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ENVIRONMENT

Mr. George Jacob, Remedial Project Manager
U.S. Environmental Protection Agency
Central New York Remediation Section
Emergency and Remedial Response Division
290 Broadway, 20th Floor
New York, NY 10007-1866

Subject:
Volatile Organic Compound Plume Delineation Report
Colesville Landfill Superfund Site
Colesville, New York

Date:
August 2, 2011

Contact:
Steven M. Feldman

Phone:
(631) 391-5244

Email:
Steven.Feldman@arcadis-us.com

Our ref:
NY000949.0024.00005

Dear Mr. Jacob:

The United States Environmental Protection Agency (EPA) issued the Third Five-Year Review Report (FYR Report) for the Colesville Landfill Superfund Site (Site) on April 5, 2010. One of the conclusions of the FYR Report was that a protectiveness determination relative to ecological receptors could not be made until additional investigatory work is performed and, if necessary, additional corrective measures are undertaken. The investigatory work needs to be performed to determine whether or not the groundwater plume discharges to surface water and, if such a discharge is occurring, whether it poses an ecological risk.

This conclusion was based on a technical assessment by EPA personnel during the Five-Year Review. Specifically, the EPA concluded the following: "*It should be noted that the downgradient extent of the volatile organic compound (VOC) plume has not been fully delineated at the Site. While it is known that the plume extends to monitoring well W-18, which is located about 700 feet downgradient from the landfill, it is unknown if the plume reaches the North Stream, which is about 200 feet from W-18 or the Susquehanna River, which is about 600 feet from W-18. While it is believed that contaminant concentrations diminish with distance from the landfill, it is not known whether the plume reaches the surface water. It is recommended that the extent of the plume be delineated downgradient of the reactive zone and that surface water samples be collected*."

Based on this conclusion, the EPA recommended the following: "*To determine whether VOCs are reaching the surface water, which could pose an ecological risk,*

the extent of plume downgradient of the reactive zone needs to be delineated and surface water samples need to be collected."

In response to the FYR Report, and on behalf of the Broome County Division of Solid Waste Management, ARCADIS developed a Volatile Organic Compound Plume Delineation Work Plan (Work Plan) to delineate the downgradient extent of the VOC plume (i.e., downgradient of monitoring well W-18). The final Work Plan, dated March 18, 2011, was approved by the EPA prior to performing the work. The field work was performed in accordance with the Work Plan.

VOC Plume Delineation

To delineate the downgradient extent of the VOC plume (i.e., downgradient of monitoring well W-18), four (4) temporary monitoring wells (DPGW-1 through DPGW-4) were drilled and groundwater samples were collected from the temporary monitoring wells. The temporary monitoring well locations are shown on Figures 1 and 2. The temporary monitoring well groundwater samples were collected from the depth intervals shown in Table 1 and submitted to the laboratory for the analysis of VOCs using SW-846 Method 8260.

The groundwater samples collected from DPGW-1 and DPGW-2 were analyzed by the laboratory under a 24-hour turnaround time. The groundwater samples collected from DPGW-3 through DPGW-4 were held for analysis at the laboratory until the DPGW-1 and DPGW-2 groundwater quality data were evaluated. The Work Plan indicated that one (1) groundwater sample from each temporary monitoring well (DPGW-2 through DPGW-4) would be analyzed based on the DPGW-1 groundwater sampling interval that exhibited the highest total VOC (TVOC) concentration. To determine if the VOC plume was migrating toward the North Stream before analyzing the DPGW-3 and DPGW-4 groundwater samples, a decision was made to also analyze the DPGW-2 groundwater samples under a 24-hour TAT. Based on the DPGW-1 and DPGW-2 groundwater quality data, a decision was made to analyze all of the groundwater samples from DPGW-3 and DPGW-4. Table 1 provides a summary of the groundwater quality data.

Groundwater Quality Data

VOCs were detected in the temporary monitoring well groundwater samples including trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-

trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), chloroform, and xylene.

The highest VOC concentrations were detected in the groundwater samples collected from DPGW-1, which was located approximately 75 feet downgradient of monitoring well W-18. Groundwater quality data from DPGW-2 indicate that the component of groundwater flow migrating toward the North Stream is not adversely impacted with VOCs. The TVOC concentrations in the DPGW-2 groundwater samples were generally below 5 micrograms per liter (µg/L).

Low-level VOC concentrations were detected in the DPGW-3 and DPGW-4 groundwater samples and individual VOC concentrations were generally below 5 µg/L. DPGW-3 and DPGW-4 are located approximately 300 feet downgradient of monitoring well W-18, and at the approximate midpoint between W-18 and the Susquehanna River. These data indicate that the VOC plume concentrations decrease along the groundwater flow path between monitoring well W-18 and the Susquehanna River, and that the VOC plume is attenuating prior to reaching the Susquehanna River.

Collectively, the data also indicate that the VOC plume has been delineated downgradient of monitoring well W-18. Based on the groundwater quality data, additional surface water sampling is not warranted in this area and well W-18 is appropriately placed to act as a sentinel well.

If there are any questions, please do not hesitate to contact me at (631) 391-5244.

Sincerely,

ARCADIS of New York, Inc.

Steven M. Feldman
Project Manager

Copies:
Payson Long, NYSDEC
Julia Kenney, NYSDOH
Laurie Haskell, Broome County
Dan Schofield, Broome County

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID:	DPGW-1 (15-17')	DUP061311	DPGW-1 (20-22')	DPGW-2 (12-14')
	Sample Depth:	15-17	15-17	20-22	12-14
	Date:	6/13/2011	6/13/2011 DPGW-1 (15-17') DUP	6/13/2011	6/13/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane		**7.5**	**6.4**	**13**	<5.0
1,1,2-Trichloroethane		<5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2,3-Trichloropropane		<5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
1,3,5-Trimethylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
1,2-Dibromo-3-chloropropane		<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane		**9.1**	**7.9**	**16**	**1.3 J**
1,1-Dichloroethene		<5.0	<5.0	**0.90 J**	<5.0
1,1-Dichloropropene		<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,3-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
2-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
2,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
4-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
Benzene		<5.0	<5.0	<5.0	<5.0
Bromobenzene		<5.0	<5.0	<5.0	<5.0
Bromochloromethane		<5.0	<5.0	<5.0	<5.0
Bromodichloromethane		<5.0	<5.0	<5.0	<5.0
Bromoform		<5.0	<5.0	<5.0	<5.0
Bromomethane		<5.0	<5.0	<5.0	<5.0
n-Butylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Carbon Tetrachloride		<5.0	<5.0	<5.0	<5.0
Chlorobenzene		<5.0	<5.0	<5.0	<5.0
Chloroethane		<5.0	<5.0	<5.0	<5.0
Chloroform		<5.0 J	<5.0 J	**0.93 J**	<5.0 J
Chloromethane		<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene		**7.3**	**6.4**	**13**	<5.0
cis-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Dibromochloromethane		<5.0	<5.0	<5.0	<5.0
Dibromomethane		<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane		<5.0	<5.0	<5.0	<5.0
Ethylbenzene		<5.0	<5.0	<5.0	<5.0
Hexachlorobutadiene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Isopropylbenzene		<5.0	<5.0	<5.0	<5.0
p-Isopropyltoluene		<5.0	<5.0	<5.0	<5.0
Methylene chloride		<5.0	<5.0	<5.0	<5.0
Methyl tert-butyl ether		<5.0	<5.0	<5.0	<5.0
Naphthalene		<5.0	<5.0	<5.0	<5.0
o-Xylene		**1.7 J**	<5.0	<5.0	<5.0
m,p-Xylene		<5.0 J	<5.0 J	<5.0 J	<5.0 J

See notes on next page.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	DPGW-1 (15-17') 15-17 6/13/2011	DUP061311 15-17 6/13/2011 DPGW-1 (15-17') DUP	DPGW-1 (20-22') 20-22 6/13/2011	DPGW-2 (12-14') 12-14 6/13/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
n-Propylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
sec-Butylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Styrene		<5.0	<5.0	<5.0	<5.0
tert-Butylbenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
trans-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane		<5.0	<5.0	<5.0	<5.0
Tetrachloroethene		<5.0	<5.0	<5.0	<5.0
Toluene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
trans-1,2-Dichloroethene		<5.0	<5.0	<5.0	<5.0
Trichloroethene		**13**	**11**	**25**	**1.2 J**
Vinyl chloride		<5.0	<5.0	<5.0	<5.0
Total VOCs		**38.6**	**31.7**	**68.83**	**2.5**

Bold	Indicates detection above laboratory Method Detection Limit.
DUP	Duplicate sample.
VOCs	Volatile organic compounds.
ug/L	Micrograms per liter.
B	Detected in associated blank.
J	Estimated value.
ND	Not detected.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	DPGW-2 (15-17') 15-17 6/13/2011	DPGW-2 (20-22') 20-22 6/13/2011	DPGW-3 (10-12') 10-12 6/14/2011	DPGW-3 (15-17') 15-17 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane		**0.86 J**	**0.79 J**	<5.0	**4.1 J**
1,1,2-Trichloroethane		<5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene		<5.0	<5.0	<5.0 J	<5.0 J
1,2,3-Trichloropropane		<5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
1,3,5-Trimethylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
1,2-Dibromo-3-chloropropane		<5.0	<5.0	<5.0 J	<5.0 J
1,1-Dichloroethane		**1.7 J**	**1.6 J**	**1.1 J**	**7.6**
1,1-Dichloroethene		<5.0	<5.0	<5.0	**1.2 J**
1,1-Dichloropropene		<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,3-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
2-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
2,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
4-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
Benzene		<5.0	<5.0	<5.0	<5.0
Bromobenzene		<5.0	<5.0	<5.0	<5.0
Bromochloromethane		<5.0	<5.0	<5.0	<5.0
Bromodichloromethane		<5.0	<5.0	<5.0	<5.0
Bromoform		<5.0	<5.0	<5.0	<5.0
Bromomethane		<5.0	<5.0	<5.0	<5.0
n-Butylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
Carbon Tetrachloride		<5.0	<5.0	<5.0	<5.0
Chlorobenzene		<5.0	<5.0	<5.0	<5.0
Chloroethane		<5.0	<5.0	<5.0	<5.0
Chloroform		<5.0 J	<5.0 J	<5.0	<5.0
Chloromethane		<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene		**1.0 J**	<5.0	<5.0	**4.6 J**
cis-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Dibromochloromethane		<5.0	<5.0	<5.0	<5.0
Dibromomethane		<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane		<5.0	<5.0	<5.0	<5.0
Ethylbenzene		<5.0	<5.0	<5.0	<5.0
Hexachlorobutadiene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Isopropylbenzene		<5.0	<5.0	<5.0	<5.0
p-Isopropyltoluene		<5.0	<5.0	<5.0	<5.0
Methylene chloride		<5.0	<5.0	<5.0 J	<5.0 J
Methyl tert-butyl ether		<5.0	<5.0	<5.0	<5.0
Naphthalene		<5.0	<5.0	<5.0 J	<5.0 J
o-Xylene		<5.0	**1.7 J**	<5.0	<5.0
m,p-Xylene		<5.0 J	<5.0 J	<5.0	<5.0

See notes on next page.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	DPGW-2 (15-17') 15-17 6/13/2011	DPGW-2 (20-22') 20-22 6/13/2011	DPGW-3 (10-12') 10-12 6/14/2011	DPGW-3 (15-17') 15-17 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
n-Propylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
sec-Butylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
Styrene		<5.0	<5.0	<5.0	<5.0
tert-Butylbenzene		<5.0 J	<5.0 J	<5.0	<5.0
trans-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane		<5.0	<5.0	<5.0	<5.0
Tetrachloroethene		<5.0	<5.0	<5.0	<5.0
Toluene		<5.0 J	<5.0 J	<5.0	<5.0
trans-1,2-Dichloroethene		<5.0	<5.0	<5.0	<5.0
Trichloroethene		**1.8 J**	**0.71 J**	<5.0	<5.0
Vinyl chloride		<5.0	<5.0	<5.0	<5.0
Total VOCs		**5.36**	**4.8**	**1.1**	**17.5**

Bold	Indicates detection above laborat
DUP	Duplicate sample.
VOCs	Volatile organic compounds.
ug/L	Micrograms per liter.
B	Detected in associated blank.
J	Estimated value.
ND	Not detected.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	DPGW-3 (20-22') 20-22 6/14/2011	DPGW-4 (12-14') 12-14 6/14/2011	DPGW-4 (15-17') 15-17 6/14/2011	DPGW-4 (20-22') 20-22 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane		**4.1 J**	**2.7 J**	**1.9 J**	<5.0
1,1,2-Trichloroethane		<5.0	<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
1,2,3-Trichloropropane		<5.0	<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene		<5.0	<5.0	<5.0	<5.0
1,3,5-Trimethylbenzene		<5.0	<5.0	<5.0	<5.0
1,2-Dibromo-3-chloropropane		<5.0 J	<5.0 J	<5.0 J	<5.0 J
1,1-Dichloroethane		**7.5**	**4.5 J**	**2.8 J**	<5.0
1,1-Dichloroethene		**0.97 J**	<5.0	<5.0	<5.0
1,1-Dichloropropene		<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane		<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
1,3-Dichloropropane		<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene		<5.0	<5.0	<5.0	<5.0
2-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
2,2-Dichloropropane		<5.0	<5.0	<5.0	<5.0
4-Chlorotoluene		<5.0	<5.0	<5.0	<5.0
Benzene		<5.0	<5.0	<5.0	<5.0
Bromobenzene		<5.0	<5.0	<5.0	<5.0
Bromochloromethane		<5.0	<5.0	<5.0	<5.0
Bromodichloromethane		<5.0	<5.0	<5.0	<5.0
Bromoform		<5.0	<5.0	<5.0	<5.0
Bromomethane		<5.0	<5.0	<5.0	<5.0
n-Butylbenzene		<5.0	<5.0	<5.0	<5.0
Carbon Tetrachloride		<5.0	<5.0	<5.0	<5.0
Chlorobenzene		<5.0	<5.0	<5.0	<5.0
Chloroethane		<5.0	<5.0	<5.0	<5.0
Chloroform		<5.0	**0.83 J**	<5.0	<5.0
Chloromethane		<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene		**4.6 J**	**3.3 J**	**1.9 J**	<5.0
cis-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Dibromochloromethane		<5.0	<5.0	<5.0	<5.0
Dibromomethane		<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane		<5.0	<5.0	<5.0	<5.0
Ethylbenzene		<5.0	<5.0	<5.0	<5.0
Hexachlorobutadiene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Isopropylbenzene		<5.0	<5.0	<5.0	<5.0
p-Isopropyltoluene		<5.0	<5.0	<5.0	<5.0
Methylene chloride		<5.0 J	<5.0 J	<5.0 J	<5.0 J
Methyl tert-butyl ether		<5.0	<5.0	<5.0	<5.0
Naphthalene		<5.0 J	<5.0 J	<5.0 J	<5.0 J
o-Xylene		<5.0	<5.0	<5.0	<5.0
m,p-Xylene		<5.0	<5.0	<5.0	<5.0

See notes on next page.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	DPGW-3 (20-22') 20-22 6/14/2011	DPGW-4 (12-14') 12-14 6/14/2011	DPGW-4 (15-17') 15-17 6/14/2011	DPGW-4 (20-22') 20-22 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0	<5.0
n-Propylbenzene		<5.0	<5.0	<5.0	<5.0
sec-Butylbenzene		<5.0	<5.0	<5.0	<5.0
Styrene		<5.0	<5.0	<5.0	<5.0
tert-Butylbenzene		<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene		<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane		<5.0	<5.0	<5.0	<5.0
Tetrachloroethene		<5.0	<5.0	<5.0	<5.0
Toluene		<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene		<5.0	<5.0	<5.0	<5.0
Trichloroethene		<5.0	<5.0	<5.0	<5.0
Vinyl chloride		<5.0	<5.0	<5.0	<5.0
Total VOCs		**17.17**	**11.33**	**6.6**	ND

Bold	Indicates detection above laborat
DUP	Duplicate sample.
VOCs	Volatile organic compounds.
ug/L	Micrograms per liter.
B	Detected in associated blank.
J	Estimated value.
ND	Not detected.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

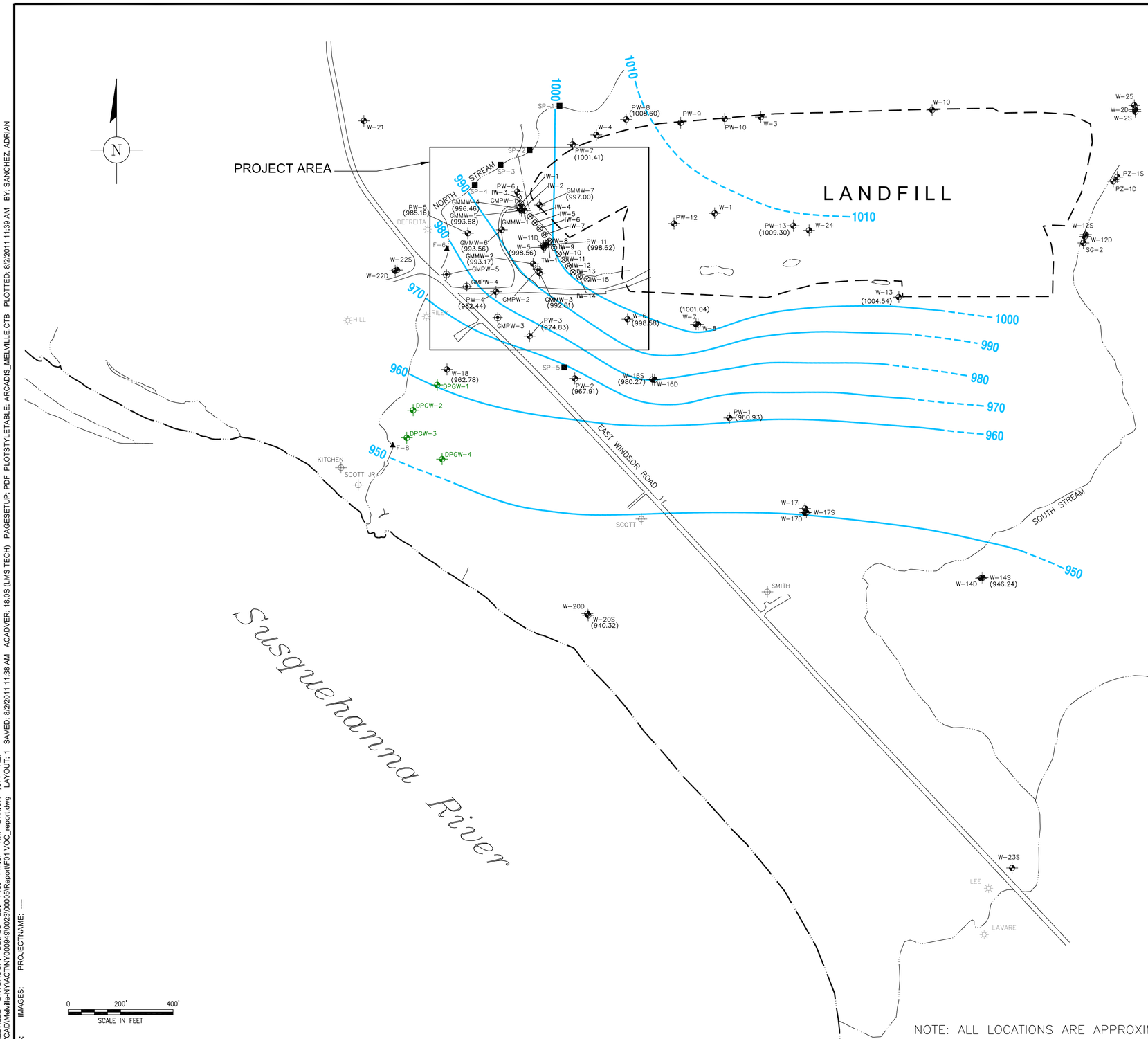
Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	FBV061411 / 6/14/2011	TRIP BLANK / 6/13/2011	TRIP BLANK / 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0
1,1,1-Trichloroethane		<5.0	<5.0	<5.0
1,1,2-Trichloroethane		<5.0	<5.0	<5.0
1,2,3-Trichlorobenzene		<5.0 J	<5.0	<5.0 J
1,2,3-Trichloropropane		<5.0	<5.0	<5.0
1,2,4-Trichlorobenzene		<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene		<5.0	<5.0 J	<5.0
1,3,5-Trimethylbenzene		<5.0	<5.0 J	<5.0
1,2-Dibromo-3-chloropropane		<5.0	<5.0	<5.0
1,1-Dichloroethane		<5.0	<5.0	<5.0
1,1-Dichloroethene		<5.0	<5.0	<5.0
1,1-Dichloropropene		<5.0	<5.0	<5.0
1,2-Dibromoethane		<5.0	<5.0	<5.0
1,2-Dichlorobenzene		<5.0	<5.0	<5.0
1,2-Dichloroethane		<5.0	<5.0	<5.0
1,2-Dichloropropane		<5.0	<5.0	<5.0
1,3-Dichlorobenzene		<5.0	<5.0	<5.0
1,3-Dichloropropane		<5.0	<5.0	<5.0
1,4-Dichlorobenzene		<5.0	<5.0	<5.0
2-Chlorotoluene		<5.0	<5.0	<5.0
2,2-Dichloropropane		<5.0	<5.0	<5.0
4-Chlorotoluene		<5.0	<5.0	<5.0
Benzene		<5.0	<5.0	<5.0
Bromobenzene		<5.0	<5.0	<5.0
Bromochloromethane		<5.0	<5.0	<5.0
Bromodichloromethane		<5.0	<5.0	<5.0
Bromoform		<5.0	<5.0	<5.0
Bromomethane		<5.0	<5.0	<5.0
n-Butylbenzene		<5.0	<5.0 J	<5.0
Carbon Tetrachloride		<5.0	<5.0	<5.0
Chlorobenzene		<5.0	<5.0	<5.0
Chloroethane		<5.0	<5.0	<5.0
Chloroform		<5.0	<5.0 J	<5.0
Chloromethane		<5.0	<5.0	<5.0
cis-1,2-Dichloroethene		<5.0	<5.0	<5.0
cis-1,3-Dichloropropene		<5.0	<5.0	<5.0
Dibromochloromethane		<5.0	<5.0	<5.0
Dibromomethane		<5.0	<5.0	<5.0
Dichlorodifluoromethane		<5.0	<5.0	<5.0
Ethylbenzene		<5.0	<5.0	<5.0
Hexachlorobutadiene		<5.0 J	<5.0 J	<5.0 J
Isopropylbenzene		<5.0	<5.0	<5.0
p-Isopropyltoluene		<5.0	<5.0	<5.0
Methylene chloride		**0.90 JB**	<5.0	<5.0 J
Methyl tert-butyl ether		<5.0	<5.0	<5.0
Naphthalene		<5.0 J	<5.0	<5.0 J
o-Xylene		<5.0	<5.0	<5.0
m,p-Xylene		<5.0	<5.0 J	<5.0

See notes on next page.

Table 1. Concentrations of Volatile Organic Compounds in Groundwater Samples Collected from Temporary Monitoring Wells, Colesville Landfill, Broome County, New York.

Constituent (Units in ug/L)	Sample ID: / Sample Depth: / Date:	FBV061411 / 6/14/2011	TRIP BLANK / 6/13/2011	TRIP BLANK / 6/14/2011
1,1,1,2-Tetrachloroethane		<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane		<5.0	<5.0	<5.0
n-Propylbenzene		<5.0	<5.0 J	<5.0
sec-Butylbenzene		<5.0	<5.0 J	<5.0
Styrene		<5.0	<5.0	<5.0
tert-Butylbenzene		<5.0	<5.0 J	<5.0
trans-1,3-Dichloropropene		<5.0	<5.0	<5.0
Trichlorofluoromethane		<5.0	<5.0	<5.0
Tetrachloroethene		<5.0	<5.0	<5.0
Toluene		<5.0	<5.0 J	<5.0
trans-1,2-Dichloroethene		<5.0	<5.0	<5.0
Trichloroethene		<5.0	<5.0	<5.0
Vinyl chloride		<5.0	<5.0	<5.0
Total VOCs		**0.90**	ND	ND

Bold	Indicates detection above laborat
DUP	Duplicate sample.
VOCs	Volatile organic compounds.
ug/L	Micrograms per liter.
B	Detected in associated blank.
J	Estimated value.
ND	Not detected.

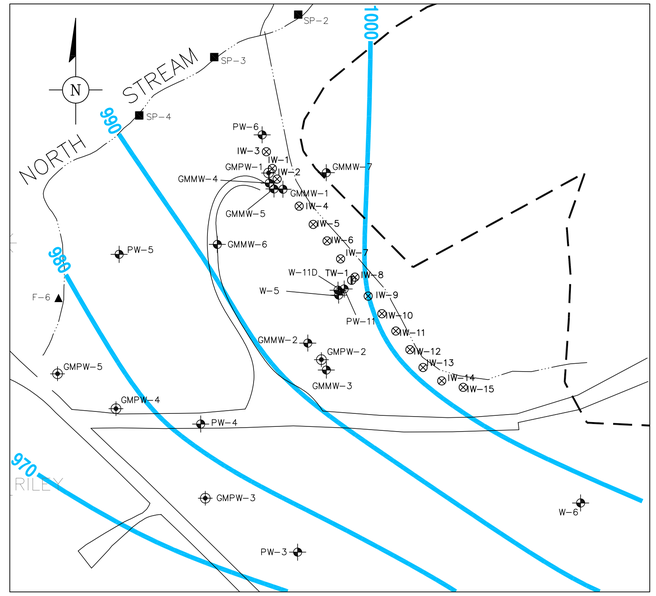


NOTE: ALL LOCATIONS ARE APPROXIMATE

EXPLANATION

LONG-TERM MONITORING PLAN DESIGNATIONS

- W-24 — LOCATION AND DESIGNATION OF MONITORING WELL
- SCOTT — LOCATION AND DESIGNATION OF EXISTING HOMEOWNER WELL
- HILL — LOCATION AND DESIGNATION OF FORMER HOMEOWNER WELL
- IW-2 — LOCATION AND DESIGNATION OF INJECTION WELL
- GMPW-3 — LOCATION AND DESIGNATION OF PRODUCTION WELL
- F-6 — LOCATION AND DESIGNATION OF SURFACE WATER SAMPLE
- SP-2 — LOCATION AND DESIGNATION OF SPRING SAMPLE
- TW-1 — LOCATION AND DESIGNATION OF TEST MONITORING WELL
- 1000 — WATER LEVEL ELEVATION CONTOUR IN FT MSL; CONTOUR INTERVAL IS TEN (10) FEET (DASHED WHERE INFERRED)
- (1009.30) — WATER LEVEL ELEVATION IN FT MSL
- DPGW-1 — TEMPORARY MONITORING WELL LOCATION AND DESIGNATION



SITE PLAN SHOWING PROJECT AREA

0 100' 200'
SCALE IN FEET

COLESVILLE LANDFILL
COLESVILLE, NEW YORK
VOC PLUME DELINEATION REPORT

SITE PLAN SHOWING WATER-LEVEL ELEVATIONS ON SEPTEMBER 22, 2010 AND TEMPORARY MONITORING WELL LOCATIONS

ARCADIS

FIGURE
1

CITY:MELVILLE DIV/GROUP: DB:ALS LD: PIC: PM:SF TM: LYR:ON=*;OFF=*REF*
G:\ENVCAD\Melville-NY\ACTIVITY\00094900230000S\Report\F01 VOC_report.dwg LAYOUT: 1 SAVED: 8/2/2011 11:38 AM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF PLOTSTYLETABLE: ARCADIS_MELVILLE.CTB PLOTTED: 8/2/2011 11:39 AM BY: SANCHEZ, ADRIAN
XREFS: IMAGES: PROJECTNAME: ---

DPGW-1 TEMPORARY MONITORING WELL LOCATION AND DESIGNATION

N

0 200' 400'

SCALE IN FEET

COLESVILLE LANDFILL
COLESVILLE, NEW YORK
VOC PLUME DELINEATION REPORT

TEMPORARY MONITORING WELL LOCATIONS

ARCADIS

FIGURE 2

CITY:MELVILLE-NY DIV/GROUP:ENR1 DBA:SANCHEZ LD:(Opt) PIC: PM:S.FELDMAN TM:C.KEEN LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Melville-NY\ACT\NY000949\0023\00005\Report\F02 AERIAL_report.dwg LAYOUT: 2 SAVED: 8/2/2011 11:37 AM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF PLOTSTYLETABLE: ARCADIS_MELVILLE.CTB PLOTTED: 8/2/2011 11:40 AM BY: SANCHEZ, ADRIAN

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COLESVILLE.jpg