Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #18

November 20, 2008

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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Monitoring Events #81 through 86

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1.0 INTRODUCTION

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 Monitoring Events.

Event #81: Thursday September 18 to Friday September 19
Event #82: Wednesday September 24 to Thursday September 25
Event #83: Tuesday September 30 to Wednesday October 1
Event #84: Monday October 6 to Tuesday October 7
Event #85: Sunday October 12 to Monday October 13
Event #86: Saturday October 18 to Sunday October 19

Starting in early August 2008, we began making incremental but significant changes in the community monitoring stations and sampling protocol in an effort to identify and (if possible) eliminate sources of variability that may have been contributing to anomalously high results for benzene and a few other VOCs. As first indicated in Report #16, the following changes have been made to sample collection procedures:

- All four of the monitoring stations were secured in chain-link enclosures topped with razor wire;
- The Wetland monitor has been moved from a temporary location on high ground off of Gracemont Street back to the low-lying, flood-prone public lands accessible from Dueber Avenue;
- The Campground monitor has been moved to the far side of the gravel parking area farther away from the road;
    - Construction equipment and a petroleum storage tank were observed within 100 feet of the new location for this monitor
- The School monitor has been relocated from the roof to an area near to and just west of the tennis courts;
- Beginning with Event #75 on August 13/14, an additional Summa canister was co-located at one of the four monitoring sites. The co-located sample location revolves amongst the monitoring sites on a pre-determined schedule;
- The tubing previously used to collect samples from a height of two meters (per Ohio EPA specifications) is no longer being used with the Summa Canisters. In

- 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®; and
- Rigorous requirements for handling remaining tubing used in the sampling devices have been implemented to minimize potential for contamination during transport of the equipment.

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/m^3 is lower than the average background concentration of 1.96 ug/m^3 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. Unlike PRGs which address either cancer or non-cancer health effects for a chemical (depending upon which is more conservative, i.e. results in a lower concentration), the ATSDR MRLs do not consider cancer health effects. 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 #81: Thursday September 18 to Friday September 19
September 18: Average temperature in degrees F: 63, Max. 73, Min. 53.
Winds were 3 mph with max gusts of 18 mph out of the NE.
Average relative humidity 68% with 0.01 inches of precipitation recorded.
Complaints: A complaint occurred at 8:32pm from I-77 South near mile marker 95. Cap area E and 5AB area were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.
September 19: Average temperature in degrees F: 62, Max. 78, Min. 46
Winds were 0 mph with a max speed of 5 mph out of the SE.
Average relative humidity 58% with no precipitation recorded.
Complaints: Complaints occurred at 10:52am from Mineral City Elementary and at 9:36pm from 9863 Sherman Church Avenue in Bolivar. Cap area E and 5AB area were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

Event #82: Wednesday September 24 to Thursday September 25
September 24: Average temperature in degrees F: 64, Max. 80, Min. 48.
Winds were 1 mph with a max speed of 8 mph out of the SE.
Average relative humidity 71% with no precipitation recorded.
Complaints: There were no odor complaints during this time.
September 25: Average temperature in degrees F: 63, Max. 77, Min. 48
Winds were 1 mph with max gusts of 20 mph out of the E.

Average relative humidity 64% with 0.01 inches of precipitation recorded.
Complaints: Complaints occurred at 2:40pm from I-77 North at mile marker 96 and at 8:26pm from I-77 South between mile markers 97 and 95. Cap area E was a potentially odor-causing activity noted on the Daily Odor Monitoring Summary.

Event #83: Tuesday September 30 to Wednesday October 1
September 30: Average temperature in degrees F: 62, Max. 69, Min. 55.
Winds were 3 mph with max gusts of 17 mph out of the WNW.
Average relative humidity 76% with 0.12 inches of precipitation recorded.
Complaints: There were no odor complaints during this time.
October 1: Average temperature in degrees F: 56, Max. 64, Min. 48
Winds were 4 mph with max gusts of 25 mph out of the W.
Average relative humidity 71% with no precipitation recorded.
Complaints: There were no odor complaints during this time.

Event #84: Monday October 6 to Tuesday October 7
October 6: Average temperature in degrees F: 54, Max. 66, Min. 44.
Winds were 2 mph with a max speed of 9 mph out of the NE.
Average relative humidity 72% with no precipitation recorded.
Complaints: A complaint occurred at 8:30pm from 9863 Sherman Church Avenue in Bolivar. 5AB Toe drain and finger drain, test borings, and test pits were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.
October 7: Average temperature in degrees F: 52, Max. 71, Min. 35
Winds were 1 mph with a max speed of 8 mph out of the SE.
Average relative humidity 71% with no precipitation recorded.
Complaints: A complaint occurred at 5:00pm from I-77 South near mile marker 95. 5AB Toe drain and finger drain, test borings, and test pits were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

Event #85: Sunday October 12 to Monday October 13
October 12: Average temperature in degrees F: 62, Max. 82, Min. 42.
Winds were 0 mph with a max speed of 5 mph out of the SSE.
Average relative humidity 79% with 0.01 inches of precipitation recorded.
Complaints: A complaint occurred at 1:41pm from 2940 Haut Street in East Sparta. No potentially odor-causing activities were noted on the Daily Odor Monitoring Summary.
October 12: Average temperature in degrees F: 60, Max. 77, Min. 44
Winds were 1 mph with a max speed of 7 mph out of the S.
Average relative humidity 80% with no precipitation recorded.
Complaints: A complaint occurred at 12:41 from 3232 Downing Street in East Sparta. Pump maintenance and force main excavation were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

Event #86: Saturday October 18 to Sunday October 19
October 18: Average temperature in degrees F: 46, Max. 55, Min. 37.
Winds were 1 mph with max gusts of 21 mph out of the NE.
Average relative humidity 65% with no precipitation recorded.
Complaints: There were no odor complaints during this time.
October 19: Average temperature in degrees F: 42, Max. 57, Min. 28
Winds were 0 mph with a max speed of 7 mph out of the 7
S.
Average relative humidity 71% with no precipitation recorded.
Complaints: There were no odor complaints during this time.

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

Wind direction is indicated for the first and second days of the monitoring event separated by /.

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 #81: Thursday September 18 to Friday September 19

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

Event #81: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	C-Loc Camp ground	Wetland
Relative Wind Direction				D/C	D/C	U/C		C/U
Benzene	29	10	**0.25**	**0.87**	**1.2**	**0.63**	**0.53J**	**0.43J**

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 #82: Wednesday September 24 to Thursday September 25

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

Event #82: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	**Acute MRL**	**Chronic MRL**	**PRG**	**School**	**Cell Tower**	**Camp ground**	**Wetland**	**Co-loc Wetland**
Relative Wind Direction				C/C	C/C	C/C	U/U	
Benzene	29	10	**0.25**	**1.4**	**1.4**	**1.3**	**1.5**	**1.3**
Carbon tetrachloride	188	188	**0.13**	**0.63J**	**0.73J**	**0.72J**	**0.74J**	**0.71J**
Tetrachloroethene	1356	271	**0.32**	**0.56J**	ND	ND	ND	ND

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 #83: Tuesday September 30 to Wednesday October 1

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

Event #83: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Co-loc Cell Tower	Camp ground	Wet land
Relative Wind Direction				C/C	C/C		C/C	D/D
Benzene	29	10	**0.25**	**0.43J**	**0.36J**	**0.48J**	**0.38J**	**0.18J**
Carbon tetrachloride	188	188	**0.13**	**0.45J**	**0.45J**	**0.48J**	**0.45J**	**0.27J**

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 #84: Monday October 6 to Tuesday October 7

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

Event #84: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	Acute MRL	Chronic MRL	PRG	School	Co-loc School	Cell Tower	Camp ground	Wet land
Relative Wind Direction				D/C		D/C	U/C	C/U
Benzene	29	10	**0.25**	**1.1**	**0.83**	**0.94**	**0.54J**	**0.49J**
Carbon tetrachloride	188	188	**0.13**	**0.57J**	**0.63J**	**0.51J**	**0.51J**	**0.56J**
1,2-Dichloroethane	NA	2368	**0.074**	**1.4**	ND	ND	ND	ND
Tetrachloroethene	1356	271	**0.32**	ND	**0.69J**	ND	ND	ND

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 #85: Sunday October 12 to Monday October 13

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

Event #85: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	C-Loc Camp ground	Wetland
Relative Wind Direction				U/U	U/U	C/C		U/C
Benzene	29	10	**0.25**	**1.8**	**0.71**	**1.0**	**1.1**	**0.95**
Carbon tetrachloride	188	188	**0.13**	**0.66J**	**0.53J**	**0.61J**	**0.60J**	**0.47J**
Chloroform	488	98	**0.083**	**0.21J**	**0.42J**	ND	ND	ND

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 #86: Saturday October 18 to Sunday October 19

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

Event #86: VOCs Detected Above PRGs
Concentrations in ug/m^3

Compound	Acute MRL	Chronic MRL	PRG	School	Cell Tower	Camp ground	Wetland	Co-loc Wetland
Relative Wind Direction				D/U	D/U	U/C	C/C	
Benzene	29	10	**0.25**	**0.92**	**1.7**	**0.61J**	**0.49J**	**1.5**
Carbon tetrachloride	188	188	**0.13**	**0.53J**	**0.40J**	**0.48J**	**0.54J**	**1.1JB**

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

3.2 Sulfur Compounds

Carbon disulfide was the only sulfur compound detected during the five rounds of sampling reviewed in this report. 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 #18: benzaldehyde, propionaldehyde, butyraldehyde, valeraldehyde and hexaldehyde. 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.

Event #81: Thursday September 18 to Friday September 19

The laboratory report is in Appendix A.

Event #81: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School D/C			Cell Tower D/C			Campground U/C			Wetland C/U		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**5.8**	**1.8**	**0.74**	**7.3**	**8.8**	**2.7**	**5.4**	**4.4**	**3.0**	**10**	**10**	**2.5**
Acetaldehyde	**NA**	**NA**	**0.87**	**1.0**	**0.53**	ND	**2.9**	**3.1**	0.52	**1.6**	**1.6**	**1.7**	**2.9**	**2.9**	0.80

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not available
NR: No result available

Event #82: Wednesday September 24 to Thursday September 25

The laboratory report is in Appendix B.

Event #82: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School C/C			Cell Tower C/C			Campground C/C			Wetland U/U		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**33**	**8.7**	**2.0**	**9.1**	**12**	**2.7**	NA	**14**	**4.1**	**13**	**12**	**1.8**
Acetaldehyde	**NA**	**NA**	**0.87**	**4.4**	**2.1**	0.83	**3.0**	**3.7**	**1.5**	NA	**3.8**	**1.9**	**3.8**	**3.6**	**0.91**

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not available
ND: Not Detected

Event #83: Tuesday September 30 to Wednesday October 1

The laboratory report is in Appendix C.

Event #83: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School C/C			Cell Tower C/C			Campground C/C			Wetland D/D		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**9.4**	**7.6**	**6.0**	**8.2**	**8.0**	NA	**5.9**	**5.9**	ND	**9.6**	**3.6**	**1.5**
Acetaldehyde	**NA**	**NA**	**0.87**	**1.3**	**1.8**	**2.5**	**1.9**	**2.0**	NA	**1.6**	**1.8**	ND	**2.9**	**1.1**	**1.2**

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not Available
ND: Not Detected

Event #84: Monday October 6 to Tuesday October 7

The laboratory report is in Appendix D.

Event #84: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School D/C			Cell Tower D/C			Campground U/C			Wetland C/U		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**6.7**	**1.3**	**3.0**	**5.1**	**2.5**	**5.0**	**6.1**	**2.5**	**7.0**	**5.5**	**1.9**	**17**
Acetaldehyde	**NA**	**NA**	**0.87**	**2.1**	0.81	**1.3**	**1.9**	**1.2**	**1.8**	**1.7**	**1.0**	**2.1**	**2.0**	0.64	**5.3**

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not Available
ND: Not Detected

Event #85: Sunday October 12 to Monday October 13

The laboratory report is in Appendix E.

Event #85: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School U/U			Cell Tower U/U			Campground C/C			Wetland U/C		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**12**	**1.8**	**3.3**	**11**	**4.9**	**8.5**	**9.6**	**4.4**	**6.6**	**9.8**	**2.6**	**7.4**
Acetaldehyde	**NA**	**NA**	**0.87**	**4.6**	**1.2**	**1.7**	**3.5**	**3.2**	**3.1**	**3.3**	**2.6**	**2.7**	**3.6**	**0.95**	**2.7**

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not Available
ND: Not Detected

Event #86: Saturday October 18 to Sunday October 19
The laboratory report is in Appendix F.

Event #86: Aldehydes
Concentrations in ug/m^3

Aldehyde	Acute MRL[1]	Chronic MRL[1]	PRG	School D/U			Cell Tower D/U			Campground U/C			Wetland C/C		
				1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	**50**	**10**	**0.15**	**3.1**	**1.6**	**2.9**	**2.6**	**2.2**	**3.2**	**3.2**	**2.0**	**4.5**	**1.3**	**1.3**	**2.9**
Acetaldehyde	**NA**	**NA**	**0.87**	**1.4**	**1.4**	**1.8**	**1.2**	**1.6**	**1.7**	**1.2**	**1.5**	**1.8**	**0.9**	**0.87**	**1.5**

ATSDR Minimal Risk Levels (MRL) (ATSDR Toxicological Profile for Formaldehyde, July 1999)
Acute MRL 0.04 ppm = 50 ug/m^3; Chronic MRL 0.008 ppm=10 ug/m^3
NA: Not Available
ND: Not Detected

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.

Analytical results for sampling events #81 through #86 are summarized below. All detected concentrations were very low and did not approach levels of potential concern.

Event #81: Thursday September 18 to Friday September 19
Analytical results are in Appendix A.

Event #81: Hydrogen Fluoride and Hydrogen Chloride
Concentrations in ug/m3

Compound	PRG	School D/C			Cell Tower D/C			Campground U/C			Wetland C/U		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	7.3	5.2	7.8	4.7	4.8	ND	4.4	4.1	4.1	8.8	5.6	5.2
HCl	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA: Not Available
ND: Not Detected

Event #82: Wednesday September 24 to Thursday September 25
Analytical results are in Appendix B.

Event #82: Hydrogen Fluoride and Hydrogen Chloride Concentrations in ug/m3

Compound	PRG	School C/C			Cell Tower C/C			Campground C/C			Wetland U/U		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	27	6.7	7.4	4.7	5.4	ND	NA	7.3	5.0	6.0	5.7	4.0
HCl	21	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND

NA: Not Available
ND: Not Detected

Event #83: Tuesday September 30 to Wednesday October 1
Analytical results are in Appendix C.

Event #83: Hydrogen Fluoride and Hydrogen Chloride Concentrations in ug/m3

Compound	PRG	School C/C			Cell Tower C/C			Campground C/C			Wetland D/D		
		1	2	3	1	2	3*	1	2	3	1	2	3*
HF	NA	7.1	3.9	41	6.3	ND	NA	6.2	6.2	16	8.0	6.6	23
HCl	21	ND	ND	ND	ND	ND	NA	ND	ND	ND	8.3	ND	ND

* Denotes breakthrough from the front to the back of the sorbent tube.
NA: Not Available
ND: Not Detected

Event #84: Monday October 6 to Tuesday October 7
Analytical results are in Appendix D.

Event #84: Hydrogen Fluoride and Hydrogen Chloride Concentrations in ug/m3

Compound	PRG	School D/C			Cell Tower D/C			Campground U/C			Wetland C/U		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	17	4.4	6.9	6.7	9.0	17	7.7	7.7	8.5	10	5.4	5.8
HCl	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA: Not Available
ND: Not Detected

Event #85: Sunday October 12 to Monday October 13
Analytical results are in Appendix E.

Event #85: Hydrogen Fluoride and Hydrogen Chloride Concentrations in ug/m3

Compound	PRG	School U/U			Cell Tower U/U			Campground C/C			Wetland U/C		
		1	2	3	1	2	3	1	2	3	1	2	3
HF	NA	10	*	7.0	7.9	6.4	5.3	7.6	4.9	8.0	6.3	6.9	8.3
HCl	21	ND	*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NA: Not Available
ND: Not Detected
*During preparation of this sample, some of the sorbent media was lost from the front half of the tube, rendering the results unreliable.

Event #86: Saturday October 18 to Sunday October 19
Analytical results are in Appendix F.

Event #86: Hydrogen Fluoride and Hydrogen Chloride Concentrations in ug/m3

Compound	PRG	School D/U			Cell Tower D/U			Campground U/C			Wetland 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	ND	ND	ND
HCl	21	ND	ND	ND	ND	3.0	ND	ND	ND	ND	ND	ND	ND

NA: Not Available
ND: Not Detected

4.0 SUMMARY

4.1 Volatile Organic Compounds

It should be noted that 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.

Benzene was present in all samples from all locations at very low concentrations that were above the very conservative Region 9 PRG but well below the ATSDR chronic MRL. All of the benzene concentrations measured during the monitoring events 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.

In addition to benzene, carbon tetrachloride, chloroform and tetrachloroethene were occasionally detected at levels exceeding the conservative Region 9 PRGs but 3 to 4 orders of magnitude below the respective ATSDR Acute and Chronic 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/m^3) and acetaldehyde (0.87 ug/m^3) 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. On several occasions, formaldehyde was reported at levels exceeding the ATSDR Chronic MRL (10 ug/m^3) but not above the Acute MRL (50 ug/m^3). The concentrations of both formaldehyde and acetaldehyde detected during from mid-September through mid-October were similar to the levels reported during the previous month. On some occasions, one or more of the individual sample tubes from a given monitoring location were reported to contain concentrations of formaldehyde exceeding the ATSDR Chronic MRL for this compound. However, the concentrations were within the ranges reported from various studies summarized in the ATSDR Toxicological Profile for Formaldehyde.

The reason(s) for these higher levels of aldehydes (as compared to previous months) is not known, but there were no evident differences in concentrations detected in upwind vs. downwind locations relative to the landfill. It may be that the increase in concentrations observed during the late summer and early autumn are related to the hot, dry weather and the peak of ozone season.

4.3 Hydrogen Fluoride and Hydrogen Chloride

Starting in mid-August, we began observing higher levels and much more frequent detections of hydrogen fluoride than in previous months. However, there was no change in either the frequency or levels of hydrogen chloride detected. There were no obvious patterns with respect to monitoring location or ambient conditions. The occasional low levels of HF detected in the ambient air do not present a risk to public health. We are currently investigating the possibility that the switch from Tygon® to Teflon® tubing in the manifold implemented in mid-August may be related to the higher levels of HF since Teflon® is a highly fluorinated polymer.

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.

4.5 Conclusions

No anomalously high concentrations of benzene, or any other VOCs have been reported in the months since alterations were made to the sampling apparatus. Our specific conclusions are summarized below:

- The levels of benzene recorded at the community monitoring locations during mid-September through mid-October were very low and well within Ohio background as reported by Ohio EPA (Portsmouth Ohio Air Quality Study, 2003).

- None of the results for benzene exceeded the health-based ATSDR Chronic MRL (or the Acute MRL). No other VOC approached or exceeded the corresponding ATSDR Chronic or Acute MRL.

- 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.

- There are no clear trends with regard to the specific compounds or the concentrations of those compounds detected with respect whether the monitoring location was upwind or downwind of the landfill during the monitoring event.

- The concentrations of formaldehyde and acetaldehyde, and of hydrogen fluoride reported during mid-September through mid-October were similar to the previous month. No clear patterns were evident with respect to monitoring locations or ambient conditions.

- The results presented in this Monthly Report #18 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 (which may include the landfill); 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 #18

November 20, 2008

EPA Method TO-15 SUMMARY TABLES

Countywide Recycling & Disposal Facility								
EPA Method TO-15 Modified: Volatile Organic Compounds								
Table 1: Event # 81 September 18/19, 2008								
Analyte				**Monitoring Location**				
				School	***Campground***		***Cell Tower***	***Wetland***
	*Prevailing Wind Direction			D/C	U/C		D/C	C/U
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**			Co-located		
Acetone	61762	30881	3300	19	32	9.7J	6.0J	15
Benzene	29	10	**0.25**	**0.87**	**0.63**	**0.53J**	**1.2**	**0.43J**
Bromomethane	194	19	5.2	ND	ND	ND	ND	ND
1,3-Butadiene	NA	NA	0.061	ND	ND	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.24J	0.30J	0.23J	0.24J	0.33J
Carbon disulfide	NA	934	730	0.39J	0.16J	ND	ND	ND
Carbon tetrachloride	188	188	**0.13**	**0.62J**	**0.69J**	**0.61J**	**0.64J**	**0.59J**
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	ND	ND	ND	ND	ND
Chloromethane	1033	103	95	1.1	1.1	1.2	1.5	1.3
Cyclohexane	NA	NA	6200	0.31J	0.30J	0.27J	ND	ND
Dichlorodifluoromethane	NA	NA	210	2.7	2.7	2.8	2.9	2.8
Ethylbenzene	43419	1303	1100	0.42J	ND	ND	ND	ND
4-Ethyltoluene	NA	NA	NA	ND	ND	ND	ND	ND
Heptane	NA	NA	NA	0.70J	1.3J	0.62J	0.33J	0.27J
Hexane	NA	2115	210	0.91J	0.99J	0.72J	0.44J	0.48J
Methyl ethyl ketone	NA	NA	5100	2.6J	5.3	1.8J	1.1J	2.4J
Methyl isobutyl ketone	NA	NA	3100	0.28J	ND	ND	ND	ND
Methylene chloride	2084	1042	4.1	0.92JB	0.90JB	0.93JB	0.88JB	0.74JB
Styrene	8520	852	1100	ND	ND	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND	0.38J	ND
Tetrachloroethene	1356	271	0.32	ND	ND	ND	ND	ND
Toluene	3768	301	400	2.5	1.3	1.3	1.4	1.4

1,1,1-Trichloroethane	10912	3819	2300	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,1,2-trifluoroethane	NA	NA	NA	0.62J	0.64J	0.65J	0.64J	0.61J
Trichlorofluoromethane	NA	NA	730	1.4	1.4	1.4	1.5	1.4
1,2,4-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	ND
2,2,4-Trimethylpentane	NA	NA	NA	0.30J	0.22J	ND	ND	ND
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	1.2	ND	ND	0.61J	ND
o-Xylene	8687	8687	110	0.40J	ND	ND	ND	ND
Tentatively Identified Compounds								
Propane	NA	NA	NA	ND	Y	Y	ND	ND
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 was present in the trip blank								
J = Estimated concentration below laboratory reporting limit								
D = Dilution								
E = Exceeds calibration range								
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 #82: September 24/25, 2008

Analyte				Monitoring Location				
				School	***Cell Tower***	***Campground***	***Wetland***	
	*Prevailing Wind Direction			C/C	C/C	C/C	U/U	
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**					Co-Located
Acetone	61762	30881	3300	41	32	38	56	30
Benzene	29	10	**0.25**	**1.4**	**1.4**	**1.3**	**1.5**	**1.3**
Bromomethane	194	19	5.2	ND	ND	ND	ND	ND
1,3-Butadiene	NA	NA	0.061	ND	ND	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.79J	1.2J	0.51J	1.8J	0.62J
Carbon disulfide	NA	934	730	1.6B	0.29JB	0.29JB	0.34JB	0.23JB
Carbon tetrachloride	188	188	**0.13**	**0.63J**	**0.73J**	**0.72J**	**0.74J**	**0.71J**
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	ND	ND	ND	ND	ND
Chloromethane	1033	103	95	1.00J	ND	1.2	1.0J	0.98J
Cyclohexane	NA	NA	6200	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NA	NA	210	2.7	3.2	3.2	3.2	3
Ethylbenzene	43419	1303	1100	0.70J	ND	0.34J	0.52J	0.43J
4-Ethyltoluene	NA	NA	NA	ND	ND	ND	ND	ND
Heptane	NA	NA	NA	1.3J	0.80J	1.3J	1.4J	1.0J
Hexane	NA	2115	210	2	1.1J	1.4J	1.8	1.5J
Methyl ethyl ketone	NA	NA	5100	5	2.6J	5.2	8.2	2.8J
Methyl isobutyl ketone	NA	NA	3100	0.33J	ND	ND	0.41J	0.23J
Methylene chloride	2084	1042	4.1	5.8B	2.0B	1.6JB	1.5JB	1.7B
Styrene	8520	852	1100	ND	ND	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND	ND	ND
Tetrachloroethene	1356	271	**0.32**	**0.56J**	ND	ND	ND	ND
Toluene	3768	301	400	3.3	1.4	1.7	2.1	2.3
1,1,1-Trichloroethane	10912	3819	2300	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,1,2-trifluoroethane	NA	NA	NA	0.67J	0.84J	0.84J	0.85J	0.75J
Trichlorofluoromethane	NA	NA	730	2.6	2.1	2	2.1	2
1,2,4-Trimethylbenzene	NA	NA	**6.2**	1	0.52J	0.57J	0.67J	1.1
1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	0.56J
2,2,4-Trimethylpentane	NA	NA	NA	0.81J	0.21J	0.27J	0.35J	0.42J
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	2.1	0.63J	0.96	1.5	1.3
o-Xylene	8687	8687	110	0.83J	0.28J	0.39	0.58J	0.54J

Tentatively Identified Compounds								
Butane, 2-methyl-	NA	NA	NA	Y	ND	ND	ND	ND
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 was present in the blank								
J Estimated concentration								
D Dilution								
E Exceeds calibration range								
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 3: Event #83: September 30/Oct 1, 2008								
						Monitoring Location		
				School	*Cell Tower*		*Campground*	*Wetland*
Analyte	*Prevailing Wind Direction			C/C	C/C		C/C	D/D
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**			Co-Located		
Acetone	61762	30881	3300	12	6.6J	9.1J	21	14
Benzene	29	10	**0.25**	**0.43J**	**0.36J**	**0.48J**	**0.38J**	**0.18J**
Bromomethane	194	19	5.2	ND	ND	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.33J	0.18J	0.15J	0.35J	0.23J
Carbon disulfide	NA	934	730	0.10J	ND	0.12J	0.17J	0.13J
Carbon tetrachloride	188	188	**0.13**	**0.45J**	**0.45J**	**0.48J**	**0.45J**	**0.27J**
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	ND	ND	ND	ND	ND
Chloromethane	1033	103	95	1.1	0.97J	1.2	0.98J	1.1
Cyclohexane	NA	NA	NA	ND	ND	0.17J	ND	ND
Dichlorodifluoromethane	NA	NA	210	2.1	2	2.3	2	2.2
Ethylbenzene	43419	1303	1100	ND	ND	ND	ND	ND
Heptane	NA	NA	NA	0.48J	0.33J	0.37J	0.92J	ND
Hexane	NA	2115	210	0.45J	0.35J	0.46J	0.46J	0.22J
Methyl ethyl ketone	NA	NA	5100	2.0J	1.1J	1.3J	3.6	1.0J
Methyl isobutyl ketone	NA	NA	3100	ND	ND	ND	0.21J	ND
Methylene chloride	2084	1042	4.1	1.5JB	1.1JB	1.6JB	1.1JB	1.7B
Tetrachloroethene	1356	271	0.32	ND	ND	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND	ND	ND
Toluene	3768	301	400	0.87B	0.68JB	0.89B	0.91B	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.59J	0.56J	0.59J	0.54J	0.47J
Trichlorofluoromethane	NA	NA	730	1.1	1.1J	1.2	1.1	1.2
1,2,4-Trimethylbenzene	NA	NA	6.2	0.34J	ND	ND	ND	ND
1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	ND	ND	ND
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	ND	ND	ND	ND	ND
o-Xylene	8687	8687	110	ND	ND	ND	ND	ND
Tentatively Identified Compounds								

Acetaldehyde	NA	NA	NA	ND	ND	ND	Y	ND
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 was present in the trip blank								
J = Estimated concentration below laboratory reporting limits								
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 #84 October 6/7, 2008

Analyte				Monitoring Location				
				School		***Cell Tower***	***Campground***	***Wetland***
	*Prevailing Wind Direction			D/C		D/C	U/C	C/U
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**		Co-Located			
Acetone	61762	30881	3300	14	14	7.5J	11J	6.7J
Benzene	29	10	**0.25**	**1.1**	**0.83**	**0.94**	**0.54J**	0.49J
Bromomethane	194	19	5.2	ND	ND	ND	ND	ND
1,3-Butadiene	NA	NA	0.061	ND	ND	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.20J	0.28J	ND	0.39J	0.15J
Carbon disulfide	NA	934	730	0.48J	ND	ND	ND	0.25J
Carbon tetrachloride	188	188	**0.13**	**0.57J**	**0.63J**	**0.51**	**0.51J**	**0.56J**
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	ND	ND	ND	ND	ND
Chloromethane	1033	103	95	1	1.4	1.1	1.7	1.2
Cyclohexane	NA	NA	6200	0.24J	0.16J	ND	ND	ND
Dichlorodifluoromethane	NA	NA	210	2.8	2.9	2.7	2.8	2.8
1,2-Dichloroethane	NA	2368	**0.074**	**1.4**	ND	ND	ND	ND
Ethylbenzene	43419	1303	1100	ND	ND	ND	ND	ND
4-Ethyltoluene	NA	NA	NA	ND	ND	0.75J	ND	ND
Heptane	NA	NA	NA	0.69J	0.35J	0.45J	0.60J	0.32J
Hexane	NA	2115	210	0.79J	0.82J	1.9	0.65J	0.41J
Methyl ethyl ketone	NA	NA	5100	1.6J	1.7J	ND	1.9J	0.95J
Methyl isobutyl ketone	NA	NA	3100	ND	ND	ND	ND	ND
Methylene chloride	2084	1042	4.1	1.2JB	3.2B	29B	0.79JB	0.66JB
Styrene	8520	852	1100	ND	ND	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	0.40J	ND	0.24J	ND	ND
Tetrachloroethene	1356	271	**0.32**	ND	**0.69J**	ND	ND	ND
Toluene	3768	301	400	1.7	2.1	2.5	0.72J	0.63J
1,1,1-Trichloroethane	10912	3819	2300	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,1,2-trifluoroethane	NA	NA	NA	0.55J	0.61J	0.58J	0.58J	0.61J
Trichlorofluoromethane	NA	NA	730	1.4	1.6	3.1	1.4	1.4
1,2,4-Trimethylbenzene	NA	NA	6.2	ND	ND	2.4	ND	ND

1,3,5-Trimethylbenzene	NA	NA	6.2	ND	ND	1	ND	ND
2,2,4-Trimethylpentane	NA	NA	NA	0.33J	0.36J	0.26J	ND	ND
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	ND	ND	0.79J	ND	ND
o-Xylene	8687	8687	110	ND	ND	0.31J	ND	ND
Tentatively Identified Compounds				ND	ND	ND	ND	ND
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 was present in the trip blank								
J = Estimated concentration below laboratory reporting limit								
D = Dilution								
E = Exceeds calibration range								
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 #85 October 12/13, 2008								
Analyte				Monitoring Location				
				School	*Cell Tower*	*Campground*		*Wetland*
	*Prevailing Wind Direction			U/U	U/U	C/C		U/C
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**				Co-Located	
Acetone	61762	30881	3300	35	25	41	25	34
Benzene	29	10	**0.25**	**1.8**	**0.71**	**1.0**	**1.1**	**0.95**
Bromomethane	194	19	5.2	ND	0.14J	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.66J	0.88J	0.64J	0.37J	0.57J
Carbon disulfide	NA	934	730	0.53JB	0.27JB	0.23JB	0.22JB	0.34JB
Carbon tetrachloride	188	188	**0.13**	**0.66J**	**0.53J**	**0.61J**	**0.60J**	**0.47J**
Chlorobenzene	NA	NA	62	ND	ND	ND	ND	ND
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	0.21J	0.42J	ND	ND	ND
Chloromethane	1033	103	95	1.1	1.1	1.2	0.98J	1.2
Cyclohexane	NA	NA	6200	0.38J	0.18J	0.34J	0.48J	0.19J
Dichlorodifluoromethane	NA	NA	210	2.3	1.7	2.3	2.2	2.2
Ethylbenzene	43419	1303	1100	0.95	0.30J	0.34J	0.34J	ND
4-Ethyltoluene	NA	NA	NA	ND	ND	ND	ND	ND
Heptane	NA	NA	NA	1.3J	0.79J	1.4J	1.2J	1.3J
Hexane	NA	2115	210	2.3	1.2J	1.8	1.7J	1.2J
Methyl ethyl ketone	NA	NA	5100	6.4	2.7J	6.1	3.6	4.5
Methyl isobutyl ketone	NA	NA	3100	0.41J	ND	0.26J	0.29J	0.35J
Methylene chloride	2084	1042	4.1	0.95JB	0.88JB	0.82JB	0.87JB	0.65JB
Styrene	8520	852	1100	0.29J	ND	ND	ND	ND
Tetrahydrofuran	NA	NA	0.99	ND	ND	ND	ND	ND
Toluene	3768	301	400	4.8B	1.4B	1.6B	2.0B	1.3B
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.61J	0.47J	0.66J	0.59J	0.62J
Trichlorofluoromethane	NA	NA	730	1.3	1.0J	1.2	1.3	1.2
1,2,4-Trimethylbenzene	NA	NA	6.2	1.2	0.50J	0.45J	0.57J	0.36J
1,3,5-Trimethylbenzene	NA	NA	6.2	0.39J	ND	ND	ND	ND

Analyte				Monitoring Location				
				School	***Cell Tower***	***Campground***		***Wetland***
	*Prevailing Wind Direction			U/U	U/U	C/C		U/C
	All results in ug/m3							
2,2,4-Trimethylpentane	NA	NA	NA	0.93J	0.23J	0.28J	0.28J	0.20J
Vinyl Chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	2.8	0.98	0.87	1.1	0.74J
o-Xylene	8687	8687	110	1.1	0.44J	0.37J	0.44J	ND
Tentatively Identified Compounds				ND	ND	ND	ND	ND
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 6: Event #86 October 18/19, 2008

Analyte				Monitoring Location				
				School	***Cell Tower***	***Campground***	***Wetland***	
	*Prevailing Wind Direction			D/U	D/U	U/C	C/C	
	All results in ug/m3							
Method TO-15 Modified	**Acute MRL**	**Chronic MRL**	**PRG**					Co-Located
Acetone	61762	30881	3300	12	6.6J	9.3J	26	11J
Benzene	29	10	**0.25**	**0.92**	**1.7**	**0.61J**	**0.49J**	**1.5**
Bromomethane	194	19	5.2	ND	ND	ND	ND	ND
1,3-Butadiene	NA	NA	0.061	ND	ND	ND	ND	ND
tert-Butyl alcohol	NA	NA	NA	0.19J	ND	0.15J	0.27J	0.20J
Carbon disulfide	NA	934	730	0.23JB	0.13JB	0.18JB	0.36JB	0.87J
Carbon tetrachloride	188	188	**0.13**	**0.53J**	**0.40J**	**0.48J**	**0.54J**	**1.1JB**
Chloroethane	39583	NA	2.3	ND	ND	ND	ND	ND
Chloroform	488	98	0.083	ND	ND	ND	ND	ND
Chloromethane	1033	103	95	1.0	0.75J	1.0J	0.87J	1.0
Cyclohexane	NA	NA	6200	ND	ND	ND	ND	2.4
Dichlorodifluoromethane	NA	NA	210	2.4	1.9	2.2	2.4	2.9
cis-1,2-Dichloroethene	NA	NA	37	ND	ND	ND	ND	0.48J
Ethylbenzene	43419	1303	1100	0.40J	0.36J	ND	ND	1.1
4-Ethyltoluene	NA	NA	NA	ND	ND	0.82J	ND	0.87J
Heptane	NA	NA	NA	0.57J	0.33J	0.56J	ND	2.1
Hexane	NA	2115	210	0.84J	0.80J	1.0J	0.55J	8.5
Methyl ethyl ketone	NA	NA	5100	1.6J	2.0J	1.6J	3.7	1.1J
Methyl isobutyl ketone	NA	NA	3100	ND	ND	ND	0.21J	ND
Methylene chloride	2084	1042	4.1	2.0B	4.1B	1.7JB	1.9B	5.8B
Tetrahydrofuran	NA	NA	0.99	ND	0.85J	ND	ND	ND
Toluene	3768	301	400	2.1B	1.9B	2.3B	1.2B	8.7B
Trichlorofluoromethane	NA	NA	730	1.3	1.1	1.1	1.4	1.2
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	NA	NA	0.61J	0.53J	0.57J	0.66J	0.51J
1,2,4-Trimethylbenzene	NA	NA	6.2	0.66J	0.36J	1.0	0.32J	2.8
1,3,5-Trimethylbenzene	NA	NA	NA	ND	ND	0.71J	ND	0.79J
2,2,4-Trimethylpentane	NA	NA	NA	0.22J	ND	ND	ND	2.6
Vinyl chloride	1278	77	0.11	ND	ND	ND	ND	ND
m/p-Xylene	8687	8687	110	1.0	0.78J	1.9	ND	2.9
o-Xylene	8687	8687	110	0.27J	0.30J	0.77J	ND	1.1

Tentatively Identified Compounds								
Pentane	NA	NA	NA	ND	ND	ND	ND	Y
*Prevailing Wind Direction with respect to the landfill								
U: Upwind								
D: Downwind								
C: Crosswind								
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 was present in the trip 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.								