

**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #11
April 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**

**Republic Services of Ohio II, LLC
Countywide Recycling & Disposal Facility
3619 Gracemont Street SW
East Sparta, Ohio 44262**

Prepared by
Lawhon & Associates, Inc.
975 Eastwind Drive, Suite 190
Westerville, OH 43081

Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #11
April 20, 2008
Monitoring Events #46 through 50

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 #46: Thursday February 21 to Friday February 22.
- Event #47: Wednesday February 27 to Thursday February 28.
- Event #48: Tuesday March 4 to Wednesday March 5.
- Event #49: Monday March 10 to Tuesday March 11.
- Event #50: Sunday March 16 to Monday March 17.

Air samples were collected over a 24-hour period at four locations: Bolivar Elementary School (School); the cell tower on the Countywide facility (Cell Tower); near the top of the hill at the KOA campground to the northeast of the landfill (Campground); and east of the landfill near the floodgates located on Gracemont, off the Tri-County horse trail (Wetland). (Figure 1). The normal specified route for trucks entering the Countywide facility is Dueber Road and Gracemont Road through a wetland, however, due to heavy flooding truck traffic has been routed through Sherman Church Road. Since there are no people working or residing in the wetland, it is being considered a temporary location until such time as the Agency specifies a fourth permanent monitoring location. The campground is frequently in the area of impact predicted by the air model.

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

All analyses were performed by Integrated Analytical Laboratory (IAL), Randolph, NJ. Certification numbers: ELAP-11402; NJDEP-14751; AIHA-100201.

As a conservative first evaluation, the concentrations of chemicals detected in the air samples were compared to the corresponding USEPA Region 9 Preliminary Remediation

Goals (PRGs). 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.

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. For those days when a Daily Odor Monitoring Summary was not available, ambient meteorological conditions were obtained from the "WeatherUnderground" website at <http://www.wunderground.com>.

Event #46, Thursday/Friday February 21/22, 2008:

February 21: Average temperature in degrees F: 15, Max. 27, Min. 3

Winds were calm at 0 mph with max gusts of 17 mph out of the SE.

Average relative humidity 66% with 0.09 in of precipitation recorded.

Complaints: Three complaints from travelers occurred at 8:20 am, 8:23 am, and 7:15 pm at Interstate 77 North, between mile markers #95 and #97. Relief well drilling; and pump, pipeline, and temporary cap maintenance were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

February 22: Average temperature in degrees F: 27, Max. 30, Min. 24

Winds were light out of the NE with average speed of 3 mph, max speed of 6 mph.

Average relative humidity 80% with rain and snow.

Complaints: No complaints were recorded on February 22.

Event #47, Wednesday/Thursday February 27/28, 2008:

February 27: Average temperature in degrees F: 22, Max. 28, Min. 10

Winds were 7 mph with max gusts at 23 mph out of the WNW.

Average relative humidity 73% with no precipitation recorded.

Complaints: There were no odor complaints during this time.

February 28: Average temperature in degree F: 18, Max. 25, Min. 12.

Average relative humidity 85% with light snow.

Winds were out of the NE with maximum speed of 10 mph.

Complaints: A total of four complaints were reported on the Odor Log. Of these, one was reported from the resident at 3232 Downing Street in East Sparta at 11:37 AM at the end of the sample collection time. The other complaints were received during the evening hours of February 28. Relief well #1 was under construction during this time period.

Event #48: Tuesday/Wednesday March 04/05, 2008:

March 04: Average temperature in degrees F: 40, Max. 44, Min. 35

Winds were 6 mph with max gusts at 17 mph out of variable directions.

Average relative humidity 82% with 2.18 in of precipitation recorded.

Complaints: Complaints occurred at 7:42 am and 7:04 pm from 9863 Sherman Church Avenue; at 8:51 am from 10867 Industrial Parkway in Bolivar; and at 4:26 pm at I-77 S at the river bridge. RW-1 well development; pump maintenance; and FML repair were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

March 05: Average temperature in degrees F: 32, Max. 37, Min. 28.

Average relative humidity 77% with snow flurries.

Winds were from the west with average speed of 8 mph and max. speed of 14 mph.

Complaints: There was one complaint at 9:05 PM from the resident at 2940 Haut St., East Sparta. This would have occurred after sample collection was terminated. The pump for Relief Well #1 was being installed during this time period.

Event #49: Monday/Tuesday March 10/11, 2008:

March 10: Average temperature in degrees F: 33, Max. 46, Min. 21

Winds were 3 mph out of the SE.

Average relative humidity was 70% with no precipitation recorded.

Complaints: Two complaints from travelers occurred at 8:05 am and 9:28 am at Interstate 77 North at marker #96. A complaint occurred at 9:40 am at 6948 Beth Avenue SW in Navarre. A complaint occurred at 10:03 am at Beth Avenue, north of Hudson. A complaint occurred at 10:12 am at 4161 Eldridge Avenue in Massillon. RW-2 setup-up/drilling; RW-1 pump maintenance; and Flare #4 and #1 maintenance were potentially odor-causing activities noted on the Daily Odor Monitoring Summary.

March 11: Average temperature in degrees F: 36, Max. 42, Min. 32.

Average relative humidity was 74% with no precipitation recorded.

Winds were from the west with max. speed of 9 mph.

Complaints: None were recorded. Drilling for Relief Wells #2 & 3 was ongoing during this time period.

Event #50, Sunday/Monday March 16/17, 2008:

March 16: Average temperature in degrees F: 34, Max. 39, Min. 32

Winds were 4 mph out of the NNW.

Average relative humidity 66% with no precipitation recorded.

Complaints: There were no odor complaints during this time.
March 17: Average temperature in degrees F: 35, Max. 46, Min. 24.
Average relative humidity was 56% with a trace of rain.
Winds were variable with average speed of 2 mph and max. speed of 12 mph.
Complaints: None were 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 will be discussed in the body of the report. Other compounds may have been detected in a sample, but were quantified at concentrations below the respective PRG. All of the analytical results from the laboratory are provided in the Appendices.

3.1 Volatile Organic Compounds

Compounds detected by Method TO-15 modified are summarized in Tables 1 through 5. Method TO-15 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, this method also has the capability to 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. Of particular relevance to interpreting the data from this monitoring effort is the fact that Method TO-15 identifies acetaldehyde, a carbonyl compound that is a specific target for Method TO-11A. All results for acetaldehyde will be discussed in Section 3.3. Data reports from the analytical laboratory are provided in the Appendices. Results that exceeded corresponding Region 9 PRGs and any other relevant findings are discussed below. Chemicals that were detected below PRGs will not be discussed unless those particular results help to explain other findings.

On February 15/16, 21/22 and 27/28 a second set of co-located summa canister samples were collected at each of the four monitoring locations and submitted to Ohio EPA’s laboratory for analysis by Method TO-15 Modified as specified in the DFFO dated February 7, 2008. As of the date of Monthly Report #11, Ohio EPA scientists were in the process of comparing their laboratory results to the analytical results from Integrated Analytical Laboratories LLC (the laboratory that has been analyzing the ambient air samples).

Event #46, February 21/22, 2008:

Analytical results for Method TO-15 for Event #46 are summarized in Table 1 and provided in Appendix A. Four compounds were measured at levels above their respective PRG. A second set of summa canisters were co-located during this event and submitted to the EPA Laboratory for analysis. When the sampling event began on 2/21 the prevailing wind direction was from the southeast. By 2/22 the wind direction had shifted to coming from the northeast.

**Event #46: VOCs Detected Above PRGs
Concentrations in ug/m3**

Compound	PRG	School (Upwind 2/21:Downwind 2/22)	Cell Tower (Upwind 2/21: Downwind/Crosswind 2/22)	Campground (Downwind 2/21: Upwind 2/22)	Wetland (Crosswind 2/21 & 2/22)
Benzene	0.25	3.9	2.4	2.7	2.9
Methylene Chloride	4.1	702	ND	2.3	63
1,2,4-Trimethylbenzene	6.2	7.0	ND	ND	2.7
Acetaldehyde (TIC)	0.87	ND	ND	1.4	1.1

Event #47, February 27/28, 2008:

Analytical results for Method TO-15 for Event #47 are summarized in Table 2 and provided in Appendix B. Two compounds were measured at levels above their respective PRG. A second set of suma canisters were co-located during this event and submitted to the EPA Laboratory for analysis. When the monitoring began on 2/27 the prevailing wind direction was from the west/northwest. By 2/28 the wind direction was from the northeast.

**Event #47: VOCs Detected Above PRGs
Concentrations in ug/m3**

Compound	PRG	School (Upwind/Crosswind 2/27: Downwind 2/28)	Cell Tower (Upwind/Crosswind 2/27: Downwind/Crosswind 2/28)	Campground (Crosswind 2/27: Upwind 2/28)	Wetland (Downwind 2/27: Crosswind 2/28)
Benzene	0.25	81	118	109	32
Acetaldehyde (TIC)	0.87	4.0	16	7.2	3.1

Event #48, March 04/05, 2008:

Analytical results for Method TO-15 for Event #48 are summarized in Table 3 and provided in Appendix C. Seven compounds were measured at levels above their respective PRG. Winds were from variable directions on both days of the monitoring event.

**Event #48: VOCs Detected Above PRGs
Concentrations in ug/m3**

Compound	PRG	School (Variable)	Cell Tower (Variable)	Campground (Variable)	Wetland (Variable)
Benzene	0.25	24	21	454	4.8
1,3-Butadiene	0.061	1.9	ND	ND	ND
Methylene Chloride	4.1	90	59	27	20
1,2,4- Trimethylbenzene	6.2	35	10	98	3.7
1,3,5- Trimethylbenzene	6.2	114	2.6	32	ND
m/p-Xylene	110	123	42	155	19
Acetaldehyde (TIC)	0.87	27	22	20	9.2

Event #49, March 10/11, 2008:

Analytical results for Method TO-15 for Event #49 are summarized in Table 4 and provided in Appendix D. Three compounds were measured at levels above their respective PRG. When the monitoring event began on 3/10 the prevailing winds were from the southeast. By 3/11 the winds were coming from the west.

**Event #49: VOCs Detected Above PRGs
Concentrations in ug/m3**

Compound	PRG	School (Upwind 3/10: Crosswind 3/11)	Cell Tower (Crosswind/Upwind 3/10: Upwind 3/11)	Campground (Downwind 3/10: Crosswind 3/11)	Wetland (Crosswind 3/10: Downwind 3/11)
Benzene	0.25	6.8	205	5.4	13
1,3-Butadiene	0.061	1.6	1.5	1.5	2.2
Acetaldehyde (TIC)	0.87	16	15	13	27

Event #50, March 16/17, 2008:

Analytical results for Method TO-15 for Event #50 are summarized in Table 5 and provided in Appendix E. Five compounds were measured at levels above their respective PRG. When the monitoring event began on 3/16 the prevailing winds were from the north/northwest. On 3/17 the winds were described as variable.

**Event #50: VOCs Detected Above PRGs
Concentrations in ug/m3**

Compound	PRG	School (Downwind/Crosswind 3/16: Variable 3/17)	Cell Tower (Crosswind/Downwind 3/16: Variable 3/17)	Campground (Upwind/Crosswind 3/16: Variable 3/17)	Wetland (Downwind Crosswind 3/16: Variable 3/17)
Benzene	0.25	10	228	8.4	8.0
1,3-Butadiene	0.061	2.1	ND	1.6	2.0
Methylene Chloride	4.1	ND	24	ND	66
1,2,4-Trimethylbenzene	6.2	13	14	10	9.9
Acetaldehyde (TIC)	0.87	22	ND	18	15

3.2 Sulfur Compounds

Event #46, February 21/22, 2008:

Carbon disulfide results for Method TO-15 for Event #46 are summarized in below and provided in Appendix A.

**Event #46: Sulfur Compounds
Concentrations in ug/m3**

Compound	PRG	School (Upwind 2/21:Downwind 2/22)	Cell Tower (Upwind 2/21: Downwind/Crosswind 2/22)	Campground (Downwind 2/21: Upwind 2/22)	Wetland (Crosswind 2/21 & 2/22)
Carbon disulfide	730	2.1	ND	ND	1.7

Event #47, February 27/28, 2008:

Carbon disulfide results for Method TO-15 for Event #47 are summarized in below and provided in Appendix B.

**Event #47: Sulfur Compounds
Concentrations in ug/m3**

Compound	PRG	School (Upwind/Crosswind 2/27: Downwind 2/28)	Cell Tower (Upwind/Crosswind 2/27: Downwind/Crosswind 2/28)	Campground (Crosswind 2/27: Upwind 2/28)	Wetland (Downwind 2/27: Crosswind 2/28)
Carbon disulfide	730	ND	1.8	ND	ND

Event #48, March 04/05, 2008:

Carbon disulfide and carbonyl sulfide results for Method TO-15 for Event #48 are summarized in below and provided in Appendix C.

**Event #48: Sulfur Compounds
Concentrations in ug/m3**

Compound	PRG	School (Variable)	Cell Tower (Variable)	Campground (Variable)	Wetland (Variable)
Carbon disulfide	730	1.7	ND	3.3	ND
Carbonyl sulfide (TIC)	NA	ND	12	11	ND

Event #49, March 10/11, 2008:

No sulfur-containing compounds were detected for this event.

Event #50, March 16/17, 2008:

No sulfur-containing compounds were detected for this event.

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.

Event #46, February 21/22, 2008:

Analytical results for aldehydes are summarized below. Formaldehyde was detected in one of the three samples from the school at a level above the Region 9 PRG. Acetaldehyde was estimated at levels above the PRG by Method TO-15 in the samples from the campground and wetland, but was not detected using Method TO-11A. Analytical results are in Appendix A.

**Event #46: Aldehydes
Concentrations in ug/m3**

Aldehyde	PRG	School (Upwind 2/21:Downwind 2/22)			Cell Tower (Upwind 2/21: Downwind/Crosswind 2/22)			Campground (Downwind 2/21: Upwind 2/22)			Wetland (Crosswind 2/21 & 2/22)		
		1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	0.15	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde TO-11A	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde TO-15 (TIC)	0.87	ND			ND			1.4			1.1		

Event #48, March 04/05, 2008:

Carbon disulfide and carbonyl sulfide results for Method TO-15 for Event #48 are summarized in below and provided in Appendix C.

**Event #48: Sulfur Compounds
Concentrations in ug/m3**

Compound	PRG	School (Variable)	Cell Tower (Variable)	Campground (Variable)	Wetland (Variable)
Carbon disulfide	730	1.7	ND	3.3	ND
Carbonyl sulfide (TIC)	NA	ND	12	11	ND

Event #49, March 10/11, 2008:

No sulfur-containing compounds were detected for this event.

Event #50, March 16/17, 2008:

No sulfur-containing compounds were detected for this event.

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.

Event #46, February 21/22, 2008:

Analytical results for aldehydes are summarized below. Formaldehyde was detected in one of the three samples from the school at a level above the Region 9 PRG. Acetaldehyde was estimated at levels above the PRG by Method TO-15 in the samples from the campground and wetland, but was not detected using Method TO-11A. Analytical results are in Appendix A.

**Event #46: Aldehydes
Concentrations in ug/m3**

Aldehyde	PRG	School (Upwind 2/21:Downwind 2/22)			Cell Tower (Upwind 2/21: Downwind/Crosswind 2/22)			Campground (Downwind 2/21: Upwind 2/22)			Wetland (Crosswind 2/21 & 2/22)		
		1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	0.15	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde TO-11A	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde TO-15 (TIC)	0.87	ND			ND			1.4			1.1		

Event #47, February 27/28, 2008:

Analytical results for aldehydes are summarized below. Formaldehyde was detected in one of the three samples from the wetland at a level above the Region 9 PRG. Acetaldehyde was estimated at levels above the PRG by Method TO-15 in samples from all four sites, but was only detected using Method TO-11A at levels above the PRG from one sample from the wetland. Analytical results are in Appendix B.

**Event #47: Aldehydes
Concentrations in ug/m3**

Aldehyde	PRG	School (Upwind/Crosswind 2/27: Downwind 2/28)			Cell Tower (Upwind/Crosswind 2/27: Downwind/Crosswind 2/28)			Campground (Crosswind 2/27: Upwind 2/28)			Wetland (Downwind 2/27: Crosswind 2/28)		
		1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4
Acetaldehyde TO-11A	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.6
Acetaldehyde TO-15 (TIC)	0.87	4.0			16			7.2			3.1		

Event #48, March 04/05, 2008:

Formaldehyde was detected in one of the three samples from the Cell Tower and the Wetland at levels above the Region 9 PRG. As indicated previously, acetaldehyde was reported as a TIC by Method TO-15 at all four sites, but was detected in one sample from the Wetland. The level detected at the Wetland was at a level below the PRG. Analytical results are in Appendix C.

**Event #48: Aldehydes
Concentrations in ug/m3**

Aldehyde	PRG	School (Variable)			Cell Tower (Variable)			Campground (Variable)			Wetland (Variable)		
		1	2	3	1	2	3	1	2	3	1	2	3
Formaldehyde	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0
Acetaldehyde TO-11A	0.87	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75
Acetaldehyde TO-15 (TIC)	0.87	27			22			20			9.2		

Event #49, March 10/11, 2008:

No carbonyl compounds were present above detection limits of EPA Method TO-11A in any of the samples collected during this event. Acetaldehyde was reported as a TIC by

Method TO-15 at all four locations at levels above the Region 9 PRG. Analytical results are in Appendix D.

Event #50, March 16/17, 2008:

No carbonyl compounds were present above detection limits of EPA Method TO-11A in any of the samples collected during this event. Acetaldehyde was reported as a TIC by Method TO-15 at the School, Campground, and Wetland locations at levels above the Region 9 PRG. Analytical results are in Appendix E.

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 #46 through #50 are summarized on the following pages. All detected concentrations were very low, and were orders of magnitude below the PRG of 210 ug/m³ for HCl.

Event #46, February 21/22, 2008:

Hydrogen fluoride was not detected in any of the samples from any of the four locations. Hydrogen Chloride was detected at a concentration of 2.8 ug/m³ in the third sample tube from the Cell Tower. Analytical results are in Appendix A.

Event #47, February 27/28, 2008:

Hydrogen fluoride was not detected in any of the samples from any of the four locations. Hydrogen chloride was detected at a concentration of 0.8 ug/m³ in the third sample tube from the Cell Tower, and at a concentration of 3.8 ug/m³ in the second tube from the Wetland. Analytical results are in Appendix B.

Event #48, March 04/05, 2008:

Hydrogen fluoride was detected in one of the three samples from the Wetland. Hydrogen chloride was detected at a concentration of 2.3 ug/m³ in the third sample tube from the Cell Tower. Analytical results are in Appendix C.

Event #49, March 10/11, 2008:

No hydrogen fluoride or hydrogen chloride was present above detection limits in any of the samples from any of the locations. Analytical results are in Appendix D.

Event #50, March 16/17, 2008:

No hydrogen fluoride or hydrogen chloride was present above detection limits in any of the samples from any of the locations. Analytical results are in Appendix E.

4.0 SUMMARY

As mentioned in our previous Monthly Report #10, an alternate location was chosen for what was previously designated as “the wetland site” to avoid problems with flooding in the low-lying area immediately to the east of the site. The new monitoring location is on higher ground, but still on the eastern boundary of the landfill near floodgates located on Gracemont slightly off the Tri-County Horse-Trail.

The results for the monitoring events from mid-February through mid-March are generally consistent with previous results in that low levels of various VOCs, aldehydes, hydrogen fluoride and hydrogen chloride were detected from all four sample locations. Several anomalously high concentrations of benzene, methylene chloride, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene and m/p-xylenes were reported. Spuriously high concentrations of methylene chloride and benzene have been sporadically reported throughout the monitoring program and do not appear related to any specific ambient source. This continues to be the case for the monitoring events included in this report.

As discussed in previous reports, the origin of the benzene concentrations is not known and no clear pattern has emerged. The frequent changes in wind direction and complex topography make it difficult to clearly distinguish the upwind and downwind relationship of the monitoring stations relative to the landfill during many of the sampling events. Any given monitor may be influenced by numerous potential sources of VOCs during a 24-hour period.

The February 7, 2008 DFFO mandated that a second set of summa canisters be co-located with the summa canisters collected during two of the regularly scheduled monitoring events and submitted to the Ohio EPA laboratory for Method TO-15 modified analysis to help determine if the benzene is an artifact of the sampling and analysis process. Three co-located sampling events specified by the DFFO were completed during Events #45 (2/14/15), #46 (2/21) and #47 (2/27). As of April 15, the Ohio EPA laboratory was in the process of comparing their analytical results to those from Integrated Analytical Laboratories.

The sporadic high level detections of benzene (and other VOCs) that have been reported are likely to be anomalies related to sampling and/or analysis. The co-sampling and analysis conducted with Ohio EPA may help to illuminate the potential source of these anomalies.

Thus far the ambient air monitoring conducted pursuant to the DFFO has not provided any useful information about potential sources of benzene or the dispersion of this compound in the community surrounding Countywide. The findings of nine months of sampling do not indicate consistent, ongoing exposures to high levels of benzene. Consequently, it is our opinion that the ambient air quality (as represented by our ongoing monitoring) does not present an unacceptable risk to members of the communities surrounding the landfill.

**Countywide Recycling & Disposal Facility
Ambient Air Monitoring
Monthly Report #11**

April 20, 2008

EPA Method TO-15 SUMMARY TABLES

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 1: Event #46 February 21/22, 2008

Analyte	PRG	Monitoring Location			
		School (Upwind 2/21: Downwind 2/22)	Cell Tower (Upwind 2/21:Downwi nd/Crosswin d 2/22)	Campground (Downwind 2/21:Upwind 2/22)	Wetland (Crosswind 2/21&2/22)
All results in ug/m3					
Method TO-15 Modified					
Acetone	3300	337	ND	ND	ND
Benzene	0.25	3.9	2.4	2.7	2.9
Carbon disulfide	730	2.1	ND	ND	1.7
Chloroform	830	6.5	ND	ND	ND
Chloromethane	95	3.3	4.6	4.1	4.6
Cyclohexane	6200	ND	ND	ND	2.2
Dichlorodifluoromethane	210	16	7.0	7.5	8.3
Ethylbenzene	1100	3.5	ND	ND	ND
Heptane	NA	5.3	ND	ND	ND
Hexane	210	106	ND	ND	2.3
Isopropyl alcohol	NA	48	ND	2.3	4.0
Methyl ethyl ketone	5100	27	2.2	3.6	4.2
Methylene chloride	4.1	702	ND	2.3	63
Toluene	400	26	ND	2.3	3.4
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	4.3	ND	ND	ND
Trichlorofluoromethane	730	22	2.9	3.3	4.4
1,2,4-Trimethylbenzene	6.2	7.0	ND	ND	2.7
2,2,4-Trimethylpentane	NA	3.5	ND	ND	ND
m/p-Xylene	110	15	3.5	ND	6.9
o-Xylene	110	8.3	ND	ND	4.1
Tentatively Identified Compounds					
Acetaldehyde	0.87	ND	ND	1.4	1.1
Acetonitrile	62	12	ND	0.82	2
Butane	NA	ND	2.3	3.6	4
Butane, 2-methyl-	NA	ND	4.4	6.8	10
Cyclopentane, methyl-	NA	7.0	ND	ND	ND
Decanol	NA	ND	ND	2.9	ND
Ethane, 1,1-difluoro-	NA	3.5	ND	ND	ND
Ethanol	NA	4.0	ND	ND	1.5
Furan, tetrahydro-	NA	3.3	ND	ND	ND
Isobutane	NA	ND	1.2	1.1	1.6
D-Limonene	NA	9.5	ND	ND	ND
Pentane	NA	2.7	1.5	1.6	5
Pentane, 2-methyl	NA	3.0	0.95	1.3	1.2
Pentane, 3-methyl	NA	4.9	ND	ND	ND
Propane	NA	1.7	2.2	1.8	2.2

Analyte	Monitoring Location				
	PRG	School	Cell Tower	Campground	Wetland
		(Upwind 2/21: Downwind 2/22)	(Upwind 2/21:Downwi nd/Crosswin d 2/22)	(Downwind 2/21:Upwind 2/22)	(Crosswind 2/21&2/22)
All results in ug/m3					
ND = Not Detected					
NA = Not Available					
Shading indicates result exceeds PRG					

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 2: Event #47 February 27/28, 2008

Analyte	Monitoring Location				
	PRG	School (Upwind/Crosswind 2/27:Downwind 2/28)	Cell Tower (Upwind/Crosswind 2/27: Downwind/Crosswind 2/28)	Campground (Crosswind 2/27:Upwind 2/28)	Wetland (Downwind 2/27: Crosswind 2/28)
All results in ug/m3					
Method TO-15 Modified					
Acetone	3300	115	214	121	64
Benzene	0.25	81	118	109	32
tert-Butyl alcohol	NA	22	41	35	22
Carbon disulfide	730	ND	1.8	ND	ND
Chloromethane	95	3.9	6.0	4.6	4.2
Dichlorodifluoromethane	210	7.3	8.1	7.9	8.3
Ethylbenzene	1100	17	20	20	5.7
Heptane	NA	ND	4.3	4.5	4.6
Hexane	210	1.9	4.8	2.8	2.7
Isopropyl alcohol	NA	5.0	ND	ND	ND
Methyl ethyl ketone	5100	14	28	20	8.3
Methylene chloride	4.1	2.2	4.0	2.0	ND
Toluene	400	5.8	6.4	8.0	5.2
Trichlorofluoromethane	730	ND	ND	ND	2.9
1,2,4-Trimethylbenzene	6.2	3.9	4.6	5.2	ND
m/p-Xylene	110	54	61	59	17
o-Xylene	110	13	14	13	4.1
Tentatively Identified Compounds					
Acetaldehyde	0.87	4.0	16	7.2	3.1
Acetonitrile	62	6.5	18	34	8.2
Butanal	NA	5.6	8	8.2	ND
Butane	NA	4.5	9	4.3	4.5
1-Butene	NA	ND	ND	ND	8
3-Butanoic acid	NA	5.6	ND	ND	ND
Cyclopropanecarboxamide	NA	ND	ND	ND	7
Ethanol	NA	1.8	ND	ND	ND
Ethanimidic acid, ethyl ester	NA	ND	ND	7.8	ND
Heptane, 3-methylene-	NA	ND	ND	ND	5.5
1-Heptene	NA	ND	ND	ND	4.8
Hexanal	NA	3.7	6.1	13	ND
Isobutane	NA	ND	ND	ND	2.6
Pentane	NA	ND	4.1	ND	2.9
2-Pentanone	NA	ND	ND	7.4	ND
1,4-Pentadiene	NA	2.4	ND	ND	ND
2-Pentene	NA	ND	6.9	ND	ND
1R .alpha. -Piene	NA	4.4	24	25	7.8
.beta.Piene	NA	ND	ND	10	ND

Propane	NA	ND	8.8	ND	ND
1-Propene-2-methyl	NA	10	28	12	ND
ND = Not Detected					
NA = Not Available					
Shading indicates result exceeds PRG					

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 3: Event #48 March 04/05, 2008

Analyte	Monitoring Location				
	PRG	School (Variable)	Cell Tower (Variable)	Campground (Variable)	Wetland (Variable)
All results in ug/m3					
Method TO-15 Modified					
Acetone	3300	585	272	219	142
Benzene	0.25	24	21	454	4.8
1,3-Butadiene	0.061	1.9	ND	ND	ND
tert-Butyl alcohol	NA	143	242	125	150
Carbon disulfide	730	1.7	ND	3.3	ND
Chloromethane	95	6.2	3.9	4.8	3.9
Cyclohexane	6200	2.2	ND	ND	ND
Dichlorodifluoromethane	210	9.0	5.9	6.4	6.2
Ethylbenzene	1100	38	15	41	6.3
4-Ethyltoluene	NA	5.2	ND	9.3	ND
Heptane	NA	47	15	12	11
Hexane	210	27	6.2	6.4	6.6
Isopropyl alcohol	NA	ND	11	12	ND
Methyl ethyl ketone	5100	83	36	41	16
Methyl isobutyl ketone	3100	11	2.5	6.3	ND
Methylene chloride	4.1	90	59	27	20
Toluene	400	42	16	25	11
Trichlorofluoromethane	730	4.1	3.5	3.0	2.9
1,2,4-Trimethylbenzene	6.2	35	10	98	3.7
1,3,5-Trimethylbenzene	6.2	114	2.6	32	ND
m/p-Xylene	110	123	42	155	19
o-Xylene	110	46	10	81	5.2
Tentatively Identified Compounds					
Acetaldehyde	0.87	27	22	20	9.2
Acetonitrile	62	23	18	22	27
Benzene, 1-ethyl-3-methyl-	NA	ND	ND	25	ND
2-Butene, (Z)-	NA	ND	ND	ND	22
Butanal	NA	ND	28	32	ND
Carbonyl sulfide	NA	ND	12	11	ND
Cyclotrisiloxane, hexamethyl-	NA	ND	20	ND	ND
Heptane, 3-methylene	NA	ND	ND	ND	15
Hexanal	NA	57	ND	24	ND
1-Heptene	NA	48	18	ND	14
Hexane, 2-methyl-4-methylene	NA	ND	37	ND	ND
1-Hexene	NA	ND	11	ND	9.3
Octane	NA	34	ND	ND	ND
Pentanal	NA	ND	ND	15	ND
Pentane	NA	ND	ND	ND	8.5
2-Pentanone	NA	30	ND	19	ND
1-Pentene	NA	ND	ND	ND	8.6
alpha.-Piene	NA	46	ND	ND	ND

1R .alpha. -Piene	NA	ND	ND	38	21
Propanal, 2,2-dimethyl-	NA	23	13	ND	10
1-Propene, 2-methyl-	NA	52	43	26	ND
ND = Not Detected					
NA = Not Available					
Shading indicates result exceeds PRG					

Countywide Recycling & Disposal Facility

EPA Method TO-15 Modified: Volatile Organic Compounds

Table 4: Event #49 March 10/11, 2008

Analyte	PRG	Monitoring Location			
		School	Cell Tower (Crosswind/ Upwind 3/10: Upwind 3/11)	Campground (Downwind 3/10: Crosswind 3/11)	Wetland (Crosswind 3/10: Downwind 3/11)
All results in ug/m3					
Method TO-15 Modified					
Acetone	3300	154	70	79	183
Benzene	0.25	6.8	205	5.4	13
1,3-Butadiene	0.061	1.6	1.5	1.5	2.2
tert-Butyl alcohol	NA	54	56	105	163
Chloromethane	95	5.8	7.1	4.7	5.0
Dichlorodifluoromethane	210	9.4	9.6	9.3	8.8
Ethylbenzene	1100	12	11	11	14
Heptane	NA	14	6.7	11	18
Hexane	210	6.3	3.5	3.4	5.6
Methyl ethyl ketone	5100	34	23	28	39
Methyl isobutyl ketone	3100	4.3	2.3	3.9	2.9
Methylene chloride	4.1	2.4	5	2.2	3.9
Toluene	400	17	13	15	13
Trichlorofluoromethane	730	3.6	3.5	3.4	3.4
1,2,4-Trimethylbenzene	6.2	4.7	5.1	6.0	5.4
m/p-Xylene	110	34	35	35	39
o-Xylene	110	8.1	9.6	10	11
Tentatively Identified Compounds					
Acetaldehyde	0.87	16	15	13	27
Acetonitrile	62	4.5	4.9	18	9.1
Bicyclo[3.1.1]hept-2-ene	NA	ND	12	ND	ND
Butanal	NA	ND	14	9.4	25
Cyclopropane, ethyl-	NA	ND	ND	ND	12
Furan, 2,5-dihydro-	NA	ND	ND	ND	8.0
1-Heptene	NA	14	ND	17	ND
Heptane, 3-methylene	NA	ND	ND	27	33
Hexanal	NA	22	15	22	ND
1-Hexene	NA	ND	ND	ND	12
Isopropylcyclobutane	NA	ND	ND	ND	18
Pentanal	NA	10	7.4	11	ND
2-Pentanone	NA	11	9.5	ND	ND
1-Pentene	NA	7.4	ND	ND	ND
2-Pentene	NA	ND	6.0	ND	ND
1-Pentene, 2-methyl	NA	11	ND	10	ND
1R .alpha. -Piene	NA	ND	ND	22	ND
Propanal, 2,2-dimethyl-	NA	9.1	ND	ND	12
Propene	NA	ND	4.3	ND	ND

1-Propene, 2-methyl-	NA	31	26	28	45
ND = Not Detected					
NA = Not Available					
Shading indicates result exceeds PRG					

Countywide Recycling & Disposal Facility					
EPA Method TO-15 Modified: Volatile Organic Compounds					
Table 5: Event #50 March 16/17, 2008					
Analyte	PRG	Monitoring Location			
		School (Downwind/ Crosswind 3/16: Variable 3/17)	Cell Tower (Crosswind/ Downwind 3/16: Variable 3/17)	Campground (Upwind/Cross wind 3/16: Variable 3/17)	Wetland (Downwind/ Crosswind 3/16: Variable 3/17)
All results in ug/m3					
Method TO-15 Modified					
Acetone	3300	288	ND	237	ND
Benzene	0.25	10	228	8.4	8.0
1,3-Butadiene	0.061	2.1	ND	1.6	2.0
tert-Butyl alcohol	NA	93	113	70	145
Chloromethane	95	5.2	6.2	4.2	3.5
Cyclohexane	6200	ND	ND	ND	4.0
Dichlorodifluoromethane	210	5.7	11	4.6	6.0
Ethylbenzene	1100	17	18	13	13
4-Ethyltoluene	NA	3.0	ND	2.5	ND
Heptane	NA	32	35	26	27
Hexane	210	16	13	12	6.4
Methyl ethyl ketone	5100	54	84	41	46
Methyl isobutyl ketone	3100	6.6	8.2	5.3	5.8
Methylene chloride	4.1	ND	24	ND	66
Toluene	400	30	100	25	28
Trichlorofluoromethane	730	ND	3.4	ND	3.3
1,2,4-Trimethylbenzene	6.2	13	14	10	9.9
1,3,5-Trimethylbenzene	6.2	3.1	3.8	2.6	2.5
2,2,4-Trimethylpentane	NA	3.6	2.4	3.0	ND
m/p-Xylene	110	52	45	42	39
o-Xylene	110	13	14	11	11
Tentatively Identified Compounds					
Acetaldehyde	0.87	22	ND	18	15
Acetonitrile	62	8.2	8.4	6.7	29
Butanal	NA	15	20	12	18
Butane, 2-methyl-	NA	ND	241	ND	47
Heptane, 3-methylene	NA	28	ND	23	64
1-Heptene	NA	38	20	31	48
Hexanal	NA	ND	ND	ND	22
1-Hexene	NA	23	ND	19	25
Isobutane	NA	ND	133	ND	ND
Octane	NA	22	ND	19	ND
Pentane	NA	ND	50	ND	ND
Pentane, 2-methyl	NA	ND	29	ND	ND
Pentane, 3-methyl	NA	ND	20	ND	ND
1R .alpha. -Piene	NA	29	ND	24	29
Propanal, 2,2-dimethyl-	NA	19	ND	15	ND

1,3-Propanediamine, N-methyl-	NA	ND	19	ND	ND
1-Propene, 2-methyl-	NA	33	22	28	33
ND = Not Detected					
NA = Not Available					
Shading indicates result exceeds PRG					