



The New Jersey Department of Environmental Protection (DEP) contracted The Louis Berger Group, Inc. (Louis Berger) to perform a Remedial Investigation (RI) for the former Joan's Cleaners Site and adjacent residential neighborhood in Tabernacle Township. The purpose of the RI was to identify the source of the known ground water contamination and to delineate the extent of the contamination.

Site History

Historically, Joan's Cleaners, or "the Site," was a dry cleaning facility located within a strip mall at 1529 Route 206 (Block 320, Lot 5) in Tabernacle Township, Burlington County, New Jersey. The former Joan's Cleaners site is now a Subway sandwich shop located in the Celebration Plaza shopping center at the corner of Route 206 and Cramer Road. The dry cleaners operated between 1983 and 2005. NJDEP records indicate that Joan's Cleaners utilized tetrachloroethylene (PCE) for the entire period that the business was in operation. PCE is a common Volatile Organic Compound (VOC) used in the dry cleaning process.

In March 2006, ground water contamination was detected in a private well northeast and down-gradient of the Site. The NJDEP and the local health department sampled over 70 of the private wells in the area, finding PCE and related chlorinated products such as trichloroethene (TCE) and cis-1,2 dichloroethene in samples collected from approximately 30 of the wells. The gasoline additive methyl tert-butyl ether (MTBE) was also present in several of the samples collected from the private wells. Point of entry treatment units (POETs) were provided to all residents whose wells had contaminants exceeding drinking water standards.

Between May 2006 and July 2007 the NJDEP conducted multiple ground water screening investigations.

Several of the samples exceeded the NJDEP Class-IIA ground water quality standards (GWQS) as deep as 64 feet below ground surface (bgs). The extent of the ground water contamination at and near the Site was partially characterized, but further investigations were needed.

Due to the Site being located within the Pinelands Protection Area, the criteria for all constituents is defined as background levels or the laboratory practical quantitation level (PQL), whichever is higher (the PQL is the lowest concentration that the laboratory can reliably detect).

Remedial Investigation Findings

Between July 2010 and December 2012 Louis Berger performed RI activities including, soil sampling, ground water screening, monitoring well installation and monitoring well sampling.

The on-site soil investigation consisted of 30 soil borings, with multiple samples collected to identify and delineate residual soil contamination.

Ground water investigations were performed in an effort to characterize and delineate the contaminated ground water plume. To accurately define the contamination, ground water screening was conducted at 48 locations. Subsequently, based on data collected through ground water screening activities, 16 permanent ground water monitoring wells were installed.

Following the monitoring well installations, two ground water sampling events were completed as part of the RI, in March and May 2012. A Remedial Investigation Report (RIR) was completed by Louis Berger and submitted to NJDEP in April 2013.

Copies are available for review at NJDEP and at the office of the Tabernacle Township Municipal Clerk. The RIR is also available online at: www.nj.gov/dep/srp/community/sites/joans_rir_1.pdf.

The results of the soil sampling investigation did not reveal any soil contamination in excess of the NJDEP soil remediation standards remaining at the former Joan's Cleaners Site. As such, no additional soil investigation or remedial actions are proposed.

The results of the ground water investigation confirmed the presence of PCE and related VOCs, likely associated with the former Joan's Cleaners facility. The ground water contamination plume has been horizontally and vertically delineated and is approximately 160 acres in size, shown on the attached Figure 1. The bulk of the contamination exists from approximately 30 to 70 feet below ground surface (bgs). As seen in Figure 1, the contamination plume has moved eastward.

The Seneca High School, located east of the Joan's Cleaners site, is served by a well. However, the Seneca High School well is 400 feet deep so it draws water from a deeper aquifer, the Mount Laurel-Wenonah aquifer, which is separated from the contaminated shallow aquifer, the Kirkwood-Cohansey aquifer, by a 250-foot thick confining layer of clay. Therefore the Seneca High School well is not expected to be impacted by the contamination. However, since the Seneca High School well is located in a downgradient direction, the Lenape Regional High School District is sampling the well quarterly as a precaution, and no contamination has been detected to date.

Due to the documented presence of contamination in ground water, a Classification Exception Area (CEA) has been established by NJDEP for the entire area of contamination shown on Figure 1, and all affected residents and appropriate local authorities have been notified.

It has been determined that vapor intrusion into homes is not a potential hazard for this Site due to the depth of the contaminated ground water plume and the clean ground water above the plume.

All area residents are advised to have their wells sampled periodically for VOCs.

Additional Investigation Activities

The Louis Berger Group will perform quarterly ground water sampling for approximately two years to assess the natural degradation of the PCE contamination.

Ground water samples will be collected from selected monitoring wells and analyzed for VOCs as well as various natural attenuation parameters.

Upon completion of the quarterly ground water sampling activities, the Louis Berger Group will prepare a *Proposed Remediation Plan* for public review. The document will contain a Remedial Action Selection Evaluation which will review multiple remedial alternatives including, but not limited to: no action, chemical injections, and monitored natural attenuation. Once the plan is developed, more information will be made available regarding a presentation to the public and a comment period.

After public input is considered, a *Final Decision Document* will be issued. The *Decision Document* will select a Remedial Action to be implemented.

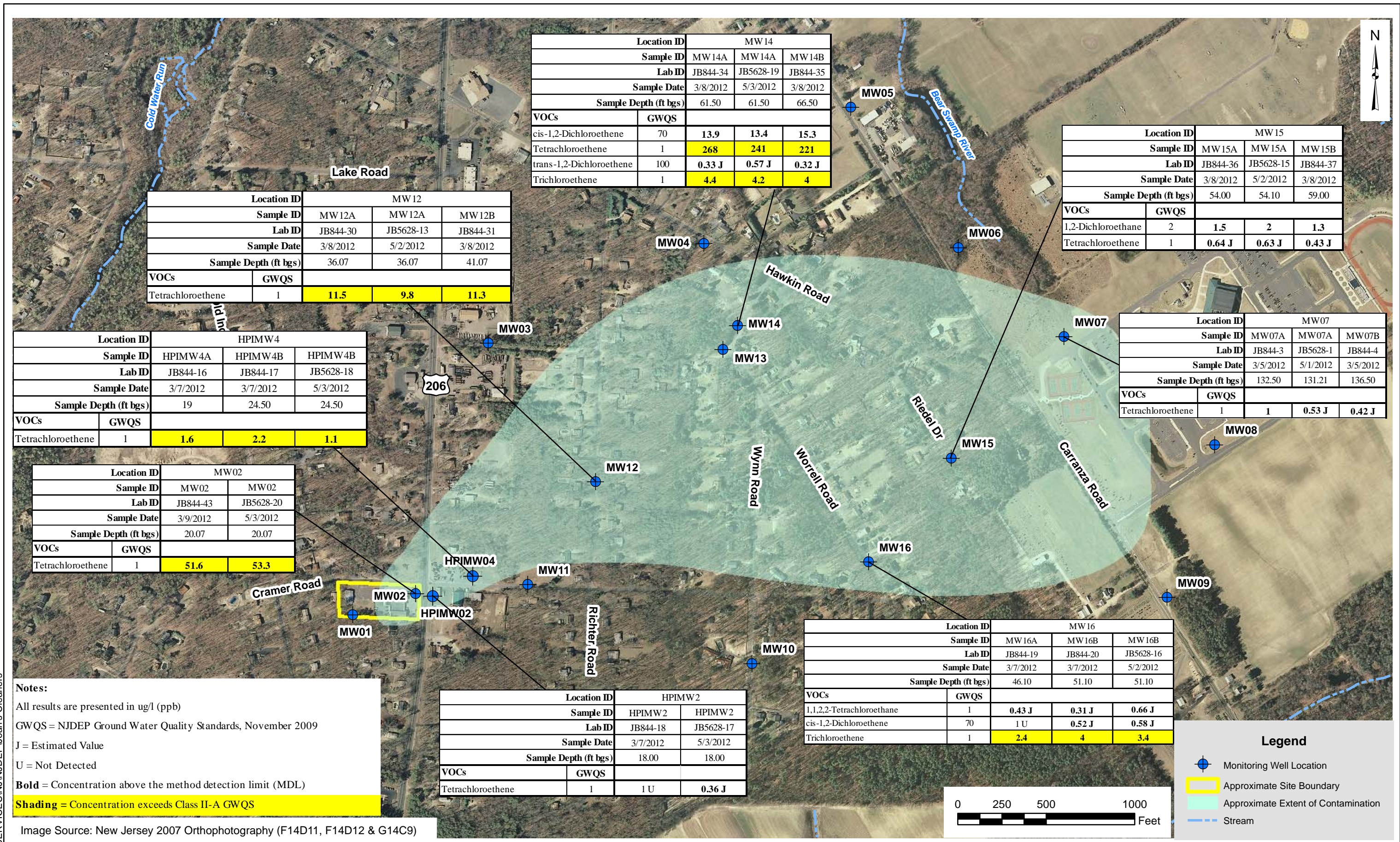
Online resources for information about contaminants may include information from the U.S. Environmental Protection Agency available at:

<http://www.epa.gov/superfund/health/index.htm>

and the U.S. Agency for Toxic Substances and Disease Registry at:

<http://www.atsdr.cdc.gov/toxfaqs/index.asp>.

For additional information please contact
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Location ID		MW14		
Sample ID		MW14A	MW14A	MW14B
Lab ID		JB844-34	JB5628-19	JB844-35
Sample Date		3/8/2012	5/3/2012	3/8/2012
Sample Depth (ft bgs)		61.50	61.50	66.50
VOCs	GWQS			
cis-1,2-Dichloroethene	70	13.9	13.4	15.3
Tetrachloroethene	1	268	241	221
trans-1,2-Dichloroethene	100	0.33 J	0.57 J	0.32 J
Trichloroethene	1	4.4	4.2	4

Location ID		MW15		
Sample ID		MW15A	MW15A	MW15B
Lab ID		JB844-36	JB5628-15	JB844-37
Sample Date		3/8/2012	5/2/2012	3/8/2012
Sample Depth (ft bgs)		54.00	54.10	59.00
VOCs	GWQS			
1,2-Dichloroethane	2	1.5	2	1.3
Tetrachloroethene	1	0.64 J	0.63 J	0.43 J

Location ID		MW12		
Sample ID		MW12A	MW12A	MW12B
Lab ID		JB844-30	JB5628-13	JB844-31
Sample Date		3/8/2012	5/2/2012	3/8/2012
Sample Depth (ft bgs)		36.07	36.07	41.07
VOCs	GWQS			
Tetrachloroethene	1	11.5	9.8	11.3

Location ID		MW07		
Sample ID		MW07A	MW07A	MW07B
Lab ID		JB844-3	JB5628-1	JB844-4
Sample Date		3/5/2012	5/1/2012	3/5/2012
Sample Depth (ft bgs)		132.50	131.21	136.50
VOCs	GWQS			
Tetrachloroethene	1	1	0.53 J	0.42 J

Location ID		HPIMW4		
Sample ID		HPIMW4A	HPIMW4B	HPIMW4B
Lab ID		JB844-16	JB844-17	JB5628-18
Sample Date		3/7/2012	3/7/2012	5/3/2012
Sample Depth (ft bgs)		19	24.50	24.50
VOCs	GWQS			
Tetrachloroethene	1	1.6	2.2	1.1

Location ID		MW02	
Sample ID		MW02	MW02
Lab ID		JB844-43	JB5628-20
Sample Date		3/9/2012	5/3/2012
Sample Depth (ft bgs)		20.07	20.07
VOCs	GWQS		
Tetrachloroethene	1	51.6	53.3

Location ID		MW16		
Sample ID		MW16A	MW16B	MW16B
Lab ID		JB844-19	JB844-20	JB5628-16
Sample Date		3/7/2012	3/7/2012	5/2/2012
Sample Depth (ft bgs)		46.10	51.10	51.10
VOCs	GWQS			
1,1,1,2,2-Tetrachloroethane	1	0.43 J	0.31 J	0.66 J
cis-1,2-Dichloroethene	70	1 U	0.52 J	0.58 J
Trichloroethene	1	2.4	4	3.4

Location ID		HPIMW2	
Sample ID		HPIMW2	HPIMW2
Lab ID		JB844-18	JB5628-17
Sample Date		3/7/2012	5/3/2012
Sample Depth (ft bgs)		18.00	18.00
VOCs	GWQS		
Tetrachloroethene	1	1 U	0.36 J

Notes:
 All results are presented in ug/l (ppb)
 GWQS = NJDEP Ground Water Quality Standards, November 2009
 J = Estimated Value
 U = Not Detected
Bold = Concentration above the method detection limit (MDL)
Shading = Concentration exceeds Class II-A GWQS

Legend

- Monitoring Well Location
- Approximate Site Boundary
- Approximate Extent of Contamination
- Stream

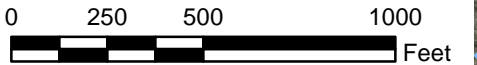
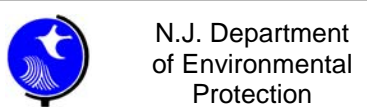


Image Source: New Jersey 2007 Orthophotography (F14D11, F14D12 & G14C9)

JOAN'S CLEANERS, TABERNACLE TOWNSHIP, NEW JERSEY
MONITORING WELL LOCATIONS AND CVOC ANALYTICAL DETECTION MAP
 NJDEP CONTRACT No. A-73073



The Louis Berger Group, Inc.
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 MORRISTOWN, NJ

FIGURE 1

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