

**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #22
March 20, 2009**

**To Fulfill the Requirements Set Forth in Order 5.A. of the Ohio EPA
Director's Findings and Orders Dated March 28, 2007**

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**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #22**

**Monitoring Events #102 through 106
Supplemental Isolation Break Monitoring Events 6**

March 20, 2009

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**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #22
March 20, 2009
Monitoring Events #102 through #106; and
Supplemental Isolation Break Monitoring Event 6**

1.0 INTRODUCTION

1.1 Current Activities

As described in Section 1.2 below, beginning on Monday May 21, 2007 ambient air sampling is being conducted every six days as mandated by Order 5.A. of the Ohio EPA Director's Findings and Orders dated March 28, 2007. This report covers the analytical results from the following Community Monitoring Events.

- Event #102: Thursday January 22 to Friday January 23
- Event #103: Wednesday January 28 to Thursday January 29
- Event #104: Tuesday February 3 to Wednesday February 4
- Event #105: Monday February 9 to Tuesday February 10
- Event #106: Sunday February 15 to Monday February 16

Coincident with excavation of the Isolation Break to separate the reaction areas from the rest of the landfill, supplemental monitoring for VOCs is being conducted in the period between the regularly scheduled every sixth-day community monitoring events. Although the samples are collected at the same community locations, the supplemental samples are collected for a period of 8-hours rather than 24-hours to correlate with monitoring being conducted on-site during the work day when active excavation is occurring. Analytical results the following Supplemental Isolation Break Monitoring Events are included in this Monthly Report #22.

Isolation Break Monitoring Event #6: Monday January 26

Previous Monthly Reports describe modifications that have been made to the sampling apparatus and sampling protocol to minimize/eliminate sources of variability. We previously indicated that the type of tubing used in the manifold to collect samples for aldehydes and for hydrogen fluoride and hydrogen chloride was switched from Tygon® to Teflon®. However, given the possibility that the Teflon® tubing may be a source of fluoride ion, all manifold tubing was replaced with Tygon®. No other significant modifications have been made to the system during the time period reflected in this Monthly Report.

1.2 Background

As specified by the Ohio EPA in Bryan Zima's March 28, 2007 letter to Jason Perdion of Baker & Hostetler, air samples were analyzed for the following groups of compounds:

- Volatile Organic Compounds (VOCs): EPA Method TO-15 modified with Tentatively Identified Compounds (TICs)
- Sulfur Compounds: EPA Method TO-15 modified
- Aldehydes and Ketones: EPA Method TO-11A
- Hydrogen Fluoride and Hydrogen Chloride: NIOSH Method 7903

EPA Method TO-15 Modified analyses were performed by Test America Laboratories, Inc. 5815 Middlebrook Pike, Knoxville, TN 37921. EPA Method TO-11A and NIOSH Method 7903 were performed by Integrated Analytical Laboratory (IAL), Randolph, NJ. Certification numbers: ELAP-11402; NJDEP-14751; AIHA-100201.

In order to identify conditions that may be of concern, results from the community monitoring are compared to conservative risk-based concentrations for chemicals in air in non-occupational settings. The most conservative (lowest) comparison is to USEPA Region 9 Preliminary Remediation Goals (PRGs), followed by the Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). The differences between these screening levels are briefly discussed below.

The USEPA Region 9 PRG is the concentration of a chemical in the ambient air that is estimated to be without significant risk to a person who would breathe that level of chemical continuously over many decades. The Region 9 PRGs are derived using conservative mathematical formulas and do not represent the level of a chemical in the air (or other environmental media) where health effects are likely to occur. Region 9 PRGs are generally accepted as conservative screening values, such that if the concentration of a chemical in the air is less than the corresponding PRG, most public health officials and regulators are confident that there is no risk to human health. On the other hand, an analytical result that exceeds the corresponding PRG does not mean that there is an unacceptable risk to public health. The chemical that were detected in these Monitoring Events are commonly found at low levels in ambient air. For some compounds such as benzene, the mathematically-derived Region 9 PRG of 0.25 ug/m³ is lower than the average background concentration of 1.96 ug/m³ in ambient air in Ohio (Ohio EPA, *Portsmouth Ohio Air Quality Study 2003*). Consequently, finding certain chemicals in ambient air at levels above PRGs that are very close to analytical detection limits is not uncommon and may simply reflect fluctuations in background sources. It should be noted that not all of the compounds found in the air samples have corresponding PRGs.

Analytical results for VOCs are also compared to the ATSDR Acute and Chronic Minimum Risk Levels (MRLs) where available. A MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure. PRGs and MRLs are useful screening levels that assist risk assessors in identifying those chemicals

that may pose a health concern. Neither PRGs nor MRLs represent levels of exposure that have been documented to cause actual health effects.

Chemicals that were detected below PRGs or MRLs will not be discussed unless those particular results help to explain other findings.

Ambient environmental/climate conditions are discussed in Section 2.0. Results of the monitoring are discussed in Section 3.0 and summarized in Section 4.0 of this report. Analytical results from the laboratory are provided in the Appendices.

2.0 AMBIENT CONDITIONS

The descriptions of ambient conditions are taken from the Daily Odor Monitoring Summary compiled by Countywide's consultant, Diversified Engineering.

Event #102: Thursday January 22 to Friday January 23

January 22: Average temperature in degrees F: 26, Max. 37, Min. 16.

Winds were 4 mph with a max speed of 9 mph out of the S.

Average relative humidity 70% with no precipitation recorded.

Complaints: A complaint occurred at 10:09am from 3232 Downing Street SW in East Sparta. Isolation break excavation and Flare #10 and #4 maintenance were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

January 23: Average temperature in degrees F: 36, Max. 46, Min. 26

Winds were 5 mph with max gusts of 25 mph out of the WSW.

Average relative humidity 67% with no precipitation recorded.

Complaints: Complaints occurred at 8:44am from 3829 Seeman Street SW in East Sparta; at 2:25pm and 3:27pm from 3232 Downing Street SW in East Sparta; at 3:23pm from 2620 Haut Street in East Sparta; and 4:29pm from 8200 Dueber Avenue in East Sparta. Isolation break excavation was a potentially odor-causing activity noted on the Daily Odor Monitoring Summary.

Event #103: Wednesday January 28 to Thursday January 29

January 28: Average temperature in degrees F: 24, Max. 32, Min. 16.

Winds were 3 mph with max gusts of 29 mph out of the NW.

Average relative humidity 87% with 0.87 inches of precipitation recorded.

Complaints: There were no odor complaints during this time.

January 29: Average temperature in degrees F: 20, Max. 25, Min. 14.

Winds were 4 mph with max gusts of 20 mph out of the SW.

Average relative humidity 84% with 0.01 inches of precipitation recorded.

Complaints: There were no odor complaints during this time.

Event #104: Tuesday February 3 to Wednesday February 4

February 3: Average temperature in degrees F: 19, Max. 26, Min. 12.

Winds were 3 mph with max gusts of 17 mph out of the NW.

Average relative humidity 68% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

February 4: Average temperature in degrees F: 12, Max. 1, Min. 6

Winds were 7 mph with max gusts of 18 mph out of W.

Average relative humidity 71% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

Event #105: Monday February 9 to Tuesday February 10

February 9: Average temperature in degrees F: 34, Max. 48, Min. 21.

Winds were calm with a max speed of 7 mph out of the SDE.

Average relative humidity 82% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

February 10: Average temperature in degrees F: 44, Max. 55, Min. 33.

Winds were 5 mph with max gusts of 22 mph out of the S.

Average relative humidity 82% with 0.13 inches of precipitation recorded.

Complaints: There were no odor complaints during this time.

Event #106: Sunday February 15 to Monday February 16

February 15: Average temperature in degrees F: 30, Max. 33, Min. 26.

Winds were 4 mph with a max speed of 7 mph out of the NW.

Average relative humidity 71% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

February 16: Average temperature in degrees F: 26, Max. 32, Min. 19

Winds were 5 mph with max gusts of 20 mph out of the N.

Average relative humidity 72% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

Supplemental Isolation Break Monitoring Event #6:

Monday January 26 Average temperature in degrees F: 16, Max. 21, Min. 12.

Winds were 1 mph with a max speed of 4 mph out of variable directions.

Average relative humidity 64% with no precipitation recorded.

3.0 ANALYTICAL RESULTS

The laboratory analyzed the air samples for a large number of chemicals. Only those results that exceeded Region 9 PRGs and/or ATSDR MRLs will be discussed in the body of this report (see Section 1.0). Other compounds may have been detected in a sample, but were quantified at concentrations below the respective PRG. Analytical results from the laboratory are provided in the Appendices.

Prevailing wind direction for the monitoring station relative to the landfill is designated as:

- C: Crosswind
- D: Downwind
- U: Upwind
- V: Variable

Wind direction is indicated for the first and second days of the regularly scheduled monitoring event separated by /. Wind direction for the Supplemental Isolation Break Monitoring Events pertains to the single day on which the sampling was conducted.

3.1 Volatile Organic Compounds

Compounds detected by Method TO-15 modified (TO-15M) are summarized in Tables 1 through 6. TO-15M analyzes air samples collected in a summa canister for the presence of an extensive list of volatile organic compounds. In addition to a “standard analyte” list, we have requested that the laboratory tentatively identify and estimate the concentration of numerous compounds that are not on the “standard” list. These Tentatively Identified Compounds (TICs) include some compounds for which there are other specific analytical methods, such as acetaldehyde which is a target analyte for EPA Method TO-11A (TO-11A). All of the TO-15M analyses presented in this monthly report were performed by Test America. Laboratory data reports are provided in the Appendices. The QA/QC packages from Test America are not included in the Appendices because of their large size but can be made available upon request.

Only VOCs that were detected at concentrations exceeding the respective Region 9 PRG (most conservative screening level) in one or more samples during a monitoring event are presented in the summary tables that follow. The results from the analytical laboratory can be found in the Appendix noted.

Event #102 Thursday January 22 to Friday January 23

Analytical results are summarized in Table 1 and provided in Appendix A.

**Event #102: VOCs Detected Above PRGs
Concentrations in ug/m³**

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	Wetland	Wetland Co-loc
Relative Wind Direction				C/U	C/U	C/D	C/D	
Benzene	29	10	0.25	1.9	0.77	1.4	1.1	1.1
Carbon tetrachloride	188	188	0.13	0.53J	0.57J	0.58J	0.58J	0.58J

NS=Not Sampled

ND= Not Detected

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Event #103: Wednesday January 28 to Thursday January 29

Analytical results are summarized in Table 2 and provided in Appendix B.

Event #103: VOCs Detected Above PRGs

Concentrations in ug/m³

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Cell Tower Co-loc	Co-loc Camp ground	Wetland
Relative Wind Direction				C/U	C/U		C/D	C/C
Benzene	29	10	0.25	0.84	0.81	0.79	ND	1.2
Carbon tetrachloride	188	188	0.13	0.44J	0.39J	0.49J	ND	0.54J

ND= Not detected

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers:

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Event #104: Tuesday February 3 to Wednesday February 4

Analytical results are summarized in Table 3 and provided in Appendix C.

Event #104: VOCs Detected Above PRGs

Concentrations in ug/m³

Compound	Acute MRL	Chronic MRL	PRG	School	School Co-loc	Cell Tower	Camp ground	Wet land
Relative Wind Direction				C/C		C/C	C/C	C/D
Benzene	29	10	0.25	0.76	0.66	0.63	0.66	0.76
Carbon tetrachloride	188	188	0.13	0.48J	0.39J	0.44J	0.45J	0.45J

ND= Not Detected

NR= No Result

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers:

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Event #105: Monday February 9 to Tuesday February 10

Analytical results are summarized in Table 4 and provided in Appendix D.

**Event #105: VOCs Detected Above PRGs
Concentrations in ug/m³**

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	Camp Ground Co-loc	Wet land
Relative Wind Direction				C/C	C/C	C/C		U/C
Benzene	29	10	0.25	1.5	1.3	1.1	1.2	NS
Carbon tetrachloride	188	188	0.13	0.45J	0.49J	0.43J	0.42J	NS

NS=Not sampled due to flooding

ND= Not Detected

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers:

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Event #106: Sunday February 15 to Monday February 16

Analytical results are summarized in Table 5 and provided in Appendix E.

**Event #106: VOCs Detected Above PRGs
Concentrations in ug/m³**

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	Wet land
Relative Wind Direction				C/C	C/C	C/C	C/C
Benzene	29	10	0.25	0.84	0.89	0.82	NS
Carbon tetrachloride	188	188	0.13	0.50J	0.44J	0.42J	NS

NS=Not sampled due to flooding

ND= Not Detected

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers:

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Supplemental Isolation Break Monitoring Event #6: 8-hour Sample, Monday January 26, 2009

Analytical results are summarized in Table 6 and provided in Appendix F.

**Isolation Break #6: VOCs Detected Above PRGs
Concentrations in ug/m³**

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	Wet land
Relative Wind Direction				V	V	V	V
Benzene	29	10	0.25	1.1	1.1	1.1	1.0

ND= Not Detected

Bold indicates result exceeded Region 9 PRG

Shading indicates result exceeded ATSDR Minimum Risk Level (MRL)

Laboratory Data Qualifiers:

B = Compound was detected in the blank

J = Estimated concentration below laboratory reporting limit

Note: Consistent with the approved work plan for the supplemental isolation break monitoring, samples were analyzed only for BTEX compounds beginning in mid-January 2009.

3.2 Sulfur Compounds

Carbon disulfide was the only sulfur compound detected during the seven rounds of sampling reviewed in this report for which Method TO-15M was performed. All detections were extremely low concentrations and are included on the TO-15M Summary Tables.

3.3 Aldehydes and Ketones

In order to obtain a continuous 24 hours of data, three separate gel collection tubes were sequentially exposed to ambient air for a period of approximately 8-hours each. Consequently there are three separate sample results for each location for each monitoring event. Analysis for aldehydes and ketones by TO-11A was performed by Integrated Analytical Laboratories.

Although Method TO-11A analyzes for a number of carbonyl compounds, formaldehyde and acetaldehyde are most frequently detected and are the aldehydes of greatest potential concern from a public health standpoint. In addition to formaldehyde and acetaldehyde, the following compounds were also occasionally detected in the samples summarized in this Monthly Report #21: benzaldehyde, propionaldehyde and butyraldehyde. The results for these compounds are included on the laboratory reporting sheets found in the Appendices. Only results for formaldehyde and acetaldehyde are summarized in the tables below.

Note: As indicated previously, all tubing in the sampling apparatus manifolds is now Tygon®.

Event #102 Thursday January 22 to Friday January 23

The laboratory report is in Appendix A.

**Event #102: Aldehydes
Concentrations in ug/m³**

Aldehyde	Acute MRL ¹	Chronic MRL ¹	PRG	School			Cell Tower			Campground			Wetland		
				1	2	3	1	2	3	1	2	3	1	2	3
Prevailing Wind Direction with respect to Landfill				C/U			C/U			C/D			C/D		
Formaldehyde	50	10	0.15	7.1	3.3	9.8	ND	4.4	13	4.4	3.1	5.9	4.8	1.8	11
Acetaldehyde	NA	NA	0.87	8.1	4.8	6.8	ND	3.9	8.2	6.2	3.6	10	4.9	2.7	8.0

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)

Acute MRL 0.04 ppm = 50 ug/m³; Chronic MRL 0.008 ppm=10 ug/m³

NA: Not available

NR: No result available

Event #103: Wednesday January 28 to Thursday January 29

The laboratory report is in Appendix B.

**Event #103: Aldehydes
Concentrations in ug/m³**

Aldehyde	Acute MRL ¹	Chronic MRL ¹	PRG	School			Cell Tower			Campground			Wetland		
				1	2	3	1*	*2	3*	1	2	3	1	2	3
Prevailing Wind Direction with respect to Landfill				C/U			C/U			C/D			C/C		
Formaldehyde	50	10	0.15	3.6	2.3	2.6	NR	NR	NR	2.2	2.0	2.2	2.8	1.6	3.0
Acetaldehyde	NA	NA	0.87	4.5	2.3	2.3	NR	NR	NR	3.0	2.2	4.6	3.0	1.6	3.3

* Sorbent tubes were not analyzed due to suspected failure of low flow pump.

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)

Acute MRL 0.04 ppm = 50 ug/m³; Chronic MRL 0.008 ppm=10 ug/m³

NA: Not available

ND: Not Detected

NR: No result available

*Per field notes, it is likely that the pump failed at the Campground location rendering these sample results unreliable.

Event #104: Tuesday February 3 to Wednesday February 4

The laboratory report is in Appendix C.

**Event #104: Aldehydes
Concentrations in ug/m³**

Aldehyde	Acute MRL ¹	Chronic MRL ¹	PRG	School			Cell Tower			Campground			Wetland		
				1	2	3	1*	2*	3	1*	2	3	1	2	3
Prevailing Wind Direction with respect to Landfill				C/C			C/C			C/C			C/D		
Formaldehyde	50	10	0.15	5.0	2.8	2.8	5.0	2.7	2.1	3.2	1.8	2.2	13	2.2	4.4
Acetaldehyde	NA	NA	0.87	4.5	2.4	2.2	4.9	3.1	1.9	5.5	2.4	3.2	4.1	2.2	3.4

*Breakthrough from front to back of tube for acetaldehyde

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)

Acute MRL 0.04 ppm = 50 ug/m³; Chronic MRL 0.008 ppm=10 ug/m³

NA: Not Available

ND: Not Detected

NR: No result available

Event #105: Monday February 9 to Tuesday February 10

The laboratory report is in Appendix D.

**Event #105: Aldehydes
Concentrations in ug/m³**

Aldehyde	Acute MRL ¹	Chronic MRL ¹	PRG	School			Cell Tower			Campground			Wetland*		
				1	2	3	1	2	3	1**	2	3	1	2	3
Prevailing Wind Direction with respect to Landfill				C/C			C/C			C/C			U/C		
Formaldehyde	50	10	0.15	13	4.5	9.5	7.1	5.9	6.7	4.7	3.4	3.9	NR	NR	NR
Acetaldehyde	NA	NA	0.87	9.4	3.6	4.6	4.5	3.1	3.4	7.3	4.1	5.3	NR	NR	NR

*Wetland location was not sampled due to flooding.

** Sorbent tube may have been reversed during sample collection

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)

Acute MRL 0.04 ppm = 50 ug/m³; Chronic MRL 0.008 ppm=10 ug/m³

NA: Not Available

ND: Not Detected

NR: No result available

Event #106: Sunday February 15 to Monday February 16

Analytical results are provided in Appendix E.

**Event #106: Aldehydes
Concentrations in ug/m³**

Aldehyde	Acute MRL ¹	Chronic MRL ¹	PRG	School			Cell Tower			Campground			Wetland*		
				1	2	3	1	2	3	1	2	3	1	2	3
Prevailing Wind Direction with respect to Landfill				C/C			C/C			C/C			C/C		
Formaldehyde	50	10	0.15	6.9	2.3	2.5	3.2	2.4	2.0	2.3	1.9	1.8	NR	NR	NR
Acetaldehyde	NA	NA	0.87	6.6	1.9	2.1	2.8	2.1	2.3	5.9	3.4	4.5	NR	NR	NR

*Wetland location not sampled due to flooding

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)

Acute MRL 0.04 ppm = 50 ug/m³; Chronic MRL 0.008 ppm=10 ug/m³

NA: Not Available

ND: Not Detected

NR: No result available

3.4 Hydrogen Chloride and Hydrogen Fluoride

As with the aldehyde and ketone samples, three separate gel collection tubes were sequentially exposed to ambient air for a period of approximately 8-hours each. Consequently there are three separate sample results for each location for each monitoring event. The concentrations of HF and HCl in the air are quantified based on the mass of fluoride and chloride ion captured on the gel inside the tubes and the volume of air that was passed through the tube. See the Note in Section 3.3 above regarding changes in the type of tubing on the manifold for collecting aldehyde and HF/HCl samples.

Analytical results for sampling events #92 through #95 are summarized below. All detected concentrations were very low and did not approach levels of potential concern.

Event #102 Thursday January 22 to Friday January 23

Analytical results are in Appendix A.

**Event #102: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3**

Compound	PRG	School			Cell Tower			Campground			Wetland		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HCl	21	ND	ND	ND	ND	ND	ND	ND	3.4	ND	ND	ND	ND

NA: Not Available

ND: Not Detected

NR: No result available

*Breakthrough from the front to the back of the sorbent tube for fluoride ion.

Event #103: Wednesday January 28 to Thursday January 29

Analytical results are in Appendix B.

**Event #103: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3**

Compound	PRG	School			Cell Tower			Campground			Wetland		
		1	2	3	1*	2*	3*	1	2	3	1	2	3
HF	NA	ND	ND	ND	NR	NR	NR	ND	ND	ND	ND	ND	ND
HCl	21	ND	ND	ND	NR	NR	NR	ND	ND	ND	ND	ND	ND

NA: Not Available

ND: Not Detected

NR: No result available

*Per field notes, it is likely that the pump failed at the Cell Tower location rendering these sample results unreliable.

Event #104: Tuesday February 3 to Wednesday February 4

Analytical results are in Appendix C.

**Event #104: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3**

Compound	PRG	School			Cell Tower			Campground			Wetland		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HCl	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.1	ND

NA: Not Available

ND: Not Detected

NR: No result available

Event #105: Monday February 9 to Tuesday February 10

Analytical results are in Appendix D.

**Event #105: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3**

Compound	PRG	School			Cell Tower			Campground			Wetland		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HCl	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA: Not Available

ND: Not Detected

NR: No result available

Event #106: Sunday February 15 to Monday February 16

Analytical results are provided in Appendix E.

**Event #106: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3**

Compound	PRG	School			Cell Tower			Campground			Wetland*		
		C/C			C/C			C/C			C/C		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	NR
HCl	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	NR	NR	NR

*Wetland site not sampled due to flooding

NA: Not Available

ND: Not Detected

NR: No result available

4.0 SUMMARY

4.1 Volatile Organic Compounds

Benzene and carbon tetrachloride were present in all samples from all locations (both the regularly scheduled monitoring and the additional Isolation break monitoring) at very low concentrations that were above the very conservative respective Region 9 PRGs but well below the ATSDR chronic MRLs. No other VOCs were reported to be present at concentrations above the respective Region 9 PRGs.

The concentrations of benzene reported from the single 8-hour Isolation Break sampling event conducted during the time period covered by this Monthly Report were comparable to the concentrations reported from the regularly scheduled 24-hour samples. Consistent with the Isolation Break Monitoring Plan, this additional 8-hour sample was analyzed only for BTEX compounds.

All of the reported benzene concentrations were within the range of background levels reported in the literature and by other investigators. As mentioned in previous Monthly Reports, there are numerous local and area sources of benzene and related compounds, including lawn mowing, emissions from the heavy equipment working on the nearby expansion area of the landfill, motor vehicles near the monitoring equipment, the Marathon refinery on the south side of Canton, and the landfill. The sources of carbon tetrachloride are not known, but the consistently low concentrations of this environmentally persistent compound across all monitoring locations indicate that like the benzene, it is not related to the landfill.

Note: For all of the compounds that were measured at concentrations (or estimated concentrations as designated by a "J" qualifier) above the Region 9 PRGs, the PRG value is either very near or in some cases below the reporting limit for the analytical laboratory.

Consequently almost any quantifiable detection of the chemical will exceed the highly conservative Region 9 PRG. The ATSDR MRLs provide a more realistic basis of comparison since all of the MRLs are above the range of laboratory reporting limits for those compounds that have MRLs.

4.2 Aldehydes (Carbonyl Compounds)

Formaldehyde and acetaldehyde (less frequently) were detected at all sampling locations. The Region 9 PRGs for formaldehyde (0.15 ug/m³) and acetaldehyde (0.87 ug/m³) are very close to the laboratory reporting limits for these chemicals. Consequently, almost any measurable levels of formaldehyde and acetaldehyde will exceed the respective Region 9 PRG. The ATSDR Acute (50 ug/m³) and Chronic (10 ug/m³) MRLs are more relevant guidelines for interpreting the analytical results.

Several individual samples (i.e. sorbent tubes) were close to or exceeded the ATSDR Chronic MRL for formaldehyde. However, there was no occasion where the daily average formaldehyde or acetaldehyde concentration exceeded the Chronic MRL for formaldehyde. The concentrations of formaldehyde and acetaldehyde fluctuate from day to day and over the course of a single day. However, the monitoring results indicate that the average daily concentrations of aldehydes are below levels of concern.

4.3 Hydrogen Fluoride and Hydrogen Chloride

Hydrogen fluoride and hydrogen chloride were only rarely detected during the monitoring events covered by this Monthly Report #22. The low concentrations detected were within the range of values reported over the course of this monitoring program.

Note: It should be recognized that NIOSH Method 7903 for inorganic acids was designed for industrial-not ambient environmental applications. The methodology appears to be sensitive to changes in ambient conditions, particularly moisture. HF and HCl were either not present or were only detected at very low levels in the majority of samples that have been collected since the initiation of this monitoring program in May 2007. Even those results that appear to be outside of the "typical range" for this program are extremely low concentrations that do not present a risk to public health.

4.4 Laboratory Issues

No major laboratory issues have been identified as of the date of this report that would alter the conclusions based upon the monitoring results presented here. Results from the co-located (duplicate) TO-15 samples were similar for all locations and events.

4.6 Conclusions

No significant concentrations of any VOC, including benzene, have been reported in the months since alterations were made to the sampling apparatus. This is still the case for the monitoring events presented in this Monthly Report #22. In addition to the 24-hour monitoring events that are conducted on an every-six-day schedule, this report also presents the findings from one supplementary 8-hour BTEX sample (January 26, 2009) that was collected at a mid-point between the 24-hour events. The purpose of these

supplementary samples is to characterize any changes in VOC levels in the community that may correspond to the intrusive Isolation Break excavation activities that were initiated in December 2008. It should be noted that supplemental 8-hour samples for BTEX analysis are only collected when excavation work is in progress.

Our specific conclusions are summarized below:

- The levels of benzene recorded at the community monitoring locations during mid-January through mid-February were very low and well within Ohio background as reported by Ohio EPA (Portsmouth Ohio Air Quality Study, 2003).
- The concentrations of benzene detected during the Supplemental Isolation Break 8-hour Monitoring Event on January 26 were consistent with the results from the regularly scheduled 24-hour Monitoring Events. These findings demonstrate that the intrusive excavation of the Isolation Break is not having an effect on the concentrations or specific VOCs present in ambient air in the surrounding community. These additional samples should be eliminated.
- Because there are numerous local and regional sources of VOCs, it is expected that many of these compounds will continue to be detected at low levels as the community monitoring program moves forward.
- Concentrations of formaldehyde and acetaldehyde from mid-January through mid-February were similar to the previous month. The average daily concentrations of formaldehyde reported during this time period were well below the ASTDR Chronic MRL and do not present a threat to public health.
- The rare detections of very low concentrations of hydrogen fluoride and hydrogen chloride reported during mid-January through mid-February were within the historical range for this monitoring program. The presence of very low levels of these two inorganic acids does not constitute a threat to public health. Sampling for hydrogen fluoride and hydrogen chloride should be eliminated.
- There are no clear trends with regard to the specific compounds or the concentrations of those compounds detected with respect to whether the monitoring location was upwind or downwind of the landfill during the monitoring event.
- The results presented in this Monthly Report #22 continue to support our conclusions that the occurrence of low levels of VOCs, aldehydes, and inorganic acids in the air of the community surrounding Countywide reflect local and regional sources; and that the levels of these chemicals in the ambient air do not represent either an immediate or long-term threat to public health.

**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #22**

March 20, 2009

EPA Method TO-15 SUMMARY TABLES

- Table 1. Event #102: Thursday January 22 to Friday January 23**
- Table 2. Event #103: Wednesday January 28 to Thursday January 29**
- Table 3. Event #104: Tuesday February 3 to Wednesday February 4**
- Table 4. Event #105: Monday February 9 to Tuesday February 10**
- Table 5. Event #106: Sunday February 15 to Monday February 16**
- Table 6. ISBM Event #6: Monday January 26**

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 1: Event #102: January 22/23, 2009

Analyte	*Prevailing Wind Direction		Monitoring Location			
	School	Cell Tower	Campground	Wetland	Co-Located	
	C/U	C/U	C/D	C/D	C/D	
All results in ug/m3						
Method TO-15 Modified	Acute MRL	Chronic MRL	PRG			
Acetone	61762	30881	3300			
Benzene	29	10	0.25	11J	11J	8.8J
Bromomethane	194	19	5.2	ND	0.77	1.4
tert-Butyl alcohol	NA	NA	NA	0.18J	0.18J	0.72J
Carbon disulfide	NA	934	730	0.18J	0.18J	0.15J
Carbon tetrachloride	188	188	0.13	0.11J	ND	0.18J
Chlorobenzene	NA	NA	62	0.53J	0.57J	0.58J
Chloroethane	39583	NA	2.3	ND	ND	0.67J
Chloroform	488	98	0.083	ND	ND	ND
Chloromethane	1033	103	95	ND	0.18J	0.20J
Cyclohexane	NA	NA	6200	1.3	1.3	1.6
Dichlorodifluoromethane	NA	NA	210	0.17J	ND	ND
cis-1,2-Dichloroethene	NA	NA	37	2.5	2.5	2.6
Ethylbenzene	43419	1303	1100	ND	ND	ND
4-Ethyltoluene	NA	NA	NA	ND	ND	ND
Heptane	NA	NA	NA	0.78J	0.30J	0.38J
Hexane	NA	2115	210	1.1J	0.47J	0.49J
Methyl ethyl ketone	NA	NA	5100	1.3	1.7J	1.4J
Methyl isobutyl ketone	NA	NA	3100	ND	ND	ND
Methylene chloride	2084	1042	4.1	1.4JB	0.83JB	2.2B
Styrene	8520	852	1100	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND
Toluene	3768	301	400	2.5	0.59J	0.67J
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.52J	0.51J	0.53J
Trichlorofluoromethane	NA	NA	730	1.2	1.2	1.2
1,2,4-Trimethylbenzene	NA	NA	6.2	1.4	ND	ND
						0.49J
						0.92J

1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NA	NA	NA	0.59J	ND	ND	0.20J	ND	ND
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	1.8	ND	ND	0.54J	1.2	
o-Xylene	8687	8687	110	0.68J	ND	ND	ND	0.47J	
Tentatively Identified Compounds									
Propane	NA	NA	NA	3.9	2.8	3.6	12	13	
Butane	NA	NA	NA	3.3	N	N	6.5	6.6	
Butane,2-methyl-	NA	NA	NA	N	N	N	2.8	3.0	
Isobutane	NA	NA	NA	N	N	N	4.6	4.8	
Pentane	NA	NA	NA	N	N	N	2.4	2.4	
Acetaldehyde	NA	NA	NA	N	N	N	3.0	N	
Undecane,2,8-dimethyl	NA	NA	NA	N	N	N	N	1.4	
Decane,2,5,6-trimethyl	NA	NA	NA	N	N	N	N	2.9	
Eicosane	NA	NA	NA	N	N	N	N	3.9	
Heptane,2,2-dimethyl	NA	NA	NA	N	N	N	N	3.0	
*Prevailing Wind Direction with respect to the landfill									
U: Upwind									
D: Downwind									
C: Crosswind									
V: Variable									
ND = Not Detected									
NA = Not Available									
Y = TIC present									
Bold indicates result exceeds Region 9 PRG									
Shading indicates result exceeds ATSDR MRL									
Laboratory Data Qualifiers:									
B = Compound present in blank									
J = Estimated concentration below laboratory reporting limit									
D = Dilution									
E = Exceeds calibration range of instrument									
TICs: Compound has been tentatively identified but the estimated concentration is highly uncertain.									

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 2: Event #103: January 28/29, 2009

Analyte	*Prevailing Wind Direction		Monitoring Location		C/D	C/C
	School	Cell Tower	Campground	Wetland		
	All results in ug/m3					
Method TO-15 Modified	Acute MRL	Chronic MRL	PRG			
Acetone	61762	30881	3300	7.8J	8.8J	7.1J
Benzene	29	10	0.25	0.81	0.79	ND
Bromomethane	194	19	5.2	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.18J	0.15J	ND
Carbon disulfide	NA	934	730	0.11J	ND	0.11J
Carbon tetrachloride	188	188	0.13	0.44J	0.49J	ND
Chlorobenzene	NA	NA	62	ND	ND	ND
Chloroethane	39583	NA	2.3	ND	ND	ND
Chloroform	488	98	0.083	0.19J	ND	ND
Chloromethane	1033	103	95	1.0	1.2	1.1
Cyclohexane	NA	NA	6200	ND	ND	ND
Dichlorodifluoromethane	NA	NA	210	2.0	2.1	2.0
cis-1,2-Dichloroethene	NA	NA	37	ND	ND	ND
Ethylbenzene	43419	1303	1100	0.37J	ND	ND
4-Ethyltoluene	NA	NA	NA	0.55J	ND	0.35J
Heptane	NA	NA	NA	0.32J	ND	0.40J
Hexane	NA	2115	210	0.39J	0.34J	0.34J
Methyl ethyl ketone	NA	NA	5100	1.6J	1.4J	ND
Methyl isobutyl ketone	NA	NA	3100	ND	ND	ND
Methylene chloride	2084	1042	4.1	0.56JB	0.49JB	0.80JB
Styrene	8520	852	1100	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND
Toluene	3768	301	400	1.1	0.37J	0.22J
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.53J	0.55J	0.34J
Trichlorofluoromethane	NA	NA	730	1.1J	1.1	0.99J
1,2,4-Trimethylbenzene	NA	NA	6.2	1.3	0.61J	ND
						0.80J

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 3: Event #104: February 3/4, 2009

Analyte	*Prevailing Wind Direction	Monitoring Location		
		School	Cell Tower	Wetland
		Co-Located C/C	C/C	C/D
All results in ug/m3				
Method TO-15 Modified	Acute MRL	Chronic MRL	PRG	
Acetone	61762	30881	3300	
Benzene	29	10	0.25	12 5.0 12 5.1J 18
Bromomethane	194	19	5.2	0.66 0.63 0.66 0.76
tert-Butyl alcohol	NA	NA	NA	ND ND ND ND ND ND
Carbon disulfide	NA	934	730	0.16J 0.31J 0.31J 1.6J
Carbon tetrachloride	188	188	0.13	ND ND 0.39J 0.45J 0.45J 0.55J 0.45J
Chlorobenzene	NA	NA	62	ND ND ND ND ND ND
Chloroethane	39583	NA	2.3	ND ND ND ND ND ND
Chloroform	488	98	0.083	ND ND ND ND ND ND
Chloromethane	1033	103	95	1.3 1.1 1.0J 1.2 1.1
Cyclohexane	NA	NA	6200	ND ND ND ND ND ND
Dichlorodifluoromethane	NA	NA	210	2.5 2.2 2.3 2.4 2.6
cis-1,2-Dichloroethene	NA	NA	37	ND ND ND ND ND ND
Ethylbenzene	43419	1303	1100	ND ND ND ND ND ND 0.36J
4-Ethyltoluene	NA	NA	NA	ND ND ND ND ND ND
Heptane	NA	NA	NA	0.44J 0.29J 0.39J 0.28J 0.94J
Hexane	NA	2115	210	0.40J 0.54J 0.46J 0.35J 0.55J
Methyl ethyl ketone	NA	NA	5100	1.6J ND 0.69 4.1
Methyl isobutyl ketone	NA	NA	3100	ND ND ND ND ND ND 0.51J
Methylene chloride	2084	1042	4.1	0.64JB ND 0.46JB 0.69JB 0.63JB
Styrene	8520	852	1100	ND ND ND ND ND ND
Tetrahydrofuran	NA	NA	0.99	ND ND ND ND ND ND 0.38J
Toluene	3768	301	400	0.74 0.60J 1.0 0.61J 2.4
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.57J 0.49J 0.54J 0.56J 0.57J
Trichlorofluoromethane	NA	NA	730	1.2 1.1 1.1 1.2 1.3
1,2,4-Trimethylbenzene	NA	NA	6.2	0.43J ND ND ND 0.73J

1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NA	NA	NA	ND	ND	ND	ND	ND	ND
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	0.58J	ND	0.66J	ND	0.97	0.36J
o-Xylene	8687	8687	110	ND	ND	ND	ND	ND	0.36J
Tentatively Identified Compounds									
None									
*Prevailing Wind Direction with respect to the landfill									
U: Upwind									
D: Downwind									
C: Crosswind									
V: Variable									
ND = Not Detected									
NA = Not Available									
Y = TIC present									
Bold indicates result exceeds Region 9 PRG									
Shading indicates result exceeds ATSDR MRL									
Laboratory Data Qualifiers:									
B = Compound present in blank									
J = Estimated concentration below laboratory reporting limit									
D = Dilution									
E = Exceeds calibration range of instrument									
TICs: Compound has been tentatively identified but the estimated concentration is highly uncertain.									

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 4: Event #105: February 9/10, 2009

Analyte	*Prevailing Wind Direction	Monitoring Location				C/C	U/C
		School	Cell Tower	Campground	***Wetland		
		C/C	C/C	C/C	Co-Located		
All results in ug/m3							
Method TO-15 Modified	Acute MRL	Chronic MRL	PRG				
Acetone	61762	30881	3300	94	7.5J	9.3J	
Benzene	29	10	0.25	1.5	1.3	1.1	
Bromomethane	194	19	5.2	ND	ND	ND	
tert-Butyl alcohol	NA	NA	NA	6.5	0.13J	0.14J	
Carbon disulfide	NA	934	730	0.15J	ND	0.10J	
Carbon tetrachloride	188	188	0.13	0.45J	0.49J	0.43J	
Chlorobenzene	NA	NA	62	ND	ND	ND	
Chloroethane	39583	NA	2.3	ND	ND	ND	
Chloroform	488	98	0.083	ND	ND	ND	
Chloromethane	1033	103	95	0.94J	1.3	1.00J	
Cyclohexane	NA	NA	6200	0.34J	0.14J	ND	
1,4- Dichlorobenzene	12020	60	0.31	0.78J	ND	0.50J	
Dichlorodifluoromethane	NA	NA	210	2.1	2.5	2.1	
cis-1,2-Dichloroethene	NA	NA	37	ND	ND	ND	
Ethylbenzene	43419	1303	1100	0.77J	ND	ND	
4-Ethyltoluene	NA	NA	NA	1.3J	ND	0.67J	
Heptane	NA	NA	NA	3.1	0.44J	0.50J	
Hexane	NA	2115	210	1.5J	0.70J	0.66J	
Methyl ethyl ketone	NA	NA	5100	10.0	0.98J	1.4J	
Methyl isobutyl ketone	NA	NA	3100	0.89J	ND	ND	
Methylene chloride	2084	1042	4.1	5.5	0.99J	1.3J	
Styrene	8520	852	1100	ND	ND	ND	
Tetrahydrofuran	NA	NA	0.99	0.22J	ND	ND	
Toluene	3768	301	400	3.1	0.97	1.2	
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.47J	0.57J	0.49J	
Trichlorofluoromethane	NA	NA	730	1.2	1.2	1.1J	
				1.2		1.4	

1,2,4-Trimethylbenzene	NA	NA	6.2	2.8	0.37J	0.77J	2.7	NS
1,3,5-Trimethylbenzene	NA	NA	6.2	0.63J	ND	ND	0.65J	NS
2,2,4-Trimethylpentane	NA	NA	NA	0.44J	ND	ND	ND	NS
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	NS
m/p-Xylene	8687	8687	110	2.6	0.60J	0.81J	2.6	NS
o-Xylene	8687	8687	110	1.0	ND	0.31J	1.0	NS
Tentatively Identified Compounds								
Methyl Alcohol	NA	NA	NA	N	5.7	3.8	19	
Acetaldehyde	NA	NA	NA	11	N	N	N	
Butanal	NA	NA	NA	4.4	N	N	N	
Butane	NA	NA	NA	2.9	N	N	N	
Ethyl Alcohol	NA	NA	NA	3.6	N	N	N	
Hexanal	NA	NA	NA	2.5	N	N	N	
Octanal	NA	NA	NA	2.7	N	N	N	
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
V: Variable								
NS = Not Sampled (due to flooding)								
ND = Not Detected								
NA = Not Available								
Y = TIC present								
Bold indicates result exceeds Region 9 PRG								
Shading indicates result exceeds ATSDR MRL								
Laboratory Data Qualifiers:								
B = Compound present in blank								
J = Estimated concentration below laboratory reporting limit								
D = Dilution								
E = Exceeds calibration range of instrument								
TICs: Compound has been tentatively identified but the estimated concentration is highly uncertain.								

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 5: Event #106: February 15/16, 2009

Analyte	*Prevailing Wind Direction	Monitoring Location		
		School	Cell Tower	Campground
		C/C	C/C	C/C
All results in ug/m3				
Method TO-15 Modified	Acute MRL	Chronic MRL	PRG	
Acetone	61762	30881	3300	
Benzene	29	10	0.25	21 10J 9.6J NS
Bromomethane	194	19	5.2	0.84 ND 0.82 NS
tert-Butyl alcohol	NA	NA	NA	ND 0.14J NS
Carbon disulfide	NA	934	730	ND 0.35J NS
Carbon tetrachloride	188	188	0.13	ND 0.19J NS
Chlorobenzene	NA	NA	62	0.50J 0.42J NS
Chloroethane	39583	NA	2.3	ND ND NS
Chloroform	488	98	0.083	ND ND NS
Chloromethane	1033	103	95	1.3 0.96J 1.7 NS
Cyclohexane	NA	NA	6200	ND 1.8 NS
1,4- Dichlorobenzene	12020	60	0.31	ND ND NS
Dichlorodifluoromethane	NA	NA	210	2.6 2.3 NS
cis-1,2-Dichloroethene	NA	NA	37	ND ND NS
Ethylbenzene	43419	1303	1100	ND 1.1 NS
4-Ethyltoluene	NA	NA	NA	ND NS
Heptane	NA	NA	NA	0.78J 0.78J NS
Hexane	NA	2115	210	0.40J 1.1J NS
Methyl ethyl ketone	NA	NA	5100	1.5J 1.2J NS
Methyl isobutyl ketone	NA	NA	3100	ND 0.35J NS
Methylene chloride	2084	1042	4.1	0.84J 1.8 NS
Styrene	8520	852	1100	ND 0.48J NS
Tetrahydrofuran	NA	NA	0.99	ND ND NS
Toluene	3768	301	400	0.76 0.60J 3.7 NS
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.60J 0.51J NS
Trichlorofluoromethane	NA	NA	730	1.3 1.1 1.1 NS

1,2,4-Trimethylbenzene	NA	NA	6.2	0.48J	ND	ND	NS
1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	NS
2,2,4-Trimethylpentane	NA	NA	NA	ND	ND	0.20J	NS
Vinyl Chloride	1278	77	0.11	ND	ND	ND	NS
m/p-Xylene	8687	8687	110	0.56J	ND	1.5	NS
o-Xylene	8687	8687	110	ND	ND	0.44J	NS
Tentatively Identified Compounds							
Acetaldehyde	NA	NA	NA	2.2	N	N	
Propane	NA	NA	NA	2.0	2.8	N	
Butane,2-methyl-	NA	NA	NA	N	N	33	
Isobutane	NA	NA	NA	N	N	19	
Pentane	NA	NA	NA	N	N	98	
*Prevailing Wind Direction with respect to the landfill							
U: Upwind							
D: Downwind							
C: Crosswind							
V: Variable							
NS = Not sampled due to flooding							
ND = Not Detected							
NA = Not Available							
Y = TIC present							
Bold indicates result exceeds Region 9 PRG							
Shading indicates result exceeds ATSDR MRL							
Laboratory Data Qualifiers:							
B = Compound present in blank							
J = Estimated concentration below laboratory reporting limit							
D = Dilution							
E = Exceeds calibration range of instrument							
TICs: Compound has been tentatively identified but the estimated concentration is highly uncertain.							

