2013 FOURTH QUARTER AND ANNUAL REPORT

Old Bethpage
Solid Waste Disposal Complex
Groundwater Treatment Facility

TOWN OF OYSTER BAY

DEPARTMENT OF PUBLIC WORKS
SYOSSET, NEW YORK 11791

June 2014

LOCKWOOD
KESSLER &
BARTLETT, INC.
SYOSSET, NEW YORK 11791

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1.0 INTRODUCTION

This document is the Old Bethpage Landfill (Landfill) Remedial Action Plan (RAP) Report for the fourth quarter of 2013 and calendar year 2013. This RAP Report was prepared on behalf of the Town of Oyster Bay (Town) by Lockwood, Kessler & Bartlett, Inc. (LKB). It is submitted to the New York State Department of Environmental Conservation (NYSDEC) pursuant to Consent Decree 83 Civ. 5357. The RAP is Appendix A of the Consent Decree.

Section D.1.b (Reporting, Quarterly Reports, Operating Period) of the RAP requires the Town to submit the following information on a quarterly basis:

- Pumpage records
- Treatment system air and water discharge data
- Treatment system performance records
- Data analysis (trends, position of plume, etc.)
- Modifications to system, including method and dates of approval
- Ground water-quality monitoring data
- Water-level data
- Potentiometric surface maps, as revised
- Records of all system downtime

Section D.2 (Reporting, Annual Operating Report) of the RAP requires the Town to also submit an annual operating report containing a summary and analysis of the information in the quarterly reports; and allows the Town to combine the fourth quarter report and annual report for each year into a single RAP Report.

This information is summarized and evaluated in the Sections 2.0 and 3.0 below, first for the fourth quarter and then for all of 2013, and is supported by figures and/or tables, as appropriate. Conclusions and recommendations based on the findings are provided in Section 4.0. The actual data, records and monitoring consultants' reports are maintained by the Town per Consent Decree requirements, and can be provided upon request. Copies of selected figures and tables from the monitoring consultants' fourth quarter and/or annual summary reports are included in Appendices A and B, respectively, and are referred to below as appropriate.

2.0 STATUS OF GROUND-WATER REMEDIATION

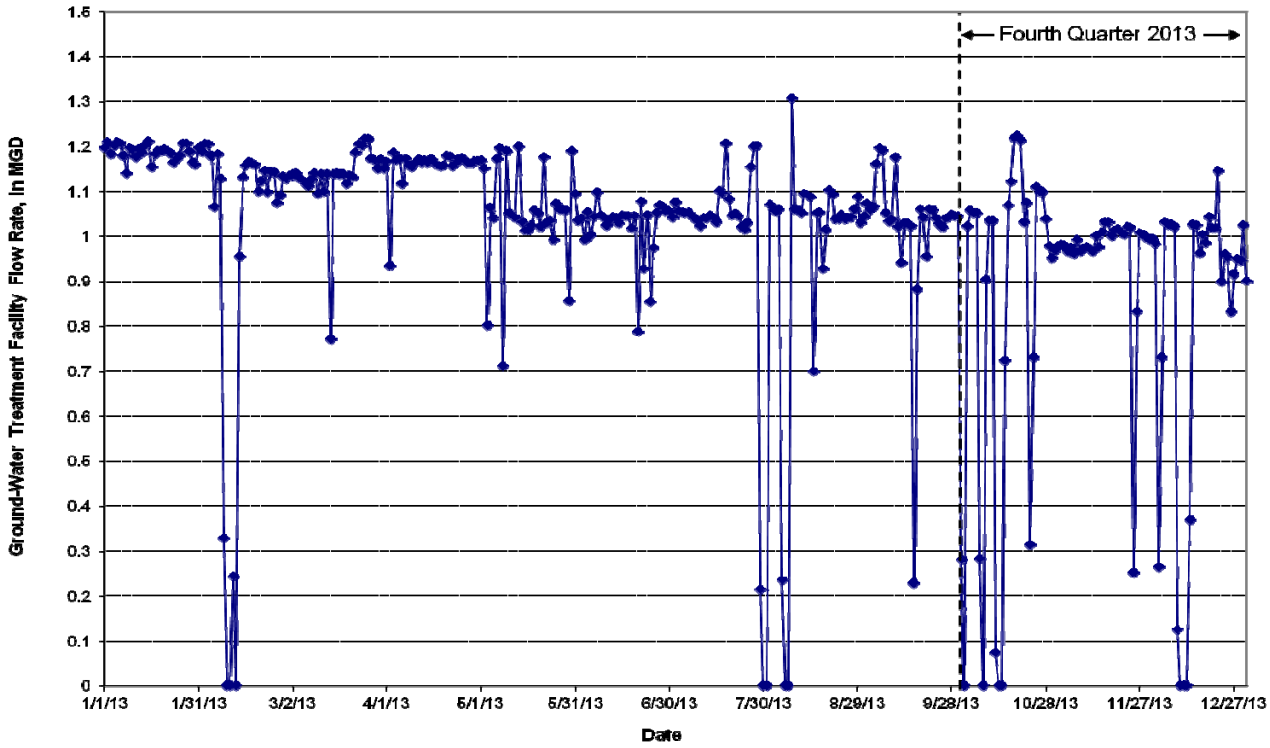
2.1 Ground Water-Treatment Facility Operation

The ground water-treatment facility achieved an on-line performance of 84.4% during the fourth quarter of 2013, based on 2,064 hours of operation out of a possible 2,208 hours (i.e., operating 24 hours per day for 92 days). The facility was off-line for a total of six days to perform acid-rinses of the air stripper packing media. The facility was also shut down the evening before each rinse to drain the tower beforehand. Recovery Well RW-4 went off-line in mid September due to a failed pump and remained off-line until mid October when a new pump was installed. Recovery Well RW-5 was off-line from late October through mid November, and from late November through early December, while shorts in its underground electric line were repaired.

Recovery Wells RW-1 and RW-2 were operated on alternate days when all three of the other recovery wells were operating to prevent the possibility of "high water" alarms from occurring at the facility. Both of these recovery wells were operated when at least one of the other three recovery wells was off-line.

The average pumping rate during the fourth quarter of 2013 was 0.86 MGD (Million Gallons per Day). The average flow rate for all of 2013 was 1.0 MGD. The daily facility flow during 2013, based on the totalizer readings, is summarized in Figure 1 below.

Figure 1. 2013 Pumpage Summary



During the first three quarters of 2013, the facility was operated as fully as possible given the need to perform required maintenance and repairs, and balance the flow through the facility. The acid-rinse system was repaired during this period, which required shutting the facility down during daytime work hours on certain days, and overnight on several days in mid February, late July and early August so that repairs to the in-tower components of the acid-rinse system could be performed. Recovery Well RW-4 was off-line from mid September through mid October due to the failed pump mentioned above. Recovery Wells RW-1 and RW-2 were also operated on alternate days during the first three quarters of 2013 when all three of the other recovery wells were operating to prevent the possibility of "high-water" alarms from occurring at the facility.

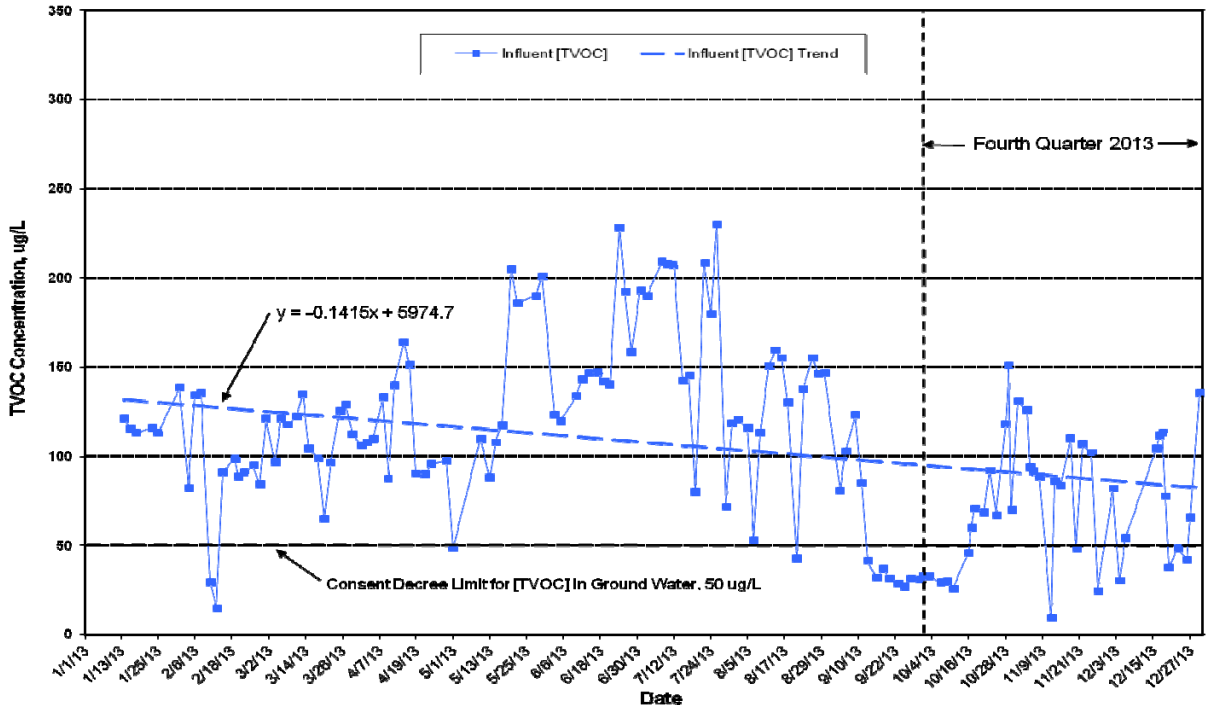
2.2 Ground Water-Treatment Facility Monitoring

In accordance with the O&M Manual (Operation and Maintenance Manual) for the facility, samples of the facility influent and effluent were collected approximately three times per week (except when the facility was off-line) and analyzed for VOCs (Volatile Organic Compounds) at the on-site laboratory. The facility influent and effluent were tested weekly on-site for pH, iron,

manganese, dissolved oxygen, ammonia and chloride. Monthly samples of influent and effluent were also sent to an outside laboratory for VOC (influent and effluent) and inorganic/leachate parameter (effluent only) analyses, per SPDES-equivalency requirements.

The 2013 influent [TVOC] (Total VOC Concentration(s)) results are plotted in Figure 2 below:

Figure 2. 2013 Facility Influent [TVOC] and Trend



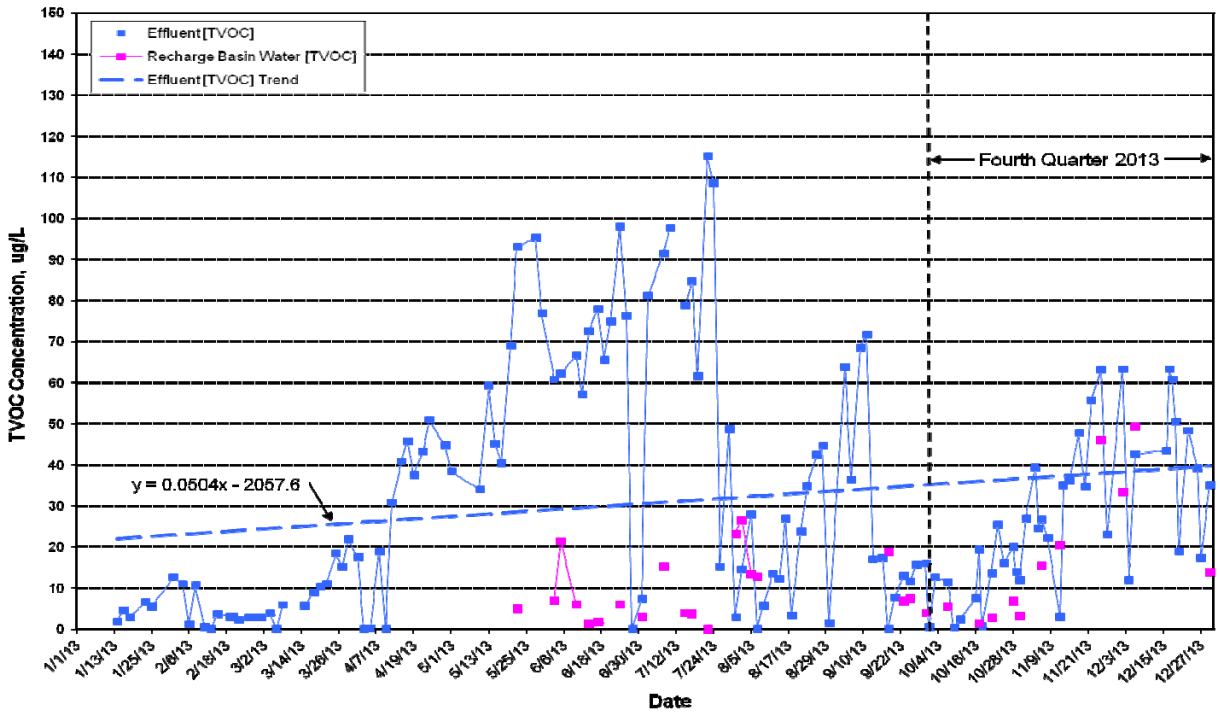
As shown in Figure 2, during the fourth quarter of 2013 influent [TVOC] exhibited a significant amount of fluctuation, and ranged from approximately 25 to 125 ug/L. This relatively high degree of fluctuation is attributed to the more intermittent operation of the facility, and Recovery Wells RW-4 and RW-5 which have the highest [TVOC], this quarter.

During the first four and one-half months of 2013, influent [TVOC] exhibited less fluctuation, reflecting the more consistent operation of the facility and Recovery Wells RW-4 and RW-5 during this period. From mid May through late July, influent [TVOC] exhibited a series of temporary increases. The reason(s) for these increases are not known, although it is noted that USEPA's March 2014 Second Five-Year Review Report for the Claremont Polychemical Site states that the remediation system for the adjacent Fireman's Training Center was shut down in 2013. The lower influent [TVOC] from mid September through mid October reflect Recovery Well RW-4, which had the highest [TVOC], being off-line during this period.

Influent [TVOC] was typically higher than the 50-ug/L Consent Decree limit for ground water, except during the period when Recovery Well RW-4 was off-line. The slope of the trend line in Figure 2 indicates that the influent [TVOC] exhibited an overall decreasing trend during 2013.

The effluent and recharge basin water [TVOC] results for 2013 are plotted in Figure 3 below:

Figure 3. 2013 Facility Effluent [TVOC] and Trend



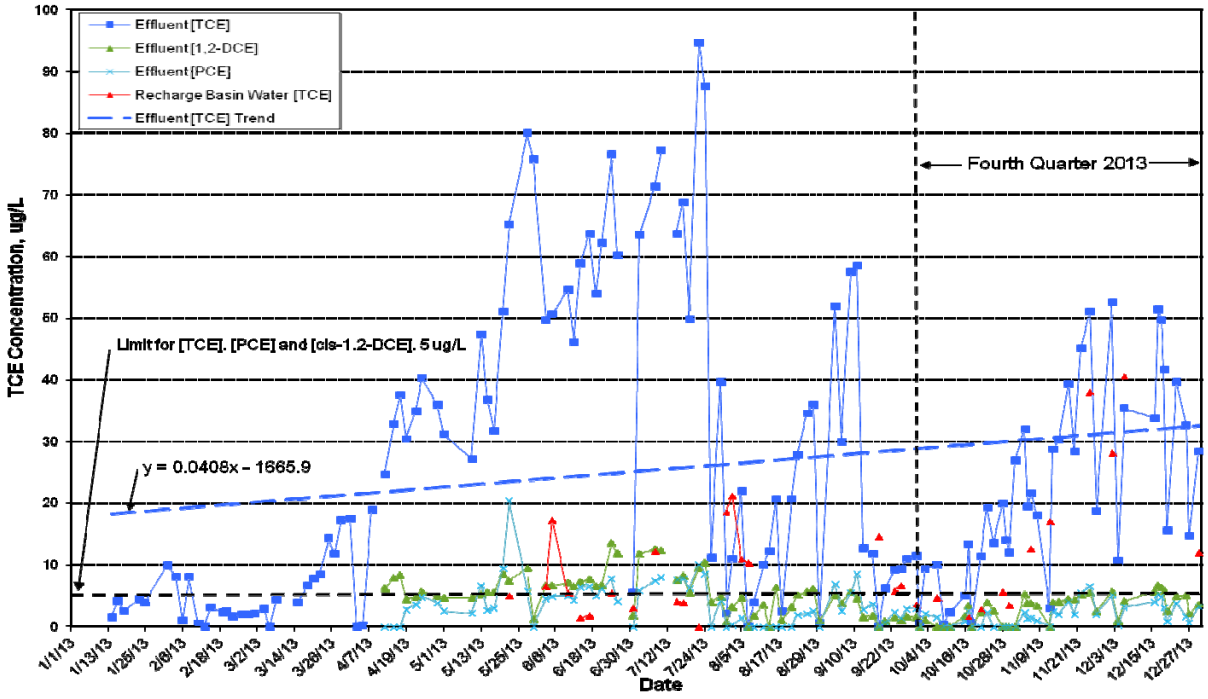
As shown in Figure 3, during the fourth quarter, effluent [TVOC] exhibited significant variability and generally increased after Recovery Well RW-4 was returned to service in mid October. The variability is attributed to the more intermittent operation of the facility, and Recovery Wells RW-4 and RW-5 which had the highest [TVOC], during the fourth quarter.

During the first quarter of 2013, effluent [TVOC] were relatively low and consistent with previous results. During the second and third quarters of 2013, effluent [TVOC] increased markedly. As reported previously, this increase is attributed to a decrease in the treatment efficiency of the air stripper caused by a buildup of iron and manganese encrustation on the media. Overall, effluent [TVOC] exhibited an increasing trend during 2013. The Consent Decree limit for [TVOC] in the facility discharge is 100-ug/L. Except for a brief period in late July, the effluent [TVOC] was much lower than this limit.

In May 2013, when it became apparent that the increase in effluent [TVOC] was not a temporary fluctuation, the Town resumed sampling of the recharge basin water for VOCs on a regular basis to verify and document the additional treatment that occurs in the recharge basins after discharge and prior to recharge. The results of that monitoring are included in Figure 3, and indicate that the [TVOC] of the water in the recharge basin was much lower than the 100-ug/L limit. The higher recharge basin water [TVOC] in December are attributed to a decrease in volatilization during the unusually severe winter.

Three VOCs (trichloroethene (TCE), tetrachloroethene (PCE) and cis-1,2-dichloroethene (cis-1,2-DCE)) were detected in the facility effluent during 2013. During the first quarter, TCE was the only VOC detected in the effluent on a consistent basis, typically at concentrations lower than the 5-ug/L discharge limit. The other two VOCs began to be detected in the effluent on a consistent basis during the second quarter, coinciding with the increases in influent [TVOC] and decrease in treatment efficiency. The 2013 effluent results for these three VOCs are plotted in Figure 4 below.

Figure 4. 2013 Facility Effluent [TCE], [PCE] and [cis-1,2-DCE]



As shown in Figure 4, despite the decrease in treatment efficiency, effluent [PCE] and [cis-1,2-DCE] remained at or below the 5-ug/L discharge limit during 2013 except for a few relatively minor exceedances. In contrast, effluent [TCE] increased markedly from April through July and then fluctuated over the remainder of the year, but typically exceeded the 5-ug/L discharge limit. The decrease in effluent [TCE] in August is attributed to the intermittent operation of the facility while the repairs to the in-tower components of the acid-rinse system were being performed. The decrease from mid September through mid October is attributed to Recovery Well RW-4 being off-line. Overall, effluent [TCE] exhibited an increasing trend during 2013.

PCE and cis-1,2-DCE were generally not detected in the recharge basin water samples collected during 2013. The [TCE] of the recharge basin water samples were generally much lower than the [TCE] of the effluent samples, particularly during the summer months, confirming that significant additional volatilization occurs in the basin prior to recharge. The average [TCE] of the recharge basin water samples from May through December was 10.5 ug/L.

The effluent inorganic/leachate indicator parameter self-monitoring results for the fourth quarter of 2013 are summarized in Table 1, which follows this page. As shown in Table 1, except for three exceedances for manganese and one exceedance for low pH, all in December, the concentrations of these parameters in the effluent complied with discharge limits. The average quarterly concentration of manganese in the effluent also slightly exceeded the discharge limit. The concentrations of the other parameters remained relatively consistent this quarter. Except for the higher manganese concentrations in December, this quarter's results are consistent with the preceding three quarters' monitoring results. The December exceedances for manganese and low pH are attributed to flushing of trace amounts of manganese and acid solution from the air stripper following the acid-rinses.

The results of the three monthly SPDES samples analyzed by an outside certified laboratory this quarter are compared to the permit limits in Table 2, which also follows this page. As shown in Table 2, these results are consistent with the self-monitoring results and indicate that the [TCE] of the November and December effluent samples exceeded the discharge limit. The [cis-1,2-DCE] of these two samples and the [PCE] of the December sample also slightly exceeded the discharge limit. The [Total Nitrogen] of the November sample also slightly exceeded the discharge limit. The concentrations of the other VOCs, and the inorganic parameters, were lower than the discharge limits in all three samples. Except for TCE, the quarterly average of each parameter was lower than the discharge limit.

Also in accordance with the O&M Plan for the facility, samples from each of the five recovery wells (Recovery Wells RW-1 through RW-5) were collected on an approximately weekly basis (except when the well or facility was off-line) and analyzed for VOCs at the on-site laboratory. The results of this monitoring are summarized below. [TVOC] in Recovery Wells RW-1 and RW-2 continued to be very low (< 1 ug/L) to non-detectable during the fourth quarter of 2013, and individual VOC concentrations in both of these recovery wells continued to be lower than their Class GA ground water-quality standard or guidance value. These results are consistent with the previous three quarter's results for these wells. Therefore, plots of their [TVOC] are not provided in this RAP Report.

In contrast, [TVOC] in Recovery Wells RW-3, RW-4 and R W-5 continued to be much higher and more variable. The 2013 [TVOC] results and trends for these three recovery wells are plotted in Figure 5 on Page 7. As shown in Figure 5, during the fourth quarter, [TVOC] was highest in Recovery Well RW-4, followed by Recovery Wells RW-5 and RW-3, respectively. Moreover, [TVOC] in Recovery Well RW-3 exhibited a slightly decreasing trend, while [TVOC} in Recovery Wells RW-4 and RW-5 were relatively consistent.

Based on the slopes of the trend lines in Figure 5, [TVOC] in all three recovery wells exhibited overall decreasing trends during 2013. [TVOC] in Recovery Well RW-4 exhibited the highest degree of fluctuation.

TABLE 1
FOURTH QUARTER 2013
EFFLUENT INORGANIC PARAMETER SELF-MONITORING RESULTS

Parameter	Limit	Avg. Conc.	10/1/2013	10/16/2013	10/23/2013	10/30/2013	11/6/2013	11/13/2013	11/20/2013
pH	6.5 - 8.5	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Iron	0.6	0.06	0.01	0.04	0.03	0.04	0.12	0.10	0.04
Manganese	0.6	**0.65**	0.5	0.2	0.6	0.2	0.4	0.5	0.2
Iron and Manganese	1.0	0.70	0.51	0.24	0.63	0.24	0.52	0.60	0.24
Dissolved Oxygen	No Std.	11.9	12.7	13.2	12.7	12.2	12.7	10.9	13.2
Ammonia	No Std.	4.8	5.8	4.1	4.2	6.1	6.0	6.0	3.8
Chloride	500	115	110	110	127	111	102	114	117

Parameter	Limit	11/27/2013	12/4/2013	12/5/2013	12/11/2013	12/18/2013	12/27/2013	12/31/2013
pH	6.5 - 8.5	7.0	7.0	**6.0**	7.0	7.0	7.0	6.5
Iron	0.6	0.04	0.12	0.04	0.05	0.05	0.03	0.07
Manganese	0.6	NA	NA	NA	**1.7**	0.1	**1.1**	**1.6**
Iron and Manganese	1.0	NA	NA	NA	**1.75**	0.15	**1.13**	**1.67**
Dissolved Oxygen	No Std.	6.1	13.0	11.4	11.0	13.0	12.7	11.6
Ammonia	No Std.	6.9	5.5	3.9	3.8	3.8	4.0	4.1
Chloride	500	142	138	71.3	NA	108	116	133

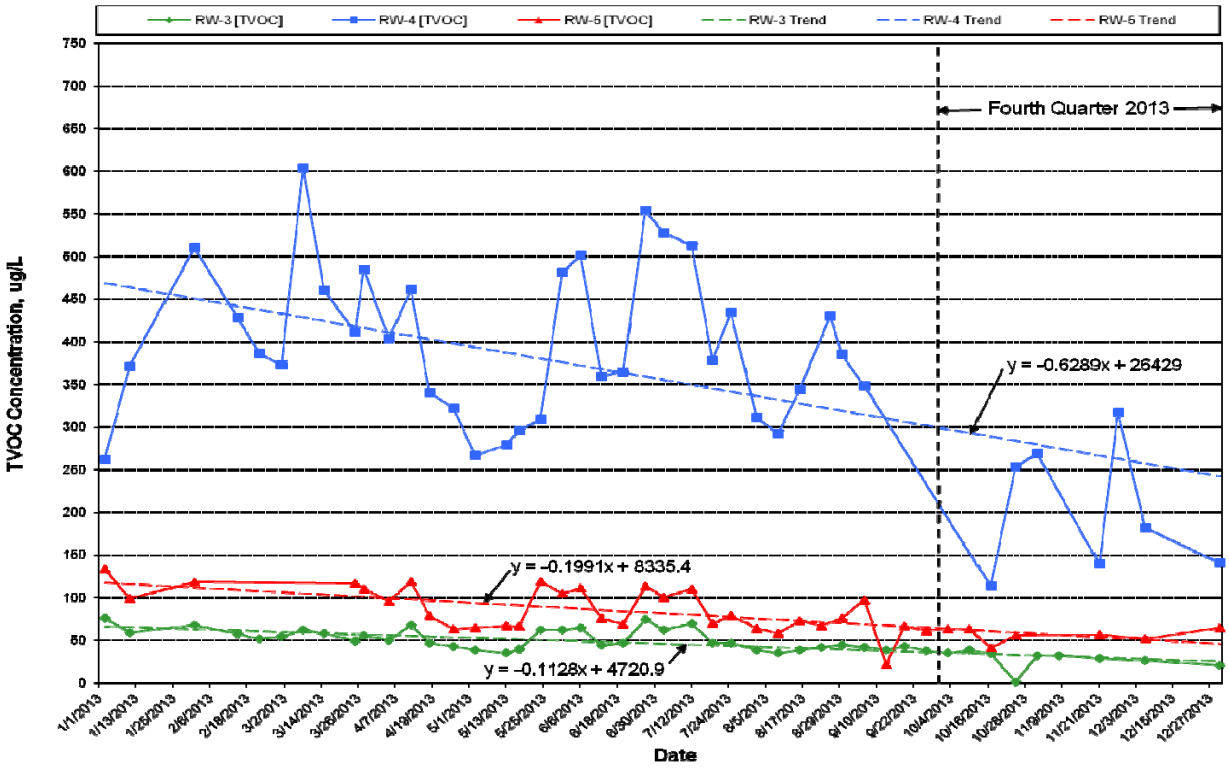
Notes: Limits are ground water discharge limits in NYSDEC TOGS 1.1.1.
pH data are in standard units, other data are in mg/L.
Bold results exceed limits.
NA = Not analyzed.

TABLE 2
FOURTH QUARTER 2013
SPDES EQUVIALENCY PERMIT SELF-MONITORING RESULTS

Parameter	Units	Limit	Effluent Result			
			Average	10/1/2013	11/4/2013	12/17/2013
Flow	MGD	1.5	1.2*	--	--	--
pH (range)	SU	6.5 to 8.5	7.0	7.0	7.0	7.0
Nitrogen, Total (as N)	mg/L	10	9.66	9.99	**11.10**	7.90
Phenolics, Total Recoverable	µg/L	8	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	µg/L	5	4.1	0.7	**5.2**	**6.4**
Trichloroethene	µg/L	5	**31.7**	2.2	**32**	**61**
Tetrachloroethene	µg/L	5	2.7	<0.50	2.3	**5.7**
Chloride	mg/L	500	129	144	112	132
Sulfate	mg/L	500	22.1	23.2	22.9	20.2
Magnesium	mg/L	35	6.70	7.22	6.55	6.34
Iron	mg/L	0.6	0.09	0.05	0.05	0.18
Manganese	mg/L	0.6	0.26	0.35	0.26	0.17
Iron and Manganese	mg/L	1	0.35	0.40	0.31	0.35
Zinc	mg/L	5	0.03	0.02	0.03	0.05
MTBE	µg/L	10	0.4	0.6	0.6	<0.50
Total Dissolved Solids	mg/L	1,000	288	303	301	259

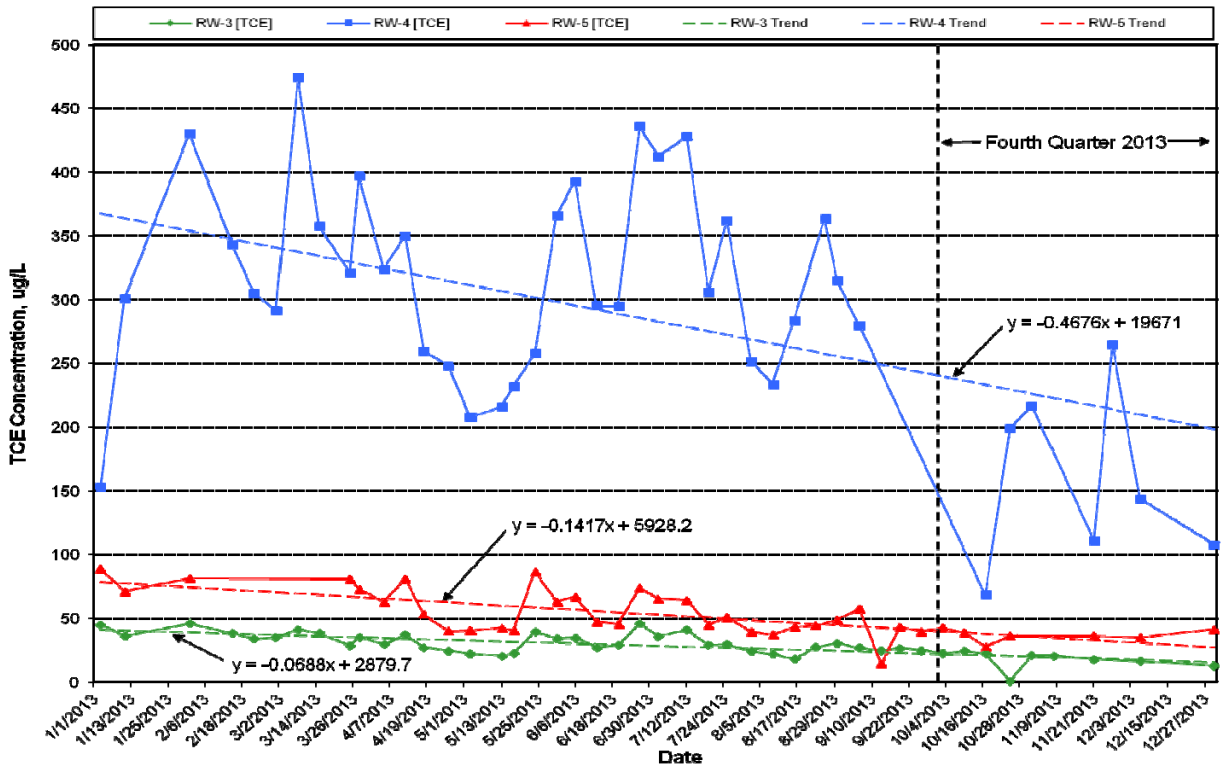
* - Maximum daily flow recorded during fourth quarter 2013, average flow was 0.86 MGD.

Figure 5. 2013 [TVOC] and Trends in RW-3, RW-4 and RW-5



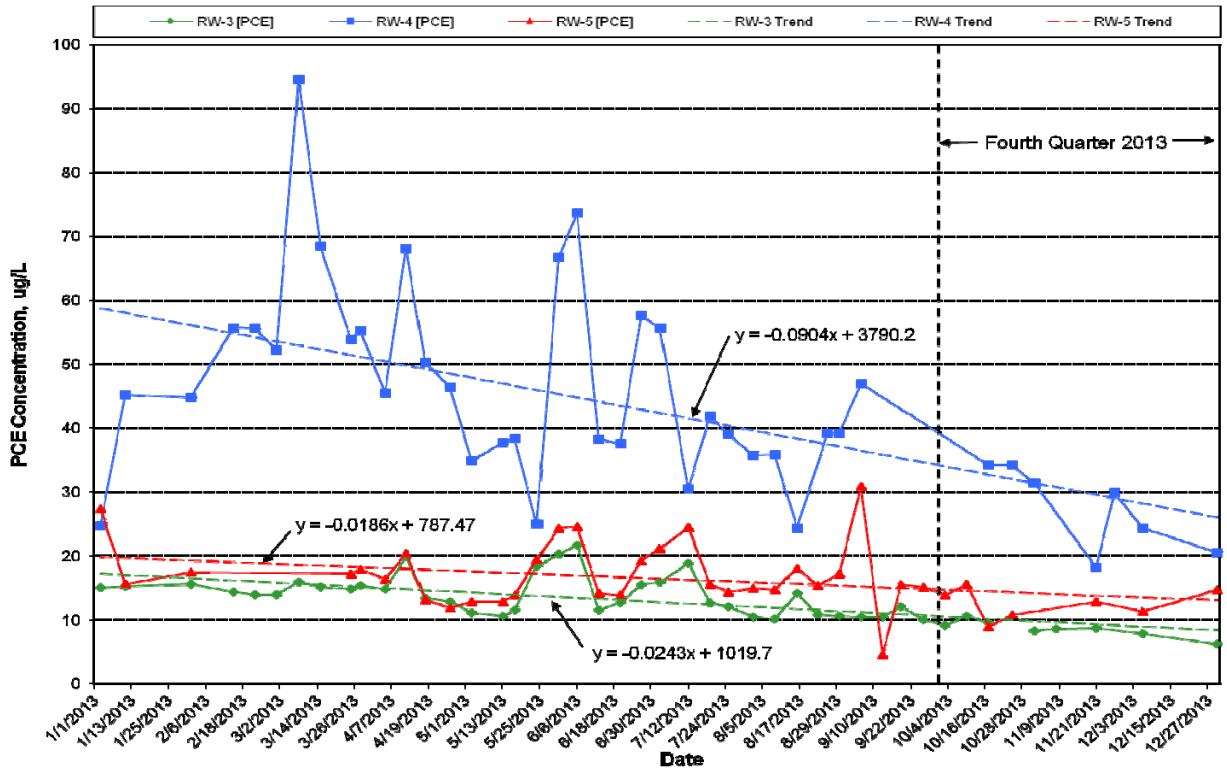
This quarter, the concentrations of three VOCs: TCE, PCE and cis-1,2-DCE continued to exceed their 5-ug/L Class GA water-quality standard in Recovery Wells RW-3, RW-4 and RW-5. Also, in Recovery Well RW-5, the concentrations of 1,1-DCE (1,1-dichloroethene) and 1,1,1-TCA (1,1,1-trichloroethene) periodically exceeded their 5-ug/L Class GA water-quality standard. The 2013 results for these VOCs in these recovery wells are plotted in Figures 6 through 9, respectively, and discussed on the following pages.

Figure 6. 2013 [TCE] and Trends in RW-3, RW-4 and RW-5



Overall, the [TCE] results shown in Figure 6 are similar to the [TVOC] results shown in Figure 5, reflecting the fact that TCE accounts for majority of the [TVOC] in these three recovery wells, particularly Recovery Wells RW-4 and RW-5. [TCE] were also highest in Recovery Well RW-4, followed by Recovery Wells RW-5 and RW-3, respectively. Moreover, during the fourth quarter of 2013, [TCE] in Recovery Well RW-3 exhibited a decreasing trend while [TCE] in Recovery Wells RW-4 and RW-5 remained relatively constant. [TCE] in Recovery Well RW-4 exhibited the highest degree of fluctuation. Based on the slopes of the trend lines in Figure 6, [TCE] in all three recovery wells exhibited overall decreasing trends during 2013.

Figure 7. 2013 [PCE] and Trends in RW-3, RW-4 and RW-5



As shown in Figure 7 above, during the fourth quarter of 2013, [PCE] in Recovery Wells RW-3 and RW-4 exhibited decreasing trends, and [PCE] in Recovery Well RW-5 remained relatively constant. [PCE] were highest in Recovery Well RW-4, and lower and similar in Recovery Wells RW-3 and RW-5. Based on the slopes of the trend lines in Figure 7, [PCE] in all three wells exhibited decreasing trends during 2013.

Review of Figure 8 on the following page indicates that during the fourth quarter of 2013, [cis-1,2-DCE] in Recovery Well RW-4 remained relatively constant, and [cis-1,2-DCE] in Recovery Wells RW-3 and RW-5 exhibited slightly decreasing trends. [cis-1,2-DCE] were also highest in Recovery Well RW-4, and much lower and similar in magnitude in Recovery Wells RW-3 and RW-5. Based on the slopes of the trend lines in Figure 8, [cis-1,2-DCE] in all three recovery wells exhibited decreasing trends during 2013. [cis-1,2-DCE] in Recovery Well RW-4 remained higher than the 5-ug/L ground-water standard. [cis-1,2-DCE] in Recovery Wells RW-3 and RW-5 decreased to less than the standard during 2013, and were below the standard for the entire fourth quarter.

Figure 8. 2013 [cis-1,2-DCE] and Trends in RW-3, RW-4 and RW-5

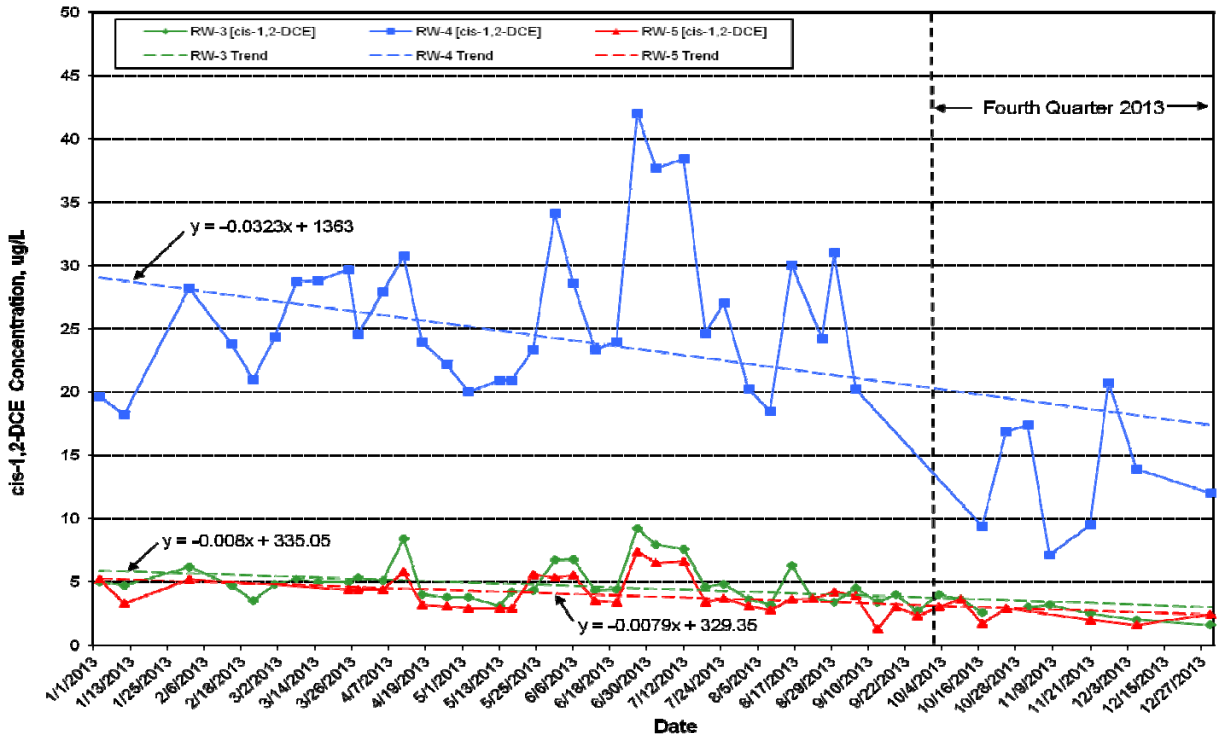


Figure 9 on Page 11 depicts [1,1-DCE], [1,1,1-TCA] and trends in Recovery Well RW-5 during 2013. Review of Figure 9 indicates that during the fourth quarter, the concentrations of these two VOCs exhibited fluctuating but decreasing trends, and were lower than the 5-ug/L water-quality standard. Based on the trend lines in Figure 9, the concentrations of these two VOCs in Recovery Well RW-5 exhibited decreasing trends during 2013.

To assess emissions from the air stripper stack, the average stack emission concentration of each VOC detected on a regular basis in the facility influent was calculated utilizing the data from the on-site laboratory and the pumpage data maintained by the Town. In Table 3, which follows this page, the results are compared to the stack emissions limits in Appendix A, Table 1 of the Consent Decree. As shown in Table 3, this quarter, the average concentration of each VOC was lower than its stack discharge limit. This finding is consistent with the previous three quarters of 2013. Specifically, during the first quarter, no VOCs were higher than the stack discharge limit. During the second and third quarters, TCE emissions were slightly higher than the stack discharge limit.

Previous dispersion modeling of similar TCE concentrations has indicated that concentrations at the downwind property line are lower than applicable air quality guidelines, which is consistent with the results of the ambient air monitoring performed this quarter, which did not detect elevated levels of TCE in ambient air (see Section 3.1 below).

TABLE 3
FOURTH QUARTER 2013
COMPARISON OF AVERAGE STACK CONCENTRATIONS TO STACK DISCHARGE REQUIREMENTS

Parameter	Average Stack Concentration* (ug/m^3)	Stack Discharge Requirements** (ug/m^3)
Benzene	ND	100
Bromodichloromethane	ND	0.03
Bromoform	ND	16.7
Carbon Tetrachloride	ND	100
Chlorobenzene	ND	1,170
Chloroethane	ND	52,000
Chloroform	ND	167
Dibromochloromethane	ND	0.03
1,2-Dichlorobenzene (o)	ND	1,000
1,3-Dichlorobenzene (m)	ND	0.03
1,4-Dichlorobenzene (p)	ND	1,500
1,1-Dichloroethane	ND	2,700
1,2-Dichloroethane	ND	20
1,1-Dichloroethene	5.9	66.7
1,2-Dichloroethene	40.3	2,630***
1,2-Dichloropropane	ND	1,170
Ethylbenzene	ND	1,450
Methylene Chloride	ND	1,170
Tetrachloroethene	103.0	1,120
Toluene	ND	7,500
1,1,1-Trichloroethane	3.4	38,000
Trichloroethene	477	900
Vinyl Chloride	ND	0.4
Xylenes (Total)	ND	1,450

FOOTNOTES:

* based on average influent concentrations and flow rates

** per Table 1 of Consent Decree.

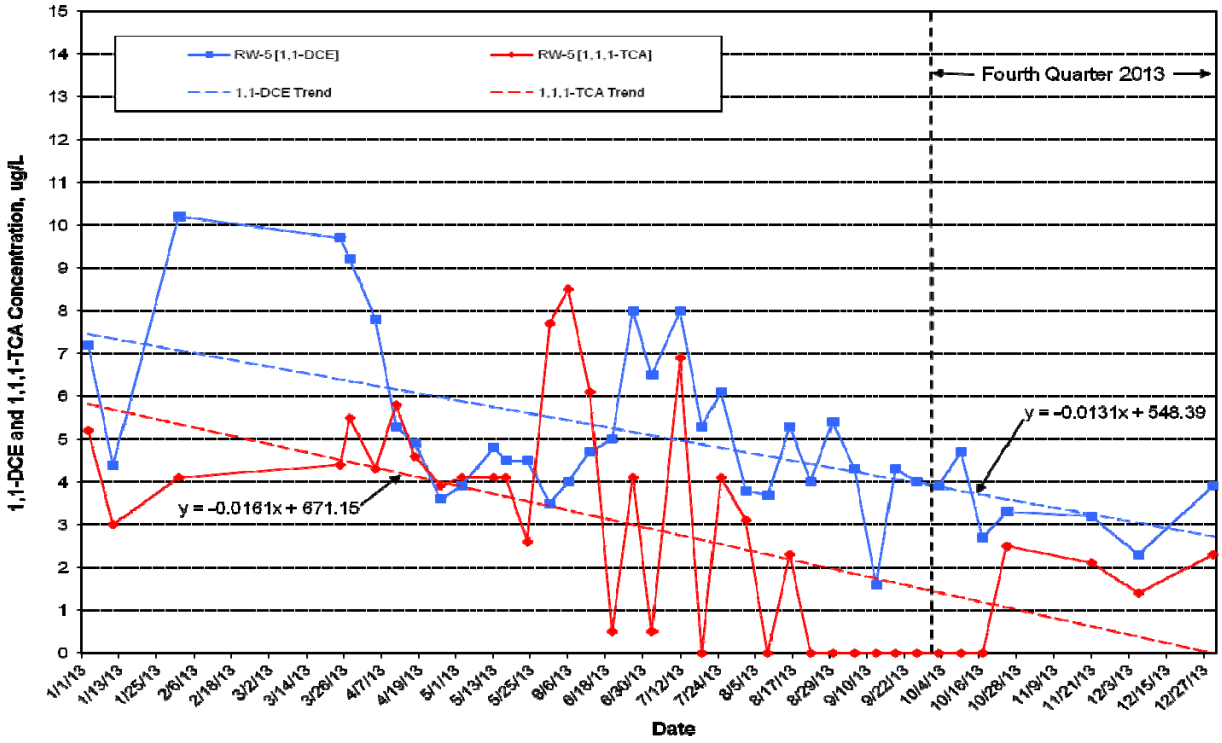
*** total for cis- and trans- isomers.

ND = not detectable.

ug/m^3 = micrograms per cubic meter.

Shaded values are higher than their respective stack discharge limit.

Figure 9. 2013 [1,1-DCE], [1,1,1-TCA] and Trends in RW-5



2.3 Ground Water-Quality Monitoring

The fourth quarter 2013 monitoring round was performed on November 19th through 21st, and entailed collecting samples from each of the 16 wells required to be monitored. The samples were analyzed for VOCs and the required Part 360 leachate indicator and inorganic parameters. In addition, split-samples from selected Claremont Site monitoring wells, collected on December 19th by the Department's contractor and provided to the Town, were analyzed for VOCs.

The fourth quarter VOC results for the Town's monitoring wells are summarized below:

Well Number	[TVOC]	[Total VHO]*	[Total Aromatics]	[PCE] / [TCE]
Limits:	50	N/A	N/A	5 / 5
LF-1	ND	ND	ND	ND / ND
M-30B-R	ND	ND	ND	ND / ND
MW-5B	ND	ND	ND	ND / ND
MW-6A	11.6	ND	ND	1.4 / **10.2**
MW-6B	6.7 J	ND	6.7 J	ND / ND
MW-6C	5.4 J	ND	5.4 J	ND / ND
MW-6E	ND	ND	ND	ND / ND
MW-6F	ND	ND	ND	ND / ND
MW-7B-R	**1,021**	68.6	ND	**28.8** / **924**
MW-8A	2.5	ND	ND	2.5 / ND

Well Number	[TVOC]	[Total VHO]*	[Total Aromatics]	[PCE] / [TCE]
Limits:	50	N/A	N/A	5 / 5
MW-8B	ND	ND	ND	ND / ND
MW-9B	ND	ND	ND	ND / ND
MW-9C	ND	ND	ND	ND /ND
MW-11A	16.0 J	13.0 J	ND	2.1 / 0.9 J
MW-11B	ND	ND	ND	ND / ND
OBS-1	ND	ND	ND	ND / ND

Notes: Results are in micrograms per Liter (ug/L); bold font indicates exceedance of Limit.
VHO = Volatile Halogenated Organics.
*Excluding PCE and TCE.
[PCE] / [TCE] = Tetrachloroethene concentration / Trichloroethene concentration.
N/A = Not Applicable, these standards are compound-specific.
ND = Not Detected.
J = Estimated result.

Review of the above table indicates that [TVOC] are currently at non-detectable or very low levels (i.e., <5 ug/L) in 11 of the 16 Town monitoring wells, and that [TVOC] in four of the five other Town monitoring wells are much lower than the 50-ug/L Consent Decree limit for ground water. The [TVOC] in Monitoring Well MW-7B-R is approximately two to three orders of magnitude higher, primarily due to TCE. In contrast, [TVOC] in Wells MW-6B and MW-6C are due to aromatic hydrocarbons, and the [TVOC] in Well MW-8A is due to PCE. The [TVOC] in Well MW-11A is due to a variety of VOCs.

In addition to the above-noted (see bold-font) exceedances for TVOC, PCE and TCE in Well MW-7B-R, and TCE in Well MW-6A, exceedances of the Class GA standards for individual VOCs occurred for cis-1,2-DCE in Wells MW-7B-R and MW-11A this quarter.

The fourth quarter VOC results for the Claremont Site split-samples are summarized below:

Well Number	[TVOC]	[Total VHO]*	[Total Aromatics]	[PCE] / [TCE]
Limits:	50	N/A	N/A	5 / 5
EW-1A	4.1	ND	ND	4.1 / ND
EW-1B	ND	ND	ND	ND / ND
EW-1C	ND	ND	ND	ND / ND
EW-2A	ND	ND	ND	ND / ND
EW-2B	ND	ND	ND	ND / ND
EW-2C	ND	ND	ND	ND / ND
EW-2D	ND	ND	ND	ND / ND
EW-3A	ND	ND	ND	ND / ND
EW-3B	ND	ND	ND	ND / ND
EW-3C	ND	ND	ND	ND / ND
BP-3A	ND	ND	ND	ND / ND
BP-3B	**72.4**	32.4	ND	**38.2** / 1.8
BP-3C	**392**	191	ND	**188** / **12.9**
LF-2	13.2	ND	13.2	ND / ND
MW-6D	ND	ND	ND	ND / ND
MW-8C	ND	ND	ND	ND / ND

Well Number	[TVOC]	[Total VHO]*	[Total Aromatics]	[PCE] / [TCE]
Limits:	50	N/A	N/A	5 / 5
MW-10B	ND	ND	ND	ND / ND
MW-10C	ND	ND	ND	ND / ND
MW-10D	3.6	ND	ND	3.6 / ND

Notes: Results are in micrograms per Liter (ug/L) , bold font indicates exceedance of Limit.
VHO = Volatile Halogenated Organics.
*Excluding PCE and TCE.
[PCE] / [TCE] = Tetrachloroethene concentration / Trichloroethene concentration.
N/A = Not Applicable, these standards are compound-specific.
ND = Not Detected.

Review of the above table indicates that [TVOC] in 16 of these 19 wells are also currently at non-detectable or very low levels (i.e., <5 ug/L), and that [TVOC] in one of the three other wells is lower than the 50-ug/L Consent Decree limit for ground water. [TVOC] in the two other wells are higher than the 50-ug/L Consent Decree limit for ground water. Overall, the results for the Claremont Site wells are consistent with the results for the Town's monitoring wells.

Additional observations regarding the fourth quarter split-sample results are summarized below:

- At Well Cluster EW-1, VOCs are currently limited to PCE in the water-table zone of the aquifer, which is consistent with this well cluster's proximity to the former source area at the Claremont Site.
- At Well Clusters EW-2 and EW-3, VOCs are currently non-detectable, which is consistent with these well clusters being located further away from the former source area at the Claremont Site.
- At Well Cluster MW-10 (a Town well cluster that is not required to be monitored by the Town under the Consent Decree), VOC detections were limited to the deepest well (MW-10D). Therefore, it appears that the vertical extent of VOCs at this location has not been fully delineated. Moreover, based on available information the VOCs at this location are not Landfill-related.
- At Well Cluster BP-3, relatively high [TVOC] were detected in the two deepest wells and are primarily due to the [PCE] and [cis-1,2-DCE], which is in contrast to the high [TCE] in Well MW-7B-R. Therefore, it appears that the vertical extent of VOCs at this location has also not been fully delineated. The VOCs at this location are also not Landfill-related.
- In addition to the above-noted exceedances for TVOC, PCE and/or TCE in Wells BP-3B and BP-3C, the concentrations of benzene in Well LF-2, cis-1,2-DCE in Well BP-3B, and cis-1,2-DCE, 1,1-dichloroethane and vinyl chloride in Well BP-3C exceeded their Class GA standard or guidance value this quarter.

Review of the leachate indicator and inorganic parameter results for this quarter indicates that most of these parameters were not detected, or only detected sporadically at low concentrations below their respective Class GA standard or guidance value. The highest concentration(s) of each detected parameter, as well as the majority of the exceedances, occurred in wells located directly downgradient of the Landfill and within the capture zone of the Town's recovery wellfield (e.g., Wells MW-6B, MW-6C and MW-6E).

The specific exceedances that occurred this quarter are listed below:

- Well LF-1 – Ammonia
- Well M-30B-R – Lead (Likely Anomalous) and Sodium
- Well MW-5B – Iron, manganese and sodium
- Well MW-6A – Sodium
- Well MW-6B – Ammonia, iron, sodium and total dissolved solids (TDS)
- Well MW-6C – Ammonia, chloride, iron, phenols, sodium and TDS
- Well MW-6E – Ammonia, iron, manganese, sodium and TDS
- Well MW-6F – Chloride, sodium and TDS
- Well MW-8B – Manganese and sodium
- Well MW-9B – Manganese and sodium
- Well MW-9C – Ammonia (slight), iron (slight) and sodium
- Well OBS-1 – Ammonia, manganese and sodium

No exceedances of the Class GA inorganic/leachate indicator parameter standards occurred in Wells MW-7B-R, MW-8A, MW-11A or MW-11B this quarter. Well MW-8A is screened in the water-table zone of the aquifer, downgradient of the Landfill and upgradient of the Town's recovery wellfield. Wells MW-7B-R and MW-11B are screened in the deep potentiometric zone of the aquifer, downgradient of the Town's recovery wellfield. Well MW-11A is screened just above the deep potentiometric zone of the aquifer. The fact that elevated levels of inorganic/leachate parameters are not detected in these three downgradient wells indicates that the inorganic portion of the Landfill plume is also being captured by the Town's recovery wellfield.

Overall, the fourth quarter 2013 monitoring results are consistent with the previous three quarters' results. The 12 figures in Appendix A are Figures 1 through 6 from the ground water-monitoring consultant's first quarter and fourth quarter reports. They depict 1) the ground water-flow patterns and approximate extent of the VOC plume in each of the three aquifer zones during the first and fourth quarters of 2013, and 2) the approximate lateral extent of three VOC groups during the first and fourth quarters of 2013. Comparison of each first and fourth quarter figure indicates the following:

1. Ground water-flow directions in the water-table zone of the aquifer were from northwest to southeast, consistent with the regional ground water-flow direction reported by the U.S. Geological Survey in Scientific Investigations Map 3066 (Water-Table and Potentiometric-Surface Altitudes of the Upper Glacial, Magothy, and Lloyd Aquifers beneath Long Island, New York, March-April 2006, Water-Table – SHEET 1 of 4).
2. Ground water-flow directions in the shallow and deep potentiometric zones of the aquifer were generally from northwest to southeast, except in the vicinity of the capture zone of the Town's recovery wellfield, where radial flow occurs. As noted previously, the recovery wells were not fully operational during the fourth quarter. Therefore, the water-level contours in figures for this quarter do not reflect the full extent of the capture zone typically present.
3. In the water-table zone of the aquifer, the extent of the VOC plume was limited to the area immediately downgradient of the Claremont Site (Wells MW-6A, MW-8A and EW-1A), and remained basically unchanged during 2013.

4. In the shallow potentiometric zone of the aquifer, the VOC plume extends downgradient from the Landfill and the Claremont Site to the capture zone of the Town's recovery wellfield. A portion of the plume also extends downgradient to Well MW-11A. As noted in previous RAP Reports, a portion of the VOC plume from the Claremont Site is too far to the north and east to be captured by the Town's recovery wellfield. The USEPA's March 2014 Second Five-Year Review Report for the Claremont Polychemical Site also states that there is at least one other upgradient source of VOCs besides the Claremont Site. The portion of the VOC plume extending downgradient to Well MW-11A is attributed to that contamination. The extent of the VOC plume in this aquifer zone decreased during 2013, and was no longer present in Recovery Well RW-1 during the fourth quarter.
5. In the deep potentiometric zone of the aquifer, the extent of the VOC plume is limited to the area of the Town's recovery wellfield, primarily Recovery Wells RW-3, RW-4 and RW-5, and Monitoring Well MW-7B-R. During the first quarter, the plume extent included the area of Recovery Well RW-1 and Monitoring Well OBS-1. During the fourth quarter, the plume extent included Monitoring Wells MW-10D and BP-3B, based on the results for the Claremont Site split-samples.
6. The VHO plume extends from the Landfill and the Claremont Site to Recovery Wells RW-3, RW-4 and RW-5, with a portion extending downgradient to Monitoring Well MW-11A. During the first quarter, the extent included the area of Monitoring Well OBS-1, but otherwise the extent remained relatively unchanged during 2013.
7. The PCE plume exhibited a similar extent to the VHO plume, but is based on lower overall concentrations, and remained basically unchanged during 2013.
8. The aromatic hydrocarbon plume exhibited the smallest lateral extent of the three VOC groups. During the first quarter, it extended from the Landfill downgradient to Well Cluster MW-6, Recovery Well RW-1 and Monitoring Well OBS-1. During the second quarter, its extent decreased to just the area of Well Cluster MW-6.

Additional observations for 2013, based on the quarterly ground water-monitoring data, are summarized below:

1. Water-level elevations decreased in all of the monitoring wells during 2013, by an average of 1.64 feet, based on comparison of the first quarter and fourth quarter water-level data. This Site-wide decrease is attributed to the below-normal recharge from precipitation during 2013. Records for a nearby private weather station indicate that precipitation was approximately 25% below normal during 2013, and that much of the precipitation occurred during the growing season when evapotranspiration by plants was highest.
2. Vertical hydraulic gradients were generally downward, consistent with the natural flow pattern, at monitoring well clusters located outside the influence of the Town's recovery wells (e.g., Well Cluster MW-10). Vertical hydraulic gradients were typically upward at well clusters located within the area of influence of the Town's recovery wellfield (e.g., Well Cluster MW-6). The depth zone(s) of the upward gradient(s) corresponded with the screen interval(s) of the recovery wells.
3. VHO concentrations were non-detectable or very low in the majority of the monitoring wells sampled during 2013. The highest concentrations of VHOs were detected in Wells MW-7B-R and BP-3C, and were primarily due to TCE and cis-1,2-DCE. The concentrations of these and several other VHOs in these wells typically exceeded the ground water-quality standards. VHO concentrations in Well MW-7B-R exhibited an overall decreasing trend during 2013. VHO concentrations in Well BP-3C exhibited an increasing trend during 2013.

4. PCE concentrations were also non-detectable or very low in the majority of the monitoring wells sampled during 2013. The highest concentrations of PCE were also detected in Wells MW-7B-R and BP-3C. In the monitoring wells in which PCE was detected, concentrations were also relatively stable or decreasing except for Well BP-3C, which exhibited an increasing trend.
5. Aromatic hydrocarbon concentrations were also non-detectable or very low in the majority of the monitoring wells sampled during 2013. The highest concentrations were detected in Wells MW-6B and MW-6C, and several compounds in one or both of these wells occasionally exceeded their ground water-quality standard.

3.0 RESULTS OF AMBIENT-AIR AND SOIL-GAS MONITORING

3.1 Ambient Air-Monitoring Results

The scope of this monitoring, which was developed based on the general requirements in the Consent Decree and accepted by the Department, entails sorbent-tube sampling for VOCs at one upwind and two downwind locations over a 24-hour period during a low/falling barometer, laboratory analysis of the samples, and comparison of the results to the NYSDEC DAR-1 short-term (8-hour) and long-term (annual) guideline concentrations (SGCs and AGCs, respectively). Sample locations are pre-selected based on National Weather Service forecast. Meteorological conditions were monitored during sampling for comparison to forecasted conditions.

The fourth quarter 2013 monitoring round was performed on November 6th and 7th. The upwind sample was collected south of the Landfill on Bethpage State Park property. The downwind samples were collected along the north boundary of the Landfill. The downwind samplers were downwind of the Landfill for the entire test period. The barometer fell by 0.54 inches of mercury during the test.

A number of VOCs were detected at similar, low concentrations in both the upwind and downwind samples. All VOC detections were much lower than the DAR-1 SGCs. The detections of five VOCs (benzaldehyde, benzene, carbon tetrachloride, chloroform and 1,2-dichloroethane) were slightly higher than the DAR-1 AGCs. However, their concentrations in the upwind and samplers were similar to, or higher than, concentrations in the downwind samplers. TCE was not detected in any of the samples. Based on these results, VOC detections in ambient air this quarter are attributed to background ambient air quality.

These findings are generally consistent with the monitoring results for the first three quarters of 2013 and taken as a whole the 2013 monitoring results continue to indicate that the closed and capped landfill is not a significant source of VOC releases to air. Copies of Figure 2.1 and Table 4.1 from the air-monitoring consultant's annual summary report, which depict the ambient-air monitoring locations and results, respectively, are provided in Appendix B.

3.2 Soil-Gas Quality Monitoring Results

The scope of this monitoring entails sorbent-tube grab-sampling (approximately 10-minute sampling interval) for VOCs at 15 perimeter gas monitoring well locations, including multiple-depth sampling at one location (Well M9), and comparison of the results to the NYSDEC DAR-1 SGCs and AGCs (Note: This comparison is made for informational purposes only, there are no New York State standards for VOCs in soil gas.)

The fourth quarter 2013 monitoring round was performed on November 6th. All wells were sampled. A limited number of VOCs were detected at generally low concentrations, in a majority of the soil-gas samples. However, all VOC detections were much lower than the DAR-1 SGCs, and only a few were detected at concentrations higher than the DAR-1 AGCs. Most of these "exceedances" were sporadic and relatively low in magnitude. [PCE] increased with depth in Well M9. This trend is attributed to shallow ground-water contamination originating offsite. TCE was only detected at low concentrations in five soil-gas samples.

Based on the results, overall, VOC concentrations in soil gas are low and consistent with an old MSW landfill with a perimeter gas collection system, and are not a concern for construction-related excavation should it be required. These findings are also consistent with the results from the previous three quarterly monitoring rounds. Copies of Figure 2.3 and Table 4.2 from the air-monitoring consultant's annual summary report, which depict the soil-gas monitoring locations and the results, respectively, are provided in Appendix B.

3.3 Soil-Gas Pressure Monitoring Results

The scope of this monitoring entails field measurement of pressure in 12 gas monitoring wells at three locations around the perimeter of the Landfill utilizing an inclined manometer to verify zero or negative (vacuum) pressure readings in the vicinity of the landfill gas collection system. The fourth quarter 2013 monitoring round was performed on November 7th. Zero to slightly negative pressure readings were measured at the two locations along the property line. Slightly positive pressure readings were measured at the location within the property line, but are attributed to the unusually steep drop in barometric pressure that occurred just before the readings were taken. Based on these results, the perimeter land gas collection system is functioning properly and is preventing off-site migration.

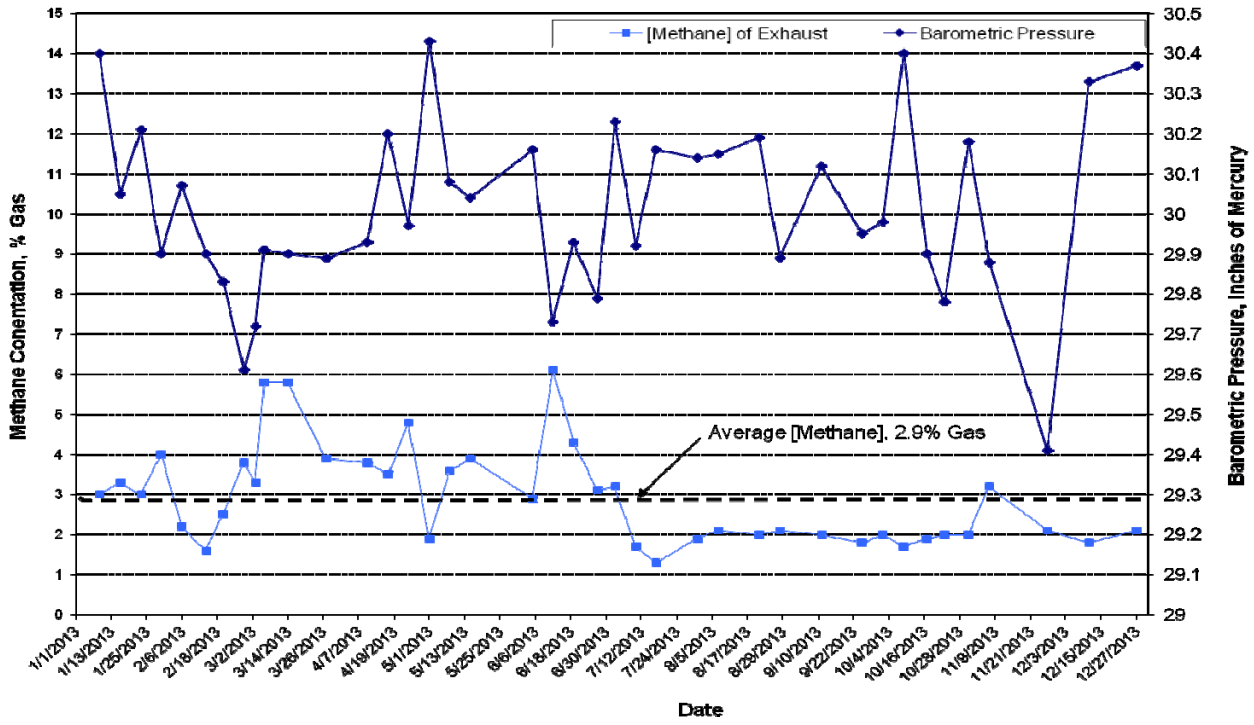
This determination is consistent with the results of three prior quarterly monitoring rounds performed in 2013; as well as the results of the 2013 annual zero percent gas migration survey, which did not detect off-site migration of landfill gas. Copies of Figure 2.3 and Table 5.1 from the air-monitoring consultant's annual summary report, which depict soil gas-pressure monitoring locations and the quarterly results, respectively, are provided in Appendix B.

3.4 Landfill Gas-Monitoring Results

In a letter dated October 17, 2012, the NYSDEC approved the Town's request to discontinue operation of the landfill gas thermal oxidizer on a permanent basis, but requested that the Town monitor the perimeter gas collection system exhaust for methane on a weekly basis and include the results and a statement of inferred compliance in this section of each RAP report and in the annual zero gas migration reports.

The Town continued this monitoring during 2013. The monitoring was performed by Town personnel utilizing a calibrated RAE Systems MultiRAE Lite meter equipped with LEL and percent gas in air sensors. The monitoring results, as percent gas in air, and the local barometric pressures when the monitoring was performed, are summarized in Figure 10 on the following page.

Figure 10. 2013 [Methane] of Landfill Gas Collection System Exhaust



Review of Figure 10 indicates that the [methane] (methane concentration(s)) of the perimeter collection system exhaust was generally in the range of 1% to 3% gas in air this quarter. The average [methane] of the exhaust this quarter was 2.1% gas in air, which is lower than the annual average [methane] of 2.9%. These average [methane] are approximately 2% to 3% gas in air lower than the two readings of 4.5% and 5.5% gas in air measured during the fourth quarter of 2011 and reported in the 2011 Annual Summary Report of landfill gas monitoring results. Moreover, they are consistent with the fact that the Landfill closed more than 25 years ago and continues to age.

Previous analysis of the exhaust from the perimeter gas collection system indicated that it did not exceed permitting or regulatory thresholds, and did not significantly impact ambient air quality. Since current typical [methane] are even lower, and the blower flow rate is the same (960 CFM) LKB concludes that this assessment is still valid.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The conclusions of this RAP Report, based on the above information, are:

1. The facility was operated and monitored as fully as possible during 2013 given the need to: 1) operate Recovery Wells RW-1 and RW-2 on alternate days to prevent "high-water" alarms from occurring, 2) shut the facility down temporarily on an as-needed basis to repair the acid-rinse system, 3) replace the submersible pump in Recovery Well RW-4, 4) repair shorts in the underground electric line to Recovery Well RW5, and 4) perform four acid-rinses of the air-stripper packing media. The average flow rate during 2013 was 1.0 MGD.
2. The average [TVOC] of the facility influent continued to typically exceed the 50-ug/L limit for ground water listed in Appendix A, Table 2 of the Consent Decree; and the concentrations of individual VOCs in certain monitoring and recovery wells continued to exceed their respective Class GA standards. Therefore, continued operation of the facility is warranted. It is recognized, however, that the majority of the VOC loading to the facility is associated with the Claremont Site, and possibly other nearby sources of ground-water contamination that are not related to the Landfill.
3. The average [TVOC] of the facility effluent was well below the 100-ug/L limit for discharge listed in Appendix A, Table 2 of the Consent Decree, except for a brief period in late July. However, the effluent [TCE] typically exceeded the 5-ug/L limit for this VOC during the second through fourth quarters. Under normal operation, the air stripper should be capable of removing nearly all of the TCE from the influent. The marked decrease in removal efficiency that began during the second quarter of 2013 is attributed to encrustation of the air stripper packing media by iron and manganese bacteria, changes in certain water-chemistry parameters that facilitated encrustation, and an increase in influent [VOC].
4. Except for occasional slight exceedances for manganese, primarily in December following the acid-rinses, the concentrations of the inorganic parameters monitored in the effluent during 2013 were less than their discharge limits. The average concentration of manganese in the facility effluent during 2013 (0.4 mg/L) was less than the 0.6-ug/L discharge limit.
5. Except for TCE during the second and third quarters, individual VOC concentrations in the air stripper stack exhaust were much lower than the limits in Appendix A, Table 1 of the Consent Decree. Based on previous dispersion modeling of the stack discharge, those emissions did not result in an exceedance of the NYSDEC DAR-1 guideline concentrations at the downwind property line. This determination is consistent with ambient air monitoring results, which did not detect elevated levels of TCE in ambient air during 2013.
6. Elevated VOC concentrations continued to be present in Recovery Wells RW-3, RW-4 and RW-5 during 2013. VOC concentrations in Recovery Wells RW-1 and RW-2 were lower than Consent Decree and Class GA standards. However, a portion of the ground water collected by each recovery well is from its downgradient side. Moreover, the third quarter results for Well MW-9D continue to indicate the presence of VOCs downgradient of the Landfill and upgradient of the recovery wellfield. Therefore, continued operation of Recovery Wells RW-1 and RW-2 is also warranted.
7. The VOC results for the Town monitoring well samples and Claremont Site split-samples indicate that ground-water quality at most locations is continuing to improve. However, the results for Town Well Cluster MW-10 and County Well Cluster BP-3 indicate that the vertical extent of VOCs at these locations has not been fully delineated. These VOCs are not associated with the Landfill; therefore their delineation is not the responsibility of the Town under the Consent Decree.

8. Elevated concentrations of certain inorganic/leachate indicator parameters continued to be present in certain wells located downgradient of the Landfill and upgradient of the Town's recovery wellfield during 2013. Elevated concentrations of these parameters were not detected at Well Cluster MW-11, located downgradient of the Town's recovery wellfield.
9. The results of the ambient-air and soil-gas monitoring performed during 2013 continue to indicate that the Landfill is not a significant source of VOCs in ambient air or soil gas, and that the perimeter gas collection system is preventing off-site migration of landfill gas.

Accordingly, this RAP Report recommends the following for the upcoming calendar quarter:

1. Perform additional acid-rinse(s) of the air-stripper packing media to remove the remaining encrustation and improve treatment efficiency.
2. Continue to analyze split-samples from selected Claremont Site monitoring wells for VOCs to provide current ground-water VOC data for these locations.
3. Continue to incorporate water-level data from selected County monitoring wells for the Fireman's Training Center to augment the Town's water-level data for the area.

Additionally, it is recommended that the NYSDEC delineate the vertical extent of VOCs at the locations of Well Clusters MW-10 and BP-3, and evaluate the results with respect to the existing recovery wellfields to determine if additional recovery wells are required to capture these VOCs.

APPENDIX A

Figures 1 through 6
from
“Quarterly Monitoring Report, First Quarter 2013 Results, Old Bethpage Landfill, Old Bethpage, New York”

Gannett Fleming, June 2013

and

Figures 1 through 6
from
“Quarterly Monitoring Report, Fourth Quarter 2013 Results, Old Bethpage Landfill, Old Bethpage, New York”

Gannett Fleming, April 2014

Gannett Fleming

FIGURE 1

N

LEGEND

- MW-5A (67.28) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- EW-3A — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- TW-2 — PHASE II EXTENSION WELL
- BP-1A — NASSAU COUNTY MONITORING WELL
- M-29B — UPGRADIENT WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN WATER TABLE WELLS - FIRST QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT
- (NM) — NOT MEASURED

MELVILLE ROAD
WINDING ROAD
BETHPAGE SPAGNOLI ROAD
ROUND SWAMP ROAD
LANDFILL
N.C. FIREMANS TRAINING CENTER

MW-10A (62.80)
EW-3A (61.20)
MW-7A (58.88)
N-9980 (55.16)
BP-3A (60.67)
EW-2A (63.65)
MW-9A (61.18)
MW-8A (64.20)
MW-6A (63.02)
EW-1A (64.30)
BP-4A (60.17)
MW-5A (63.85)
BP-1A (63.72)
BP-5A (60.68)
BP-8A (62.97)
TW-3-R (65.44)
MW-29AR (68.14)
TW-2 (65.37)
MW-30B-R (68.04)
MW-30A (68.18)
MW-29B (68.22)
TW-1 (67.49)
BP-6A (63.07)
BP-7A (65.42)

0 500 1500

SCALE: 1" = 600'

WATER TABLE FLOW MAP
FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

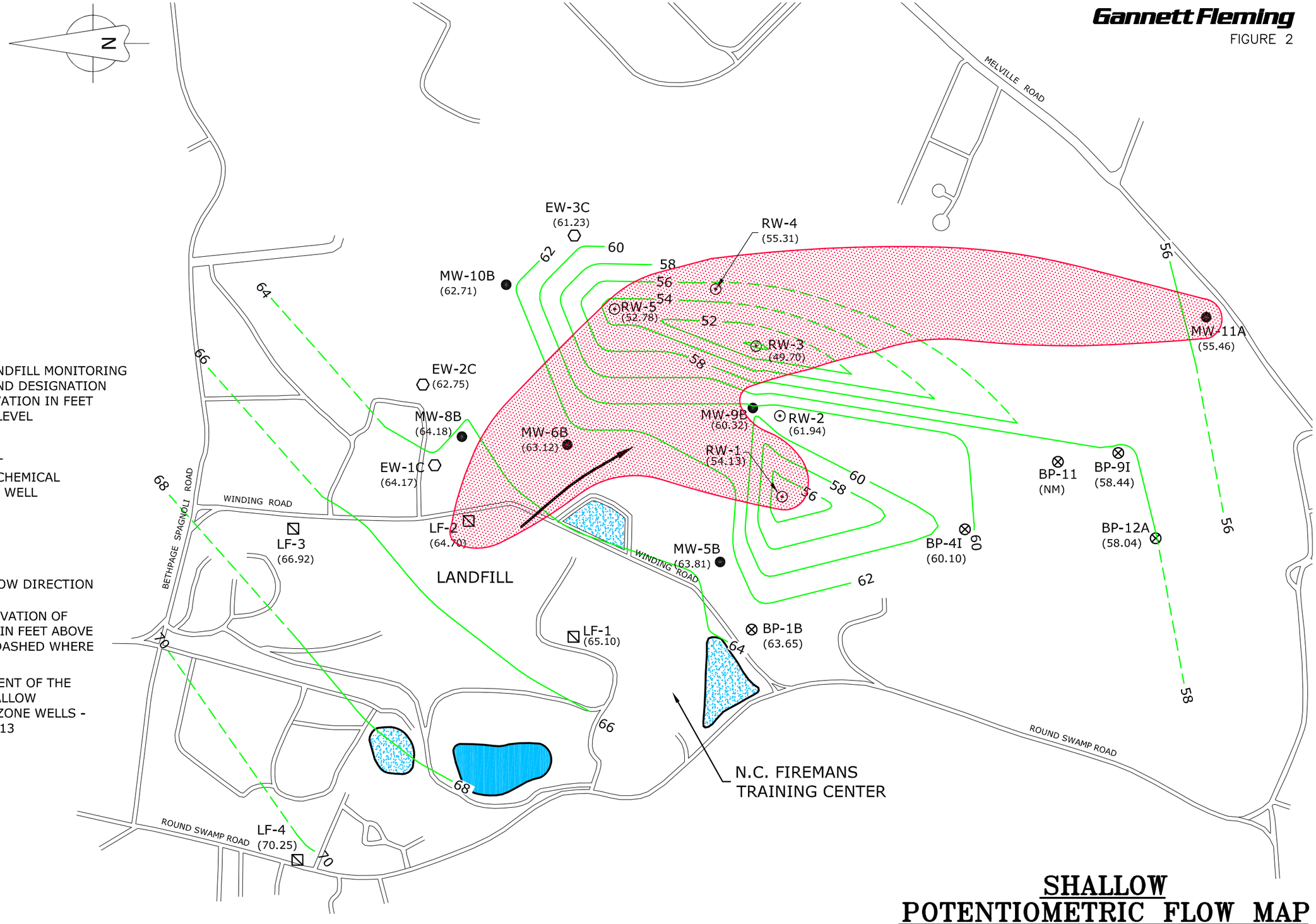
06/18/13 3:58pm FILE= K:\PROJECTS\55000's\55552\002\2013\1st quarter\F-1 1st QTR 2013.dwg by lkamornik XREFs=site base,

Gannett Fleming

FIGURE 2

LEGEND

- MW-5B (64.30) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- BP-4I — NASSAU COUNTY MONITORING WELL
- EW-1C — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- RW-2 — RECOVERY WELL
- LF-2 — PHASE III WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN SHALLOW POTENTIOMETRIC ZONE WELLS - FIRST QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT
- (NM) — NOT MEASURED



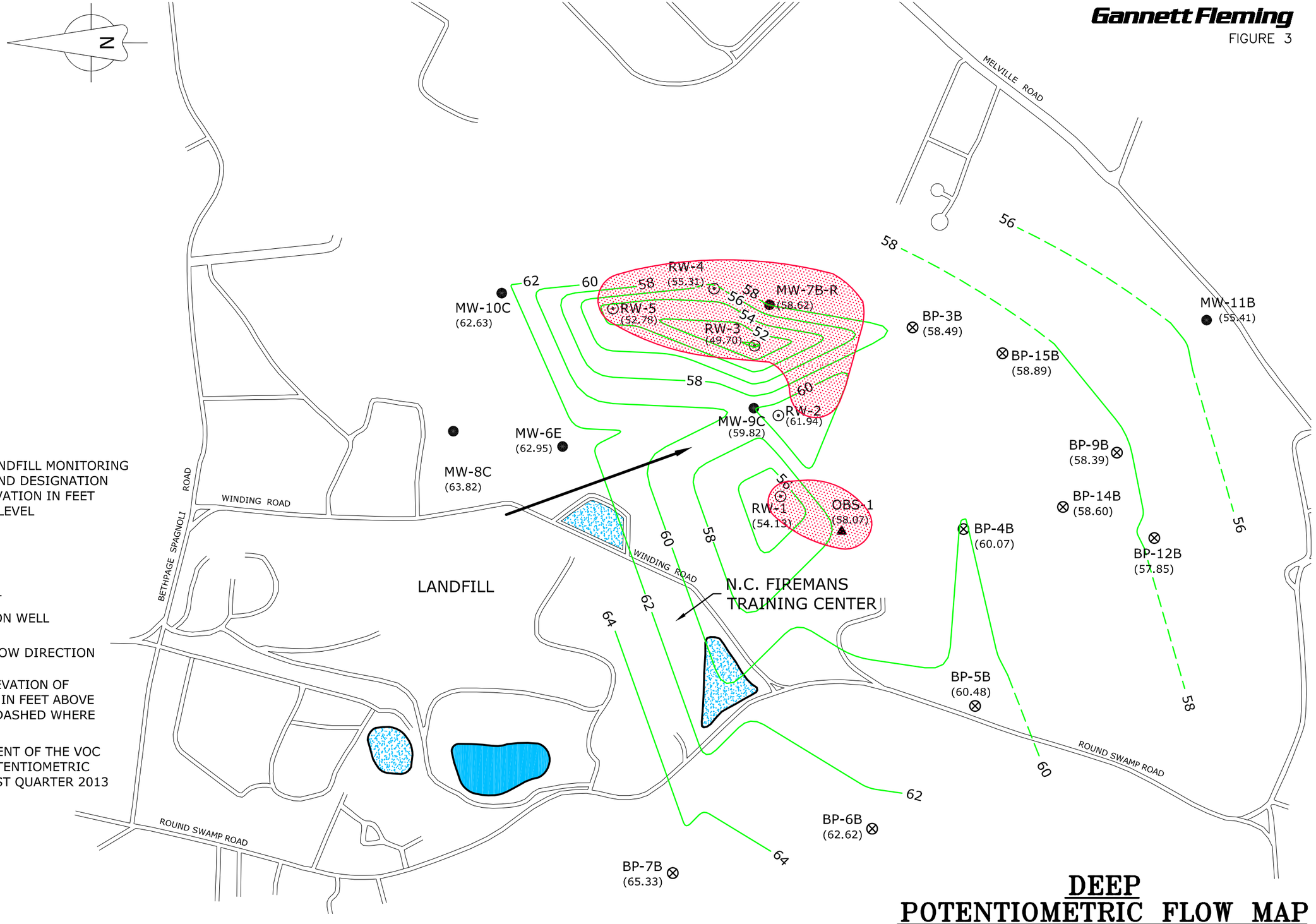
SHALLOW POTENTIOMETRIC FLOW MAP FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

Gannett Fleming

FIGURE 3



LEGEND

- MW-8C (65.49) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- RW-2 — RECOVERY WELL
- BP-4I — NASSAU COUNTY MONITORING WELL
- OBS-1 — PHASE II EXTENSION WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN DEEP POTENTIOMETRIC ZONE WELLS - FIRST QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT

DEEP POTENTIOMETRIC FLOW MAP FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

Gannett Fleming

FIGURE 4

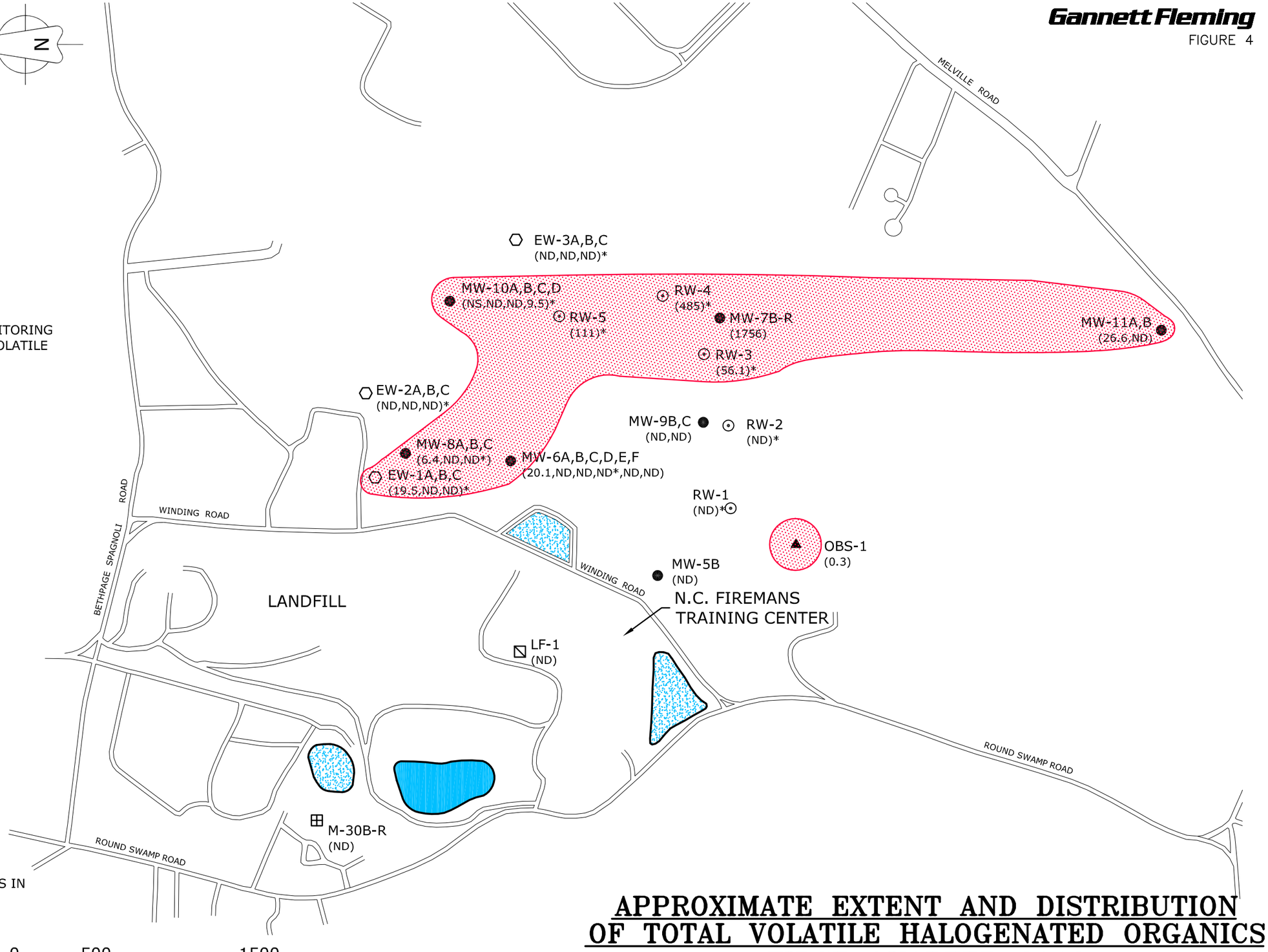
N

LEGEND

MW-5B (ND)	OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TOTAL VOLATILE HALOGENATED ORGANICS CONCENTRATION, PPB
EW-1C	CLAREMONT POLYCHEMICAL SITE MONITORING WELL
M-30B-R	UPGRADIENT WELL
RW-2	RECOVERY WELL
LF-2	PHASE III WELL
OBS-1	PHASE II EXTENSION WELL
	APPROXIMATE EXTENT OF THE VOLATILE HALOGENATED ORGANIC PLUME
	RECHARGE BASIN
	PHASE II PIT
(NS)	NOT SAMPLED
(ND)	NOT DETECTED
*	WELLS SAMPLED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TOTAL VOLATILE HALOGENATED ORGANICS CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.



APPROXIMATE EXTENT AND DISTRIBUTION OF TOTAL VOLATILE HALOGENATED ORGANICS FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

Gannett Fleming

FIGURE 5

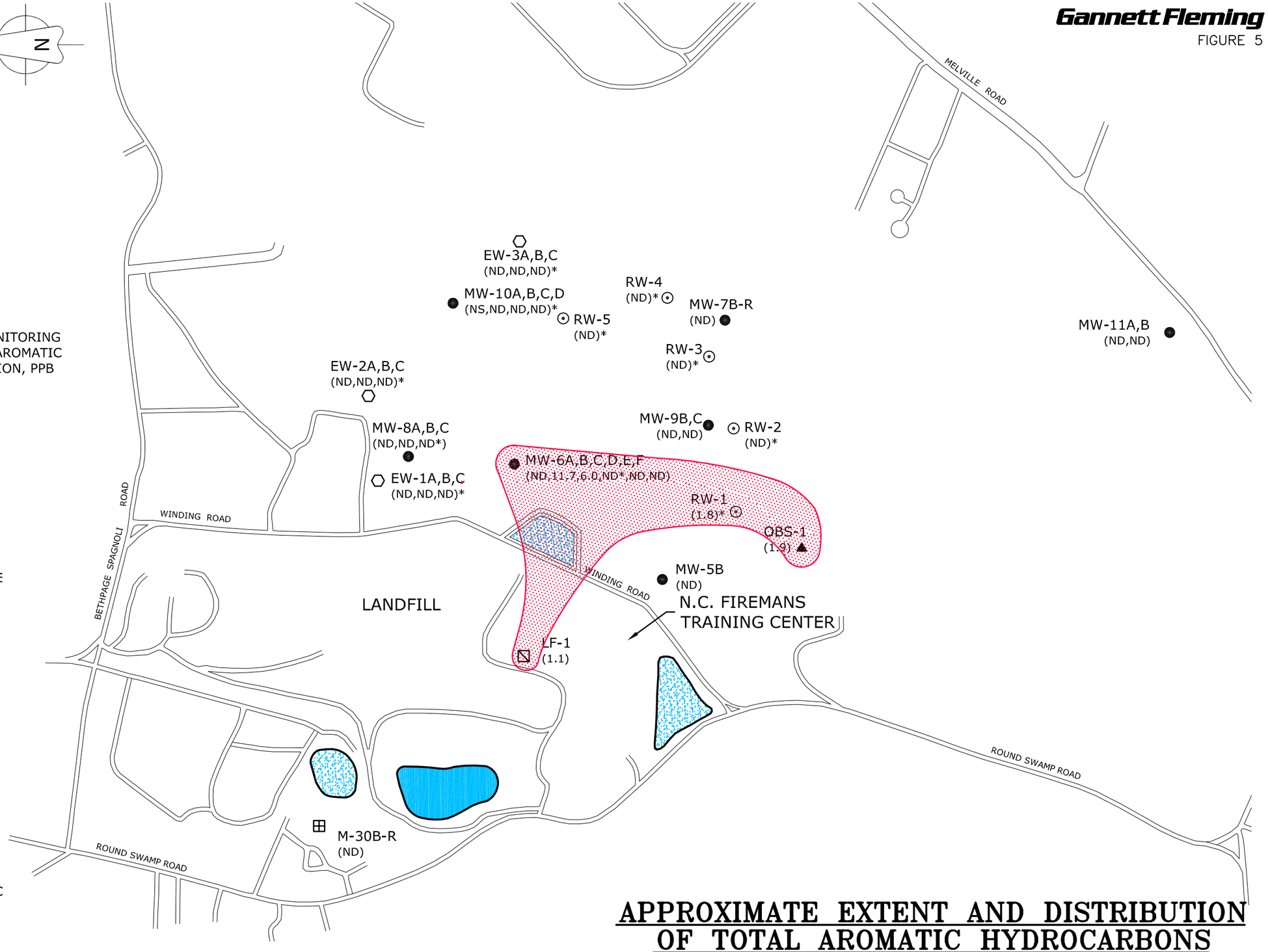
N

LEGEND

- MW-5B (ND) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TOTAL AROMATIC HYDROCARBON CONCENTRATION, PPB
- EW-1C — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- M-30B-R — UPGRADIENT WELL
- RW-2 — RECOVERY WELL
- LF-2 — PHASE III WELL
- OBS-1 — PHASE II EXTENSION WELL
- APPROXIMATE EXTENT OF THE AROMATIC HYDROCARBON PLUME
- RECHARGE BASIN
- PHASE II PIT
- (NS) — NOT SAMPLED
- (ND) — NOT DETECTED
- * — WELLS SAMPLED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TOTAL AROMATIC HYDROCARBON CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.



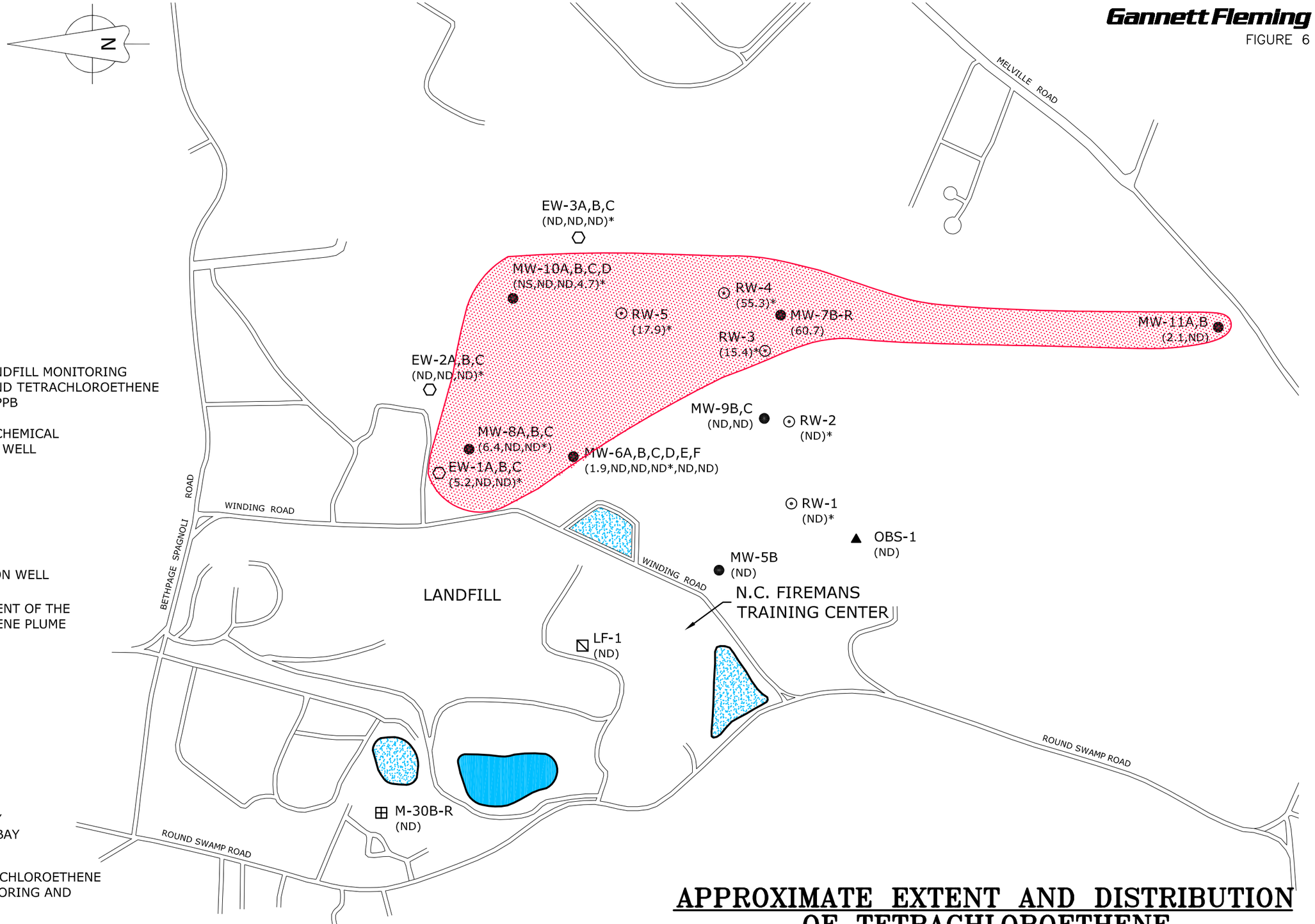
APPROXIMATE EXTENT AND DISTRIBUTION OF TOTAL AROMATIC HYDROCARBONS FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

Gannett Fleming

FIGURE 6



LEGEND

MW-5B (ND) ●	OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TETRACHLOROETHENE CONCENTRATION, PPB
EW-1C ⬡	CLAREMONT POLYCHEMICAL SITE MONITORING WELL
M-30B-R ⊞	UPGRADIENT WELL
RW-2 ⊙	RECOVERY WELL
LF-2 ⧄	PHASE III WELL
OBS-1 ▲	PHASE II EXTENSION WELL
	APPROXIMATE EXTENT OF THE TETRACHLOROETHENE PLUME
	RECHARGE BASIN
	PHASE II PIT
(NS)	NOT SAMPLED
(ND)	NOT DETECTED
*	WELLS SAMPLED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TETRACHLOROETHENE CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.

APPROXIMATE EXTENT AND DISTRIBUTION OF TETRACHLOROETHENE FIRST QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

06/18/13 4:10pm FILE= K:\PROJECTS\55000's\55552\002\2013\1sth quarter\F-6 1ST QTR 2013.dwg by LKAMORNIK XREFs=site base,

Gannett Fleming

FIGURE 1

N

LEGEND

- MW-5A (67.28) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- EW-3A — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- TW-2 — PHASE II EXTENSION WELL
- BP-1A — NASSAU COUNTY MONITORING WELL
- M-29B — UPGRADIENT WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN WATER TABLE WELLS - FOURTH QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT
- (NM) — NOT MEASURED

MELVILLE ROAD

WINDING ROAD

BETHPAGE SPAGNOLI ROAD

ROUND SWAMP ROAD

LANDFILL

N.C. FIREMANS TRAINING CENTER

EW-3A (59.96)

MW-10A (61.13)

EW-2A (61.43)

MW-8A (61.26)

MW-6A (61.25)

EW-1A (62.67)

MW-7A (58.05)

MW-9A (60.36)

BP-3A (NM)

N-9980 (53.11)

BP-4A (58.42)

MW-5A (62.12)

BP-1A (61.86)

BP-5A (59.02)

BP-8A (61.03)

BP-6A (61.79)

BP-7A (64.23)

TW-3-R (63.58)

TW-2 (63.78)

TW-1 (65.87)

MW-29AR (67.16)

MW-30A (67.14)

MW-30B-R (66.64)

MW-29B (66.13)

0 500 1500

SCALE: 1" = 600'

WATER TABLE FLOW MAP FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

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Gannett Fleming

FIGURE 2

N

LEGEND

- MW-5B (64.30) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- BP-4I — NASSAU COUNTY MONITORING WELL
- EW-1C — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- RW-2 — RECOVERY WELL
- LF-2 — PHASE III WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN SHALLOW POTENTIOMETRIC ZONE WELLS - FOURTH QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT
- (NM) — NOT MEASURED

MELVILLE ROAD

EW-3C (59.78)

RW-4 (52.38)

RW-3 (45.99)

MW-10B (61.19)

RW-5 (51.03)

MW-11A (52.93)

EW-2C (61.38)

MW-8B (61.77)

MW-6B (61.35)

MW-9B (58.93)

RW-2 (59.67)

EW-1C (62.41)

BP-11 (NM)

BP-9I (56.32)

RW-1 (60.65)

BP-4I (58.38)

BP-12A (55.96)

BETHPAGE SPAGNOLI ROAD

WINDING ROAD

LF-2 (62.96)

LF-3 (65.13)

LANDFILL

MW-5B (62.12)

LF-1 (63.51)

BP-1B (61.82)

ROUND SWAMP ROAD

N.C. FIREMANS TRAINING CENTER

LF-4 (68.25)

62 64 66 68 58 60 56 54 52 50 48

0 500 1500

SCALE: 1" = 600'

SHALLOW POTENTIOMETRIC FLOW MAP FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

04/22/14 10:50am FILE= K:\PROJECTS\55000's\55552\002\2013\4th quarter\F-2 4th QTR 2013.dwg by LKAMORNIK XREFs=site base,

Gannett Fleming

FIGURE 3

N

LEGEND

- MW-8C (65.49) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND DESIGNATION WATER LEVEL ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- RW-2 — RECOVERY WELL
- BP-4I — NASSAU COUNTY MONITORING WELL
- OBS-1 — PHASE II EXTENSION WELL
- GROUNDWATER FLOW DIRECTION
- 64 — LINE OF EQUAL ELEVATION OF THE WATER TABLE IN FEET ABOVE MEAN SEA LEVEL (DASHED WHERE INFERRED)
- APPROXIMATE EXTENT OF THE VOC PLUME IN DEEP POTENTIOMETRIC ZONE WELLS - FOURTH QUARTER 2013
- RECHARGE BASIN
- PHASE II PIT

MELVILLE ROAD

WINDING ROAD

BETHPAGE SPAGNOLI ROAD

LANDFILL

N.C. FIREMANS TRAINING CENTER

ROUND SWAMP ROAD

MW-10D (61.07)

RW-5 (51.03)

RW-4 (52.38)

MW-7B-R (56.73)

BP-3B (56.57)

RW-3 (45.99)

MW-11B (52.93)

BP-15B (56.91)

MW-9C (58.38)

RW-2 (59.67)

MW-6E (61.48)

MW-8C (62.21)

BP-9B (56.29)

RW-1 (60.65)

OBS-1 (58.11)

BP-14B (56.69)

BP-4B (58.35)

BP-12B (55.86)

BP-5B (58.83)

BP-6B (61.19)

BP-7B (64.01)

54 56 58 60 62 64

0 500 1500

SCALE: 1" = 600'

DEEP POTENTIOMETRIC FLOW MAP FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

02/11/14 10:25am FILE= K:\PROJECTS\55000's\55552\002\2013\4th quarter\F-3 4th QTR 2013.dwg by LKAMORNIK XREFs=site base,

Gannett Fleming

FIGURE 4

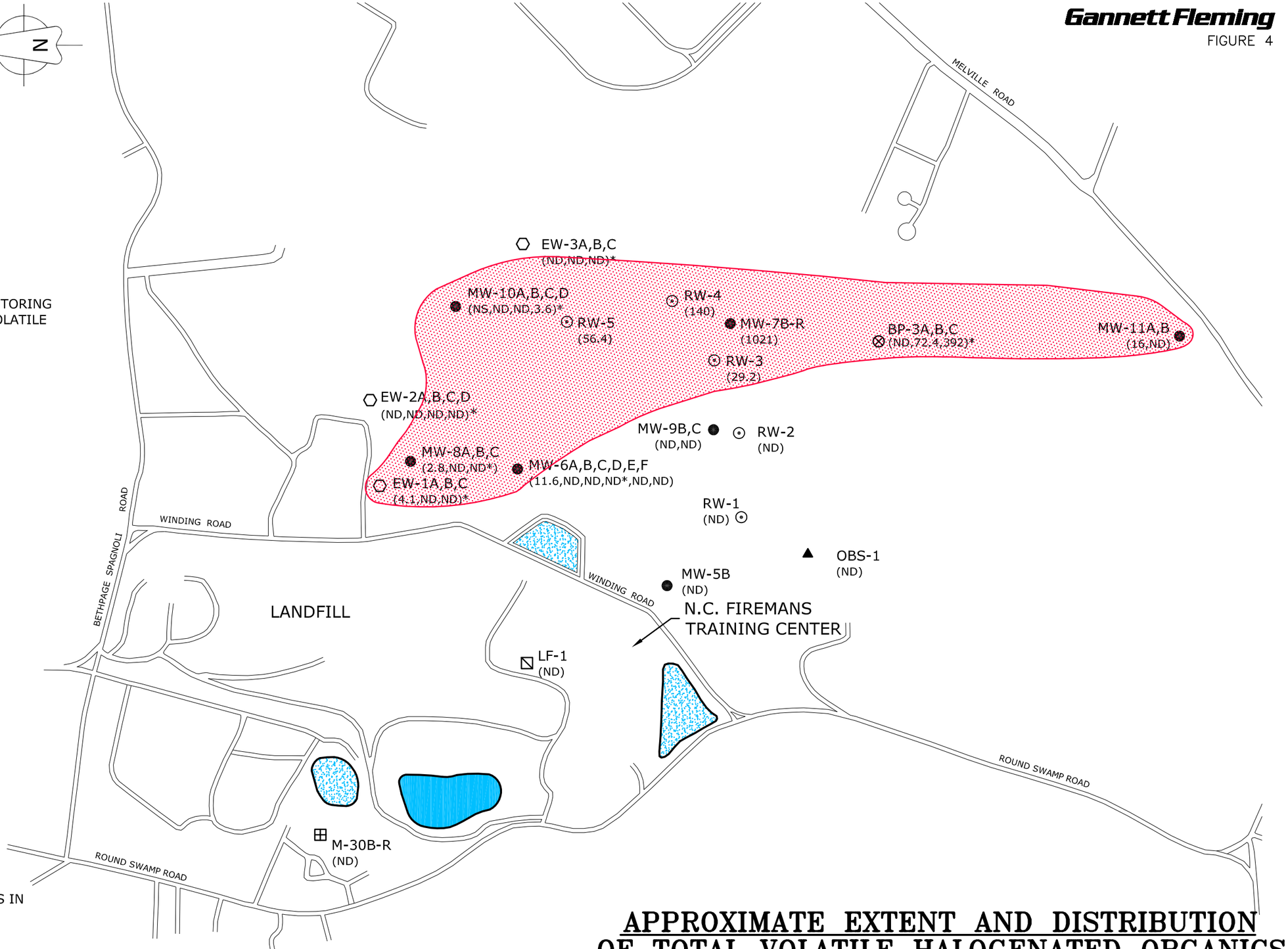
N

LEGEND

MW-5B (ND) ●	OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TOTAL VOLATILE HALOGENATED ORGANICS CONCENTRATION, PPB
EW-1C ⬡	CLAREMONT POLYCHEMICAL SITE MONITORING WELL
M-30B-R ⊞	UPGRADIENT WELL
RW-2 ⊙	RECOVERY WELL
LF-2 ▨	PHASE III WELL
OBS-1 ▲	PHASE II EXTENSION WELL
BP-3A ⊗	NASSAU COUNTY MONITORING WELL
	APPROXIMATE EXTENT OF THE VOLATILE HALOGENATED ORGANIC PLUME
	RECHARGE BASIN
	PHASE II PIT
(NS)	NOT SAMPLED
(ND)	NOT DETECTED
*	DATA PROVIDED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TOTAL VOLATILE HALOGENATED ORGANICS CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.



APPROXIMATE EXTENT AND DISTRIBUTION OF TOTAL VOLATILE HALOGENATED ORGANICS FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

Gannett Fleming

FIGURE 5

N

LEGEND

- MW-5B (ND) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TOTAL AROMATIC HYDROCARBON CONCENTRATION, PPB
- EW-1C — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- M-30B-R — UPGRADIENT WELL
- RW-2 — RECOVERY WELL
- LF-2 — PHASE III WELL
- OBS-1 — PHASE II EXTENSION WELL
- APPROXIMATE EXTENT OF THE AROMATIC HYDROCARBON PLUME
- RECHARGE BASIN
- PHASE II PIT
- (NS) — NOT SAMPLED
- (ND) — NOT DETECTED
- * — DATA PROVIDED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TOTAL AROMATIC HYDROCARBON CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.

EW-3A,B,C (ND,ND,ND)*
MW-10A,B,C,D (NS,ND,ND,ND)*
RW-4 (ND)
RW-5 (ND)
MW-7B-R (ND)
RW-3 (ND)
EW-2A,B,C (ND,ND,ND)*
MW-8A,B,C (ND,ND,ND*)
MW-9B,C (ND,ND)
RW-2 (ND)
MW-6A,B,C,D,E,F (ND,6.7,5.4,ND*,ND,ND)
EW-1A,B,C (ND,ND,ND)*
RW-1 (ND)
OBS-1 (ND)
LF-2 (13.9)*
MW-5B (ND)
LANDFILL
N.C. FIREMANS TRAINING CENTER
LF-1 (ND)
MW-11A,B (ND,ND)
M-30B-R (ND)

MELVILLE ROAD
WINDING ROAD
BETHPAGE SPAGNOLI ROAD
ROUND SWAMP ROAD

0 500 1500

SCALE: 1" = 600'

APPROXIMATE EXTENT AND DISTRIBUTION OF TOTAL AROMATIC HYDROCARBONS FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

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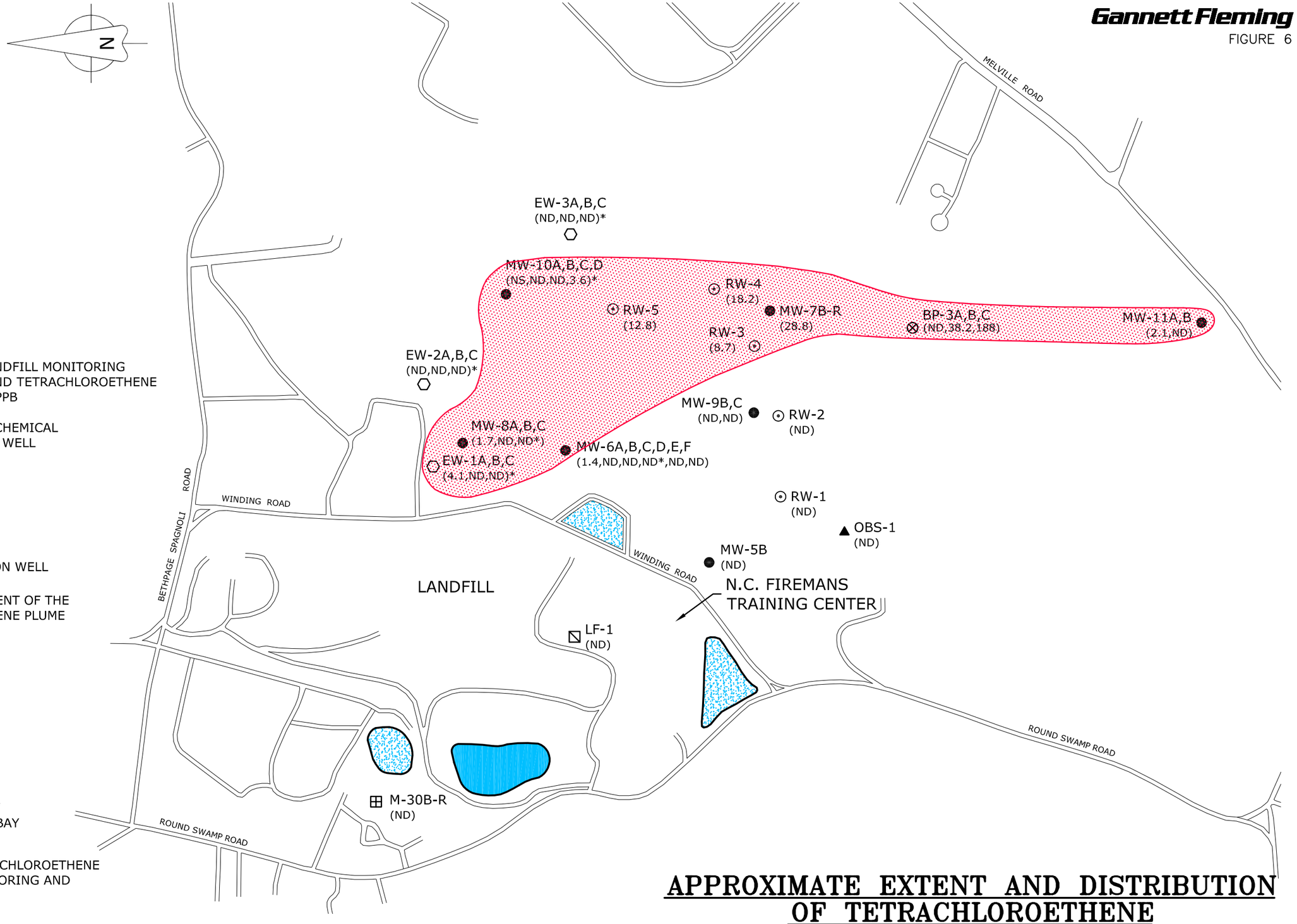
Gannett Fleming

FIGURE 6



LEGEND

- MW-5B (ND) — OLD BETHPAGE LANDFILL MONITORING WELL LOCATION AND TETRACHLOROETHENE CONCENTRATION, PPB
- EW-1C — CLAREMONT POLYCHEMICAL SITE MONITORING WELL
- M-30B-R — UPGRADIENT WELL
- RW-2 — RECOVERY WELL
- LF-2 — PHASE III WELL
- OBS-1 — PHASE II EXTENSION WELL
- APPROXIMATE EXTENT OF THE TETRACHLOROETHENE PLUME
- RECHARGE BASIN
- PHASE II PIT
- (NS) — NOT SAMPLED
- (ND) — NOT DETECTED
- * — DATA PROVIDED BY TOWN OF OYSTER BAY

NOTE:

PLUME LIMIT IS BASED ON TETRACHLOROETHENE CONCENTRATIONS IN THE MONITORING AND RECOVERY WELLS.

0 500 1500

SCALE: 1" = 600'

APPROXIMATE EXTENT AND DISTRIBUTION OF TETRACHLOROETHENE FOURTH QUARTER 2013

OLD BETHPAGE LANDFILL

TOWN OF OYSTER BAY, NEW YORK

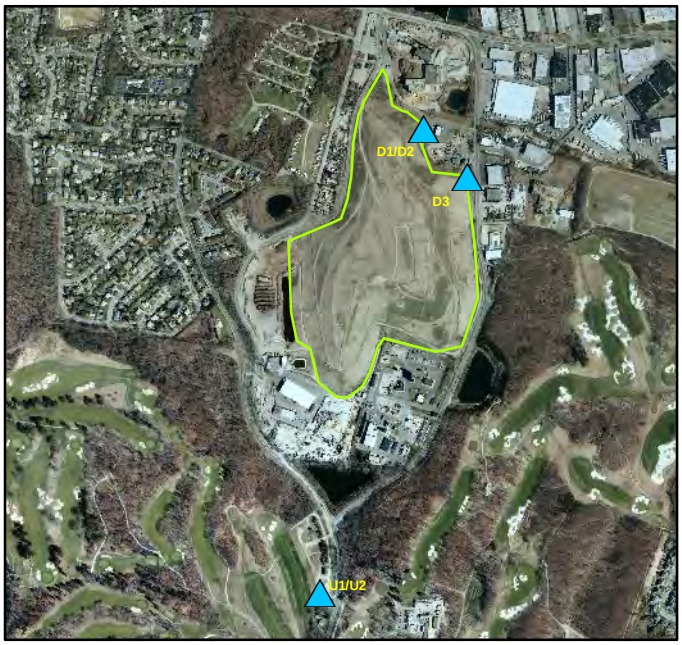
APPENDIX B

Figures 2.1 and 2.3 and
Appendices A through C (Tables 4.1, 4.2 and 5.1, respectively)
from
"Town of Oyster Bay, Old Bethpage Solid Waste Disposal Complex, Evaluation of Volatile Organic Compounds in Ambient Air, Soil Gas and Soil Gas Pressure Readings, 2013 Annual Summary Report"

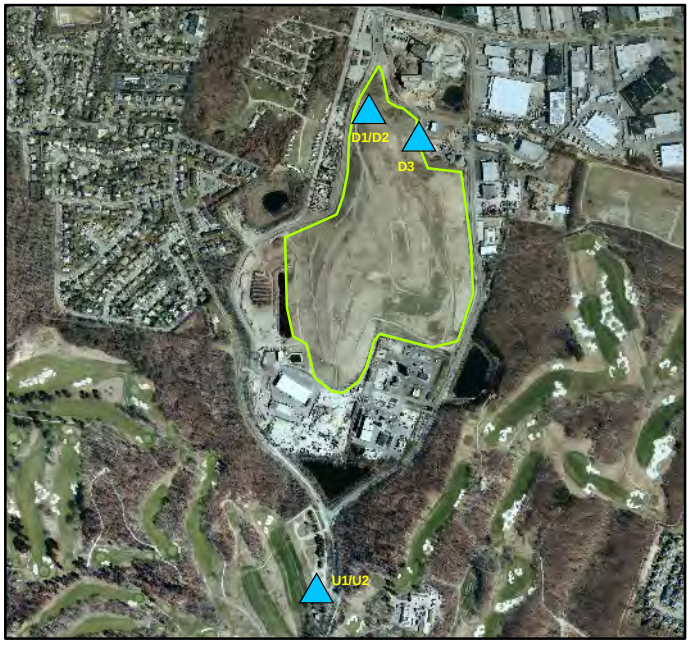
RTP Environmental Associates, Inc., February 2014

1st Quarter

2nd Quarter



3rd Quarter



4th Quarter

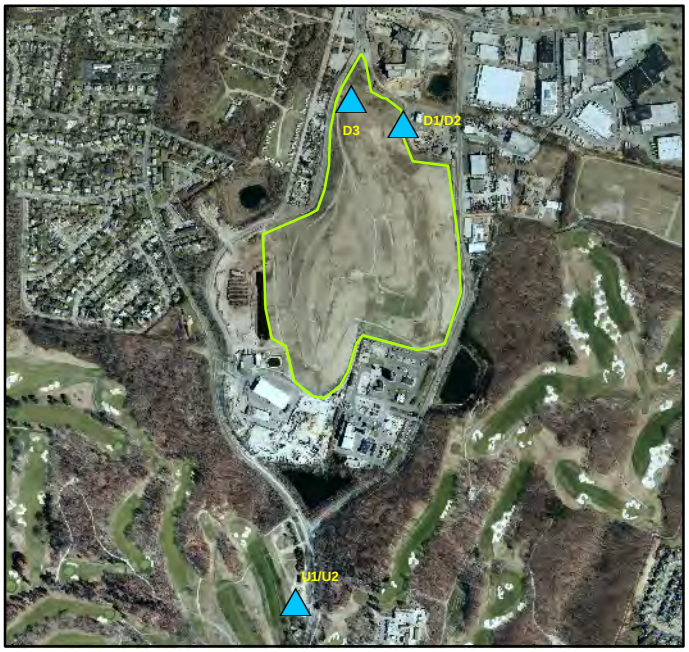


FIGURE 2.1

AMBIENT AIR SAMPLING LOCATIONS FOR 2013 EFFORTS

TOWN OF OYSTER BAY LANDFILL
BETHPAGE, NEW YORK

ORTHOIMAGERY SOURCE:
NYSGIS Clearinghouse 2010

RTP Environmental Associates, Inc.
Westbury, New York

N

0 250 500 1,000 Feet

FIGURE 2.3

SOIL GAS AND PRESSURE WELLS FOR 2013 EFFORTS

TOWN OF OYSTER BAY LANDFILL
BETHPAGE, NEW YORK

ORTHOIMAGERY SOURCE:
NYSGIS Clearinghouse 2010

RTP Environmental Associates, Inc.
Westbury, New York

TABLE 4.1

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

FIRST QUARTER 2013

	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION[1]	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
LOWER QUANTITATION LIMIT (LQL)	0.0124	0.0244	0.0127	0.0253	0.0250	5	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.0199	0.0391	0.0204	0.0202	0.0400	8	8		
TARGETED TIC LQL	0.0620	0.1222	0.0636	0.1263	0.125	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
Acetone[2]	0.50	0.81	0.48	0.60	0.70	12		30,000	180,000
Benzaldehyde[3]	**0.14**	**< 0.61**	**0.28**	**0.18**	**< 0.49**			0.10	----
Benzene	**0.57**	**0.54**	**1.68**	**1.72**	**0.56**			0.13	1,300
Bromodichloromethane								70.0	---
Bromoform[2]								0.91	---
Bromomethane	0.01							5.00	3,900
2-Butanone[2]	0.14	0.21	0.18	0.16	0.20			5,000	13,000
Carbon Disulfide								700	6,200
Carbon Tetrachloride	**0.62**	**0.55**	**0.64**	**0.58**	**0.58**			0.170	1,900
Chlorobenzene								110	---
Chloroethane	0.01		0.02	< 0.03	< 0.03			10,000	---
2-Chloroethyl Vinyl Ether[3]								0.10	----
Chloroform	**0.07**	**0.07**	**0.07**	**0.07**	**0.08**			0.043	150
Chloromethane	0.06	< 0.08	0.07	< 0.08	< 0.08			90.0	22,000
Dibromochloromethane								0.10	---
1,2-Dichlorobenzene (o)								200	30,000
1,3-Dichlorobenzene (m)								10.0	---
1,4-Dichlorobenzene (p)	0.01	< 0.03	0.02	< 0.03	< 0.03			0.09	---
1,1-Dichloroethane								0.63	---
1,2-Dichloroethane	**0.08**	**0.08**	**0.09**	**0.08**	**< 0.09**			0.038	---
1,1-Dichloroethene								70.0	---
cis-1,2-Dichloroethene								63.0	---
trans-1,2-Dichloroethene								63.0	----
1,2-Dichloropropane	0.02	< 0.03	0.02	< 0.03	< 0.04			4.00	----
1,3-Dichloropropene, cis & trans isomers								0.25	---
Ethylbenzene	0.12	< 0.12	0.20	< 0.20	< 0.13			1,000	54,000
2/4-Ethyltoluene (total)	**0.12**	**< 0.12**	**0.16**	**< 0.17**	**< 0.13**			0.10	----
Freon 13[3]								5,000	9,000
2-Hexanone[2]								30.0	4,000
Methylene Chloride	0.30	0.31	0.31	0.31	0.38			2.10	14,000
4-Methyl-2-Pentanone[2]		< 0.05	0.02		< 0.06			3,000	31,000
Styrene								1,000	17,000
1,1,2,2-Tetrachloroethane								16.0	---
Tetrachloroethene	0.14	< 0.14	0.17	< 0.16	< 0.26			1.00	1,000
Toluene	0.87	< 0.77	1.17	1.06	< 0.81			5,000	37,000
1,1,1-Trichloroethane	0.03	< 0.03	0.03	0.03	< 0.04			5,000	9,000
1,1,2-Trichloroethane								1.40	---
Trichloroethene	0.04	< 0.05	0.04	< 0.06	< 0.29			0.50	14,000
Trichlorofluoromethane	1.49	1.57	1.65	1.71	1.77			5,000	9,000
Vinyl Chloride								0.11	180,000
Xylenes (Total)	0.60	< 0.55	0.79	< 0.72	< 0.61			100	4,300
Decane[3]	0.22	< 0.23	0.28	< 0.25	< 0.31			700	---

TABLE 4.1
Continued

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

FIRST QUARTER 2013

SAMPLE TYPE	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION (1)	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
ADDITIONAL TIC LQL	0.062	0.122	0.064	0.063	0.125	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
2-Methyl-pentane	0.60	< 0.43	0.61	< 0.35	< 0.54			4,200	350,000
3-Methyl-pentane		< 0.26			< 0.31			4,200	350,000
Pentane	1.07	1.08	1.02	1.16	1.35			---	4,200
Branched Alkane (DEL) (RT: 5.76-5.77)		< 0.35			< 0.46			---	---
C3 Substituted Benzene				< 0.28				0.13	1,300
Propane	0.57	< 0.62	0.79	< 0.74	< 0.96			---	---
2-Methyl-butane		1.39		< 0.35	< 0.49			42,000	---
Hexane		< 0.48	0.56	< 0.40	< 0.61			700	---
Isobutane	0.77	< 0.82		< 0.90	< 1.14			57,000	---
Dichlorodifluoromethane	1.54	< 1.67	1.60	< 1.65	< 1.69			12,000	---
Unknown (RT: 1.12-2.45)			2.04					---	---
Ethane, 1,1,2-trichloro-1,2,2-triflu				< 0.54	< 0.51			180,000	960,000
Butane	1.22	< 1.14	1.35	< 1.38	< 1.49			57,000	---

NOTES:

[1] See Figure 2.1 for ambient air sampling locations.

[2] An 8 (splitless) nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

[3] Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

[4] This 24-hour guideline concentration was calculated by multiplying the current SGC value (last revised October 2010 and still current as of June 2013) by 0.4 (EPA averaging time adjustment factor).

U1/U2: Ambient upwind samplers were collocated along the 15th hole fairway of the Bethpage State Black Golf Course approximately 200 feet west of Round Swamp Road.

D1/D2: Ambient downwind samplers collocated along a haul road near the woody debris area approximately 400 feet east of soil gas well M31.

D3: Ambient downwind sampler was located along a haul road near the northern toe of the landfill, approximately 75 feet south of soil gas well M22.

- All values are reported in micrograms per standard cubic meter (µg/std-m^3) except for the field blank and trip blank mass loading results which are reported in nanograms (ng).
- Blank values:
  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.
  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of June 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the analytical results, Appendix C.
- (µg/std-m^3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.1

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

SECOND QUARTER 2013

	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION[1]	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
LOWER QUANTITATION LIMIT (LQL)	0.0143	0.0282	0.0151	0.0279	0.0299	5	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.0229	0.0451	0.0242	0.0223	0.0479	8	8		
TARGETED TIC LQL	0.0714	0.1408	0.0755	0.1397	0.150	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
Acetone[2]	0.66	0.96	0.69	1.23	0.84			30,000	180,000
Benzaldehyde[3]	**1.63**	**< 2.76**	**1.36**	**1.41**	**< 2.32**			0.10	----
Benzene	**0.69**	**0.76**	**0.73**	**0.77**	**0.76**			0.13	1,300
Bromodichloromethane				< 0.04				70.0	---
Bromoform[2]	0.03	< 0.06	0.02	< 0.03	< 0.05			0.91	---
Bromomethane								5.00	3,900
2-Butanone[2]	0.25	0.34	0.33	0.39	0.40			5,000	13,000
Carbon Disulfide	0.02	< 0.04	0.02	< 0.03				700	6,200
Carbon Tetrachloride	**0.46**	**0.49**	**0.45**	**0.51**	**0.42**			0.170	1,900
Chlorobenzene								110	---
Chloroethane								10,000	---
2-Chloroethyl Vinyl Ether[3]								0.10	----
Chloroform	**0.17**	**0.19**	**0.18**	**0.20**	**0.15**			0.043	150
Chloromethane	0.06	< 0.09	0.06	< 0.07	< 0.08			90.0	22,000
Dibromochloromethane								0.10	---
1,2-Dichlorobenzene (o)								200	30,000
1,3-Dichlorobenzene (m)								10.0	---
1,4-Dichlorobenzene (p)	**0.11**	**< 0.14**	**0.14**	**< 0.15**	**< 0.15**			0.09	---
1,1-Dichloroethane								0.63	---
1,2-Dichloroethane	**0.07**	**0.08**	**0.08**	**< 0.10**	**0.09**			0.038	---
1,1-Dichloroethene								70.0	---
cis-1,2-Dichloroethene								63.0	---
trans-1,2-Dichloroethene								63.0	----
1,2-Dichloropropane	0.02	< 0.03	0.02	< 0.03	< 0.03			4.00	----
1,3-Dichloropropene, cis & trans isomers								0.25	---
Ethylbenzene	0.34	< 0.41	0.39	0.56	< 0.40			1,000	54,000
2/4-Ethyltoluene (total)	**0.27**	**< 0.35**	**0.33**	**< 0.38**	**< 0.37**			0.10	----
Freon 13[3]								5,000	9,000
2-Hexanone[2]								30.0	4,000
Methylene Chloride	0.24	0.40	0.30	0.37	< 0.22			2.10	14,000
4-Methyl-2-Pentanone[2]	0.05	< 0.10	0.06	1.88	0.11			3,000	31,000
Styrene								1,000	17,000
1,1,2,2-Tetrachloroethane								16.0	---
Tetrachloroethene	0.37	< 0.41	0.42	< 0.46	< 0.40			1.00	1,000
Toluene	1.80	< 2.04	1.99	< 2.08	< 1.87			5,000	37,000
1,1,1-Trichloroethane	0.03	0.04	0.07	0.09	< 0.04			5,000	9,000
1,1,2-Trichloroethane								1.40	---
Trichloroethene	0.08	< 0.09	0.08	< 0.10	< 0.08			0.50	14,000
Trichlorofluoromethane	0.97	1.26	1.00	1.15	0.84			5,000	9,000
Vinyl Chloride								0.11	180,000
Xylenes (Total)	1.51	< 1.76	1.78	< 1.89	< 1.78			100	4,300
Decane[3]	0.34	< 0.49	0.42	< 0.47	< 0.67			700	---

TABLE 4.1
Continued

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

SECOND QUARTER 2013

SAMPLE TYPE	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION (1)	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
ADDITIONAL TIC LQL	0.071	0.141	0.076	0.070	0.150	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
2-Methyl-pentane		1.77	1.96	< 1.34	1.71			4,200	350,000
3-Methyl-pentane				< 0.95				4,200	350,000
Pentane	1.74	< 2.15	2.11	< 2.61	< 1.66			4,200	---
Branched Alkane (DEL) (RT: 5.76-12.52)	1.80	< 2.38		< 1.84	< 0.94			---	---
C3 Substituted Benzene					**< 0.94**			0.13	1,300
Propane					< 0.76			43,000	---
2-Methyl-butane	3.14	< 4.01	3.93	< 4.54	< 3.07			42,000	---
Hexane	2.37	< 2.07	2.84	< 2.63	< 1.87			700	---
Cyclopentane, methyl-		< 0.86		< 1.09				---	---
Dichlorodifluoromethane		< 1.87		< 1.58	< 1.78			12,000	---
1,1-Dichloro-1-fluoroethane								---	---
1,3-Butadiene, 2-methyl-		< 1.20						---	---
Unknown (RT: 2.45-13.63)	1.94		2.27	< 2.79	< 2.95			---	---
(DEL) Alkane: Cyclic		< 2.89						---	---
Heptane		< 0.92		< 0.84				3,900	210,000
2-Methyl-Hexane					< 1.51			---	---
Butane	2.00	< 2.69	2.24	< 2.67	< 1.72			57,000	---
3-Heptanone					< 0.88			---	---

NOTES:

[1] See Figure 2.1 for ambient air sampling locations.

[2] An 8 (splitless) nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

[3] Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

[4] This 24-hour guideline concentration was calculated by multiplying the current SGC value (last revised October 2010 and still current as of August 2013) by 0.4 (EPA averaging time adjustment factor).

U1/U2: Ambient upwind samplers were collocated along the 15th hole fairway of the Bethpage State Black Golf Course approximately 200 feet west of Round Swamp Road.

D1/D2: Ambient downwind samplers collocated appriximately 50 feet south of the southwest corner of the RAP building.

D3: Ambient downwind sampler was located at the first foot bridge along landfill haul road, approximately 75 feet west of Winding Road.

- All values are reported in micrograms per standard cubic meter (µg/std-m^3) except for the field blank and trip blank mass loading results which are reported in nanograms (ng).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of August 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the analytical results, Appendix C.
- (µg/std-m^3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.1

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

THIRD QUARTER 2013

	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION[1]	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
LOWER QUANTITATION LIMIT (LQL)	0.0133	0.0289	0.0121	0.0253	0.0285	5	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.0212	0.0462	0.0193	0.0404	0.0456	8	8		
TARGETED TIC LQL	0.0663	0.1445	0.0604	0.1263	0.142	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
Acetone[2]	0.66	0.75	0.29	0.63	0.62	11	10	30,000	180,000
Benzaldehyde[3]	**2.23**	**1.82**	**0.70**		**0.97**			0.10	----
Benzene	**0.34**	**0.32**	**0.36**	**0.35**	**0.31**			0.13	1,300
Bromodichloromethane								70.0	---
Bromoform[2]	0.01							0.91	---
Bromomethane								5.00	3,900
2-Butanone[2]	0.50	0.46	0.39	0.47	0.52			5,000	13,000
Carbon Disulfide	0.02	< 0.03						700	6,200
Carbon Tetrachloride	**0.53**	**0.47**	**0.46**	**0.44**	**0.45**			0.170	1,900
Chlorobenzene								110	---
Chloroethane								10,000	---
2-Chloroethyl Vinyl Ether[3]								0.10	----
Chloroform	**0.14**	**0.14**	**0.10**	**0.11**	**0.11**			0.043	150
Chloromethane	0.04	< 0.05	0.04	< 0.03	< 0.04			90.0	22,000
Dibromochloromethane								0.10	---
1,2-Dichlorobenzene (o)								200	30,000
1,3-Dichlorobenzene (m)								10.0	---
1,4-Dichlorobenzene (p)	0.04		0.03	< 0.05				0.09	---
1,1-Dichloroethane								0.63	---
1,2-Dichloroethane	**0.05**	**< 0.05**	**0.04**	**0.04**	**0.05**			0.038	---
1,1-Dichloroethene								70.0	---
cis-1,2-Dichloroethene								63.0	---
trans-1,2-Dichloroethene								63.0	----
1,2-Dichloropropane								4.00	----
1,3-Dichloropropene, cis & trans isomers								0.25	---
Ethylbenzene	0.16	< 0.14	0.18	< 0.20	< 0.17			1,000	54,000
2/4-Ethyltoluene (total)	**0.14**	< 0.05	**0.11**	**< 0.12**	< 0.07			0.10	----
Freon 13[3]								5,000	9,000
2-Hexanone[2]								30.0	4,000
Methylene Chloride	0.29	0.30	0.21	< 0.25	< 0.29		20	2.10	14,000
4-Methyl-2-Pentanone[2]	0.07	< 0.06	0.07	< 0.11	< 0.08			3,000	31,000
Styrene								1,000	17,000
1,1,2,2-Tetrachloroethane								16.0	---
Tetrachloroethene	0.32	< 0.29	0.31	< 0.34	< 0.36			1.00	1,000
Toluene	0.95	0.83	0.89	0.93	0.86			5,000	37,000
1,1,1-Trichloroethane	0.03	< 0.03	0.03	0.03				5,000	9,000
1,1,2-Trichloroethane								1.40	---
Trichloroethene	0.09	< 0.09	**2.29**	**2.32**	**2.39**			0.50	14,000
Trichlorofluoromethane	1.11	0.97	0.94	0.94	0.89			5,000	9,000
Vinyl Chloride								0.11	180,000
Xylenes (Total)	0.80	< 0.53	0.89	< 1.00	< 0.75			100	4,300
Decane[3]	0.18	< 0.16	0.18	< 0.26	< 0.20			700	---

TABLE 4.1
Continued

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

THIRD QUARTER 2013

SAMPLE TYPE	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION (1)	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
ADDITIONAL TIC LQL	0.066	0.145	0.060	0.126	0.142	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
2-Methyl-pentane		< 0.53		< 0.59				4,200	350,000
Pentane		< 0.77		< 0.74	< 0.67	39		4,200	---
Branched Alkane (DEL) (RT: 5.76-12.32)	0.90			< 0.42				---	---
2-Methyl-butane	1.25	< 1.17	0.92	< 1.15	< 0.98			42,000	---
Unknown Alkyne (RT: 2.45-2.46)	1.35	1.45	0.89	< 1.28	1.08			40,000	---
Hexane	0.95	< 0.85	0.82	< 0.59	< 0.67			700	---
alpha-Pinene isomer (RT: 10.67-10.68)		< 0.42			< 0.36			---	---
Isobutane		< 0.82	0.80	< 0.95	< 0.84			57,000	---
Dichlorodifluoromethane	1.17	< 1.20	0.85	< 0.74	< 0.98			12,000	---
Unknown (RT: 12.72)	1.09		0.87	< 1.00				---	---
Ethane, 1,1,2-trichloro-1,2,2-triflu		< 0.53			< 0.53			180,000	960,000
Heptane		< 0.53			< 0.47			3,900	210,000
2-Methyl-Hexane				< 0.59	< 0.61			---	---
Butane	0.85	< 0.74	0.85	< 0.92	< 0.93			57,000	---
Nonanal				< 0.52				---	---
Octane		< 0.51			< 0.44			---	---

NOTES:

[1] See Figure 2.1 for ambient air sampling locations.

[2] An 8 (splitless) nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

[3] Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

[4] This 24-hour guideline concentration was calculated by multiplying the current SGC value (last revised October 2010 and still current as of October 2013) by 0.4 (EPA averaging time adjustment factor).

U1/U2: Ambient upwind samplers were collocated along the 15th hole fairway of the Bethpage State Park Black Golf Course approximately 200 feet west of Round Swamp Road.

D1/D2: Ambient downwind samplers collocated near the toe of the landfill along a haul road approximately 50 feet south of soil gas well M22.

D3: Ambient downwind sampler was located approximately 75 south of the southwest corner of the Groundwater Treatment Building.

- All values are reported in micrograms per standard cubic meter (µg/std-m^3) except for the field blank and trip blank mass loading results which are reported in nanograms (ng).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of October 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the analytical results, Appendix C.
- (µg/std-m^3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.1

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

FOURTH QUARTER 2013

	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION[1]	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
LOWER QUANTITATION LIMIT (LQL)	0.0139	0.0340	0.0134	0.0302	0.0292	5	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.0222	0.0544	0.0214	0.0483	0.0468	8	8		
TARGETED TIC LQL	0.0693	0.1701	0.0668	0.1511	0.146	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
Acetone[2]	0.22	0.43	0.11	0.22	0.22	14		30,000	180,000
Benzaldehyde[3]	**1.25**	**< 1.46**	**0.32**		**< 0.42**			0.10	----
Benzene	**0.22**	**0.15**	**0.20**	**0.18**	**0.21**			0.13	1,300
Bromodichloromethane								70.0	---
Bromoform[2]	0.01							0.91	---
Bromomethane								5.00	3,900
2-Butanone[2]	0.12	0.13	0.06	0.07	0.09			5,000	13,000
Carbon Disulfide		< 0.04						700	6,200
Carbon Tetrachloride	**0.44**	**0.37**	**0.37**	**0.44**	**0.49**			0.170	1,900
Chlorobenzene								110	---
Chloroethane								10,000	---
2-Chloroethyl Vinyl Ether[3]								0.10	----
Chloroform	**0.06**	**0.06**	**0.05**	**0.07**	**0.07**			0.043	150
Chloromethane	0.04	< 0.05	0.03	< 0.05	< 0.04			90.0	22,000
Dibromochloromethane								0.10	---
1,2-Dichlorobenzene (o)								200	30,000
1,3-Dichlorobenzene (m)								10.0	---
1,4-Dichlorobenzene (p)								0.09	---
1,1-Dichloroethane								0.63	---
1,2-Dichloroethane	**0.04**	**< 0.04**	0.03	**< 0.04**	**< 0.04**			0.038	---
1,1-Dichloroethene								70.0	---
cis-1,2-Dichloroethene								63.0	---
trans-1,2-Dichloroethene								63.0	----
1,2-Dichloropropane								4.00	----
1,3-Dichloropropene, cis & trans isomers								0.25	---
Ethylbenzene	0.06	< 0.10	0.05		< 0.06			1,000	54,000
2/4-Ethyltoluene (total)	0.04	< 0.09	0.03		< 0.05			0.10	----
Freon 13[3]								5,000	9,000
2-Hexanone[2]								30.0	4,000
Methylene Chloride	0.10	< 0.12	0.08	0.15	0.15			2.10	14,000
4-Methyl-2-Pentanone[2]								3,000	31,000
Styrene								1,000	17,000
1,1,2,2-Tetrachloroethane								16.0	---
Tetrachloroethene	0.08	< 0.06	0.06		< 0.07			1.00	1,000
Toluene	0.30	< 0.31	0.24	0.04	< 0.26			5,000	37,000
1,1,1-Trichloroethane	0.02		0.02					5,000	9,000
1,1,2-Trichloroethane								1.40	---
Trichloroethene								0.50	14,000
Trichlorofluoromethane	1.19	1.55	0.91	1.56	1.77			5,000	9,000
Vinyl Chloride								0.11	180,000
Xylenes (Total)	0.28	< 0.46	0.19		< 0.23			100	4,300
Decane[3]	0.02	< 0.14	0.03		< 0.10			700	---

TABLE 4.1
Continued

TOWN OF OYSTER BAY

OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

AMBIENT AIR VOST SAMPLE RESULTS

FOURTH QUARTER 2013

SAMPLE TYPE	24-HR AMBIENT AIR SAMPLE					BLANK		CURRENT	24-HOUR
SAMPLE IDENTIFICATION (1)	U1	U2	D1	D2	D3	FB3	TB1	AGC	SGC[4]
ADDITIONAL TIC LQL	0.069	0.170	0.067	0.151	0.146	25	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(ng)	(µg/m^3)	(µg/m^3)
2-Methyl-pentane	0.44	< 0.20		< 0.33	0.48			4,200	350,000
3-Methyl-pentane				< 0.23				4,200	350,000
Pentane	0.69	< 0.66	0.45	0.79	0.90			4,200	---
Straight Chain Alkane (DEL)		< 0.21						---	---
Branched Alkane (DEL) (RT: 5.76-12.52)				< 0.32	< 0.62			---	---
2-Methyl-butane	0.91	< 0.94	0.67	1.12	1.35			42,000	---
Hexane			0.40	< 0.44	0.57			700	---
alpha-Pinene isomer				< 0.23				---	---
Isobutane			0.64	< 1.07				57,000	---
Dichlorodifluoromethane	1.61		1.10	< 1.80				12,000	---
1,1-Dichloro-1-fluoroethane		< 0.29		< 0.28	< 0.30			---	---
Unknown (RT: 12.72-12.31)		< 1.21						---	---
Ethane, 1,1,2-trichloro-1,2,2-triflu	0.50	< 0.73		< 0.71	< 0.86			180,000	960,000
Heptane		< 0.66	0.37		< 0.28			3,900	210,000
Butane	1.11	< 1.92	0.80	< 1.34	< 1.51			57,000	---
Nonanal	0.47	< 0.73						---	---
Hexanal		< 0.97						---	---
Octanal		< 3.49						25,000	---

NOTES:

[1] See Figure 2.1 for ambient air sampling locations.

[2] An 8 (splitless) nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

[3] Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

[4] This 24-hour guideline concentration was calculated by multiplying the current SGC value (last revised October 2010 and still current as of February 2014) by 0.4 (EPA averaging time adjustment factor).

U1/U2: Ambient upwind samplers were collocated along the 15th hole fairway of the Bethpage State Black Golf Course approximately 200 feet west of Round Swamp Road.

D1/D2: Ambient downwind samplers collocated appriximately 75 feet south of the southwest corner of the RAP building.

D3: Ambient downwind sampler was located near the toe of the landfill along a haul road approximately 50 feet south of soil gas well M22.

- All values are reported in micrograms per standard cubic meter (µg/std-m^3) except for the field blank and trip blank mass loading results which are reported in nanograms (ng).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of February 2014) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the analytical results, Appendix C.
- (µg/std-m^3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.2

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
FIRST QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(30)	M9(40)	FB1	Current	Current
LOWER QUANTITATION LIMIT (LQL)	0.471	0.475	0.480	0.474	0.480	0.478	0.482	0.967	0.484	5	AGC	SGC
PRACTICAL QUANTITATION LIMIT (PQL)	0.754	0.760	0.768	0.758	0.768	0.765	0.771	1.547	0.77	8	---	---
TARGETED TIC LQL	2.36	2.38	2.40	2.37	2.40	2.39	2.41	4.84	2.42	25	---	---
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Acetone*	2.83	2.09	2.59	2.09	1.82	1.63	1.54	8.12	1.26	9	30,000	180,000
Benzaldehyde**											0.10	----
Benzene											0.13	1,300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane					0.77						5.00	3,900
2-Butanone*	0.75										5,000	13,000
Carbon Disulfide											700	6,200
Carbon Tetrachloride		**0.48**									0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**0.47**			**0.57**	**0.58**			**0.97**			0.043	150
Chloromethane							< 4.06				90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane								**0.87**			0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene								1.06			63.0	---
trans-1,2-Dichloroethene								1.64			63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4,000
Methylene Chloride			1.25								2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**5.66**			0.57		**2.39**	**1.74**	**< 2.61**	**64.80**		1.00	1,000
Toluene											5,000	37,000
1,1,1-Trichloroethane								0.87			5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene		**1.43**						**0.68**			0.50	14,000
Trichlorofluoromethane	2.07	1.43	1.54	1.52	1.54	2.58	2.41	2.32	2.42		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
FIRST QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
ADDITIONAL TIC LQL	2.36	2.38	2.40	2.37	2.40	2.39	2.41	4.84	2.42	25	AGC	SGC
VOC COMPOUND NAME	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(ng)	(µg/std-m³)	(µg/std-m³)
Norflurane	4.81										80,000	---
Pentane		3.80									---	4,200
Straight Chain Alkane (DEL) (RT: 2.19)	17.91										---	---
Ethane, 1,1-difluoro-											40,000	---
Dichlorodifluoromethane	3.68	2.66	4.03	2.75	2.98	3.06	4.53	< 6.09	7.64		12,000	---
Unknown (RT: 1.12-2.45)	10.37					4.97					---	---
Butane											57,000	---
Cyclotrisiloxane, hexamethyl-						2.96					---	---
Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro									2.61		17,000	---
Unknown alkene (RT: 1.48)						15.30			2.71		---	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
FIRST QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current AGC	Current SGC
LOWER QUANTITATION LIMIT (LQL)	0.480	0.488	0.481	0.475	0.479	0.476	0.477	0.473	0.972	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.768	0.781	0.769	0.760	0.767	0.76	0.763	0.757	1.555	8		
TARGETED TIC LQL	2.40	2.44	2.40	2.37	2.40	2.38	2.38	2.37	4.86	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Acetone*	2.21	2.25	2.02	2.28	2.11	0.95	1.91	1.51	2.82		30,000	180,000
Benzaldehyde**											0.10	----
Benzene											0.13	1300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3900
2-Butanone*											5000	13,000
Carbon Disulfide											700	6200
Carbon Tetrachloride			**0.58**	**0.57**	**0.48**			**0.47**			0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**1.34**	**0.59**	**0.87**			**1.05**			**< 1.07**		0.043	150
Chloromethane					4.41				< 1.36		90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane											0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene											63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4000
Methylene Chloride											2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**9.41**	**5.18**							**< 11.18**		1.00	1,000
Toluene								1.04			5,000	37,000
1,1,1-Trichloroethane	0.77										5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene											0.50	14,000
Trichlorofluoromethane	1.92	2.05	1.73	1.99	1.53	2.19	1.43	1.14	< 1.75		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Concluded)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
FIRST QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current	Current
ADDITIONAL TIC LQL	2.40	2.44	2.40	2.37	2.40	2.38	2.38	2.37	4.86	25	AGC	SGC
VOC COMPOUND NAME	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(ng)	(mg/m3)	(mg/m3)
Norflurane											80,000	---
Pentane							7.15			64	---	4,200
Straight Chain Alkane (DEL) (RT: 2.19)											---	---
Ethane, 1,1-difluoro-								8.99			40,000	---
Dichlorodifluoromethane	3.94	3.42	3.37	3.32	3.45	3.81	3.43		< 4.96		12,000	---
Unknown (RT: 1.12-2.45)											---	---
Butane								4.92			57,000	---
Cyclotrisiloxane, hexamethyl-						2.85					---	---
Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro											17,000	---
Unknown alkene (RT: 1.48)					2.40	2.47					---	---

Notes:

* An 8 nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

** Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

- All values are reported in micrograms per standard cubic meter (mg/std-m3).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of June 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the Analytical Results, Appendix C.
- (mg/std-m3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.2

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
SECOND QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
LOWER QUANTITATION LIMIT (LQL)	0.520	0.526	0.515	0.525	0.545	0.525	0.518	1.036	0.518	5	AGC	SGC
PRACTICAL QUANTITATION LIMIT (PQL)	0.832	0.842	0.824	0.839	0.872	0.839	0.828	1.658	0.83	8	---	---
TARGETED TIC LQL	2.60	2.63	2.57	2.62	2.73	2.62	2.59	5.18	2.59	25	---	---
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Acetone*			3.09	0.94					1.76		30,000	180,000
Benzaldehyde**	**4.26**	**8.84**			**3.49**	**6.61**	**5.49**		**7.98**		0.10	----
Benzene											0.13	1,300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3,900
2-Butanone*											5,000	13,000
Carbon Disulfide				0.73							700	6,200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**1.66**	**2.00**	**0.62**	**5.67**	**5.23**	**0.73**	**0.62**		**0.62**		0.043	150
Chloromethane								< 3.11			90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane											0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene									0.62		63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4,000
Methylene Chloride											2.10	14,000
4-Methyl-2-Pentanone*			308.96								3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**6.65**	0.63		**2.41**	**13.09**	**3.46**	**2.59**	**< 2.90**	**24.87**		1.00	1,000
Toluene									0.73		5,000	37,000
1,1,1-Trichloroethane											5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene		**0.74**									0.50	14,000
Trichlorofluoromethane	1.14	0.95	1.24	1.57	3.38	1.99	1.66	1.66	1.35		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
SECOND QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
ADDITIONAL TIC LQL	2.60	2.63	2.57	2.62	2.73	2.62	2.59	5.18	2.59	25	AGC	SGC
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Norflurane	6.13										80,000	---
Pentane											4,200	---
Straight Chain Alkane (DEL) (RT: 1.23-4.03)											---	---
Branched Alkane (DEL) (RT: 5.76-12.52)	3.12	3.58				3.46		< 5.28	3.42		---	---
Propane											43,000.00	---
2-Methyl-butane											42,000	---
Unknown Alkene (RT: 1.48)											40,000	---
alpha-Pinene isomer (RT: 10.68)		44.21		22.04							---	---
Dichlorodifluoromethane	4.68			4.83	4.36	5.56	6.31	< 8.60	6.42		12,000	---
1,3-Butadiene, 2-methyl-											---	---
beta-Pinene isomer (RT: 11.35)		64.21									---	---
Cyclotetrasiloxane, octamethyl-				3.36							360	---
Unknown (RT: 2.45-13.63)				2.73	2.84						---	---
2-Pentanone			15.45								---	53,000
Butane											57,000	---
Nonanal	3.33	3.26		2.73							---	---
Undecane					3.27						---	---
Limonene isomer		6.00									---	---
Bicyclo(2.2.1)heptane, 7,7-dimethyl		221.05		136.41							---	---
5-Hepten-2-one, 6-methyl-			679.71	14.69							---	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
SECOND QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current AGC	Current SGC
LOWER QUANTITATION LIMIT (LQL)	0.526	0.522	0.517	0.527	0.525	0.524	0.524	0.517	1.054	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.842	0.836	0.827	0.844	0.839	0.84	0.839	0.827	1.686	8		
TARGETED TIC LQL	2.63	2.61	2.59	2.64	2.62	2.62	2.62	2.59	5.27	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Acetone*	1.58	1.25		1.27	1.68	1.68	1.99	1.14	< 4.00		30,000	180,000
Benzaldehyde**							**8.07**	**7.65**			0.10	----
Benzene								**0.72**			0.13	1300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3900
2-Butanone*											5000	13,000
Carbon Disulfide						0.73					700	6200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**3.89**	**0.84**	**0.93**			**1.26**	**0.73**		< **1.48**		0.043	150
Chloromethane											90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane	**0.63**										0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene											63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4000
Methylene Chloride								1.45			2.10	14,000
4-Methyl-2-Pentanone*									< 359.11		3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**13.68**		0.72			0.52	0.84	**1.03**	< **11.06**		1.00	1,000
Toluene				1.05				1.34			5,000	37,000
1,1,1-Trichloroethane	1.16										5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene	**0.63**										0.50	14,000
Trichlorofluoromethane	1.68	1.04	1.24	1.05	1.15	1.15	1.26	1.34	< 1.48		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**					72.40						700	---

TABLE 4.2
(Concluded)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
SECOND QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current	Current
ADDITIONAL TIC LQI	2.63	2.61	2.59	2.64	2.62	2.62	2.62	2.59	5.27	25	AGC	SGC
VOC COMPOUND NAME	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(ng)	(mg/m3)	(mg/m3)
Norflurane											80,000	---
Pentane								7.03			4,200	---
Straight Chain Alkane (DEL) (RT: 1.23-4.03)					16.79	2.62				64	---	---
Branched Alkane (DEL) (RT: 5.76-12.52)						3.67		9.62			---	---
Propane								8.89			43,000.00	---
2-Methyl-butane								12.41			42,000	---
Unknown Alkene (RT: 1.48)						3.04					40,000	---
alpha-Pinene isomer (RT: 10.68)											---	---
Dichlorodifluoromethane	4.84	4.60	4.34			4.30	3.98		< 7.48		12,000	---
1,3-Butadiene, 2-methyl-								13.44			---	---
beta-Pinene isomer (RT: 11.35)											---	---
Cyclotetrasiloxane, octamethyl-											360	---
Unknown (RT: 2.45-13.63)											---	---
2-Pentanone									< 9.91		---	53,000
Butane								7.65			57,000	---
Nonanal			3.62			5.45	3.77		< 11.59		---	---
Undecane			3.00	24.26	1259.18	6.50			< 10.22		---	---
Limonene isomer											---	---
Bicyclo(2.2.1)heptane, 7,7-dimethyl											---	---
5-Hepten-2-one, 6-methyl-		22.99							< 455.74		---	---

Notes:

* An 8 nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

** Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

- All values are reported in micrograms per standard cubic meter (mg/std-m3).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of August 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the Analytical Results, Appendix C.
- (mg/std-m3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.2

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
THIRD QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
LOWER QUANTITATION LIMIT (LQL)	0.512	0.502	0.513	0.504	0.513	0.500	0.508	1.008	0.504	5	AGC	SGC
PRACTICAL QUANTITATION LIMIT (PQL)	0.820	0.803	0.821	0.806	0.821	0.799	0.812	1.613	0.81	8	---	---
TARGETED TIC LQL	2.56	2.51	2.57	2.52	2.57	2.50	2.54	5.04	2.52	25	---	---
VOC COMPOUND NAME	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(μg/std-m^3)	(ng)	(μg/std-m^3)	(μg/std-m^3)
Acetone*	3.48	1.61	1.75	2.82	2.26	1.80	1.12	< 2.02	1.61		30,000	180,000
Benzaldehyde**	**101.43**	**18.07**	**6.47**	**9.68**	**10.06**	**6.99**		**< 3.83**			0.10	----
Benzene											0.13	1,300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3,900
2-Butanone*	3.89	0.90		1.01							5,000	13,000
Carbon Disulfide									0.60		700	6,200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**0.51**			**0.91**	**1.75**	**0.80**	**1.12**	**< 1.31**	**1.31**		0.043	150
Chloromethane											90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane									**0.91**		0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene									1.31		63.0	---
trans-1,2-Dichloroethene									1.71		63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4,000
Methylene Chloride											2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**7.79**	**2.61**	0.62	**3.33**	**0.72**	**9.09**	**7.72**	**< 11.59**	**70.49**		1.00	1,000
Toluene	0.61										5,000	37,000
1,1,1-Trichloroethane									1.01		5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene	**0.72**	**3.01**							**0.91**		0.50	14,000
Trichlorofluoromethane	2.05	1.31	1.13	1.21	1.13	4.70	3.45	2.82	2.32		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
THIRD QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
ADDITIONAL TIC LQL	2.56	2.51	2.57	2.52	2.57	2.50	2.54	5.04	2.52	25	AGC	SGC
VOC COMPOUND NAME	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(ng)	(µg/std-m³)	(µg/std-m³)
Norflurane						75.92	97.46	< 31.75			80,000	---
Dichlorodifluoromethane	8.20	4.72	4.62	3.33	4.52	10.99	4.97	< 12.40	11.08		12,000	---
1,1-Dichloro-1-fluoroethane	4.51										---	---
Ethane, 1,1-difluoro											---	---
Cyclotetrasiloxane, octamethyl-				3.23							360	---
Ethane, 1,1,2-trichloro-1,2,2-triflu									2.72		180,000	960,000
Cyclotrisiloxane, hexamethyl-		14.06	3.18								---	---
Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro									3.32		17,000	---
Nonanal			2.77								---	---
Undecane											---	---
Difluorochloromethane							7.31				---	---
Bromochlorodifluoromethane	163.93										---	---
5-Hepten-2-one, 6-methyl-											---	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
THIRD QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current AGC	Current SGC
LOWER QUANTITATION LIMIT (LQL)	0.499	0.506	0.507	0.505	0.504	0.505	0.501	0.510	0.992	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.798	0.810	0.811	0.807	0.806	0.81	0.801	0.815	1.587	8		
TARGETED TIC LQL	2.50	2.53	2.53	2.52	2.52	2.52	2.50	2.55	4.96	25		
VOC COMPOUND NAME	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(µg/std-m^3)	(ng)	(µg/std-m^3)	(µg/std-m^3)
Acetone*	1.30	2.13	1.72	1.21	1.51	1.72	1.60	1.53	2.78	8	30,000	180,000
Benzaldehyde**							**6.01**	**3.47**	**6.05**		0.10	----
Benzene											0.13	1300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3900
2-Butanone*											5000	13,000
Carbon Disulfide			0.51								700	6200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**4.89**	**0.81**	**1.93**			**0.91**	**0.80**	**2.85**	**< 1.19**		0.043	150
Chloromethane								2.04			90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane	**1.20**										0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene											63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4000
Methylene Chloride				1.31	1.41			1.22			2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**36.93**	**24.29**	**2.03**	**3.03**	0.60	0.71	**1.80**	**2.85**	**< 11.41**		1.00	1,000
Toluene				0.71	1.11			0.71			5,000	37,000
1,1,1-Trichloroethane	2.59	0.51									5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene	**1.60**			**0.81**	**0.71**						0.50	14,000
Trichlorofluoromethane	1.60	3.34	1.22	1.31	1.41	1.31	1.60	1.53	< 1.29		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)									< 2.98		100	4,300
Decane**	1.10				17.14						700	---

TABLE 4.2
(Concluded)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
THIRD QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current	Current
ADDITIONAL TIC LQL	2.50	2.53	2.53	2.52	2.52	2.52	2.50	2.55	4.96	25	AGC	SGC
VOC COMPOUND NAME	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(ng)	(mg/m3)	(mg/m3)
Norflurane											80,000	---
Dichlorodifluoromethane	4.39	4.25	4.36	4.44		4.54	4.60	5.50	< 6.94		12,000	---
1,1-Dichloro-1-fluoroethane		2.53						3.36			---	---
Ethane, 1,1-difluoro				2.72				2.96			---	---
Cyclotetrasiloxane, octamethyl-											360	---
Ethane, 1,1,2-trichloro-1,2,2-triflu											180,000	960,000
Cyclotrisiloxane, hexamethyl-						2.62					---	---
Ethane, 1,2-dichloro-1,1,2,2-tetrafluoro											17,000	---
Nonanal		3.44					2.70				---	---
Undecane	21.96		2.63	5.85	735.89						---	---
Difluorochloromethane											---	---
Bromochlorodifluoromethane											---	---
5-Hepten-2-one, 6-methyl-		22.27									---	---

Notes:

* An 8 nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

** Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

- All values are reported in micrograms per standard cubic meter (mg/std-m3).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of October 2013) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the Analytical Results, Appendix C.
- (mg/std-m3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 4.2

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
FOURTH QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
LOWER QUANTITATION LIMIT (LQL)	0.476	0.487	0.482	0.484	1.042	0.485	0.479	0.985	0.471	5	AGC	SGC
PRACTICAL QUANTITATION LIMIT (PQL)	0.762	0.779	0.771	0.775	1.667	0.777	0.766	1.576	0.75	8	---	---
TARGETED TIC LQL	2.38	2.43	2.41	2.42	5.21	2.43	2.39	4.93	2.36	25	---	---
VOC COMPOUND NAME	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	(ng)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)
Acetone*	1.05	2.24	1.93	1.94	7.08	3.88	2.78	4.53	2.64		30,000	180,000
Benzaldehyde**	**4.48**	**6.91**			**14.17**	**9.13**	**9.58**	**7.19**	**8.20**		0.10	----
Benzene											0.13	1,300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3,900
2-Butanone*											5,000	13,000
Carbon Disulfide											700	6,200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform											0.043	150
Chloromethane											90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane											0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene											63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4,000
Methylene Chloride											2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**1.33**			**0.87**		**2.33**	**0.57**	**< 1.18**	**5.47**		1.00	1,000
Toluene						0.78	0.57		0.57		5,000	37,000
1,1,1-Trichloroethane											5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene	**0.76**										0.50	14,000
Trichlorofluoromethane	1.43	1.27	1.35	1.36	1.67	1.75	1.15	< 1.38	1.13		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
FOURTH QUARTER 2013

SOIL GAS WELL ID	F1	M2	M4	M5	M6	M9(10)	M9(20)	M9(30)	M9(40)	FB1	Current	Current
ADDITIONAL TIC LQL	2.38	2.43	2.41	2.42	5.21	2.43	2.39	4.93	2.36	25	AGC	SGC
VOC COMPOUND NAME	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(µg/std-m³)	(ng)	(µg/std-m³)	(µg/std-m³)
alpha-Pinene isomer											---	---
Isobutane											57,000	---
Dichlorodifluoromethane			5.88					< 8.28			12,000	---
1,1-Dichloro-1-fluoroethane	2.76										---	---
Cyclotrisiloxane, hexamethyl-		9.64	4.91			8.25	4.21	< 7.68	2.45		---	---
D-Limonene											---	---

TABLE 4.2
(Continued)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
FOURTH QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current AGC	Current SGC
LOWER QUANTITATION LIMIT (LQL)	0.457	0.473	0.481	0.471	0.475	0.460	0.482	0.473	0.975	5		
PRACTICAL QUANTITATION LIMIT (PQL)	0.731	0.756	0.769	0.754	0.760	0.74	0.771	0.757	1.559	8		
TARGETED TIC LQL	2.29	2.36	2.40	2.36	2.37	2.30	2.41	2.37	4.87	25		
VOC COMPOUND NAME	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)	(ng)	($\mu g/std\text{-}m^3$)	($\mu g/std\text{-}m^3$)
Acetone*	1.55	1.32	1.83	2.17	2.18	2.30	1.74	1.89	3.31	15	30,000	180,000
Benzaldehyde**							**6.65**	**4.45**	**4.78**		0.10	----
Benzene											0.13	1300
Bromodichloromethane											70.0	---
Bromoform*											0.91	---
Bromomethane											5.00	3900
2-Butanone*	4.66	1.42									5000	13,000
Carbon Disulfide											700	6200
Carbon Tetrachloride											0.17	1,900
Chlorobenzene											110	---
Chloroethane											10,000	---
2-Chloroethyl Vinyl Ether**											0.10	----
Chloroform	**1.01**							**1.51**			0.043	150
Chloromethane											90.0	22,000
Dibromochloromethane											0.10	---
1,2-Dichlorobenzene (o)											200	30,000
1,3-Dichlorobenzene (m)											10.0	---
1,4-Dichlorobenzene (p)											0.09	---
1,1-Dichloroethane											0.63	---
1,2-Dichloroethane											0.038	---
1,1-Dichloroethene											70.0	---
cis-1,2-Dichloroethene											63.0	---
trans-1,2-Dichloroethene											63.0	----
1,2-Dichloropropane											4.00	----
1,3-Dichloropropene, cis & trans isomers											0.25	---
Ethylbenzene											1,000	54,000
2/4-Ethyltoluene (total)											0.10	----
Freon 13**											5,000	9,000
2-Hexanone*											30.0	4000
Methylene Chloride						1.38					2.10	14,000
4-Methyl-2-Pentanone*											3,000	31,000
Styrene											1,000	17,000
1,1,2,2-Tetrachloroethane											16.0	---
Tetrachloroethene	**10.97**	**7.18**	**1.06**	**1.98**			0.58	0.76	**< 4.97**		1.00	1,000
Toluene											5,000	37,000
1,1,1-Trichloroethane	1.46										5,000	9,000
1,1,2-Trichloroethane											1.40	---
Trichloroethene	**0.73**			**0.75**	**0.57**				**< 1.75**		0.50	14,000
Trichlorofluoromethane	1.19	1.98	1.15	1.79	0.95	1.20	1.35	1.14	< 1.56		5,000	9,000
Vinyl Chloride											0.11	180,000
Xylenes (Total)											100	4,300
Decane**											700	---

TABLE 4.2
(Concluded)

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SOIL GAS VOST SAMPLE RESULTS
ADDITIONAL TENTATIVELY IDENTIFIED COMPOUNDS
FOURTH QUARTER 2013

SOIL GAS WELL ID	M13	M16	M21	M22	M28	M31	M34	M37	M39	FB2	Current	Current
ADDITIONAL TIC LQL	2.29	2.36	2.40	2.36	2.37	2.30	2.41	2.37	4.87	25	AGC	SGC
VOC COMPOUND NAME	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(mg/std-m3)	(ng)	(mg/m3)	(mg/m3)
alpha-Pinene isomer		46.31									---	---
Isobutane								4.64			57,000	---
Dichlorodifluoromethane	4.39								< 7.41		12,000	---
1,1-Dichloro-1-fluoroethane								2.65			---	---
Cyclotrisiloxane, hexamethyl-								2.46			---	---
D-Limonene		12.29									---	---

Notes:

* An 8 nanogram practical quantitation limit has been assigned to these compounds due to their poor responses during laboratory analysis.

** Targeted Tentatively Identified Compound (TIC). As reported by the laboratory, Targeted TICs have a Lower Quantitation Limit that is five (5) times the targeted compound Lower Quantitation Limit.

- All values are reported in micrograms per standard cubic meter (mg/std-m3).
- Blank values:

  Targeted Compounds and Targeted TICs- All blank values are below the Lower Quantitation Limit, Practical Quantitation Limit (applies to Acetone, Bromoform, 2-Butanone, 4-Methyl-2-Pentanone and 2-Hexanone), or the Targeted TIC Lower Quantitation Limit (applies to Chloroethyl vinyl ether, Freon 13 and Decane). Benzaldehyde has a LQL 2 times the targeted TIC LQL.

  Additional Tentatively Identified Compounds- All blank values are either below the Targeted TIC Lower Quantitation Limit where less than six (6) additional TICs are reported for a particular sample or below the lowest reported additional TIC value, where six (6) or more additional TICs are reported for a particular sample.
- Values in shaded areas are at or exceed the level of the current (last revised October 2010 and still current as of February 2014) and/or previous ambient air Annual Guideline Concentration (AGC) values.
- Less than values (<) are used where the Lower Quantitation Limit, the Target TIC Lower Quantitation Limit, or the Practical Quantitation Limit is averaged with the reported values.
- Freon 13 is listed as Chlorotrifluoromethane in the Analytical Results, Appendix C.
- (mg/std-m3): micrograms per standard cubic meter
- (ng): nanograms

TABLE 5.1

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SUMMARY OF SOIL GAS PRESSURE TESTS

FIRST QUARTER 2013

SAMPLE ID	DATE (mm/dd/yy)	TIME (EDT)	WELL ID	WELL LOCATION	WELL DEPTH (feet)	PRESSURE* (inches water)
P1	04/16/13	7:23 AM	PW1	NW corner of the landfill on Haul Road	10	-0.07
P2	04/16/13	7:23 AM	PW1	NW corner of the landfill on Haul Road	20	-0.12
P3	04/16/13	7:24 AM	PW1	NW corner of the landfill on Haul Road	10	-0.07
P4	04/16/13	7:24 AM	PW1	NW corner of the landfill on Haul Road	20	-0.12
P5	04/16/13	7:15 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P6	04/16/13	7:15 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.13
P7	04/16/13	7:16 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P8	04/16/13	7:16 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.13
P9	04/16/13	7:40 AM	PW3	Nassau County Fire Service Academy	10	0.00
P10	04/16/13	7:40 AM	PW3	Nassau County Fire Service Academy	20	-0.01
P11	04/16/13	7:41 AM	PW3	Nassau County Fire Service Academy	10	0.00
P12	04/16/13	7:41 AM	PW3	Nassau County Fire Service Academy	20	-0.01

NOTES:

- Measurements taken using a ten inch Dwyer inclined manometer.
- Leak checks were performed on the manometer before testing each well.

* The differential pressure of a well is relative to ambient pressure.

TABLE 5.1

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SUMMARY OF SOIL GAS PRESSURE TESTS

SECOND QUARTER 2013

SAMPLE ID	DATE (mm/dd/yy)	TIME (EDT)	WELL ID	WELL LOCATION	WELL DEPTH (feet)	PRESSURE* (inches water)
P1	05/31/13	8:55 AM	PW1	NW corner of the landfill on Haul Road	10	-0.04
P2	05/31/13	8:55 AM	PW1	NW corner of the landfill on Haul Road	20	-0.09
P3	05/31/13	8:56 AM	PW1	NW corner of the landfill on Haul Road	10	-0.05
P4	05/31/13	8:56 AM	PW1	NW corner of the landfill on Haul Road	20	-0.09
P5	05/31/13	8:48 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P6	05/31/13	8:48 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.12
P7	05/31/13	8:49 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P8	05/31/13	8:49 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.11
P9	05/31/13	8:22 AM	PW3	Nassau County Fire Service Academy	10	0.00
P10	05/31/13	8:22 AM	PW3	Nassau County Fire Service Academy	20	0.01
P11	05/31/13	8:23 AM	PW3	Nassau County Fire Service Academy	10	0.00
P12	05/31/13	8:23 AM	PW3	Nassau County Fire Service Academy	20	0.01

NOTES:

- Measurements taken using a ten inch Dwyer inclined manometer.
- Leak checks were performed on the manometer before testing each well.

* The differential pressure of a well is relative to ambient pressure.

TABLE 5.1

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SUMMARY OF SOIL GAS PRESSURE TESTS

THIRD QUARTER 2013

SAMPLE ID	DATE (mm/dd/yy)	TIME (EDT)	WELL ID	WELL LOCATION	WELL DEPTH (feet)	PRESSURE* (inches water)
P1	08/07/13	10:12 AM	PW1	NW corner of the landfill on Haul Road	10	0.00
P2	08/07/13	10:12 AM	PW1	NW corner of the landfill on Haul Road	20	0.00
P3	08/07/13	10:14 AM	PW1	NW corner of the landfill on Haul Road	10	0.00
P4	08/07/13	10:14 AM	PW1	NW corner of the landfill on Haul Road	20	0.00
P5	08/07/13	10:04 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P6	08/07/13	10:04 AM	PW2	SE corner of the landfill NW of Well M2	20	0.00
P7	08/07/13	10:06 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P8	08/07/13	10:06 AM	PW2	SE corner of the landfill NW of Well M2	20	0.00
P9	08/07/13	10:24 AM	PW3	Nassau County Fire Service Academy	10	0.00
P10	08/07/13	10:24 AM	PW3	Nassau County Fire Service Academy	20	0.00
P11	08/07/13	10:26 AM	PW3	Nassau County Fire Service Academy	10	0.00
P12	08/07/13	10:26 AM	PW3	Nassau County Fire Service Academy	20	0.00

NOTES:

- Measurements taken using a ten inch Dwyer inclined manometer.
- Leak checks were performed on the manometer before testing each well.

* The differential pressure of a well is relative to ambient pressure.

- Trimming of grass near perimeter lines caused damage to main header during sampling.

TABLE 5.1

TOWN OF OYSTER BAY
OLD BETHPAGE SOLID WASTE DISPOSAL COMPLEX

SUMMARY OF SOIL GAS PRESSURE TESTS

FOURTH QUARTER 2013

SAMPLE ID	DATE (mm/dd/yy)	TIME (EDT)	WELL ID	WELL LOCATION	WELL DEPTH (feet)	PRESSURE* (inches water)
P1	11/07/13	7:55 AM	PW1	NW corner of the landfill on Haul Road	10	0.07
P2	11/07/13	7:55 AM	PW1	NW corner of the landfill on Haul Road	20	0.12
P3	11/07/13	7:56 AM	PW1	NW corner of the landfill on Haul Road	10	0.07
P4	11/07/13	7:56 AM	PW1	NW corner of the landfill on Haul Road	20	0.11
P5	11/07/13	7:49 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P6	11/07/13	7:49 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.05
P7	11/07/13	7:50 AM	PW2	SE corner of the landfill NW of Well M2	10	0.00
P8	11/07/13	7:50 AM	PW2	SE corner of the landfill NW of Well M2	20	-0.03
P9	11/07/13	7:27 AM	PW3	Nassau County Fire Service Academy	10	0.00
P10	11/07/13	7:27 AM	PW3	Nassau County Fire Service Academy	20	-0.03
P11	11/07/13	7:28 AM	PW3	Nassau County Fire Service Academy	10	0.00
P12	11/07/13	7:28 AM	PW3	Nassau County Fire Service Academy	20	-0.04

NOTES:

- Measurements taken using a ten inch Dwyer inclined manometer.
- Leak checks were performed on the manometer before testing each well.

* The differential pressure of a well is relative to ambient pressure.