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS

Client Sample ID: TO-15-1

Lab ID#: 1006294-02A

Tetrahydrofuran	15	2000	46	5900
Cyclohexane	15	440	53	1500
2,2,4-Trimethylpentane	15	220	72	1000
Benzene	15	960	49	3100
1,2-Dichloroethane	15	53	62	220
Heptane	15	760	63	3100
Trichloroethene	15	100	83	540
1,2-Dichloropropane	15	22	71	100
4-Methyl-2-pentanone	15	290	63	1200
Toluene	15	10000	58	39000
Tetrachloroethene	15	200	100	1400
Chlorobenzene	15	120	71	580
Ethyl Benzene	15	13000	67	57000
m,p-Xylene	15	10000	67	45000
o-Xylene	15	3000	67	13000
Styrene	15	1300	66	5400
Cumene	15	890	76	4400
Propylbenzene	15	530	76	2600
4-Ethyltoluene	15	2100	76	10000
1,3,5-Trimethylbenzene	15	700	76	3500
1,2,4-Trimethylbenzene	15	2000	76	10000
1,4-Dichlorobenzene	15	550	93	3300
Chlorodifluoromethane	62	1200	220	4200
Dichlorofluoromethane	62	78	260	330

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-2

Lab ID#: 1006294-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061719**	**Date of Collection:**	**6/10/10 9:31:00 AM**
Dil. Factor:	**3.57**	**Date of Analysis:**	**6/17/10 06:39 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	18	300	88	1500
Freon 114	18	63	120	440
Chloromethane	71	Not Detected	150	Not Detected
Vinyl Chloride	18	440	46	1100
1,3-Butadiene	18	Not Detected	39	Not Detected
Bromomethane	18	Not Detected	69	Not Detected
Chloroethane	18	Not Detected	47	Not Detected
Freon 11	18	22	100	130
Ethanol	71	9800	130	18000
Freon 113	18	Not Detected	140	Not Detected
1,1-Dichloroethene	18	Not Detected	71	Not Detected
Acetone	71	2300	170	5400
2-Propanol	71	2800	180	6900
Carbon Disulfide	18	38	56	120
3-Chloropropene	71	Not Detected	220	Not Detected
Methylene Chloride	18	24	62	84
Methyl tert-butyl ether	18	Not Detected	64	Not Detected
trans-1,2-Dichloroethene	18	Not Detected	71	Not Detected
Hexane	18	450	63	1600
1,1-Dichloroethane	18	Not Detected	72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	18	2900	53	8600
cis-1,2-Dichloroethene	18	340	71	1300
Tetrahydrofuran	18	2000	53	5900
Chloroform	18	Not Detected	87	Not Detected
1,1,1-Trichloroethane	18	Not Detected	97	Not Detected
Cyclohexane	18	420	61	1400
Carbon Tetrachloride	18	Not Detected	110	Not Detected
2,2,4-Trimethylpentane	18	220	83	1000
Benzene	18	920	57	3000
1,2-Dichloroethane	18	51	72	210
Heptane	18	730	73	3000
Trichloroethene	18	97	96	520
1,2-Dichloropropane	18	23	82	110
1,4-Dioxane	71	Not Detected	260	Not Detected
Bromodichloromethane	18	Not Detected	120	Not Detected
cis-1,3-Dichloropropene	18	Not Detected	81	Not Detected
4-Methyl-2-pentanone	18	260	73	1100
Toluene	18	9900	67	37000
trans-1,3-Dichloropropene	18	Not Detected	81	Not Detected
1,1,2-Trichloroethane	18	Not Detected	97	Not Detected
Tetrachloroethene	18	190	120	1300

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-2

Lab ID#: 1006294-01A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061719**	**Date of Collection: 6/10/10 9:31:00 AM**	
Dil. Factor:	**3.57**	**Date of Analysis: 6/17/10 06:39 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	71	Not Detected	290	Not Detected
Dibromochloromethane	18	Not Detected	150	Not Detected
1,2-Dibromoethane (EDB)	18	Not Detected	140	Not Detected
Chlorobenzene	18	120	82	570
Ethyl Benzene	18	13000	78	57000
m,p-Xylene	18	10000	78	45000
o-Xylene	18	3000	78	13000
Styrene	18	1300	76	5600
Bromoform	18	Not Detected	180	Not Detected
Cumene	18	900	88	4400
1,1,2,2-Tetrachloroethane	18	Not Detected	120	Not Detected
Propylbenzene	18	540	88	2600
4-Ethyltoluene	18	2100	88	10000
1,3,5-Trimethylbenzene	18	730	88	3600
1,2,4-Trimethylbenzene	18	2100	88	10000
1,3-Dichlorobenzene	18	Not Detected	110	Not Detected
1,4-Dichlorobenzene	18	600	110	3600
alpha-Chlorotoluene	18	Not Detected	92	Not Detected
1,2-Dichlorobenzene	18	Not Detected	110	Not Detected
1,2,4-Trichlorobenzene	71	Not Detected	530	Not Detected
Hexachlorobutadiene	71	Not Detected	760	Not Detected
Chlorodifluoromethane	71	1200	250	4200
Dichlorofluoromethane	71	75	300	320

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-2 Lab Duplicate

Lab ID#: 1006294-01AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061718**	**Date of Collection:**	**6/10/10 9:31:00 AM**
Dil. Factor:	**2.50**	**Date of Analysis:**	**6/17/10 06:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	12	280	62	1400
Freon 114	12	60	87	420
Chloromethane	50	Not Detected	100	Not Detected
Vinyl Chloride	12	380	32	960
1,3-Butadiene	12	Not Detected	28	Not Detected
Bromomethane	12	Not Detected	48	Not Detected
Chloroethane	12	Not Detected	33	Not Detected
Freon 11	12	20	70	110
Ethanol	50	9500	94	18000
Freon 113	12	Not Detected	96	Not Detected
1,1-Dichloroethene	12	Not Detected	50	Not Detected
Acetone	50	2200	120	5200
2-Propanol	50	2700	120	6800
Carbon Disulfide	12	34	39	110
3-Chloropropene	50	Not Detected	160	Not Detected
Methylene Chloride	12	22	43	78
Methyl tert-butyl ether	12	15	45	56
trans-1,2-Dichloroethene	12	Not Detected	50	Not Detected
Hexane	12	430	44	1500
1,1-Dichloroethane	12	15	50	63
2-Butanone (Methyl Ethyl Ketone)	12	2900	37	8600
cis-1,2-Dichloroethene	12	390	50	1500
Tetrahydrofuran	12	2000	37	5800
Chloroform	12	Not Detected	61	Not Detected
1,1,1-Trichloroethane	12	Not Detected	68	Not Detected
Cyclohexane	12	410	43	1400
Carbon Tetrachloride	12	Not Detected	79	Not Detected
2,2,4-Trimethylpentane	12	210	58	970
Benzene	12	910	40	2900
1,2-Dichloroethane	12	50	50	200
Heptane	12	720	51	3000
Trichloroethene	12	98	67	520
1,2-Dichloropropane	12	21	58	99
1,4-Dioxane	50	Not Detected	180	Not Detected
Bromodichloromethane	12	Not Detected	84	Not Detected
cis-1,3-Dichloropropene	12	Not Detected	57	Not Detected
4-Methyl-2-pentanone	12	280	51	1200
Toluene	12	10000	47	38000
trans-1,3-Dichloropropene	12	Not Detected	57	Not Detected
1,1,2-Trichloroethane	12	Not Detected	68	Not Detected
Tetrachloroethene	12	200	85	1400

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-2 Lab Duplicate

Lab ID#: 1006294-01AA

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061718**	**Date of Collection: 6/10/10 9:31:00 AM**	
Dil. Factor:	**2.50**	**Date of Analysis: 6/17/10 06:19 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	50	Not Detected	200	Not Detected
Dibromochloromethane	12	Not Detected	110	Not Detected
1,2-Dibromoethane (EDB)	12	Not Detected	96	Not Detected
Chlorobenzene	12	120	58	570
Ethyl Benzene	12	14000 E	54	59000 E
m,p-Xylene	12	11000	54	46000
o-Xylene	12	3100	54	13000
Styrene	12	1300	53	5700
Bromoform	12	Not Detected	130	Not Detected
Cumene	12	930	61	4600
1,1,2,2-Tetrachloroethane	12	Not Detected	86	Not Detected
Propylbenzene	12	540	61	2700
4-Ethyltoluene	12	2200	61	11000
1,3,5-Trimethylbenzene	12	740	61	3600
1,2,4-Trimethylbenzene	12	2200	61	11000
1,3-Dichlorobenzene	12	Not Detected	75	Not Detected
1,4-Dichlorobenzene	12	610	75	3700
alpha-Chlorotoluene	12	Not Detected	65	Not Detected
1,2-Dichlorobenzene	12	Not Detected	75	Not Detected
1,2,4-Trichlorobenzene	50	Not Detected	370	Not Detected
Hexachlorobutadiene	50	Not Detected	530	Not Detected
Chlorodifluoromethane	50	1100	180	3800
Dichlorofluoromethane	50	70	210	300

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	111	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-1

Lab ID#: 1006294-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061720**	**Date of Collection: 6/9/10 1:55:00 PM**	
Dil. Factor:	**3.09**	**Date of Analysis: 6/17/10 07:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	15	300	76	1500
Freon 114	15	66	110	460
Chloromethane	62	Not Detected	130	Not Detected
Vinyl Chloride	15	430	39	1100
1,3-Butadiene	15	Not Detected	34	Not Detected
Bromomethane	15	Not Detected	60	Not Detected
Chloroethane	15	Not Detected	41	Not Detected
Freon 11	15	22	87	120
Ethanol	62	10000	120	19000
Freon 113	15	Not Detected	120	Not Detected
1,1-Dichloroethene	15	Not Detected	61	Not Detected
Acetone	62	2300	150	5600
2-Propanol	62	3000	150	7400
Carbon Disulfide	15	66	48	200
3-Chloropropene	62	Not Detected	190	Not Detected
Methylene Chloride	15	31	54	110
Methyl tert-butyl ether	15	16	56	56
trans-1,2-Dichloroethene	15	Not Detected	61	Not Detected
Hexane	15	470	54	1600
1,1-Dichloroethane	15	18	62	71
2-Butanone (Methyl Ethyl Ketone)	15	3000	46	8800
cis-1,2-Dichloroethene	15	380	61	1500
Tetrahydrofuran	15	2000	46	5900
Chloroform	15	Not Detected	75	Not Detected
1,1,1-Trichloroethane	15	Not Detected	84	Not Detected
Cyclohexane	15	440	53	1500
Carbon Tetrachloride	15	Not Detected	97	Not Detected
2,2,4-Trimethylpentane	15	220	72	1000
Benzene	15	960	49	3100
1,2-Dichloroethane	15	53	62	220
Heptane	15	760	63	3100
Trichloroethene	15	100	83	540
1,2-Dichloropropane	15	22	71	100
1,4-Dioxane	62	Not Detected	220	Not Detected
Bromodichloromethane	15	Not Detected	100	Not Detected
cis-1,3-Dichloropropene	15	Not Detected	70	Not Detected
4-Methyl-2-pentanone	15	290	63	1200
Toluene	15	10000	58	39000
trans-1,3-Dichloropropene	15	Not Detected	70	Not Detected
1,1,2-Trichloroethane	15	Not Detected	84	Not Detected
Tetrachloroethene	15	200	100	1400

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: TO-15-1

Lab ID#: 1006294-02A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061720**	**Date of Collection: 6/9/10 1:55:00 PM**	
Dil. Factor:	**3.09**	**Date of Analysis: 6/17/10 07:01 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	62	Not Detected	250	Not Detected
Dibromochloromethane	15	Not Detected	130	Not Detected
1,2-Dibromoethane (EDB)	15	Not Detected	120	Not Detected
Chlorobenzene	15	120	71	580
Ethyl Benzene	15	13000	67	57000
m,p-Xylene	15	10000	67	45000
o-Xylene	15	3000	67	13000
Styrene	15	1300	66	5400
Bromoform	15	Not Detected	160	Not Detected
Cumene	15	890	76	4400
1,1,2,2-Tetrachloroethane	15	Not Detected	110	Not Detected
Propylbenzene	15	530	76	2600
4-Ethyltoluene	15	2100	76	10000
1,3,5-Trimethylbenzene	15	700	76	3500
1,2,4-Trimethylbenzene	15	2000	76	10000
1,3-Dichlorobenzene	15	Not Detected	93	Not Detected
1,4-Dichlorobenzene	15	550	93	3300
alpha-Chlorotoluene	15	Not Detected	80	Not Detected
1,2-Dichlorobenzene	15	Not Detected	93	Not Detected
1,2,4-Trichlorobenzene	62	Not Detected	460	Not Detected
Hexachlorobutadiene	62	Not Detected	660	Not Detected
Chlorodifluoromethane	62	1200	220	4200
Dichlorofluoromethane	62	78	260	330

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	111	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1006294-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061707c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 11:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	5.0	Not Detected	13	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1006294-03A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061707c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 11:13 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Hexanone	20	Not Detected	82	Not Detected
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected
Chlorodifluoromethane	20	Not Detected	71	Not Detected
Dichlorofluoromethane	20	Not Detected	84	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1006294-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 08:48 AM**	

Compound	%Recovery
Freon 12	98
Freon 114	98
Chloromethane	99
Vinyl Chloride	96
1,3-Butadiene	91
Bromomethane	100
Chloroethane	99
Freon 11	99
Ethanol	88
Freon 113	98
1,1-Dichloroethene	97
Acetone	98
2-Propanol	89
Carbon Disulfide	95
3-Chloropropene	93
Methylene Chloride	97
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	97
Hexane	93
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	97
Tetrahydrofuran	95
Chloroform	100
1,1,1-Trichloroethane	96
Cyclohexane	94
Carbon Tetrachloride	97
2,2,4-Trimethylpentane	95
Benzene	95
1,2-Dichloroethane	102
Heptane	95
Trichloroethene	82
1,2-Dichloropropane	97
1,4-Dioxane	97
Bromodichloromethane	98
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	95
Toluene	97
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	95
Tetrachloroethene	98

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: CCV

Lab ID#: 1006294-04A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 08:48 AM**	

Compound	%Recovery
2-Hexanone	93
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	99
Chlorobenzene	99
Ethyl Benzene	96
m,p-Xylene	95
o-Xylene	94
Styrene	92
Bromoform	98
Cumene	101
1,1,2,2-Tetrachloroethane	98
Propylbenzene	100
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	121
Chlorodifluoromethane	128
Dichlorofluoromethane	123

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1006294-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 09:32 AM**	

Compound	%Recovery
Freon 12	89
Freon 114	91
Chloromethane	91
Vinyl Chloride	95
1,3-Butadiene	96
Bromomethane	94
Chloroethane	89
Freon 11	91
Ethanol	79
Freon 113	81
1,1-Dichloroethene	79
Acetone	87
2-Propanol	81
Carbon Disulfide	86
3-Chloropropene	83
Methylene Chloride	81
Methyl tert-butyl ether	86
trans-1,2-Dichloroethene	88
Hexane	83
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	85
cis-1,2-Dichloroethene	86
Tetrahydrofuran	86
Chloroform	87
1,1,1-Trichloroethane	85
Cyclohexane	85
Carbon Tetrachloride	88
2,2,4-Trimethylpentane	86
Benzene	85
1,2-Dichloroethane	88
Heptane	84
Trichloroethene	74
1,2-Dichloropropane	88
1,4-Dioxane	89
Bromodichloromethane	87
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	86
Toluene	82
trans-1,3-Dichloropropene	86
1,1,2-Trichloroethane	88
Tetrachloroethene	88

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1006294-05A

MODIFIED EPA METHOD TO-15 GC/MS

File Name:	**w061703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 6/17/10 09:32 AM**	

Compound	%Recovery
2-Hexanone	84
Dibromochloromethane	89
1,2-Dibromoethane (EDB)	93
Chlorobenzene	90
Ethyl Benzene	89
m,p-Xylene	88
o-Xylene	87
Styrene	85
Bromoform	87
Cumene	91
1,1,2,2-Tetrachloroethane	92
Propylbenzene	91
4-Ethyltoluene	95
1,3,5-Trimethylbenzene	95
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	90
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	126
Hexachlorobutadiene	128
Chlorodifluoromethane	Not Spiked
Dichlorofluoromethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
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Project Manager Leonard Brenner
Collected by: (Print and Sign) Roger Paul Oster
Company TRC Email lbrenner@trcsolutions.com
Address 6322 NW 18th Dr Suite 170 City Gainesville State FL Zip 32653
Phone 352-378-0332 Fax 352-378-0354

Project Info:
P.O. # 24509
Project # 177265.0000.0000 TRC / PBS&S
Project Name Manatee County Lem Road

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	TO-15-2	2119	6/10/10	09:31	EPA M TO-15 Mod	30	6		
02A	TO-15-1	34669	~~6/10/10~~ 6/9/10	13:55	EPA M TO-15 Mod	30	2		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Roger Paul Oster	6/10/2010 16:01	Brian Whittaker ATL	6/11/10 910

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		N/A	GOOD	Yes No (None)	1006294

Form 1293 rev.11