June 27, 2013

Closure Report for Bedford Village Sampling

NYSDEC Site 3-60-009 Hunting Ridge Mall
NYSDEC Site 3-60-006 Bedford Arcade

Prepared by Stefan Goreau, Sanitarian

Site Description

The Town of Bedford (population 18,000) is situated in the northeast of Westchester County, NY. Low bedrock hills and shallow valleys form the typical geographic morphology of the area. Deciduous woodland covers much of the undeveloped portions of the town. The network of lakes, ponds, wetlands, ephemeral streams, brooks and rivers is divided into two watersheds. In the north of the town, drainage flows towards the Croton River which is part of the New York City water supply, while in the south the drainage is towards Long Island Sound via the Mianus River which in turn supplies public water resources for portions of Connecticut. Land use is primarily residential and commercial. The two specific sites referenced in this report both lie to the south of the major drainage dividing line and thus flow towards the Mianus River and Long Island Sound. As of 2013, there are four public water districts in the town of Bedford serving a total of 2,340 households, while the rest of the town's households rely on privately owned wells. Approximately 140 households in Bedford Village are served by a public water supply. In 1978 when the problem of improper disposal of waste dry-cleaning fluids was first discovered, the Bedford Village had several hundred potable water wells for residences and businesses. These wells are reported in earlier site assessments to range in depth from 20 - 30 feet for dug wells and 70 - 500 feet for drilled wells.

Sewage disposal in Town of Bedford relies primarily on individual on-site wastewater treatment systems. There are three community on-site wastewater treatment systems. None of the community on-site wastewater treatment systems serve the area of the two Bedford Village sites covered in this report.

Both of the contaminated sites are in the area of Bedford Village which lies along Old Post Road (Route 22) in the approximate center of the Town of Bedford.

The Bedford Arcade is located along the west side of Route 22 in the developed area of Bedford Village, and is a 6,800 square foot one-story building housing six retail stores. The immediate area consists of a series of commercial establishments and buildings lining both sides of the street for approximately 200 meters. Residential buildings take up the rest of the immediate area. The commercial buildings and a central portion of the residences are served by a public water district in response to the VOC contamination of groundwater discovered there in the earlier assessments. Historically a dry-cleaning establishment was located in this area. Adjacent to the dry-cleaning establishment was an Exxon gasoline service station. Contaminated groundwater and storm drainage flowed northeast towards a tributary stream of the Mianus River.

The Hunting Ridge Mall site is located almost a mile southwest of the Arcade site in a mixed commercial and residential area. A dry-cleaning establishment located at this site was discovered to have been disposing of its dry-cleaning wastes in the storm water drainage

system. The storm water drainage system was directed to the Mianus River through a series of culverts, streams and ponds. The contamination from this site moved downgradient with storm runoff and contaminated groundwater which spread in a southeasterly direction towards the Mianus River.

Extensive assessments of these sites were performed in the 1980s and 1990s, therefore interested parties are referred to these studies for all pertinent information regarding surface water, soil, sediment, monitoring well, and potable water well sampling surveys and results.

History

In 1978 the Westchester County Department of Health (WCDH) conducted a survey of dry-cleaning facilities in the County. The survey was a response to suspected releases of dry-cleaning solvents due to improper storage and disposal practices. During the survey two sites in Bedford Village were identified as being potentially contaminated with these solvents. Both sites had a dry cleaning business on the premises. These sites were the Bedford Arcade and the Hunting Ridge Mall which are located on Route 22, approximately 8/10th of a mile apart. The improper disposal of the dry-cleaning solvents occurred when the materials were either poured into on-site storm drains which drained towards local ponds and streams, as well as into the on-site wastewater treatment systems at each site. The result of these disposal methods was recognized as permitting potentially significant contamination of ground water, surface water and soil, etc. The primary contaminants detected include tetrachloroethene, trichloroethene and cis-1, 2-dichloroethene.

In 1983 WCDH as well as several environmental consulting firms began sampling on-site wastewater treatment systems, storm drains, surface waters, 29 residential wells, and 3 public water well supplies. During this investigation it was discovered that about 50% of the wells in the immediate area as well as the storm drainage system and the Hunting Ridge Mall's on-site wastewater treatment system were contaminated with volatile organic compounds typical of those in dry-cleaning solvents. The contamination had reached Turtle Pond which flows into the Mianus River. No associated organic contaminants were found in the Mianus River, which is a source of potable water for communities downstream.

In 1988, a well monitoring program report was prepared for the Town of Bedford by Safewater Consultants, Inc. The report found one area of gasoline contamination within the scope of the project. This area was at the intersection of Routes 22 and 172 southwest of the Hunting Ridge Mall site in the immediate vicinity of a commercial gasoline station. Consequently, this area was included in Westchester County Department of Health's sampling area until February, 2009.

In 1990 an extensive report for the New York State Department of Environmental Conservation (NYSDEC) prepared by Dvirka and Bartilucci found the following conditions at the Hunting Ridge Mall site:

1. **Streams and Ponds;** little residual contamination along the storm-drains and ephemeral stream leading to Turtle Pond, however the entry point to the pond was found to still have significant sediment contamination of the primary contaminants listed in the first paragraph.

2. **Mianus River;** little contamination except for 2-butanone (methyl ethyl ketone (MEK)) which was also found upstream from the entry point.

3. **Subsurface soils;** except for a single sample containing tetrachloroethene, taken at 10 feet depth and reported as a potential lab error, the subsurface soils were largely free of contamination.

4. **Groundwater;** significant tetrachloroethene, trichloroethene and 1, 2-dichloroethene contamination was found in a plume of ground water approximately 300 feet wide and extending 1200 feet southeast down gradient from the Hunting Ridge Mall site. A secondary plume was located along Vinton and Lake Avenues and may have its origin in the from the historical storm-drain discharges into an ephemeral stream bed.

5. **Water supply;** private and community water supply wells were found to be significantly contaminated with dry-cleaning products and the associated degradation products. In addition, benzene, toluene, and xylene attributable to earlier gasoline spills in the area were also detected. The report stated that the contamination had stabilized at low levels in the ground water, but also that these levels were above the standards for potable and ground water established by New York State at the time

Studies of the area immediately adjacent to the Bedford Arcade site were performed in a similar manner by Dvirka and Bartilucci in a series of reports. In these reports it was discovered that VOC contamination from the dry-cleaning operation formerly at the Arcade building had created a plume of contamination in the groundwater. This plume extended to the northeast into drainage for the Mianus River.

Site Geology

The bedrock in Bedford Village is composed of schist in the northern part of the village and metamorphosed limestone and marble in the south. The overburden material lying atop the bedrock is primarily unconsolidated sand and gravel deposits. Silts and clays overlay the sand and gravel in some of the poorly drained, low-lying, wetland areas. The United States Geological Survey (USGS) has listed three aquifers that are present in the vicinity of the affected areas of Bedford Village. Depth to the bedrock aquifer ranges from 20 – 30 feet below surface level, while the groundwater table is approximately 8 – 40 feet below the surface, while the water table in the sedimentary deposits of sand and gravel range in depth from 5- 10 feet below surface level. The interface region between the overlying deposits and the bedrock is composed of fractured bedrock.

Contaminant Exposure Pathways

The Volatile Organic Compound (VOC) contamination is primarily entrained in the groundwater at both sites. The groundwater itself is both in the sedimentary overburden layer above the bedrock, as well as in fractured bedrock. Therefore potable water wells in both geological layers were affected. The risk of exposure through surface water has been minimized if not completely eliminated after the dumping of dry-cleaning waste into the storm drains was prevented by the Westchester County Department of Health in 1978. Had the dumping not been prevented, exposure to contaminants through drinking water as well as consumption of fish caught in the Mianus River would have been a potential public health risk.

Groundwater contamination presents the primary route of human exposure. The number of residential wells has decreased considerably due to the creation of public water supplies in the village, however there are still water supply wells serving both residential and commercial buildings in areas affected by the plumes. Some of these wells lie near or within the areas of the plume and have had continuous low levels of contamination. Most of the former potable water wells that lay within the areas affected by the groundwater contamination were disconnected when the public water supplies were constructed. Historically, contamination levels in the groundwater were discovered to be higher in the saturated bedrock and lower in the sand and gravel deposits above that.

Site sampling history

As part of the monitoring work, the Westchester County Department of Health (WCDH) performed periodic sampling of selected private water supply wells in the vicinity of the two sites. In the 1980s the sample private water supplies were tested on a monthly basis and the number sampled was increased as the contaminated plumes spread. By the 1990s the sampling was performed on a quarterly basis for the core areas around the plumes with an annual sampling that included potable water wells surrounding the entire area to ensure that no fugitive contamination had bypassed the core sampling area. The discovery of methyl tert-butyl ether (MTBE) contamination in the groundwater served to increase the sampling of locations south of the Hunting Ridge Mall in the area surrounding the Shell Station at the juncture of Routes 22 and 172. In the mid to late 1990s the development of public water supplies for the core affected areas on Lake, Vinton and Farms roads as well as Bedford Village Arcade area and down to Locust Drive allowed the reduction of the WCDH sampling locations in the plume affected areas. The quarterly and annual sampling continued along the fringes of the plumes as well as in few potable water wells inside the affected areas which had remained unaffected and whose owners had declined the opportunity to connect to public water.

Between 2003 and 2009 the scope of sampling grew to encompass 112 locations. Of these 112 locations, 67 were sampled on an annual basis while 37 were sampled on a quarterly basis. In that time period, 2 residential wells were found to have exceeded the New York State Department of Health's (NYSDOH) Drinking Water Standards Maximum Contaminant Level (MCL) and were placed on Granulated Activated Carbon (GAC) filtration. One location at 254 Old Post Road exceeded the MTBE MCL and was placed on GAC filtration by the responsible party (RP) for the Shell Station. The private water supply well at 472 Old Post Road exceeded the standard for MTBE and also showed the presence of 1, 2-dichlorobenzene. Although the number of sampling locations remained consistent during this time period small variations occurred. Several wells along Greenwich Road were sampled for VOCs only once by WCDH at the request of NYSDEC. Several sampling locations were removed at the property owner's request. Based upon a review of satellite maps and requests by residents resulted in WCDH adding several residences to the quarterly sampling schedule. These properties are located on Bayberry Lane and Stone Paddock Place and are adjacent to sites known to be contaminated with MTBE.

In February 2009, NYSDEC issued a Record of Decision (ROD) which re-evaluated the sampling agreement and data collected to date. It was determined that many of the sampling sites could be removed since the petroleum-based contamination was covered by NYSDEC Spills program or a RP existed, or no contamination was recorded during the sampling period. The sampling sites dropped from the schedule due to petroleum contamination (primarily MTBE) were along the southern stretch of Old Post Road near the junction with Route 172, as

well as Crusher Road, Gordon Avenue, Locust Drive, Virginia Avenue, Stone Paddock Place, Bayberry Lane and along Route 172. It is not known if any sampling by others has continued in that area.

Other locations that were dropped from the earlier sampling schedules for both the Arcade and the Hunting Ridge Mall sites were found to have a history of no detectable contamination and were found to be nonessential. These included houses on David Lapsley Road, Seminary Road, Homestead Lane, Washington Avenue, Greenwich Road, South Brook Road, and Pound Ridge Road.

A new sampling schedule was finalized, which included quarterly sampling of 21 wells; semi-annual sampling for 3 wells and annual sampling for 25 wells. The three locations on the semi-annual sampling schedule are subject to conditional sampling. These sites are marked with an asterisk and can be found on Table 1. The condition for the sampling of 470 and 476 Old Post Road is dependent on the presence of detectable contamination in either of the two wells serving 582 Old Post Road. The condition for sampling at 16 Washington Avenue is the continued detection of low levels of MTBE at that site. This new sampling schedule was implemented by WCDH in 2009 and continued to December 2012.

The annual sampling, usually performed in September, encompasses sampling of all sites on the quarterly, semi-annual and the annual schedule. It should be noted that three of the locations have installed their own GAC systems. Locations with GAC are sampled before and after treatment, if access to an untreated water tap is possible. These GAC systems were installed by the property owners, who are responsible for maintenance. The GAC systems vary in complexity and effectiveness. One system is a single carbon filter, while the two other systems have duplicate GAC filter units in series. Since these systems are privately owned, it is unknown if said systems are monitored and maintained to ensure proper operation.

Complete lists of all sampling locations and sampling frequencies are listed at the bottom of this report in Appendices A through D

Sampling Method

Sampling of the sites is arranged by sending a postcard to each property owner. The postcards indicate the date, or dates, and time frame for sampling. WCDH requests that the property owner provide access for sampling. Outside taps are frequently not available in winter due to freezing concerns; therefore the preferred sampling point is an indoor kitchen tap.

The VOC sampling is performed using standard methods utilized by WCDH. The primary sampling containers are sets of three 40 milliliter glass “K” bottles. These bottles are equipped with a plastic screwed cap with a Teflon lined septa. These sets of bottles are prepared and provided by the Westchester County Department of Labs and Research. The sample bottles are specifically cleaned for VOC analysis and never opened until ready for sample collection. The bottles have a small amount of a chemical preservative (sodium thiosulfate) already in the container. This preservative is required if the water is drawn from a chlorinated system. In the case of most wells in the area where chlorination is not used, the preservative will not invalidate the test and remains in the container.

In preparation for sample collection the water at the tap is run until the temperature is as cold as possible (approximately 5 minutes). Then the flow rate from the tap is adjusted to a low

continuous rate while collecting the sample. Each sample container is opened just prior to filling. The bottle is tipped slightly so that the water flows down the interior of the container with as little disturbance and aeration as possible. As it fills, the bottle is brought to an upright position and filled just to the point of overflowing. A domed, “reverse” meniscus of water should be present just above the top of the bottle. At this point, 3 to 4 drops of 1:1 Hydrochloric Acid is added to each vial. Any air bubbles observed in the water as the vial is being filled are allowed to rise to the top of the bottle and dissipate before the entire vial is filled. The cap is then screwed on tightly with great care given to excluding any air bubbles in the process of tightening. The Teflon side of the cap’s septa must be in contact with the water inside the bottle. The bottle is then turned upside down and gently tapped to ensure that no trapped air is present.

Each sample requires the filling of three bottles. A sample submission form recording the number from each bottle, the address, time, location, sampler and the specific EPA analysis method required is completed at the site. The set of three bottles are tied together with an elastic band and placed in an insulated cooler with ice packs and maintained at approximately 4 degrees Centigrade. Trip blanks are provided by the lab. Generally 3 to 5 trip blanks are used in a day’s sampling.

Upon return to the labs the sample bottles are submitted to sample receiving with the attendant sample submission form for analysis. Samples are analyzed using EPA method 524 for Trihalomethanes, Volatile Halocarbons, Volatile Aromatics and MTBE.

Data Recording and Reporting

Once the analysis has been performed by the Department of Labs and Research it is recorded on their Lab works database and made available to customers through a Crystal Reports file. These are printed out by WCDH and each location’s results checked for any detection of contamination by the EPA lab method used. The results are recorded on two database files maintained by WCDH. Both files were attached to this report electronically at the time it was submitted. The Data source file is used to generate letters with the results for each location, while the master data file keeps an easily reference record for all sample locations.
The letters generated are mailed to the property owner along with a copy of the results of the sampling. Identical copies are forwarded to the NYSDOH and the NYSDEC.
In the event that an exceedance of the NYSDOH drinking water standard has been detected, or if results are very close to the standard, a confirmatory re-sampling is performed and the NYSDOH and NYSDEC are immediately notified so that the State or the RP can provide potable drinking water through connection to a public supply, or through the installation of GAC filters as well as a periodic sampling and maintenance plan for the GAC.

Results, 2012:

Sites with dry-cleaning solvents present:

466 Old Post Road,	Tetrachloroethene,	0.31 - 0.34 ug/L
	1,2-Dichloroethene	0.26 – 0.35 ug/L,
582 Old Post Road (garage only),	Tetrachloroethene	0.36 – 1.36 ug/L

Sites with Petroleum products present:

466 Old Post Road	Methyl tert-butyl ether,	2.47-3.73 ug/L
1 Farms Road	Methyl tert-butyl ether	1.21 ug/L

Other VOCs present:

4 David Lapsley Road	Chloroform	1.23-1.24 ug/L
466 Old Post Road,	1,2-Dichlorobenzene,	0.43-0.95 ug/L
470 Old Post Road	Chloromethane	0.31 ug/L

Discussion and Conclusion of 2012 results

The results indicate a fairly consistent low level of dry-cleaning solvent contamination in two wells of Bedford Village. The contaminants detected are 1, 2-dichloroethene and tetrachloroethene. The site at 466 Old Post Road is approximately 140 meters northeast of the Hunting Ridge Mall, while the site at 582 Old Post Road is approximately 290 meters southeast of the Bedford Arcade. The contaminant levels have varied only slightly over this year, at less than 1 ppb, and well within the MCL.

The hardware store at 466 Old Post Road showed presence of a contaminant, 1,2-dichlorobenzene, which is not a breakdown product of tetrachloroethene. This appears to indicate a separate source of contamination.

In addition to the dry-cleaning solvents there are also impacts from petroleum contamination found at several properties. Methyl tert-butyl ether (MTBE), a gasoline additive, was detected in wells at two sites. The detections are in the vicinity of a currently operating gasoline station near the Hunting Ridge Mall, and a former gasoline station near the Bedford Arcade. The levels have fluctuated at approximately the same levels throughout the year, averaging between 1.21 ppb and 3.73 ppb. The MCL for MTBE is 10 ppb. These two locations have consistent detections of MTBE at each sampling event; and are the sites at 466 and 476 Old Post Road.

Chloroform is consistently found at one location which has historical detections. The levels of chloroform are also well below the MCL of 100 ppb.

Historical results

Since 2003, WCDH has been recording and reviewing the results of this sampling effort. The results have been tabulated and can be found in Appendix E. Each table shows the detectable contamination found over the past 10 years. These are sites with contamination at detectable levels that were also maintained as sampling locations after the 2009 ROD. Sites that were removed from the sampling schedule in 2009 are not listed on tables, since the contamination detected at those sites was determined to be petroleum and covered under NYSDEC spills. A brief discussion of the location is included below each table.

Discussion

The sampling results for the last 10 years indicate no real increase of detectable contamination in any of the locations. Minor variations in the contamination occur with single detections at various locations followed by non-detection. Other locations with consistent levels of detectable contamination such as the Bedford Hardware Store at 466 Old Post Road show a virtual static nature in the levels of contamination with little indication that these will change. In the area sampled around the Hunting Ridge Mall site only one well in the past 10 years had its water quality re-classified from potable to non-potable due to MTBE contamination. This is the location at 472 Old Post Road. GAC filters were installed and maintained by a contractor for New York State.

There appears to be at least three sources to the VOC contaminants found in the area of the Hunting Ridge Mall.

These are;

1. *Tetrachloroethene and its decomposition daughter products such as trichloroethene and dichloroethene. These products are directly related to the improper disposal of the dry-cleaning wastes at the Hunting Ridge Mall discovered in 1978.*

2. *Dichlorobenzene. Typically used as a metal surface cleaner and an insecticide it is apparently not related to the original dry-cleaning wastes spill at the Hunting Ridge Mall site and so a second source can be inferred.*

3. *Methyl tert-butyl ether (MTBE). This is a gasoline additive used as an anti-knocking agent and oxygenator from 1979 until the early 2000s. Highly soluble and persistent in water it indicates gasoline spills (either from leaking underground tanks and piping, or from surface spills) in the area. It spreads faster and farther in groundwater than other gasoline components. Sources of MTBE can be varied and additionally result from vehicle accidents, intentional dumping of bad gas and leaky lawnmowers, ATVs, vehicles etc.*

The Bedford Arcade sampling area shows a similar static nature in the detectable VOC contamination. There were occasional detections followed by long periods where no contamination is found. There has been little change in the levels of tetrachloroethene and its decomposition products. No trend upwards has been observed. Occasional MTBE detections are observed but are not likely to increase since the probable source, an old

gasoline station and its underground tanks, was closed and tanks removed over a decade ago.

In this area, we see at least two separate spill sources to the VOC contamination.

1 *Tetrachloroethene and its decomposition daughter products such as trichloroethene and dichloroethene. These products are directly related to the improper disposal of the dry-cleaning wastes at the Bedford Arcade building discovered in 1978.*

2 *Methyl tert-butyl ether (MTBE). Although the source is unknown precisely, there was a gasoline service station directly adjacent to the Bedford Arcade building at the time of the original investigation.*

Conclusion

In January 2013 the NYSDEC/NYSDOH informed the Westchester County Department of Health that area sampling, as required under the NYSDEC Record of Decision, at these sites would no longer be needed.
The static nature of the low-level contamination of the groundwater in both the Hunting Ridge Mall and the Bedford Arcade areas over the last decade indicates little potential for the MCL to be exceeded in any of the potable water wells sampled. Furthermore, it should be noted that there are now public water supplies within the area affected by the spills at the Hunting Ridge Mall and Bedford Arcade sites. For potable water wells outside the reach of the public water supplies, GAC filtration units are a viable alternative.
WCDH recommends however that periodic (5 year) review of these sites be conducted, as it is routinely done at other past contaminated sites left with residual contamination, to keep track of ground water conditions and to record any further attenuation.
This report, which summarizes all past activities and efforts by agencies to secure safe drinking water in the affected areas, is provided in support of the NYSDEC/NYSDOH determination that sampling is no longer needed at these sites.

Appendix A

Table 1

Sampling Sites (2009-Present)

Quarterly sites:	**Semi-annual sites**	**Annual sites**
402 Old Post Road	470 Old Post Road	441 Old Post Road
406 Old Post Road	476 Old Post Road (GAC)	425 Old Post Road
412 Old Post Road	16 Washington Ave. (GAC)	497 Old Post Road
460 Old Post Road		502 Old Post Road
466 Old Post Road		594 Old Post Road *****
582 Old Post Road (2 wells)		602 Old Post Road*****
653 Old Post Road		608 Old Post Road*****
655 Old Post Road		670 Old Post Road
657 Old Post Road		672 Old Post Road
662 Old Post Road		683 Old Post Road
667 Old Post Road (GAC)		697 Old Post Road
4 Mary's Lane		719 Old Post Road
8 Mary's Lane		787 S. Bedford Road
10 Mary's Lane		13 Pound Ridge Road
2 Hollyhock Lane		25 Pound Ridge Road
4 Hollyhock Lane		50 Village Green
1 Farms Road		71 Seminary Road
20 Farms Road		81 Seminary Road
4 David Lapsley Road		82 Seminary Road
15 David Lapsley Road		94 Seminary Road
		100 Seminary Road
		101 Seminary Road
		16 Tarleton Road
		19 Tarleton Road
		10 Homestead Lane

***--**Sites sampled annually under condition that both wells at 582 Old Post Road have non-detectable levels of contamination.

GAC—Sites have owner-installed and maintained Granular Activated Carbon filtration treatment.

Appendix B

Additional historical sampling sites (2003 to 2009) now discontinued.

Quarterly sampling

Address	Associated Spill
227 Old Post Road	Petroleum
249 Old Post Road	Petroleum
277 Old Post Road	Petroleum
332 Old Post Road	Petroleum
21 Locust Drive	Petroleum
29 Locust Drive	Petroleum
28 Bayberry Lane	Petroleum
44 Bayberry Lane	Petroleum
50 Bayberry Lane	Petroleum
43 Stone Paddock Place	Petroleum
8 Gordon Avenue	Petroleum
11 Gordon Avenue	Petroleum
7 Greenwich Road	Tetrachloroethene
9 Greenwich Road	Tetrachloroethene
13 Greenwich Road	Tetrachloroethene

Annual Sampling

429 Old Post Road	Tetrachloroethene
437 Old Post Road	Tetrachloroethene
445 Old Post Road	Tetrachloroethene
465 Old Post Road	Tetrachloroethene
530 Old Post Road	Tetrachloroethene
532 Old Post Road	Tetrachloroethene
576 Old Post Road	Tetrachloroethene
820 South Bedford Road	Petroleum
12 Gordon Avenue	Petroleum
17 Gordon Avenue	Petroleum
18 Gordon Avenue	Petroleum
22 Gordon Avenue	Petroleum
26 Gordon Avenue	Petroleum
27 Gordon Avenue	Petroleum
28 Gordon Avenue	Petroleum
36 Gordon Avenue	Petroleum
38 Pound Ridge Road	Tetrachloroethene
50 Pound Ridge Road	Tetrachloroethene
58 Pound Ridge Road	Tetrachloroethene
21 Seminary Road	Tetrachloroethene
14 Washington Avenue	Tetrachloroethene

Annual sampling continued:

17 Washington Avenue	Tetrachloroethene
5 South Brook Road	Tetrachloroethene
24 South Brook Road	Tetrachloroethene
25 South Brook Road	Tetrachloroethene
12 Homestead Lane	Tetrachloroethene
14 Homestead Lane	Tetrachloroethene
15 Homestead Lane	Tetrachloroethene
1 Washington Avenue	Tetrachloroethene
5 Washington Avenue	Tetrachloroethene
7 Washington Avenue	Tetrachloroethene
8 Washington Avenue	Tetrachloroethene
10 Washington Avenue	Tetrachloroethene
13 Washington Avenue	Tetrachloroethene
11 Crusher Road	Tetrachloroethene
23 Crusher Road	Tetrachloroethene
27 Crusher Road	Tetrachloroethene
Bedford DPW, Crusher Road	Tetrachloroethene
7 Homestead Lane	Tetrachloroethene
11 Homestead Lane	Tetrachloroethene

Appendix C

Several sites in the area were sampled a single time in December 2007 (by request of NYSDEC):

235 Greenwich Road	Tetrachloroethene
249 Greenwich Road	Tetrachloroethene
255 Greenwich Road	Tetrachloroethene

*Results, all non-detect for VOCs

Appendix D

Finally, sampling at two residences stopped due to requests by the owner that their properties no longer be included in the sampling routine. These are:

37 Stone Paddock Place	Petroleum (ceased -2005).
14 David Lapsley Road	Tetrachloroethene (ceased--2003).

Appendix E

466 Old Post Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
0.43ug/L 1,2-Dichlorobenzene 0.29 ug/L cis-1,2-Dichloroethene 3.73 ug/L MTBE 0.34 ug/L Tetrachloroethene 0.26 ug/L Trichloroethene	0.59 ug/L 1,2-Dichlorobenzene 0.34 ug/L cis-1,2-Dichloroethene 3.29 ug/L MTBE 0.34 ug/L Tetrachloroethene 0.29 ug/L Trichloroethene	0.57 ug/L 1,2-Dichlorobenzene 0.35 ug/L cis-1,2-Dichloroethene 2.47 ug/L MTBE 0.31 ug/L Tetrachloroethene 0.26 ug/L Trichloroethene	0.95 ug/L 1,2-Dichlorobenzene 0.26 ug/L cis-1,2-Dichloroethene 3.2 ug/L MTBE 0.34 ug/L Tetrachloroethene 0.31 ug/L Trichloroethene	0.71 ug/L 1,2-Dichlorobenzene 3.24 ug/L MTBE .26 ug/L Tetrachloroethene	0.83 ug/L 1,2-Dichlorobenzene 2.57 ug/L MTBE .28 ug/L Tetrachloroethene	0.84 ug/L 1,2-Dichlorobenzene 2.87 ug/L MTBE .28 ug/L Tetrachloroethene	0.87 ug/L 1,2-Dichlorobenzene 3.06 ug/L MTBE .30 ug/L Tetrachloroethene

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
0.72 ug/L 1,2-Dichlorobenzene 0.37 ug/L cis-1,2-Dichloroethene 2.21 ug/L MTBE 0.42 ug/L Tetrachloroethene 0.32 ug/L Trichloroethene	1.12 ug/L 1,2-Dichlorobenzene 0.29 ug/L cis-1,2-Dichloroethene 3.57 ug/L MTBE 0.40 ug/L Tetrachloroethene 0.28 ug/L Trichloroethene	0.98 ug/L 1,2-Dichlorobenzene 0.32 ug/L cis-1,2-Dichloroethene 3.45 ug/L MTBE 0.35 ug/L Tetrachloroethene 0.30 ug/L Trichloroethene	0.39 ug/L THM-Chloroform	0.93 ug/L 1,2-Dichlorobenzene 5.61 ug/L MTBE	0.78 ug/L 1,2-Dichlorobenzene, 5.36 ug/L MTBE	.780 ug/L 1,2-Dichlorobenzene 3.93 ug/L MTBE	.970 ug/L 1,2-Dichlorobenzene 3.79 ug/L MTBE

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
1.16 ug/L 1,2-Dichlorobenzene 4.94 ug/L MTBE	1.05 ug/L 1,2-Dichlorobenzene 4.02 ug/L MTBE	1.05 ug/L 1,2-Dichlorobenzene .53 ug/L cis-1,2-Dichloroethene 3.4 ug/L MTBE	1.06 ug/L 1,2-Dichlorobenzene 0.61 ug/L cis-1,2-Dichloroethene 3.19 ug/L MTBE	1.5 ug/L 1,2-Dichlorobenzene, 3.6 ug/L MTBE	1.3 ug/L 1,2-Dichlorobenzene 0.51 ug/L cis-1,2-Dichloroethene 2.3 ug/L MTBE	1.2 ug/L 1,2-Dichlorobenzene 0.50 ug/L cis-1,2-Dichloroethene 1.2 ug/L MTBE 0.56 ug/L Tetrachloroethene	1.3 ug/L 1,2-Dichlorobenzene 0.51 ug/L cis-1,2-Dichloroethene 1.8 ug/L MTBE 0.53 ug/L Tetrachloroethene

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
1.4 ug/l 1,2-Dichlorobenzene, 1.1 ug/L MTBE 0.5 ug/L Tetrachloroethene	1.5 ug/l 1,2-Dichlorobenzene, 1.2 ug/L MTBE	1.4 ug/L 1,2 Dichlorobenzene 0.54 ug/L cis-1,2-Dichloroethene 1.2 ug/L MTBE 0.55 Tetrachloroethene	1.3 ug/l 1,2-Dichlorobenzene, 0.65 ug/l cis-1,2-Dichloroethene, 0.67 ug/l Tetrachloroethene, 0.58 ug/l Trichloroethene	1.4 ug/L 1,2-Dichlorobenzene, .50 ug/L Tetrachloroethene	Not sampled	0.86 ug/L 1,2-Dichlorobenzene .64 ug/L Tetrachloroethene	0.86 ug/L Tetrachloroethene 0.86 ug/L Trichloroethene

466 Old Post Road houses a hardware store adjacent to the north end of the Hunting Ridge Mall, and which has a long history at the same location. While the well water here meets the MCL for VOCs, it does exhibit the most number of contaminants detected of all the sites sampled by the WCDH. There is a persistent presence of MTBE from petroleum contamination as well as tetrachloroethene and its daughter breakdown products of cis-1, 2-dichloroethene and trichloroethene. Also present at this site is 1, 2-dichlorobenzene which is not normally associated with the dry-cleaning process, but has industrial uses as a degreaser. Its presence suggests a localized spill, possibly separated temporally and spatially, from the original spills at the Hunting Ridge Mall. The last 10 years of sample results show that the contamination levels from the dry-cleaning spill are slowly decreasing; however the MTBE levels appear to fluctuate and may in fact be increasing gradually. The 1, 2-dichlorobenzene levels also appear to be relatively static with a gradual reduction over the past 10 years.

582 Old Post Road

(Location has 2 wells, one supplies kitchen and the second supplies a slop sink in the garage)

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
1.36ug/L Tetrachloroethene kitchen well Non detect garage well *** Suspect that sampler confused kitchen and garage samples****	Non detect kitchen well 0.36ug/L Tetrachloroethene (garage well)	Non detect kitchen well 0.55 ug/L Tetrachloroethene (garage well)	Non detect kitchen well 1.02 ug/L Tetrachloroethene (garage well)	Non detect kitchen well .73ug/L Tetrachloroethene (garage well)	Not sampled	Not sampled	Non detect kitchen well 0.51 ug/L Tetrachloroethene (garage well)

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
Non detect kitchen well 0.47 ug/L Tetrachloroethene (garage)	Non detect kitchen well 0.45 ug/L Tetrachloroethene (garage)		Non detect kitchen well 0.3 ug/L Dichlorodifluoromethane, 1.59 ug/L Tetrachloroethene Garage well	Non detect kitchen well 1.52 ug/L Tetrachloroethene (Garage well)	Not sampled	Not sampled	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
Not sampled	Not sampled	No contamination detected	Not sampled	Not sampled	Not sampled	No contamination detected	Not sampled

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
Not sampled	Not sampled	No contamination detected	Not sampled	Not sampled	Not sampled	0.55 ug/L Chloromethane 0.57 ug/L Tetrachloroethene	Not sampled

This location has two separate wells which are not connected via the plumbing in the house. One well supplies the whole house. This is labeled as the “Kitchen Well” and has a history of no detectable levels of contamination. The second well serves a single sink in the garage of the house and according to property owners is not used for potable water. This second well has a history of relatively static tetrachloroethene contamination. This department was not initially aware of the second well and earlier results were conducted on water from the kitchen well, with one exception in September 2003. The last sample result from December 2012 recording a detection of tetrachloroethene at the kitchen tap is clearly a case of the sample being switched by accident and appears to be a lab or sampling error.

1 Farms Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
1.21 ug/L MTBE	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	1.7 ug/L MTBE	No contamination detected	No contamination detected

This location has been generally clear of detectable contamination with only two events recorded. The first was in December 2003 and the second in December 2012. The location is significant given its location adjacent to the well field for The Farms public water supply. The cone of depression for the public water supply should be considered for its effect on neighboring private wells. The source of the MTBE contamination is not known precisely, but gasoline is sold by the nearby Sabantonia Service Station at 452 Old Post Road. Small spills from this site may be a possible source of MTBE in the area.

4 David Lapsley Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
1.24 ug/L THM-Chloroform 0.57 ug/L MTBE	1.23 ug/L THM-Chloroform	Not sampled	Not sampled	1.40 ug/L THM-Chloroform	Not sampled	Not sampled	Not sampled

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	Not sampled	Not sampled	1.94 ug/L THM-Chloroform	3.47 ug/L THM-Chloroform	.73 ug/L THM-Chloroform	1.75 ug/L THM-Chloroform	3.53 ug/L THM-Chloroform

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
Not sampled	1.61 ug/L THM-Chloroform	1.59 ug/L THM-Chloroform	1.7 ug/L THM-Chloroform	Not sampled	1.6 ug/L THM-Chloroform	2.2 ug/L THM-Chloroform	Not sampled

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
2.5 ug/L THM-Chloroform	2.0 ug/L THM-Chloroform	2.0 ug/L THM-Chloroform	1.5 ug/l THM-Chloroform	2.9 ug/L THM-Chloroform	1.6 ug/L THM-Chloroform 0.50 ug/L 1,1,1-Trichloroethane	2.1 ug/L THM-Chloroform	3.6 ug/L THM-Chloroform 0.70 ug/L 1,1,1-Trichloroethane

This location is a private residence and has a history of low levels of chloroform as well as occasional detections of 1,1,1-trichloroethene. In the last sampling MTBE was detected for the first time, indicating some expansion of the plume of low levels of MTBE in the area's groundwater.

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470 Old Post Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
Not sampled	Not sampled	.31 ug/L Chloromethane	Not sampled	No contamination detected	Not sampled	No contamination detected	Not sampled

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

This location has a residential well supplying a main house and a cottage. There is no treatment at this location and the water has a history of non-detection of VOC contamination. Chloromethane was detected for a single time in June 2012 and may have been due to well maintenance. This location is adjacent to 472 Old Post Road which was placed on GAC filters after an MCL exceedance was discovered.

472 Old Post Road

GAC installed 12/2006

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
	13.00 ug/L MTBE (Location placed on GAC)	6.35 ug/L MTBE 1.05 ug/L 1,2-Dichlorobenzene	5.44 ug/L MTBE 3.86 ug/L 1,2-Dichlorobenzene	3.30 ug/L MTBE 0.76 ug/L 1,2-Dichlorobenzene	3.80 ug/L MTBE 4.20 ug/L 1,2-Dichlorobenzene	2.00 ug/L MTBE 2.80 ug/L 1,2-Dichlorobenzene	3.00 ug/L MTBE 3.70 ug/L 1,2-Dichlorobenzene

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
2.30 ug/L MTBE 3.40 ug/L 1,2-Dichlorobenzene	3.50 ug/L MTBE 3.60 ug/L 1,2-Dichlorobenzene	1.60 ug/L MTBE 3.80 ug/L 1,2-Dichlorobenzene	3.40 ug/L 1,2-Dichlorobenzene	1.30 ug/L MTBE 2.80 ug/L 1,2-Dichlorobenzene	No data	No data	1.00 ug/L MTBE 3.70 ug/L 1,2-Dichlorobenzene

This property consists of two buildings served by a single well. There is a well established history of MTBE and 1, 2-dichlorobenzene in the well water. Between 2004 and 2006 the MTBE levels steadily rose and exceeded the MCL, at which point the property was placed on GAC filtration by the NYSDEC. No further sampling was conducted after that time. The 1, 2-dichlorobenzene contamination is from an unknown source and essentially maintains a consistent level indicating little natural attenuation.

476 Old Post Road (Location has own GAC)

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	2.97 ug/L MTBE (pre-filter)	Not sampled	Not sampled

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
3.14 ug/L MTBE (pre-filter)	5.87 ug/L MTBE 1.9 ug/L 1-chloro-1,1-difluoroethane (pre-filter)	Not sampled	2.24 ug/L MTBE Post Filter	3.6 ug/L MTBE No Contamination post filter	Not sampled	2.81 ug/L MTBE (pre filter) No contamination detected (post)	2.14 ug/L MTBE (pre-filter)

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
Post filter No contamination detected	2.53 ug/L MTBE	Post filter No contamination detected	Post filter No contamination detected	2.1 ug/LMTBE	1.3 ug/L MTBE (pre-filter)	Post filter No contamination detected	Not sampled

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
Not sampled	Not sampled	1.3ug/L MTBE (pre-filter)	Post filter No contamination detected	Not sampled	Not sampled	0.53 ug/L Chloromethane	Post filter No contamination detected

This property has an owner installed GAC filtration system and is adjacent to the property at 470 Old Post Road which had an exceedance of the drinking water standard. For much of this sampling period the house was either vacant or used as a weekend residence and access to the GAC filters in the basement for proper pre-filter sampling was difficult and occasional. Post filter sampling was performed to see if the carbon filters had failed. The only tap available for sampling was an outdoor tap which was post GAC filtration and supplied treated water.

653 Old Post Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected	Not sampled	Not sampled

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled.	54 ug/L trichlorethene

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected	Not sampled

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	No contamination detected	0.52 ug/L Tetrachloroethene	No contamination detected	Not sampled	Not sampled	Not sampled	Not sampled

This property consists of two houses served by a single well. This house is a rental residence and was occasionally vacant with no access to running water for sampling. It is very close to the Bedford Arcade location with MTBE and dry-cleaning fluid in the downtown area of Bedford Village. Historically, trichloroethene and tetrachloroethene have been detected at this location, with a single detection for each compound.

655 Old Post Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	3.45 ug/L MTBE

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	.45 ug/L cis-1,2-Dichloroethene 6.88 ug/L MTBE	Not sampled	1.4 ug/L 2-Ethyl-1-hexanol (probable lab error)	Not sampled	Not sampled	Not sampled	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	3.36 ug/L MTBE	No contamination detected	No contamination detected	1.7 ug/L MTBE	2.3 ug/L MTBE	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	Not sampled	No contamination detected	No contamination detected	9.5 ug/L MTBE	No contamination detected	No contamination detected	No contamination detected

This residence is very near the Bedford Arcade site and is a small residence served by a well. It has a history of detections of MTBE in varied concentrations ranging from non-detection to very near the MCL. The reason for these rapid fluctuations is not known. 1, 2-dichlorethene has been detected once in 10 years and is likely associated with the Bedford Arcade Spill. The MTBE has a probable source at the former gasoline service station adjacent to the Bedford Arcade Building.

662 Old Post Road

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	3.55 ug/L MTBEr	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	Not sampled	Not sampled	1.03 ug/L MTBE 0.42 ug/L Trichloroethene

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
Not sampled	Not sampled	1.38 ug/L MTBE 0.56 ug/L Trichloroethene	Not sampled	Not sampled	Not sampled	0.50 ug/L Trichloroethene	Not sampled

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled

This property is a large residence served by a single well and located northwest of the Bedford Arcade. It has sporadic detections of low-levels of trichloroethene as well as MTBE. No particular pattern of contamination can be ascertained from the lab results. Access to the residence for sampling has been difficult on occasion.

667 Old Post Road
Has private GAC system

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No detect (pre-filter) No detect (post filter)	No Detect (post filter)	No detect (pre-filter) No detect (post filter)	No detect (pre-filter) No detect (post filter)	No contamination detected	No contamination detected	No contamination detected	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No detect (pre-filter)	No contamination detected	No detect (post filter)	No detect (pre-filter) No detect (post filter)	No detect (pre-filter) No detect (post filter)	Not sampled	Not sampled	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	1.0 ug/L MTBE	No contamination detected	No contamination detected

This property has a single well serving a large residence north-northwest of the Bedford Arcade building. The location has an owner-installed GAC filtration system consisting of two large canisters in series with sampling taps prior to treatment, mid treatment and post treatment. A single detection of MTBE was found in December, 2003 but subsequent sampling found no further contamination detectable.

2 and 4 Hollyhock Lane
Shared well

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
1.1 ug/l MTBE	2.3 ug/l MTBE	4.1 ug/l MTBE	3.7 ug/l MTBE	5.9 ug/L MTBE	4.2 ug/L MTBE	1 ug/L MTBE	No contamination detected

These two properties are served by a single well. The well is located on the property of 2 Hollyhock Lane. The location is adjacent to the Bedford Hardware store at 466 Old Post Road which has the largest number of detected VOC compounds in the sampling area. The location is also a few hundred yards north of the Hunting Ridge Mall site and Sabantonia gasoline service station. MTBE has been historically detected at this location but detections ceased by mid-2005 and have not re-occurred. In earlier site assessments, the groundwater flow was determined to be directed to the south and east and the plume of MTBE contamination may well have moved out away from this location.

16 Washington Street

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	No contamination detected	Not sampled	Not sampled

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
Not sampled	No contamination detected	Not sampled	0.59 ug/L MTBE	Not sampled	No contamination detected	Not sampled	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	1.0 ug/L MTBE	No contamination detected	1.5 ug/L MTBE	No contamination detected	1.0 ug/L MTBE	1.1 ug/L MTBE

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
1.4 ug/L MTBE	2.3 ug/L MTBE	1.6 ug/L MTBE	1.0 ug/l MTBE	1.1 ug/L MTBE	1.8 ug/ MTBE	1.1 ug/L MTBE	1.5 ug/L MTBE

This location has a single well serving a residence. The owner installed a small GAC filter on his house water piping, but reportedly left an outside tap untreated. This location has consistent MTBE contamination which may be related to an unreported intentional dumping of gasoline observed by the owner in the late 1990s. Allegedly the owner of this location observed a landscape contractor dumping a canister of old gasoline onto the ground adjacent to this location (only about 50 feet from the well). The MTBE contamination was consistent in level, but recent difficulty accessing the location's sampling tap has reduced the data. In the 2009 ROD this location was reduced to semi-annual sampling.

4 Mary's Lane

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	1.0 ug/L MTBE	Not sampled

This location is a residence and commercial lot housing construction vehicles. It lies directly north of the property line for the Hunting Ridge Mall and is located north west along the property line of Sabantonia's gasoline service station. A single detection of a low level of MTBE occurred in September 2003. Since that time no further contamination was detected.

8 and 10 Mary's Lane

12/2012	9/2012	6/2012	3/2012	12/2011	9/2011	6/2011	3/2011
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

12/2010	7/2010	4/2010	12/2009	1/2009	3/2008	12/2007	10/2007
Not sampled	No contamination detected	No contamination detected	No contamination detected	No contamination detected	Not sampled	No contamination detected	No contamination detected

3/2007	12/2006	9/2006	6/2006	3/2006	12/2005	9/2005	6/2005
No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected

3/2005	12/2004	9/2004	6/2004	3/2004	12/2003	9/2003	7/2003
No contamination detected	Not sampled	No contamination detected	No contamination detected	No contamination detected	No contamination detected	No contamination detected	1.7 ug/L MTBE

These properties are served by a single well located at 8 Mary's Lane. Both properties are located uphill and directly north of the Hunting Ridge Mall site. Historically there has been a single detectable occurrence of MTBE in July 2003. No further detections have been made since that time.

Sources

Phase I Investigation Report Bedford Village Wells, Wehran Engineering PC, Prepared for the NYSDEC June, 1983

Engineering Investigations at Inactive Hazardous Waste Sites in the State of New York, Phase II Investigations, Bedford Village Wells, Wehran Engineering PC, Prepared for the NYSDEC June, 1985

Summary Report Hunting Ridge Mall Bedford New York, C.A, Rich Consultants, Inc December 1986

1987 Well Monitoring Program, Town of Bedford, New York., Safewater Consultants, Inc., March 1988

Remedial Investigation-Interim Report Phase IA Sampling Program, Remedial Investigation and Feasibility Study, Bedford Village Wells-Shopping Arcade, Westchester County, New York, Prepared for the NYSDEC, Dvirka and Bartilucci Consulting Engineers, January 1988

Remedial Investigation-Interim Report Phase IIA Sampling Program, Remedial Investigation and Feasibility Study, Bedford Village Wells-Hunting Ridge Mall, Westchester County, New York, Prepared for the NYSDEC, Dvirka and Bartilucci Consulting Engineers, March 1988

Bedford Village RI/FS Shopping Arcade Phase IIA Investigation, Dvirka and Bartilucci. April 1988

Remedial Investigation and Feasibility Study, Feasibility Study Report, Volume 2, Bedford Village Wells Hunting Ridge Mall Site, Westchester County, New York, Prepared for the NYSDEC, Dvirka and Bartilucci Consulting Engineers, February 1990

Remedial Investigation and Feasibility Study, Feasibility Study Report, Volume 3, Bedford Village Wells Hunting Ridge Mall Site, Westchester County, New York, Prepared for the NYSDEC, Dvirka and Bartilucci Consulting Engineers, February 1990

Remedial Investigation and Feasibility Study, Feasibility Study Report, Volume 4, Bedford Village Wells Hunting Ridge Mall Site, Westchester County, New York, Prepared for the NYSDEC, Dvirka and Bartilucci Consulting Engineers, February 1990

Bedford Village Wells Hunting Ridge Mall Site, New York State Superfund Record of Decision, NYSDEC, March 1990

Health and Safety Plan for Remedial Design Field Investigation at the Bedford Malls Sites, Prepared for the NYSDEC. URS Consultants, Inc April 1991

Remedial Design Field Investigation Report for the Bedford Malls Sites. Prepared for NYSDEC. URS Consultants, Inc October 1991