2017 Sampling and Analysis Report

Lockport City Landfill

NYSDEC Site No. 9-32-010

City of Lockport

Department of Public Works

GHD | 285 Delaware Avenue Suite 500 Buffalo New York 14202

11137273 | Report No 2 | January 8, 2018

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1. Introduction

The Lockport City Landfill site is located on Oakhurst Street in the City of Lockport, Niagara County, New York. The landfill, assigned the Site Registry Number 9-32-010, is the subject of this report.

The Remedial Action Design as approved by the New York State Department of Environmental Conservation (NYSDEC) for the site included a Long-Term Monitoring Plan and an Operation and Maintenance Plan. The purpose of the Long-Term Monitoring Plan is to provide information to evaluate and monitor the long-term effectiveness of the remedial work. The Operation and Maintenance Plan includes regular site inspections and analytical testing to identify any potential problems at the landfill that are not being adequately addressed by routine maintenance, and to document the current condition of the landfill. A site plan of the Lockport City Landfill is presented on Figure 1.

The Long-Term Monitoring Program started in 1997. Sampling is conducted annually with the exception of the first year (1997) when two sampling events were completed. The purpose of this report is to present the findings of the 2017 sampling event conducted by GHD Consulting Services, Inc. (GHD) at the Lockport City Landfill on October 25, 2017. The annual inspection report to satisfy the O & M Plan requirements is being submitted under separate cover.

2. Long-Term Monitoring

In accordance with the NYSDEC approved Long-Term Monitoring Plan, and included in the Operation and Maintenance Plan, five groundwater wells and one outfall were sampled by GHD Consulting Services Inc. on October 25, 2017. During sampling of groundwater at Monitoring Well MW-6D, due to a negligible amount of water in the well, groundwater was not tested for field parameters; however, sampling of groundwater was completed for volatile organic compounds (VOCs). Historically, Monitoring Well MW-6D has frequently not been sampled due to a lack of available groundwater present at the time of sampling.

The samples were delivered to ESC Lab Sciences, 12065 Lebanon Road, Mt. Juliet, Tennessee 37122, and analyzed for Target Compound List (TCL) VOCs by United States Environmental Protection Agency (USEPA) CLP Statement of Work (SOW) OLM04.2.

Groundwater Field Sampling Logs are presented in Appendix A and Analytical Test Results are provided in Appendix B. Table 1 summarizes analytical testing data from groundwater samples collected from monitoring wells and the outfall since the beginning of the Long-Term Monitoring Program.

The established action levels for Monitoring Wells MW-8D, MW-9S and MW-9I, and Outfall L2 are noted on Table 1. Analytical test results presented on Table 1 indicate that there were no exceedances detected above the reported action levels. Since exceedances did not occur, contingent sampling and analysis are not required. The next sampling event will be scheduled for October 2018 representing year 22 of the Long-Term Monitoring Program.

1,2-Dichloroethene was reported as a total result from1997 to 2006. GHD began sampling reporting in 2007, at which time the cis- and trans- isomers of 1, 2-Dichloroethene were reported individually rather than a total result.

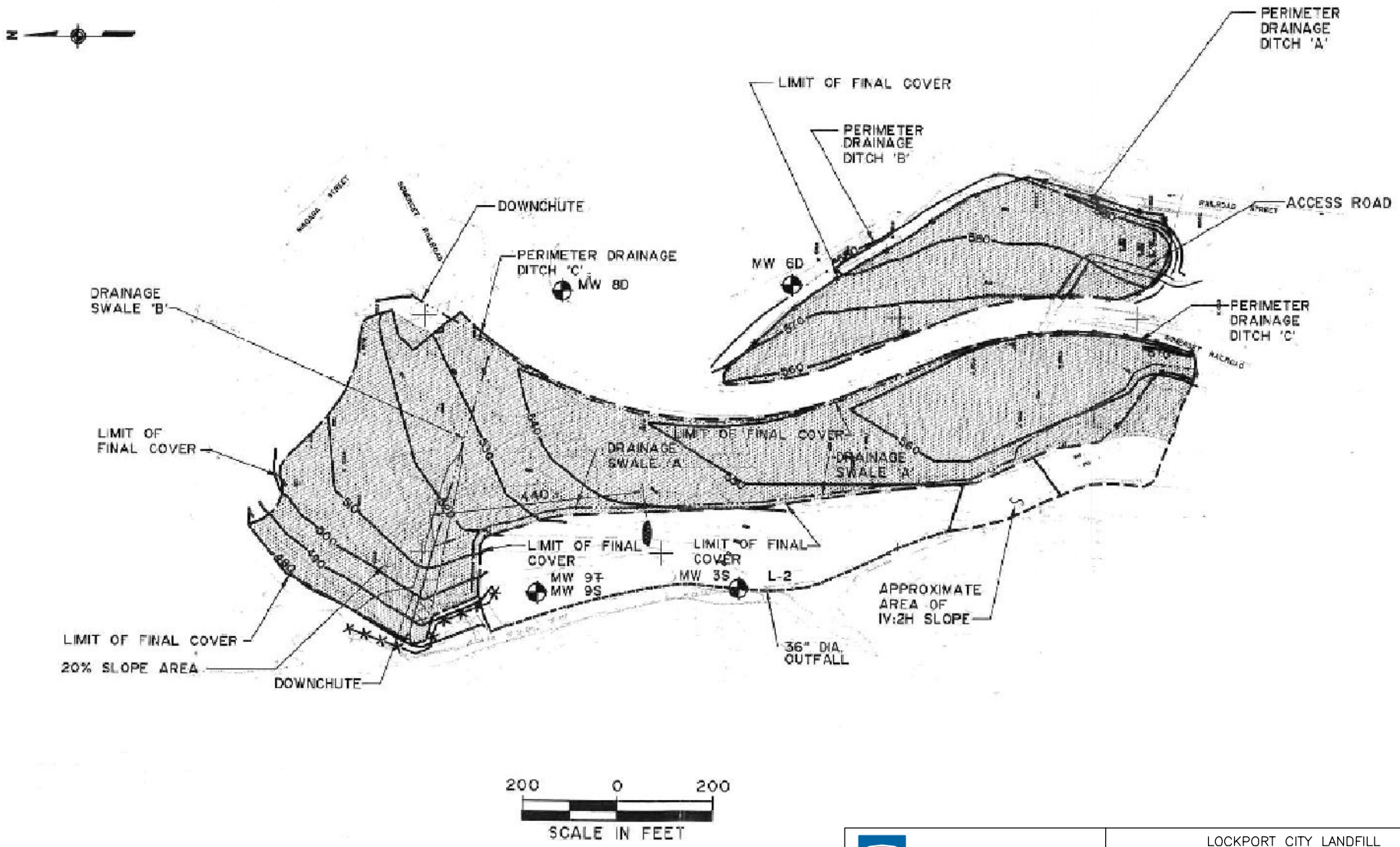
In 2017, the volatile organic analytical test results indicated concentrations of cis-1,2-Dichloroethene in groundwater sampled from Monitoring Wells MW-8D and MW-9I, at 9 mg/L and 1.4 mg/l, respectively. These results are well below the action level of 1,580 mg/L from total 1,2-Dichloroethene established for these wells.

As reported in 2015, volatile organic analytical test results detected concentrations of Carbon Disulfide and 1,1-Dichloroethane in groundwater sampled from Monitoring Well MW-3S. As reported in 2016 and 2017, Carbon Disulfide and 1,1-Dichloroethane were not detected in groundwater sampled from Monitoring Well MW-3S.

In 2017, volatile organic analytical test results detected concentrations of Toluene in groundwater sampled from Monitoring Well MW-6D for the first time since 2006. It should be noted that historically, Monitoring Well MW-6D has frequently been dry at the time of sampling. In 2017, purging the well was not completed due to limited available groundwater. Samples were collected from the minimal amount of water that was present in the well at the time of sampling.

All results were non detect from groundwater sampled from Monitoring Wells MW-3S and MW-9S and Outfall L-2.

Figures



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LOCKPORT CITY LANDFILL
LOCKPORT, NEW YORK
CITY OF LOCKPORT

FIGURE 1
SITE PLAN

Tables

TABLE 1
MONITORING WELL 3S
GROUNDWATER ANALYTICAL TEST RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Acetone	µg/L	NS	U	U	U	U	U	U	U	U	U	U	6 J	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	1.2	1.1	U	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	µg/L	NS	U	U	U	U	U	U	U	U	U	1 J	U	U	3J	2J	3J	2.8 J	U	1.8	1.4	1.6	U	U
2-Butanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	4 J	3J	2J	4J	3.2 J	U	U	U	U	U	U
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Toluene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
m,p-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U

Notes:

VOC analysis by USEPA CLP SOW OLM04.2

U = not detected above the quantitation limit

J = estimated concentration

NS = no standard

- = not sampled for

1,2-Dichloroethene (Total) is reported in years (1997-2006) as the sum of the detected concentrations of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene

TABLE 1 (Cont'd)
MONITORING WELL 6D
GROUNDWATER ANALYTICAL RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Vinyl chloride	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-	-	-	U	U	U	-	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Acetone	µg/L	NS	U	U	U	U	U	U	U	U	U	2 J	16	-	-	-	-	-	-	U	U	U	-	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,2-Dichloroethene (total)	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-	-	-	U	U	U	-	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,1-Dichloroethane	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-	-	-	U	U	U	-	U
2-Butanone	µg/L	NS	U	U	U	U	U	U	U	U	U	U	1 J	-	-	-	-	-	-	U	U	U	-	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Trichloroethene	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-	-	-	U	U	U	-	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Toluene	µg/L	NS	U	U	U	U	U	U	U	U	U	2 J	2 J	-	-	-	-	-	-	U	U	U	-	1.62
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Chlorobenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Xylene (Total)	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	-	-	-	-	-	-	U	U	U	-	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	U	U	U	-	U

Notes:

VOC analysis by USEPA CLP SOW OLM04.2

U = not detected above the quantitation limit

J = estimated concentration

- = not sampled

NS = no standard

2007, 2008, 2009, 2010, 2011, 2012 : MW-6D not sampled due to dry conditions, no groundwater available

TABLE 1 (Cont'd)
MONITORING WELL 8D
GROUNDWATER ANALYTICAL TEST RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	162	U	U	U	U	U	7	33	6	4 J	U	U	U	U	U	U	U	11	11	2.1	U	U	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Acetone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	µg/L	1,580	100	90	110	18	25	41	120	7	28	27 J	40	U	U	U	U	U	U	U	U	U	U	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	32	34	26	23	24	65	26	21	22	20	9
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	260	2	4	5	2	2	2	U	U	U	U	1 J	U	U	U	U	3.2 J	U	U	U	U	U	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Toluene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
m,p-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U

Notes:
VOC analysis by USEPA CLP SOW OLM04.2
U = not detected above the quantitation limit
J = estimated concentration
NS = no standard
- = not sampled for
1,2-Dichloroethene (Total) is reported in years (1997-2006) as the sum of the detected concentrations of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene

TABLE 1 (Cont'd)
MONITORING WELL 9S
GROUNDWATER ANALYTICAL TEST RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	162	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Acetone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	µg/L	1,580	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	2	U	U	U
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	260	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Toluene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
m,p-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U

Notes:
VOC analysis by USEPA CLP SOW OLM04.2
U = not detected above the quantitation limit
J = estimated concentration
NS = no standard
- = not sampled for
1,2-Dichloroethene (Total) is reported in years (1997-2006) as the sum of the detected concentrations of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene

TABLE 1 (Cont'd)
MONITORING WELL 9I
GROUNDWATER ANALYTICAL TEST RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	24	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Acetone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	µg/L	42	8.4	6	6	5	4 J	4 J	4 J	4 J	3 J	3 J	2 J	U	U	U	U	U	U	U	U	U	U	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	3 J	2J	U	2J	U	U	1.3	U	1.8	1.9	1.4
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	NS	1.6	2	2	1 J	1 J	1 J	1 J	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Toluene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
m,p-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U

Notes:
VOC analysis by USEPA CLP SOW OLM04.2
U = not detected above the quantitation limit
J = estimated concentration
NS = no standard
- = not sampled for
1,2-Dichloroethene (Total) is reported in years (1997-2006) as the sum of the detected concentrations of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene

TABLE 1 (Cont'd)
OUTFALL L-2
GROUNDWATER ANALYTICAL TEST RESULTS
LOCKPORT CITY LANDFILL

Volatile Compounds	Units	Action Level	Jun-97	Nov-97	Sep-98	Sep-99	Sep-00	Sep-01	Oct-02	Dec-03	Oct-04	Oct-05	Oct-06	Oct-07	Oct-08	Oct-09	Oct-10	Oct-11	Oct-12	Oct-13	Oct-14	Oct-15	Oct-16	Oct-17
Chloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	µg/L	94	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromomethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Acetone	µg/L	NS	U	U	U	U	U	U	U	U	U	2 J	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon disulfide	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethene (total)	µg/L	280	U	2	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
trans-1, 2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Butanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,2-Dichloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chloroform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Benzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Trichloroethene	µg/L	NS	U	3	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromodichloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
4-Methyl-2-pentanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Toluene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
trans-1,3-Dichloropropene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
2-Hexanone	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Dibromochloromethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	µg/L	NS	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
m,p-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
o-Xylene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Styrene	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
Bromoform	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	µg/L	NS	-	-	-	-	-	-	-	-	-	-	-	U	U	U	U	U	U	U	U	U	U	U

Notes:
VOC analysis by USEPA CLP SOW OLM04.2
U = not detected above the quantitation limit
J = estimated concentration
NS = no standard
- = not sampled for
1,2-Dichloroethene (Total) is reported in years (1997-2006) as the sum of the detected concentrations of cis-1,2-Dichloroethene and trans-1,2-Dichloroethene

Appendices

Appendix A
Groundwater Field Sampling Logs

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE: Lockport City Landfill | DATE: 10/25/17

Sampler: Dave Rowlinson | SAMPLE ID: MW-8D

Depth of well (from top of casing)..... 76.67 ft
Initial static water level (from top of casing).... 71.9 ft

Evacuation Method:

Submersible		Centrifugal		2in. casing:	4.77	ft. of water x .16 =	0.76 gallons
Airlift		Pos. Displ.		3in. casing:		ft. of water x .36 =	gallons
Bailer	X	>>> No. of bails		4in. casing:		ft. of water x .65 =	gallons

Well Volume Calculation

Volume of water removed: 1.00 gals.

> 3 volumes: yes **no**

dry: **yes** no

Field Tests:

Temp:	10.3	C
pH	7.38	
Conductivity	2.18	mS/cm
DO	11.80	mg/l
Turbidity	108	NTUs
Salinity	0.1	%

Sampling: Time: 12:00 pm

Sampling Method:

Stainless Steel Bailer	
Disposable Bailer	X
Disposable Pump	
Other	

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: Clear

Comments: Well purged dry after 1.0 gallons.
Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE Lockport City Landfill DATE 10/25/17

Sampler: Dave Rowlinson SAMPLE ID MW-6D

Depth of well (from top of casing)..... 77.12 ft
Initial static water level (from top of casing).... 77.8 ft

Evacuation Method:

Submersible		Centrifugal		2in. casing:	0.00	ft. of water x .16 =	0.00 gallons
Airlift		Pos. Displ.		3in. casing:		ft. of water x .36 =	gallons
Bailer	X	>>> No. of bails		4in. casing:		ft. of water x .65 =	gallons

Well Volume Calculation

Volume of water removed 0.00 gals.

> 3 volumes: yes **no**

dry: **yes** no

Field Tests:

Temp:		C
pH		
Conductivity		mS/cm
DO		mg/l
Turbidity		NTUs
Oxidation Reduction Potential(ORP)		mV
Salinity		%

Sampling: Time: 11:00 am

Sampling Method:

Stainless Steel Bailer	
Disposable Bailer	X
Disposable Pump	
Other	

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: Clear

Comments: Unable to test for water quality parameters. Collected sample for testing.
Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE: Lockport City Landfill
DATE: 10/25/17

Sampler: Dave Rowlinson
SAMPLE ID: MW-9S

Depth of well (from top of casing)..... 12.36 ft
Initial static water level (from top of casing).... 6.9 ft

Evacuation Method:

Submersible		Centrifugal		2in. casing:	5.46	ft. of water x .16 =	0.87 gallons
Airlift		Pos. Displ.		3in. casing:		ft. of water x .36 =	gallons
Bailer	X	>>> No. of bails		4in. casing:		ft. of water x .65 =	gallons

Well Volume Calculation

Volume of water removed: 2.62 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	13.7	C
pH	6.95	
Conductivity	1.67	mS/cm
DO	5.39	mg/l
Turbidity	478	NTUs
Salinity	0.1	%

Sampling: Time: 9:30 am

Sampling Method:

Stainless Steel Bailer	
Disposable Bailer	X
Disposable Pump	
Other	

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: Light brown, then very turbid, brown, no odor.

Comments: Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE: Lockport City Landfill
DATE: 10/25/17

Sampler: Dave Rowlinson
SAMPLE ID: MW-9I

Depth of well (from top of casing)..... 19.99 ft
Initial static water level (from top of casing).... 6.0 ft

Evacuation Method:

Submersible		Centrifugal		2in. casing:	13.99	ft. of water x .16 =	2.24 gallons
Airlift		Pos. Displ.		3in. casing:		ft. of water x .36 =	gallons
Bailer	X	>>> No. of bails		4in. casing:		ft. of water x .65 =	gallons

Well Volume Calculation

Volume of water removed: 6.72 gals.

> 3 volumes: **yes** no

dry: yes **no**

Field Tests:

Temp:	12.67	C
pH	6.58	
Conductivity	1.57	mS/cm
DO	5.7	mg/l
Turbidity	49	NTUs
Salinity	0.1	%

Sampling: Time: 9:45 am

Sampling Method:

Stainless Steel Bailer	
Disposable Bailer	X
Disposable Pump	
Other	

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: no odor, then clear

Comments: Well pad is intact and the stickup protective cover is in good condition. Lock was cut for well access.
Lock needs replacement

GHD INC.
GROUNDWATER FIELD SAMPLING RECORD

SITE: Lockport City Landfill | DATE: 10/25/17

Sampler: Dave Rowlinson | SAMPLE ID: MW-3S

Depth of well (from top of casing)..... 13.24 ft
Initial static water level (from top of casing).... 4.2 ft

Evacuation Method:

Submersible		Centrifugal		2in. casing:	9.09	ft. of water x .16 =	1.45 gallons
Airlift		Pos. Displ.		3in. casing:		ft. of water x .36 =	gallons
Bailer	X	>>> No. of bails		4in. casing:		ft. of water x .65 =	gallons

Well Volume Calculation

Volume of water removed: 1.75 gals.

> 3 volumes: **yes** / no

dry: yes / **no**

Field Tests:

Temp:	13.09	C
pH	6.07	
Conductivity	2.89	mS/cm
DO	10.2	mg/l
Turbidity	310	NTUs
Salinity	0.10	%

Sampling: Time: 10:30 am

Sampling Method:

Stainless Steel Bailer	
Disposable Bailer	X
Disposable Pump	
Other	

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: No odor, reddish-brown color, then dark brown

Comments: Debris around monitoring well. Lock needs replacement
Unable to fully purge well due to obstruction in well between the riser and the screen.
Well pad is intact and the stickup protective cover is in good condition.

GHD INC.
SURFACE WATER FIELD SAMPLING RECORD

SITE Lockport City Landfill DATE 10/25/17

Samplers: Dave Rowlinson SAMPLE ID Outfall L-2

Sampling Method:

Submersible	GRAB	Centrifugal	
Airlift		Pos. Displ.	
Bailer	>>>	No. of bails	

Field Tests:

Temp:	14.3	C
pH	7.3	
Conductivity	1.76	mS/cm
DO	9.4	mg/l
Turbidity	125	NTUs
Salinity	0.1	%

Sampling: Time: 10:00 am

Sampling Method:

Stainless Steel Bailer	
Teflon Bailer	
Disposable Pump	
Other	Grab

Observations:

Weather/Temperature: Rain, 45°

Physical Appearance and Odor of Sample: No odor, Clear

Comments: Iron bacteria was present on outfall and rocks.

Appendix B
Analytical Test Results

GHD

285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Billing Information:
Mr. Dave Rowlinson
285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Report to: Mr. Dave Rowlinson

Email To: dave.rowlinson@ghd.com; ~~brian.doyle@ghd.com~~

Project Description: 71136 City of Lockport Landfill

City/State Collected: Lockport, NY

Phone: 716-748-6624
Fax:

Client Project # 11137273-100-

Lab Project # STEARNSANY-LOCKPORT

Collected by (print): D Rowlinson

Site/Facility ID # Landfill

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260TCLC 40mlAmb-HCl	V8260TCLC 40mlAmb-HCl-Blk								Remarks	Sample # (lab only)
TRIP BLANK		GW		10/25/17		1		X									-01
MW-9S	Grab				9:30	2	X										-02
MW-9I					9:45	2	X										-03
MW-35					10:30	2	X										-04
MW-6D					11:00	2	X										-05
MW-8D					12:00	2	X										-06
Outfall L-2					10:00	2	X										-07

Chain of Custody Page ___ of ___

ESC LABORATORIES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L946600
B245

Acctnum: STEARNSANY
Template: T129119
Prelogin: P623236
TSR: 364 - T. Alan Harvill
PB: 10-17-17 CM
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS _/FedEx __ Courier __ _____

Tracking # 747409405189

Sample Receipt Checklist
COC Seal Present/Intact: __NP _Y __N
COC Signed/Accurate: _Y __N
Bottles arrive intact: _Y __N
Correct bottles used: _Y __N
Sufficient volume sent: _Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Dave Rowlinson	10/25/17	2:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.6 °C Bottles Received: 12	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kate Huff 863	Date: 10/26/17 Time: 0845	Hold: Condition: NCF / OK

ANALYTICAL REPORT

November 02, 2017

GHD

Sample Delivery Group:	L946600
Samples Received:	10/26/2017
Project Number:	11137273-100-
Description:	71136 City of Lockport Landfill
Site:	LANDFILL
Report To:	Mr. Dave Rowlinson 285 Delaware Ave. Suite 500 Buffalo, NY 14202

Entire Report Reviewed By:

Nancy McLain
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

TRIP BLANK L946600-01 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 00:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 14:23	10/29/17 14:23	KMC

MW-9S L946600-02 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 09:30 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 16:11	10/29/17 16:11	KMC

MW-9I L946600-03 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 09:45 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 16:29	10/29/17 16:29	KMC

MW-3S L946600-04 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 10:30 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 16:46	10/29/17 16:46	KMC

MW-6D L946600-05 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 11:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 17:04	10/29/17 17:04	KMC

MW-8D L946600-06 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 12:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 17:22	10/29/17 17:22	KMC

OUTFALL L-2 L946600-07 GW

Collected by: Dave Rowlinson | Collected date/time: 10/25/17 10:00 | Received date/time: 10/26/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1036811	1	10/29/17 17:40	10/29/17 17:40	KMC

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy F. McLain

Nancy McLain
Technical Service Representative

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 14:23	WG1036811
Benzene	ND		1.00	1	10/29/2017 14:23	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 14:23	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 14:23	WG1036811
Bromoform	ND		1.00	1	10/29/2017 14:23	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 14:23	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 14:23	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 14:23	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 14:23	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 14:23	WG1036811
Chloroform	ND		5.00	1	10/29/2017 14:23	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 14:23	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 14:23	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 14:23	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 14:23	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 14:23	WG1036811
cis-1,2-Dichloroethene	ND		1.00	1	10/29/2017 14:23	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 14:23	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 14:23	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 14:23	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 14:23	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 14:23	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 14:23	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 14:23	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 14:23	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 14:23	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 14:23	WG1036811
Styrene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 14:23	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 14:23	WG1036811
Toluene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 14:23	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 14:23	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 14:23	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 14:23	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 14:23	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 14:23	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 14:23	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 14:23	WG1036811
(S) Toluene-d8	*108*		*80.0-120*		*10/29/2017 14:23*	WG1036811
(S) Dibromofluoromethane	*93.0*		*76.0-123*		*10/29/2017 14:23*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*		*80.0-120*		*10/29/2017 14:23*	WG1036811
(S) 4-Bromofluorobenzene	*104*		*80.0-120*		*10/29/2017 14:23*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 16:11	WG1036811
Benzene	ND		1.00	1	10/29/2017 16:11	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 16:11	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 16:11	WG1036811
Bromoform	ND		1.00	1	10/29/2017 16:11	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 16:11	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 16:11	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 16:11	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 16:11	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 16:11	WG1036811
Chloroform	ND		5.00	1	10/29/2017 16:11	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 16:11	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 16:11	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 16:11	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 16:11	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 16:11	WG1036811
cis-1,2-Dichloroethene	ND		1.00	1	10/29/2017 16:11	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 16:11	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:11	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:11	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 16:11	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 16:11	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 16:11	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 16:11	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 16:11	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 16:11	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 16:11	WG1036811
Styrene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 16:11	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 16:11	WG1036811
Toluene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 16:11	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 16:11	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 16:11	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 16:11	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 16:11	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 16:11	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 16:11	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 16:11	WG1036811
(S) Toluene-d8	*108*		*80.0-120*		*10/29/2017 16:11*	WG1036811
(S) Dibromofluoromethane	*92.9*		*76.0-123*		*10/29/2017 16:11*	WG1036811
(S) a,a,a-Trifluorotoluene	*106*		*80.0-120*		*10/29/2017 16:11*	WG1036811
(S) 4-Bromofluorobenzene	*102*		*80.0-120*		*10/29/2017 16:11*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 16:29	WG1036811
Benzene	ND		1.00	1	10/29/2017 16:29	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 16:29	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 16:29	WG1036811
Bromoform	ND		1.00	1	10/29/2017 16:29	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 16:29	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 16:29	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 16:29	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 16:29	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 16:29	WG1036811
Chloroform	ND		5.00	1	10/29/2017 16:29	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 16:29	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 16:29	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 16:29	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 16:29	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 16:29	WG1036811
cis-1,2-Dichloroethene	1.36		1.00	1	10/29/2017 16:29	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 16:29	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:29	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:29	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 16:29	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 16:29	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 16:29	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 16:29	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 16:29	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 16:29	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 16:29	WG1036811
Styrene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 16:29	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 16:29	WG1036811
Toluene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 16:29	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 16:29	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 16:29	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 16:29	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 16:29	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 16:29	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 16:29	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 16:29	WG1036811
(S) Toluene-d8	*106*		*80.0-120*		*10/29/2017 16:29*	WG1036811
(S) Dibromofluoromethane	*94.2*		*76.0-123*		*10/29/2017 16:29*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*		*80.0-120*		*10/29/2017 16:29*	WG1036811
(S) 4-Bromofluorobenzene	*103*		*80.0-120*		*10/29/2017 16:29*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 16:46	WG1036811
Benzene	ND		1.00	1	10/29/2017 16:46	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 16:46	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 16:46	WG1036811
Bromoform	ND		1.00	1	10/29/2017 16:46	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 16:46	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 16:46	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 16:46	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 16:46	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 16:46	WG1036811
Chloroform	ND		5.00	1	10/29/2017 16:46	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 16:46	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 16:46	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 16:46	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 16:46	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 16:46	WG1036811
cis-1,2-Dichloroethene	ND		1.00	1	10/29/2017 16:46	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 16:46	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:46	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 16:46	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 16:46	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 16:46	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 16:46	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 16:46	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 16:46	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 16:46	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 16:46	WG1036811
Styrene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 16:46	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 16:46	WG1036811
Toluene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 16:46	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 16:46	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 16:46	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 16:46	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 16:46	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 16:46	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 16:46	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 16:46	WG1036811
(S) Toluene-d8	*106*		*80.0-120*		*10/29/2017 16:46*	WG1036811
(S) Dibromofluoromethane	*94.7*		*76.0-123*		*10/29/2017 16:46*	WG1036811
(S) a,a,a-Trifluorotoluene	*104*		*80.0-120*		*10/29/2017 16:46*	WG1036811
(S) 4-Bromofluorobenzene	*105*		*80.0-120*		*10/29/2017 16:46*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 17:04	WG1036811
Benzene	ND		1.00	1	10/29/2017 17:04	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 17:04	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 17:04	WG1036811
Bromoform	ND		1.00	1	10/29/2017 17:04	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 17:04	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 17:04	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 17:04	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 17:04	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 17:04	WG1036811
Chloroform	ND		5.00	1	10/29/2017 17:04	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 17:04	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 17:04	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 17:04	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 17:04	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 17:04	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 17:04	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 17:04	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 17:04	WG1036811
cis-1,2-Dichloroethene	ND		1.00	1	10/29/2017 17:04	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 17:04	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:04	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:04	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 17:04	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 17:04	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 17:04	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 17:04	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 17:04	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 17:04	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 17:04	WG1036811
Styrene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 17:04	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 17:04	WG1036811
Toluene	1.62		1.00	1	10/29/2017 17:04	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 17:04	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 17:04	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 17:04	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 17:04	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 17:04	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 17:04	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 17:04	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 17:04	WG1036811
(S) Toluene-d8	*107*		*80.0-120*		*10/29/2017 17:04*	WG1036811
(S) Dibromofluoromethane	*92.7*		*76.0-123*		*10/29/2017 17:04*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*		*80.0-120*		*10/29/2017 17:04*	WG1036811
(S) 4-Bromofluorobenzene	*107*		*80.0-120*		*10/29/2017 17:04*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 17:22	WG1036811
Benzene	ND		1.00	1	10/29/2017 17:22	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 17:22	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 17:22	WG1036811
Bromoform	ND		1.00	1	10/29/2017 17:22	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 17:22	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 17:22	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 17:22	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 17:22	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 17:22	WG1036811
Chloroform	ND		5.00	1	10/29/2017 17:22	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 17:22	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 17:22	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 17:22	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 17:22	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 17:22	WG1036811
cis-1,2-Dichloroethene	8.75		1.00	1	10/29/2017 17:22	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 17:22	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:22	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:22	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 17:22	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 17:22	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 17:22	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 17:22	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 17:22	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 17:22	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 17:22	WG1036811
Styrene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 17:22	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 17:22	WG1036811
Toluene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 17:22	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 17:22	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 17:22	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 17:22	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 17:22	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 17:22	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 17:22	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 17:22	WG1036811
(S) Toluene-d8	*106*		*80.0-120*		*10/29/2017 17:22*	WG1036811
(S) Dibromofluoromethane	*93.3*		*76.0-123*		*10/29/2017 17:22*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*		*80.0-120*		*10/29/2017 17:22*	WG1036811
(S) 4-Bromofluorobenzene	*105*		*80.0-120*		*10/29/2017 17:22*	WG1036811

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	10/29/2017 17:40	WG1036811
Benzene	ND		1.00	1	10/29/2017 17:40	WG1036811
Bromochloromethane	ND		1.00	1	10/29/2017 17:40	WG1036811
Bromodichloromethane	ND		1.00	1	10/29/2017 17:40	WG1036811
Bromoform	ND		1.00	1	10/29/2017 17:40	WG1036811
Bromomethane	ND	J3	5.00	1	10/29/2017 17:40	WG1036811
Carbon disulfide	ND		1.00	1	10/29/2017 17:40	WG1036811
Carbon tetrachloride	ND		1.00	1	10/29/2017 17:40	WG1036811
Chlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
Chlorodibromomethane	ND		1.00	1	10/29/2017 17:40	WG1036811
Chloroethane	ND	J3	5.00	1	10/29/2017 17:40	WG1036811
Chloroform	ND		5.00	1	10/29/2017 17:40	WG1036811
Chloromethane	ND		2.50	1	10/29/2017 17:40	WG1036811
Cyclohexane	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2-Dibromo-3-Chloropropane	ND		5.00	1	10/29/2017 17:40	WG1036811
1,2-Dibromoethane	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2-Dichlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,3-Dichlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,4-Dichlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
Dichlorodifluoromethane	ND	J3	5.00	1	10/29/2017 17:40	WG1036811
1,1-Dichloroethane	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2-Dichloroethane	ND		1.00	1	10/29/2017 17:40	WG1036811
1,1-Dichloroethene	ND		1.00	1	10/29/2017 17:40	WG1036811
cis-1,2-Dichloroethene	ND		1.00	1	10/29/2017 17:40	WG1036811
trans-1,2-Dichloroethene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2-Dichloropropane	ND		1.00	1	10/29/2017 17:40	WG1036811
cis-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:40	WG1036811
trans-1,3-Dichloropropene	ND		1.00	1	10/29/2017 17:40	WG1036811
Ethylbenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
2-Hexanone	ND		10.0	1	10/29/2017 17:40	WG1036811
Isopropylbenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
2-Butanone (MEK)	ND		10.0	1	10/29/2017 17:40	WG1036811
Methyl Acetate	ND		20.0	1	10/29/2017 17:40	WG1036811
Methyl Cyclohexane	ND		1.00	1	10/29/2017 17:40	WG1036811
Methylene Chloride	ND		5.00	1	10/29/2017 17:40	WG1036811
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	10/29/2017 17:40	WG1036811
Methyl tert-butyl ether	ND		1.00	1	10/29/2017 17:40	WG1036811
Styrene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,1,2,2-Tetrachloroethane	ND		1.00	1	10/29/2017 17:40	WG1036811
Tetrachloroethene	ND		1.00	1	10/29/2017 17:40	WG1036811
Toluene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2,3-Trichlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,2,4-Trichlorobenzene	ND		1.00	1	10/29/2017 17:40	WG1036811
1,1,1-Trichloroethane	ND		1.00	1	10/29/2017 17:40	WG1036811
1,1,2-Trichloroethane	ND		1.00	1	10/29/2017 17:40	WG1036811
Trichloroethene	ND		1.00	1	10/29/2017 17:40	WG1036811
Trichlorofluoromethane	ND		5.00	1	10/29/2017 17:40	WG1036811
1,1,2-Trichlorotrifluoroethane	ND	J3	1.00	1	10/29/2017 17:40	WG1036811
Vinyl chloride	ND	J3	1.00	1	10/29/2017 17:40	WG1036811
Xylenes, Total	ND		3.00	1	10/29/2017 17:40	WG1036811
(S) Toluene-d8	*107*		*80.0-120*		*10/29/2017 17:40*	WG1036811
(S) Dibromofluoromethane	*94.2*		*76.0-123*		*10/29/2017 17:40*	WG1036811
(S) a,a,a-Trifluorotoluene	*105*		*80.0-120*		*10/29/2017 17:40*	WG1036811
(S) 4-Bromofluorobenzene	*106*		*80.0-120*		*10/29/2017 17:40*	WG1036811

Method Blank (MB)

(MB) R3262284-3 10/29/17 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Benzene	U		0.331	1.00
Bromodichloromethane	U		0.380	1.00
Bromochloromethane	U		0.520	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
Carbon disulfide	U		0.275	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
Cyclohexane	U		0.390	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
Ethylbenzene	U		0.384	1.00
2-Hexanone	U		3.82	10.0
Isopropylbenzene	U		0.326	1.00
2-Butanone (MEK)	U		3.93	10.0
Methyl Acetate	U		4.30	20.0
Methyl Cyclohexane	U		0.380	1.00
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Styrene	U		0.307	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00

Method Blank (MB)

(MB) R3262284-3 10/29/17 13:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*107*			*80.0-120*
(S) Dibromofluoromethane	*92.9*			*76.0-123*
(S) a,a,a-Trifluorotoluene	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*80.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3262284-1 10/29/17 12:27 • (LCSD) R3262284-2 10/29/17 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	125	116	128	93.0	103	10.0-160			10.0	23
Benzene	25.0	21.6	19.2	86.2	76.8	69.0-123			11.6	20
Bromodichloromethane	25.0	22.4	21.0	89.5	83.8	76.0-120			6.51	20
Bromochloromethane	25.0	22.5	21.5	90.2	86.2	76.0-122			4.54	20
Bromoform	25.0	24.2	24.4	96.8	97.5	67.0-132			0.730	20
Bromomethane	25.0	33.6	25.9	134	104	18.0-160		J3	25.7	20
Carbon disulfide	25.0	26.3	21.8	105	87.2	55.0-127			18.6	20
Carbon tetrachloride	25.0	20.6	17.2	82.3	68.8	63.0-122			17.9	20
Chlorobenzene	25.0	23.3	21.3	93.1	85.1	79.0-121			9.00	20
Chlorodibromomethane	25.0	24.6	23.7	98.4	94.9	75.0-125			3.64	20
Chloroethane	25.0	25.8	20.2	103	80.6	47.0-152		J3	24.7	20
Chloroform	25.0	21.4	19.4	85.5	77.7	72.0-121			9.62	20
Chloromethane	25.0	25.3	22.6	101	90.4	48.0-139			11.1	20
Cyclohexane	25.0	21.7	17.8	86.7	71.3	70.0-130			19.4	20
1,2-Dibromo-3-Chloropropane	25.0	21.9	24.6	87.6	98.3	64.0-127			11.6	20
1,2-Dibromoethane	25.0	23.9	23.8	95.7	95.3	77.0-123			0.430	20
1,2-Dichlorobenzene	25.0	22.7	22.6	90.8	90.5	80.0-120			0.430	20
1,3-Dichlorobenzene	25.0	22.3	21.5	89.3	86.0	72.0-123			3.81	20
1,4-Dichlorobenzene	25.0	22.9	22.4	91.5	89.7	77.0-120			2.04	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3262284-1 10/29/17 12:27 • (LCSD) R3262284-2 10/29/17 12:44

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dichlorodifluoromethane	25.0	24.2	19.1	96.7	76.4	49.0-155		J3	23.5	20
1,1-Dichloroethane	25.0	21.5	19.2	86.2	76.9	70.0-126			11.3	20
1,2-Dichloroethane	25.0	21.1	20.1	84.5	80.4	67.0-126			4.98	20
1,1-Dichloroethene	25.0	21.9	18.4	87.7	73.5	64.0-129			17.6	20
cis-1,2-Dichloroethene	25.0	21.8	19.8	87.1	79.3	73.0-120			9.38	20
trans-1,2-Dichloroethene	25.0	22.0	18.9	87.9	75.7	71.0-121			15.0	20
1,2-Dichloropropane	25.0	23.9	22.0	95.7	88.0	75.0-125			8.39	20
cis-1,3-Dichloropropene	25.0	24.7	23.1	98.7	92.3	79.0-123			6.71	20
trans-1,3-Dichloropropene	25.0	26.2	24.9	105	99.4	74.0-127			5.21	20
Ethylbenzene	25.0	24.2	21.2	96.7	84.9	77.0-120			13.1	20
2-Hexanone	125	115	125	91.9	100	58.0-147			8.86	20
Isopropylbenzene	25.0	23.0	20.4	91.9	81.6	75.0-120			11.8	20
2-Butanone (MEK)	125	105	119	84.4	95.3	37.0-158			12.2	20
Methyl Acetate	125	104	118	83.5	94.7	70.0-130			12.6	20
Methyl Cyclohexane	25.0	27.3	23.8	109	95.3	70.0-130			13.5	20
Methylene Chloride	25.0	21.0	19.8	84.1	79.0	66.0-121			6.21	20
4-Methyl-2-pentanone (MIBK)	125	110	118	87.8	94.2	59.0-143			7.03	20
Methyl tert-butyl ether	25.0	21.4	21.3	85.5	85.3	64.0-123			0.230	20
Styrene	25.0	23.6	22.2	94.6	88.7	78.0-124			6.34	20
1,1,2,2-Tetrachloroethane	25.0	21.8	23.0	87.2	92.1	71.0-122			5.48	20
Tetrachloroethene	25.0	23.8	20.5	95.3	82.0	70.0-127			14.9	20
Toluene	25.0	23.8	20.6	95.3	82.4	77.0-120			14.5	20
1,1,2-Trichlorotrifluoroethane	25.0	22.8	18.2	91.0	72.9	61.0-136		J3	22.0	20
1,2,3-Trichlorobenzene	25.0	22.7	23.5	90.9	93.8	61.0-133			3.22	20
1,2,4-Trichlorobenzene	25.0	23.4	23.1	93.6	92.2	69.0-129			1.48	20
1,1,1-Trichloroethane	25.0	21.4	18.1	85.5	72.6	68.0-122			16.4	20
1,1,2-Trichloroethane	25.0	23.5	23.1	94.0	92.3	78.0-120			1.88	20
Trichloroethene	25.0	23.2	20.5	92.9	81.8	78.0-120			12.6	20
Trichlorofluoromethane	25.0	22.2	18.6	88.6	74.2	56.0-137			17.7	20
Vinyl chloride	25.0	22.0	17.9	88.1	71.6	64.0-133		J3	20.6	20
Xylenes, Total	75.0	70.9	63.2	94.5	84.3	77.0-120			11.5	20
(S) Toluene-d8				*105*	*105*	*80.0-120*				
(S) Dibromofluoromethane				*91.3*	*90.5*	*76.0-123*				
(S) a,a,a-Trifluorotoluene				*105*	*107*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*103*	*80.0-120*				

L946511-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946511-02 10/29/17 14:58 • (MS) R3262284-4 10/29/17 19:46 • (MSD) R3262284-5 10/29/17 20:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	125	U	218	196	34.9	31.3	5	10.0-139			10.8	25
Benzene	25.0	207	261	269	42.9	49.6	5	34.0-147			3.16	20
Bromodichloromethane	25.0	U	84.2	89.5	67.4	71.6	5	52.0-135			6.14	20
Bromochloromethane	25.0	U	71.7	76.1	57.4	60.8	5	53.0-138			5.91	20
Bromoform	25.0	U	97.9	102	78.4	81.3	5	50.0-146			3.63	20
Bromomethane	25.0	U	15.5	24.0	12.4	19.2	5	10.0-160		J3	42.9	23
Carbon disulfide	25.0	U	19.7	19.1	15.7	15.2	5	10.0-147			3.07	20
Carbon tetrachloride	25.0	U	67.4	62.3	53.9	49.8	5	41.0-138			7.81	20
Chlorobenzene	25.0	U	78.4	81.0	62.8	64.8	5	52.0-141			3.17	20
Chlorodibromomethane	25.0	U	92.6	96.7	74.1	77.4	5	54.0-142			4.37	20
Chloroethane	25.0	U	52.5	46.3	42.0	37.1	5	23.0-160			12.4	20
Chloroform	25.0	U	82.1	82.8	65.7	66.2	5	50.0-139			0.790	20
Chloromethane	25.0	U	31.6	30.4	25.3	24.3	5	14.0-151			3.76	20
Cyclohexane	25.0	111	150	145	31.2	27.8	5	70.0-130	J6	J6	2.92	20
1,2-Dibromo-3-Chloropropane	25.0	U	104	107	83.4	85.7	5	49.0-144			2.73	24
1,2-Dibromoethane	25.0	U	83.9	88.9	67.2	71.2	5	54.0-140			5.78	20
1,2-Dichlorobenzene	25.0	U	90.5	94.7	72.4	75.8	5	56.0-139			4.53	20
1,3-Dichlorobenzene	25.0	U	85.6	87.5	68.5	70.0	5	50.0-141			2.12	20
1,4-Dichlorobenzene	25.0	U	85.8	91.3	68.7	73.0	5	53.0-136			6.14	20
Dichlorodifluoromethane	25.0	U	43.4	40.3	34.7	32.3	5	20.0-160			7.19	21
1,1-Dichloroethane	25.0	U	75.0	73.4	60.0	58.7	5	47.0-143			2.15	20
1,2-Dichloroethane	25.0	U	72.9	75.6	58.3	60.5	5	47.0-141			3.70	20
1,1-Dichloroethene	25.0	U	54.0	47.7	43.2	38.2	5	31.0-148			12.4	20
cis-1,2-Dichloroethene	25.0	U	76.4	75.3	61.1	60.3	5	43.0-142			1.39	20
trans-1,2-Dichloroethene	25.0	U	51.8	51.9	41.4	41.5	5	36.0-141			0.190	20
1,2-Dichloropropane	25.0	U	84.0	86.8	67.2	69.5	5	51.0-141			3.31	20
cis-1,3-Dichloropropene	25.0	U	80.6	84.7	64.5	67.7	5	53.0-139			4.96	20
trans-1,3-Dichloropropene	25.0	U	87.8	91.7	70.3	73.4	5	51.0-143			4.36	20
Ethylbenzene	25.0	1640	1660	1710	20.5	56.8	5	42.0-147	E V	E	2.69	20
2-Hexanone	125	U	442	443	70.8	70.8	5	36.0-145			0.0700	23
Isopropylbenzene	25.0	247	319	327	57.4	63.9	5	48.0-141			2.53	20
2-Butanone (MEK)	125	U	388	388	62.1	62.0	5	12.0-149			0.130	24
Methyl Acetate	125	U	437	452	69.9	72.3	5	70.0-130	J6		3.34	20.8
Methyl Cyclohexane	25.0	43.3	101	94.7	46.1	41.1	5	70.0-130	J6	J6	6.34	20.8
Methylene Chloride	25.0	U	60.2	62.9	48.2	50.3	5	42.0-135			4.27	20
4-Methyl-2-pentanone (MIBK)	125	U	488	487	78.1	77.9	5	44.0-160			0.260	22
Methyl tert-butyl ether	25.0	U	80.9	85.4	64.7	68.3	5	42.0-142			5.38	20
Styrene	25.0	U	85.9	89.3	68.7	71.4	5	47.0-147			3.88	20
1,1,2,2-Tetrachloroethane	25.0	U	96.2	98.1	76.9	78.5	5	46.0-149			2.01	20
Tetrachloroethene	25.0	U	71.0	63.7	56.8	51.0	5	38.0-147			10.8	20

L946511-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946511-02 10/29/17 14:58 • (MS) R3262284-4 10/29/17 19:46 • (MSD) R3262284-5 10/29/17 20:04

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Toluene	25.0	13.4	88.2	84.8	59.9	57.2	5	42.0-141			3.88	20
1,1,2-Trichlorotrifluoroethane	25.0	U	70.4	61.0	56.3	48.8	5	40.0-151			14.4	21
1,2,3-Trichlorobenzene	25.0	U	94.1	99.7	75.3	79.8	5	45.0-145			5.76	22
1,2,4-Trichlorobenzene	25.0	U	93.3	99.0	74.6	79.2	5	49.0-147			5.97	21
1,1,1-Trichloroethane	25.0	U	72.2	68.5	57.8	54.8	5	46.0-140			5.39	20
1,1,2-Trichloroethane	25.0	U	92.6	97.0	74.1	77.6	5	54.0-139			4.65	20
Trichloroethene	25.0	U	71.1	70.0	56.9	56.0	5	32.0-156			1.62	20
Trichlorofluoromethane	25.0	U	54.8	51.6	43.8	41.3	5	32.0-152			5.89	20
Vinyl chloride	25.0	U	37.3	34.2	29.8	27.4	5	24.0-153			8.55	20
Xylenes, Total	75.0	99.4	338	333	63.5	62.4	5	41.0-148			1.28	20
(S) Toluene-d8					*105*	*102*		*80.0-120*				
(S) Dibromofluoromethane					*92.4*	*92.2*		*76.0-123*				
(S) a,a,a-Trifluorotoluene					*104*	*107*		*80.0-120*				
(S) 4-Bromofluorobenzene					*103*	*102*		*80.0-120*				

L946631-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946631-05 10/29/17 19:10 • (MS) R3262284-6 10/29/17 20:22 • (MSD) R3262284-7 10/29/17 20:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	125	ND	58.4	54.3	46.7	43.5	1	10.0-139			7.16	25
Benzene	25.0	ND	14.4	13.6	57.7	54.5	1	34.0-147			5.71	20
Bromodichloromethane	25.0	ND	18.4	16.9	73.5	67.5	1	52.0-135			8.61	20
Bromochloromethane	25.0	ND	15.8	14.8	63.3	59.1	1	53.0-138			6.77	20
Bromoform	25.0	ND	21.8	19.7	87.2	78.9	1	50.0-146			9.96	20
Bromomethane	25.0	ND	5.19	4.52	20.8	18.1	1	10.0-160			13.8	23
Carbon disulfide	25.0	ND	4.68	4.64	18.7	18.5	1	10.0-147			0.840	20
Carbon tetrachloride	25.0	ND	14.4	13.9	57.5	55.4	1	41.0-138			3.78	20
Chlorobenzene	25.0	ND	18.1	17.0	72.4	67.9	1	52.0-141			6.44	20
Chlorodibromomethane	25.0	ND	20.7	19.1	82.8	76.5	1	54.0-142			8.00	20
Chloroethane	25.0	ND	13.5	12.1	54.0	48.3	1	23.0-160			11.1	20
Chloroform	25.0	ND	16.8	15.7	67.3	62.7	1	50.0-139			6.97	20
Chloromethane	25.0	ND	5.35	4.96	21.4	19.9	1	14.0-151			7.43	20
Cyclohexane	25.0	ND	9.74	9.35	39.0	37.4	1	70.0-130	J6	J6	4.15	20
1,2-Dibromo-3-Chloropropane	25.0	ND	24.3	21.7	97.1	86.6	1	49.0-144			11.4	24
1,2-Dibromoethane	25.0	ND	19.1	17.4	76.3	69.4	1	54.0-140			9.43	20
1,2-Dichlorobenzene	25.0	ND	20.0	17.9	80.0	71.7	1	56.0-139			11.0	20
1,3-Dichlorobenzene	25.0	ND	18.7	17.4	74.9	69.7	1	50.0-141			7.16	20
1,4-Dichlorobenzene	25.0	ND	19.5	18.1	78.0	72.6	1	53.0-136			7.21	20

L946631-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L946631-05 10/29/17 19:10 • (MS) R3262284-6 10/29/17 20:22 • (MSD) R3262284-7 10/29/17 20:40

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dichlorodifluoromethane	25.0	ND	9.02	8.20	36.1	32.8	1	20.0-160			9.52	21
1,1-Dichloroethane	25.0	ND	16.0	15.0	64.0	59.9	1	47.0-143			6.60	20
1,2-Dichloroethane	25.0	ND	15.8	14.5	63.3	58.1	1	47.0-141			8.44	20
1,1-Dichloroethene	25.0	ND	12.0	11.3	48.0	45.2	1	31.0-148			6.03	20
cis-1,2-Dichloroethene	25.0	31.0	46.8	42.6	63.0	46.3	1	43.0-142			9.37	20
trans-1,2-Dichloroethene	25.0	ND	12.2	11.4	48.8	45.7	1	36.0-141			6.58	20
1,2-Dichloropropane	25.0	ND	18.4	17.3	73.7	69.3	1	51.0-141			6.04	20
cis-1,3-Dichloropropene	25.0	ND	17.9	16.9	71.6	67.8	1	53.0-139			5.45	20
trans-1,3-Dichloropropene	25.0	ND	19.3	17.7	77.1	70.7	1	51.0-143			8.69	20
Ethylbenzene	25.0	ND	18.8	17.3	75.2	69.2	1	42.0-147			8.30	20
2-Hexanone	125	ND	104	96.2	83.6	77.0	1	36.0-145			8.26	23
Isopropylbenzene	25.0	ND	18.7	17.7	74.9	70.6	1	48.0-141			5.87	20
2-Butanone (MEK)	125	ND	85.8	78.1	68.6	62.5	1	12.0-149			9.32	24
Methyl Acetate	125	ND	98.7	82.0	79.0	65.6	1	70.0-130		J6	18.5	20.8
Methyl Cyclohexane	25.0	ND	13.0	12.2	51.9	48.9	1	70.0-130	J6	J6	6.00	20.8
Methylene Chloride	25.0	ND	13.9	13.0	55.5	51.9	1	42.0-135			6.71	20
4-Methyl-2-pentanone (MIBK)	125	ND	113	103	90.7	82.6	1	44.0-160			9.38	22
Methyl tert-butyl ether	25.0	ND	17.7	16.2	70.8	64.9	1	42.0-142			8.74	20
Styrene	25.0	ND	19.1	17.7	76.3	70.9	1	47.0-147			7.28	20
1,1,2,2-Tetrachloroethane	25.0	ND	21.3	19.4	85.1	77.7	1	46.0-149			9.13	20
Tetrachloroethene	25.0	ND	16.0	15.1	64.0	60.3	1	38.0-147			6.06	20
Toluene	25.0	ND	16.4	15.6	65.5	62.2	1	42.0-141			5.15	20
1,1,2-Trichlorotrifluoroethane	25.0	ND	14.6	14.3	58.2	57.3	1	40.0-151			1.54	21
1,2,3-Trichlorobenzene	25.0	ND	20.1	18.2	80.4	73.0	1	45.0-145			9.75	22
1,2,4-Trichlorobenzene	25.0	ND	20.2	18.3	80.8	73.3	1	49.0-147			9.68	21
1,1,1-Trichloroethane	25.0	ND	15.8	15.0	63.1	60.1	1	46.0-140			4.85	20
1,1,2-Trichloroethane	25.0	ND	20.2	18.3	80.8	73.3	1	54.0-139			9.72	20
Trichloroethene	25.0	19.6	34.9	31.8	61.3	48.8	1	32.0-156			9.38	20
Trichlorofluoromethane	25.0	ND	11.3	10.6	45.2	42.6	1	32.0-152			5.85	20
Vinyl chloride	25.0	8.16	16.2	14.7	32.3	26.1	1	24.0-153			10.0	20
Xylenes, Total	75.0	ND	53.1	50.2	70.8	66.9	1	41.0-148			5.61	20
(S) Toluene-d8					*105*	*105*		*80.0-120*				
(S) Dibromofluoromethane					*91.8*	*92.9*		*76.0-123*				
(S) a,a,a-Trifluorotoluene					*104*	*104*		*80.0-120*				
(S) 4-Bromofluorobenzene					*105*	*103*		*80.0-120*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

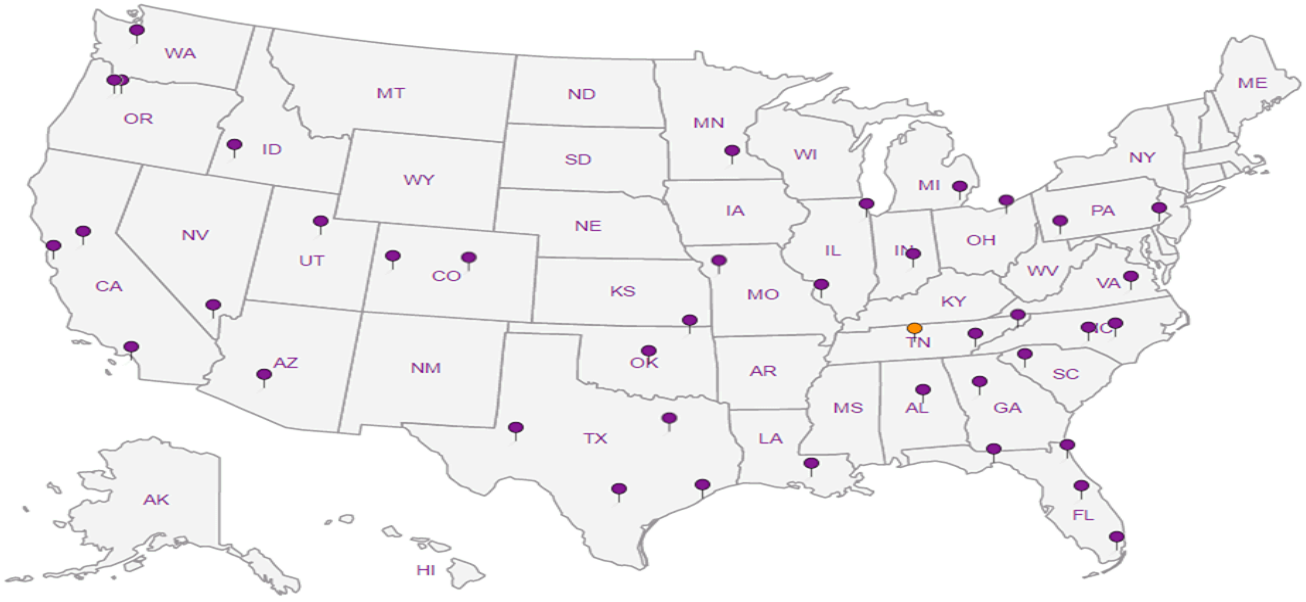
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1.] Drinking Water [2.] Underground Storage Tanks [3.] Aquatic Toxicity [4.] Chemical/Microbiological [5.] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



GHD

285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Billing Information:
Mr. Dave Rowlinson
285 Delaware Ave.
Suite 500
Buffalo, NY 14202

Report to: Mr. Dave Rowlinson

Email To: dave.rowlinson@ghd.com; ~~brian.doyle@ghd.com~~

Project Description: 71136 City of Lockport Landfill

City/State Collected: Lockport, NY

Phone: 716-748-6624
Fax:

Client Project # 11137273-100-

Lab Project # STEARNSANY-LOCKPORT

Collected by (print): D Rowlinson

Site/Facility ID # Landfill

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260TCLC 40mlAmb-HCl	V8260TCLC 40mlAmb-HCl-Blk								Remarks	Sample # (lab only)
TRIP BLANK		GW		10/25/17		1		X									-01
MW-9S	Grab				9:30	2	X										-02
MW-9I					9:45	2	X										-03
MW-35					10:30	2	X										-04
MW-6D					11:00	2	X										-05
MW-8D					12:00	2	X										-06
Outfall L-2					10:00	2	X										-07

Chain of Custody Page ___ of ___

ESC LABORATORIES
a subsidiary of Pace Analytical

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L946600
B245

Acctnum: STEARNSANY
Template: T129119
Prelogin: P623236
TSR: 364 - T. Alan Harvill
PB: 10-17-17 CM
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS _/FedEx __ Courier __ _____

Tracking # 747409405189

Sample Receipt Checklist
COC Seal Present/Intact: __NP _Y __N
COC Signed/Accurate: _Y __N
Bottles arrive intact: _Y __N
Correct bottles used: _Y __N
Sufficient volume sent: _Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Dave Rowlinson	10/25/17	2:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.6 °C Bottles Received: 12	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Kate Huff 863	Date: 10/26/17 Time: 0845	Hold: Condition: NCF / OK

Appendix C
IC-EC Certification

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

12/12/2017

Mr. Rolando Moreno
Director Of Engineering
City of Lockport
Lockport Municipal Building
One Locks Plaza
Lockport, NY 14094

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Lockport City Landfill
Site No.: 932010
Site Address: Oakhurst Road
Lockport, NY 14094

Dear Mr. Rolando Moreno:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **February 14, 2018**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls ("IC/EC Plan"); a plan for monitoring the performance and effectiveness of the selected remedy ("Monitoring Plan"); and/or a plan for the operation and maintenance of the selected remedy ("O&M Plan"). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Qualified Environmental Professional (QEP). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, are to be submitted in electronic format to the Department of Environmental Conservation. The Department will not approve the PRR unless all documents and data generated in support of that report have been submitted in accordance with the electronic submissions protocol. In addition, the certification forms are required to be submitted in both paper and electronic formats.

Information on the format of the data submissions can be found at:
http://www.dec.ny.gov/regulations/2586.html

The signed certification forms should be sent to Brian Sadowski, Project Manager, at the following address:

New York State Department of Environmental Conservation
270 Michigan Ave
Buffalo, NY 14203-2915

Phone number: 716-851-7220. E-mail: brian.sadowski@dec.ny.gov

The contact information above is also provided so that you may notify the project manager about upcoming inspections, or for any other questions or concerns that may arise in regard to the site.

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures
Brian Sadowski, Project Manager
Chad Staniszewski, Hazardous Waste Remediation Engineer, Region 9

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7)**:**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 932010

Site Name Lockport City Landfill

Site Address: Oakhurst Road Zip Code: 14094
City/Town: Lockport
County: Niagara
Site Acreage: 23.4

Reporting Period: January 15, 2017 to January 15, 2018

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

Enclosure 3

Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding:
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness

Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
   C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated

the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
   1. whether all requirements of each plan were met during the reporting period
   2. any requirements not met
   3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

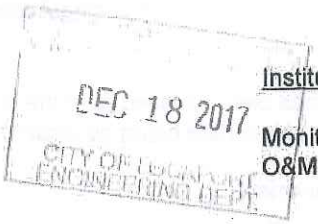
C. Future PRR Submittals
   1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
   2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

SITE NO. 932010 **Box 3**

Description of Institutional Controls



Parcel	Owner	Institutional Control
108.00-1-14	City of Lockport	Monitoring Plan O&M Plan Landuse Restriction

Record of Decision (ROD), December 1992.
The remedial components of the ROD have been implemented and are maintained for the protection of human health and the environment.

Declaration of Covenants and Restrictions, Niagara County, February 3, 2010.
Deed restrictions have been implemented to prevent activities that could cause potential exposure of waste material and compromise the integrity of the cap.

Operation and Maintenance Plan, Contingency Plan, March 1994.
Regular inspections and repair of the landfill cap are conducted to insure that the integrity of the cap is maintained.

Long Term Monitoring Program, March 1994.
The monitoring program is in place and used to evaluate the effectiveness of the remedial program.

108.15-1-1	City of Lockport	Landuse Restriction Monitoring Plan O&M Plan

Record of Decision (ROD), December 1992.
The remedial components of the ROD have been implemented and are maintained for the protection of human health and the environment.

Declaration of Covenants and Restrictions, Niagara County, February 3, 2010.
Deed restrictions have been implemented to prevent activities that could cause potential exposure of waste material and compromise the integrity of the cap.

Operation and Maintenance Plan, Contingency Plan, March 1994.
Regular inspections and repair of the landfill cap are conducted to insure that the integrity of the cap is maintained.

Long Term Monitoring Program, March 1994.
The monitoring program is in place and used to evaluate the effectiveness of the remedial program.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
108.00-1-14	Cover System Fencing/Access Control

Landfill Cap:

A Part 360 type clay cap has been installed over the landfill to eliminate direct contact as well as greatly reduce the amount of leachate being generated.

Excavation of steep embankment:

The waste material along the steep embankment (western bounday of the landfill) has been excavated from the embankment and placed under the landfill cap.
108.15-1-1

Parcel	Engineering Control
	Cover System Fencing/Access Control

Landfill Cap:

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Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative _____ Date _____

IC CERTIFICATIONS
SITE NO. 932010

DEC 18 2017

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I ROLANDO MORENO at 1 LOCKS PLAZA, LOCKPORT NY 14094
print name print business address

am certifying as OWNER (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

JAN 3, 2018
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. .

I David M. Britton at 285 Delaware Ave, Buffalo NY 14202
print name print business address

am certifying as a Qualified Environmental Professional for the Owner
(Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

01/09/2018
Date

www.ghd.com