Ohio EPA
40 years and moving forward

FILE COPY

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

December 6, 2012

Joel Teaford
Central Ohio Community Improvement Corporation
300 East Broad Street, Suite 190
Columbus, Ohio 43215

Re: Notice of Violation - Report of Groundwater Quality for the former Bedford I Landfill, Franklin County

Dear Mr. Teaford:

On March 5, 2012, we received the June 2011 Corrective Measures Plan Sampling Event Report (Report) for the Bedford I Landfill. This report was submitted by Hull and Associates on behalf of the Central Ohio Community Improvement Corporation (facility). The sampling was conducted from June 23 through June 30, 2011, following the June 2003 Ground Water Monitoring Plan (GWMP) of the Closure / Post-Closure Plan (Section 7) as amended by the August 17, 2006, Consent Order.

The Division of Drinking and Ground Water (DDAGW) has reviewed the report. Attached is an interoffice memorandum (IOM) from Cal James to me with comments from the report. The Division of Materials and Waste Management concurs with the DDAGW's November 19, 2012, IOM.

The Division of Materials and Waste Management views the following as violations of the Closure / Post Closure Plan.

1) The Report was submitted after 75 days from the sampling event and was incomplete.

2) The missing items stated in comment 1 of the IOM need to be submitted.

3) The report and data on which the November 2010 information in Table 2 are based, have not been submitted.

4) A report summarizing the effectiveness of the leachate cut-off trench was to be submitted in the eight quarter sampling report. The report did not include this information.

5) Some of the information with regard to MW-13 replacement well and, MW-13 sealing and abandonment have not been submitted. Please refer to comment 4 in the IOM for more details of what need submitted.

6) An evaluation of the presence of VOCs in MW-9 need to be submitted. See comment 5 in the IOM for more detail.

Please respond to Comments 2, 3, 4, 5 and 6 within 30 days of this letter with the requested information.

If you have any questions, please contact me at (614) 728-3889 or allan.hurtt@epa.state.oh.us

Sincerely,

Allan Hurtt
District Engineer
Division of Materials and Waste Management
Central District Office

Attachment: IOM

c Jeff Gibbs, Franklin County Health Department w/attachment
Steven Gross, Hull & Associates
Cal James, DDAGW/CDO
DMWM/CDO File

AH/nsm ViolationJune2011

Interoffice Memorandum

TO: **Allan Hurtt through Melissa Storch, Division of Materials and Waste Management (DMWM-CDO)**

FROM: **Cal James through Linnea Saukko, Division of Drinking and Ground Waters (DDAGW)**

DATE: **November 19, 2012**

SUBJECT: **June 2011 Corrective Measures Plan Sampling Event Report**

FACILITY: **Bedford I Landfill, Site ID# 14226, Franklin County**

INTRODUCTION

A June 2011 Corrective Measures Plan Sampling Event Report (Report) was received March 5, 2012, for the Bedford I Landfill (BLF) facility. The June 2011 Report covers the ground water and surface water sampling that took place June 23 and June 30, 2011. The facility is required to follow its June 2003 Ground Water Monitoring Plan (GWMP) of the Closure / Post-Closure Plan (Section 7), as amended by the August 17, 2006, Consent Order. The municipal BLF facility is currently closed and in corrective measures.

COMMENTS

Violations

The following represent in DDAGW's opinion violations of the Closure / Post-Closure Plan (Section 7). They will not be considered actual violations until review and acceptance by the appropriate DMWM staff.

1. **Reporting Requirements:** The GWMP of the Closure / Post-Closure Plan requires a submission of a report no later than 75 days following each well / stream sampling event. This requirement was not met, as the sampling took place in June 2011 and the report was received by Ohio EPA on March 5, 2012, about 248 days later. Additionally, the required trend plots of constituent concentrations were not submitted for the sampling event.

The GWMP (page 38) in part requires a sampling event report be submitted within 75 days of completion of a sampling event and include among other things with the information submitted: 1) a narrative summarizing the results; 2) a map with static water

level elevation measurements; 3) trend plots of concentrations for each parameter detected at each monitoring point; 4) table of field measurements; 5) water level and water quality tables; and 6) laboratory results (data sheets, chain-of-custody forms, field data, meter calibrations, etc.). This information must be included with each required sampling event report to be in compliance with the requirements of the GWMP part of the Closure / Post-Closure Plan (Section 7). Moreover, the information must be received within 75 days of the date of sampling of a well or stream point. Most of the required information was received with the June 2011 Report. However, trend plots were not included as required by the Closure / Post-Closure Plan. Trend plots of concentrations for each parameter detected at each monitoring point need to be immediately submitted to Ohio EPA to meet the requirements of the Closure / Post-Closure Plan.

2. Quarterly Sampling Events and Reports: According to Table 2 in the June 2011 Sampling Event Report, the required seventh and eighth quarterly sampling events were carried out in November 2010 and June 2011 at the BLF facility. Neither sampling event followed the required three month schedule being four months and seven months from the time of the previous sampling event, respectively. Moreover, the report and data on which the November 2010 information in Table 2 are based, have not been submitted to Ohio EPA, as of this date. The change in schedule between quarterly sampling events and the lack of submission of the November 2010 report and data are violations of the GWMP of the Closure / Post-Closure Plan.

3. Effectiveness of Leachate Cut-Off Trench Evaluation: The cut-off trench, downgradient of MW-11, is designed to remediate a VOC plume migrating westward from the landfill. The quarterly sampling is in part to evaluate the effectiveness of the trench over time (Figure 1).

The trench base is tied into relatively unweathered bedrock in the Ohio Shale. The rationale used for determining the depth of the trench holds that VOC migration is primarily through the weathered and highly fractured upper part of the Ohio Shale. MW-19, MW-16, MW-17, and surface water sampling point, SS-7, are monitored to evaluate the cut-off trench's effectiveness.

Table 2 shows the distribution of VOCs with regard to the cut-off trench. Based on the June 2011 sampling event results, VOCs appear to have been reduced when results from MW-11 and MW-19 are compared. VOCs were reduced between 57 percent and 95 percent (average 71 percent), depending on the compound. However, vinyl chloride and cis-1,2-dichloroethylene remain well above their respective maximum contaminant levels (MCLs; Table 2) in both wells. Downgradient MW-16, MW-17, and SS-7 are non-detect with respect to all VOCs (Figure 1 and Table 2).

DDAGW in a November 1, 2010, interoffice memorandum requested the BLF facility thoroughly evaluate the trench's remedial effectiveness at the eighth quarterly sampling event to include: 1) comparisons of MW-11 to all downgradient wells for all VOCs and appropriate inorganic constituents; 2) comparison of concentrations of constituents at downgradient sampling points to regulatory limits; 3) discussion of all downgradient receptors; 4) discussion of rate and extent of ground water migration given the fractured nature of the bedrock; and 5) discussion of any supplemental remedial activities needed to

further reduce ground water contamination at the site boundary. The BLF facility did not provide this analysis and appears to be in violation of the June 2003 GWMP (Closure / Post-Closure Plan, Section 7, page 39), as MW-19 contains VOCs (Figure 1 and Table 2).

4. Well MW-13R Replacement Well and MW-13 Sealing / Abandonment: MW-13 was replaced by MW-13R on April 29, 2011, at the request of Ohio EPA. However, some of the pertinent information regarding well development, sampling, and well sealing / abandonment were not provided to Ohio EPA as required in the June 2003 Closure / Post-Closure Plan.

DDAGW requested an installation diagram, well log, and other pertinent information be forwarded to Ohio EPA for the replacement well. Furthermore, the new well needed to be installed, properly developed, and sampled before the next scheduled quarterly sampling event. DDAGW recommended following Chapters 5 through 8 in the Ohio EPA Technical Guidance Manual for installing / developing the new replacement well and Chapter 9 for sealing abandoned MW-13 and a sealing report be sent. Ohio EPA requested that independent ground water samples be collected on quarterly or six week intervals to establish water quality characteristics in a timely fashion for the replacement well MW-13R. A well log / installation diagram was sent to Ohio EPA with the June 2011 Sampling Event Report. However, none of the other required information has been sent to Ohio EPA in violation of the June 2003 Closure / Post-Closure Plan.

More Information Needed to Determine Compliance

5. Well MW-9 VOC Issue: DDAGW in a November 1, 2010, interoffice memorandum requested the BLF facility evaluate the VOCs detected in downgradient well MW-9. DDAGW requested the BLF facility submit this evaluation in a timely fashion once a replacement well for MW-13 was in place. The evaluation should have been sent in no later than with the June 2011 Sampling Event Report. However, it was not. DDAGW recommends this information be sent to Ohio EPA within 30 days of receipt of this request to avoid a possible violation of the June 2003 Closure / Post-Closure Plan requirements.

For questions, please contact Cal James, DDAGW-CDO, Ohio EPA at (614) 728-3875. Any written correspondence should be sent to Allan Hurtt, DMWM-CDO, P.O. Box 1049, Columbus, Ohio 43216.

Ec: Lindsay Taliaferro III, DDAGW-CO
Mike Gallaway, DSW-CDO
ID# 8333339691

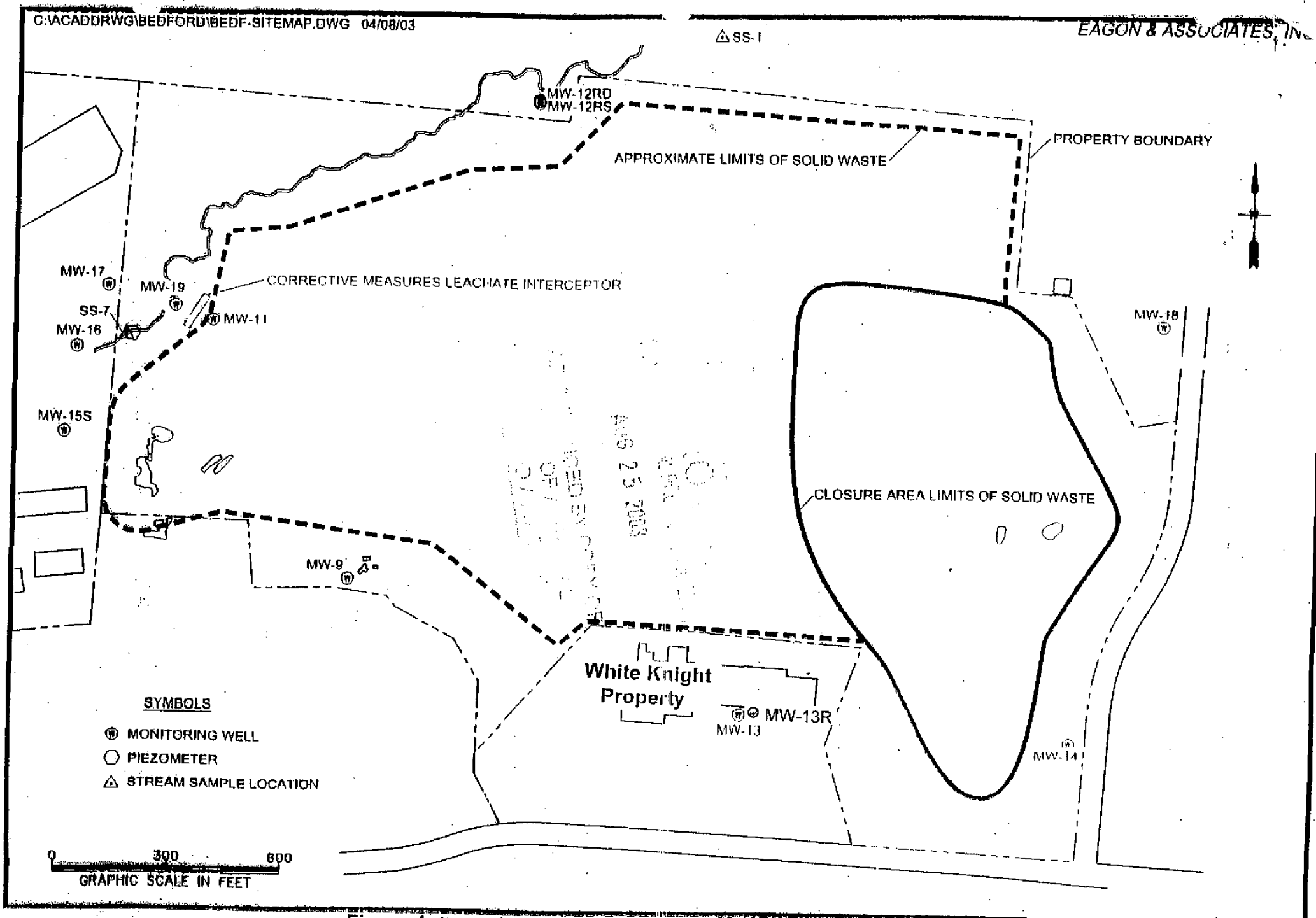

Figure 1. BEDFORD I LANDFILL COMPLIANCE MONITORING NETWORK

Constituents	Units	Regulatory Standards	Range of Results in MW-9 (9/09, 12/09, 3/10, 7/10)	Results in MW-9 6/30/2011
2-Butanone	ug/L	8600 (UPUS)	229-334*	ND
Benzene	ug/L	**5** (MCL)	**13.2-15.5**	**14.5**
Acetone	ug/L	1600 (UPUS)	877-1110	1020
Toluene	ug/L	1000 (MCL)	4.9-5.7	4.9

Table 1. VOCs present in MW-9 compared to regulatory standards. *Outlier removed; Bold indicates regulatory standard exceeded; UPUS = unrestricted potable use standard.

Sample Points / Constituents	Regulatory Standards	MW-11	MW-19	SS-7	MW-17	MW-16
Benzene (ug/L)	5 (MCL)	4.8	1.8	ND	ND	ND
Ethylbenzene (ug/L)	700 (MCL)	ND	ND	ND	ND	ND
Toluene (ug/L)	1000 (MCL)	ND	ND	ND	ND	ND
Total Xylenes (ug/L)	10000 (MCL)	ND	MD	ND	ND	ND
1,1-DCA (ug/L))	1500 (MCL)	22.8	3.6	ND	ND	ND
Cis-1,2-DCE (ug/L)	70 (MCL)	**545**	**212**	ND	ND	ND
Trans-1,2-DCE (ug/L)	100 (MCL)	12.4	0.62 J	ND	ND	ND
Vinyl Chloride (ug/L)	2 (MCL)	**2530**	**1090**	ND	ND	ND

Table 2. June 2011 VOC concentrations upgradient and downgradient of the leachate cut-off trench (heavy vertical line); MW = monitoring well, SS = stream sample point, ND = non-detect, NT = sample not tested, bold = value greater than MCL; See Figure 1 index map for locations.