# REMEDIAL INVESTIGATION REPORT
# FORMER LABELON FACILITY OFF-SITE
# (NYSDEC Site Number C835016A)

**NYSDEC STANDBY ENGINEERING CONTRACT**
**Work Assignment #D007625-10**

**PREPARED FOR**
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**625 BROADWAY**
**ALBANY, NEW YORK 12233**

**Prepared by**

16 Corporate Woods
Albany, NY 12211

September 2018

September 2018

## TABLE OF CONTENTS


**EXECUTIVE SUMMARY ..... 1**

**1.0 INTRODUCTION ..... 1**

**1.1** SITE BACKGROUND ..... 1

**1.2** SITE HISTORY ..... 1

**1.3** PREVIOUS INVESTIGATIONS ..... 2

**1.4** PROJECT OBJECTIVES & APPROACH ..... 2

**1.5** APPLICABLE CRITERIA ..... 3

**2.0 FIELD INVESTIGATION ..... 4**

**2.1** RI PHASE I – SEPTEMBER 2013 THROUGH APRIL 2015 ..... 4

*2.1.1 Groundwater Probe Sampling ..... 4*

*2.1.2 Monitoring Well Installation and Sampling ..... 5*

*2.1.3 Surface Sediment Sampling ..... 7*

*2.1.4 Vapor Intrusion Sampling ..... 8*

**3.0 PHYSICAL SETTING ..... 9**

**3.1** CLIMATOLOGY, TOPOGRAPHY AND SURFACE WATER FEATURES ..... 9

**3.2** LAND USE AND ECOLOGY ..... 9

**3.3** GEOLOGY ..... 9

HYDROGEOLOGY ..... 10

**3.4** 10

**4.0 NATURE AND EXTENT OF OFF-SITE CONTAMINATION ..... 11**

**4.1** RI PHASE I SAMPLING RESULTS – SEPTEMBER 2013 THROUGH APRIL 2015 ..... 11

*4.1.1 Groundwater Probe Sampling Results ..... 11*

*4.1.2 Monitoring Well Sampling Results ..... 11*

*4.1.3 Surface Sediment Sampling Results ..... 12*

*4.1.4 Vapor Intrusion Sampling Results ..... 12*

**5.0 REMEDIAL INVESTIGATION SUMMARY ..... 13**

**5.1** FIELD INVESTIGATION ..... 13

**5.2** DATA INTERPRETATION ..... 14

*5.2.1 Groundwater ..... 14*

*5.2.2 Surface Sediment ..... 14*

*5.2.3 Soil Vapor and Ambient Air ..... 15*

**5.3** POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS ..... 15


Deleted:

Deleted:

Deleted:

Deleted:

Deleted:

*5.3.1 On-site and Off-site Soils* ..... *15*
*5.3.2 Groundwater* ..... *16*
*5.3.3 Soil Vapor* ..... *16*
**6.0 CONCLUSIONS** ..... **17**
**REFERENCES** ..... **25**

## LIST OF TABLES


| Table | Title | Tables Follow Report Text |
|---|---|---|
| Table 1a | Groundwater Sampling Locations Summary | |
| Table 1b | Sediment Sampling Locations Summary | |
| Table 2a | Soil Vapor Sampling Locations Summary | |
| Table 2b | Sediment Results | |
| Table 3a | SVI Sampling Data - December 2013 – March 2014 | |
| Table 3b | SVI Sampling Data – March 2015 – April 2015 | |


## LIST OF FIGURES


| Figure | Title | Figures Follow Report Text |
|---|---|---|
| Figure 1 | Site Location | |
| Figure 2 | Off-site RI Sampling Locations- Groundwater, Sediment & Soil Vapor | |
| Figure 3 | Off-site Groundwater Contour Map - July 2014 | |
| Figure 4 | Groundwater and Sediment Sampling Results | |
| Figure 5 | SVI & Soil Gas Sampling Results | |
| Figure 6 | SVI Results 2013-2014 | |
| Figure 7 | SVI Results 2015 | |


## APPENDICES


| Appendix | Title |
|---|---|
| Appendix A | Boring and Well Construction Logs |
| Appendix B | Development Logs |
| Appendix C | SVI Building Inventories |
| Appendix D | SVI Sampling Documentation |
| Appendix E | Data Usability Summary Reports |
| Appendix F | Soil and Groundwater Analytical Data Packages |

Appendix G Soil Vapor Sampling Analytical Data Packages

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| 1,1,1-TCA | 1,1,1-trichloroethane |
| 1,1-DCE | 1,1-dichloroethene |
| Bgs | below ground surface |
| CVOC | chlorinated volatile organic compound |
| DUSR | Data Usability Summary Report |
| HDR | Henningson, Durham & Richardson Architecture and Engineering, PC. |
| HSA | Hollow Stem Auger |
| ID | Inside Diameter |
| MW | Monitoring Well |
| NYSDEC | New York State Department of Environmental Conservation |
| NYSDOH | New York State Department of Health |
| PCE | tetrachloroethene |
| PVC | polyvinyl chloride |
| RI | remedial investigation |
| SVI | soil vapor intrusion |
| TCE | trichloroethene |
| USEPA | United States Environmental Protection Agency |
| VOC | volatile organic compound |
| YEC Inc. | YEC Engineering, P.C. |
| µg/l | micrograms per liter |
| $\mu g/m^3$ | micrograms per meter cubed |

## EXECUTIVE SUMMARY

Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) conducted a Remedial Investigation (RI) of the off-site contamination associated with the former Labelon Corporation Facility (NYSDEC Site #C835016A), located at 10 Chapin St, City of Canandaigua, Ontario County, New York (Figure 1). The former Labelon Corporation Facility occupies a 1.63 acre parcel adjacent to the Main Street in downtown Canandaigua that is currently in the New York State Brownfield Cleanup Program. Residual contamination associated with the former label printing facility persists in the soil and groundwater at the site and the on-site areas will be cleaned up under the Brownfield program. The contaminants of concern associated with the former Labelon facility include volatile organic compounds (VOCs) including trichloroethylene, tetrachloroethylene, and several volatile compounds associated with petroleum based fuels.

Water level data collected during the RI confirmed that groundwater flow was generally westward with some component of southward flow. The bedrock at the site is shale and mudrock and is generally found at a depth ranging from 30 to 40 feet below the groundsurface, the bedrock is mantled with lacustrine silty-sands. Both the bedrock and overburden deposits exhibit a generally low hydraulic conductivity.

The off-site RI activities included:

- Completion of thirteen groundwater and soil probes
- Installation of three piezometers to collect groundwater samples and groundwater level data to determine groundwater flow direction
- Collection of three shallow sediment samples in Sucker Brook
- A soil vapor intrusion investigation and subsequent mitigation for two impacted structures.

Analytical results for the groundwater samples collected during the RI indicate seven of the thirteen groundwater probe sampling locations exhibited measurable concentrations of VOCs. In terms of 6 NYCRR Part 703.5 Class GA standards, four locations (GP7, GP9, GP11, and GP12) contained either TCE, benzene, or toluene at concentrations that exceed respective Class GA standards. No VOCs were detected in the samples from the three overburden monitoring wells (PZ-1, PZ-2, PZ-3). At the single bedrock well low concentrations of four VOCs were detected

and only one of these compounds (benzene, 1.4 µg/L) exceeds its respective Class GA standard value.

The three sediment samples collected from Sucker Brook were found to contain lead at SED1 and nickel at SED2 above the Freshwater Sediment Guidance Values. No other metals exceeded their respective freshwater sediment guidance values. The presence of other metals in the sediment samples does not appear to be related to the site and those that exhibited concentrations above what would be considered background are attributed to the urbanized location of the brook. Site related VOCs were not detected in any of the samples.

Although the soil and groundwater data collected during the RI indicate generally low concentrations of site related contaminants the subslab soil vapor concentrations in several nearby structures were found to be elevated. Concentrations of TCE as high as 1,900 µg/$m^3$ were found at two structures. When comparing the results to the decision matrices in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York they were above the suggested mitigation threshold. In order to mitigate this potential exposure pathway both structures were mitigated through the installation of residential subslab depressurization systems.

# 1.0 INTRODUCTION

## 1.1 Site Background

The Former Labelon Corporation Facility (NYSDEC Site No. C835016A) consists of the off-site area associated with this New York State Brownfield Site located in the City of Canandaigua, Ontario County, NY (Figure 1). The brownfield site itself remains abandoned and the existing is vacant. Residual contamination associated with the former label printing facility persists in the soil and groundwater at the site and the noted on-site contamination will be addressed under the Brownfield Program.

The remedial activities conducted to date have largely focused on locating and addressing the source of the contamination on-site. The additional tasks covered in this remedial investigation (RI) report were conducted by HDR as part of Standby Contract D007625 (Work Assignment 10) in an effort to further delineate and characterize the areal and vertical extent of the off-site chlorinated volatile organic chemical (CVOC) contaminated groundwater plume associated with the site.

## 1.2 Site History

The on-site area is approximately 1.63 acres in size and contains a four-story masonry and brick building with a total gross floor area of 79,804 square feet. The original building, constructed prior to 1924 (as observed on historic Sanborn® maps), is the southernmost structure on the property located on the north side of Chapin Street. As many as three additions were later constructed on the north side of the original building. The remainder of the property contains gravel and asphalt parking areas and driveways. It is bound to the east and south by commercial properties, Canandaigua City Hall and residences to the north, and residences to the west. Historic uses of the Site include a coal yard (1880s to 1910s), a corset factory (1920s to 1940s), and a bicycle factory (1940s to 1950s). Labelon Corporation occupied the site from approximately 1960 to 2002, manufacturing transparency films and pressure sensitive labels. The site was placed in the New York State Brownfield Program in 2011 after a tank removal action in 1990 and two environmental site assessments in 2001 and 2009 indicated contaminated soil and groundwater on-site.

### 1.3 Previous Investigations

Documentation provided to HDR from NYSDEC indicates that investigation of the contamination on-site at the Former Labelon Facility began prior to 1989 and was initiated by the property owner at the site. Several inspections, investigations, ESAs, and a tank removal were conducted between 1989 and 2009 at the site. A complete summary of the previous investigations conducted is found in the most recent Phase II Environmental Site Assessment (ESA) Report Addendum for the Targeted Brownfields Assessment (TBA) for the 10 Chapin Street Site (CDM 2013). Based on the data generated during the Phase II ESA, CDM concluded that PCE, TCE, TPH, and BTEX compounds are present in subsurface soils, and chlorinated solvent and TPH contaminant sources likely exist beneath the onsite building. A BTEX source area may also be located in the parking lot to the southwest of the structure. Furthermore, the presence of VOCs in the soil immediately adjacent to the building and their likely presence beneath the structure, indicates there is a potential for vapor intrusion in the onsite structure.

### 1.4 Project Objectives & Approach

Since previous investigations pertaining to the off-site portion of the contamination associated with the site have not been conducted, NYSDEC tasked HDR with determining the nature and extent of the off-site contamination. A phased approach was proposed with a combination of groundwater probe samples, a single bedrock monitoring well, and sediment samples (at a potential receptor stream downgradient from the site) were all used to systematically collect data to better characterize the off-site impacts from the site. The initial phase consisted of groundwater probes sampled at various locations in an attempt to characterize the distribution of contamination in the groundwater downgradient of the site. One bedrock monitoring well was also installed immediately downgradient of the site.

In addition to the off-site groundwater plume characterization, a second primary objective of the RI was to conduct SVI sampling at selected structures in the vicinity of the site. One round of SVI sampling was performed, with a total of seven out of thirty-seven proposed structures sampled.

The owners of the candidate properties that were not sampled were unresponsive to repeated requests to allow sampling thus no SVI sampling was conducted during the RI at those locations.

### 1.5 Applicable Criteria

To determine the nature and extent of contamination at the site, standards and screening criteria were used during the RI to evaluate the analytical data for sediment / soil, groundwater, soil vapor, indoor air, and outdoor air. Applicable criteria utilized included:

Soil / Sediment

Soil sample results were compared to 6NYCRR Part 375 Environmental Remediation Programs Tables 375-6.8(a, b) Unrestricted Use (UU) and Residential Use (RU) SCOs for organic and inorganic constituents (NYSDEC 2006). For compounds without established SCOs, the most stringent supplemental SCOs (SSCOs; NYSDEC 2010) were used. Sediment samples were compared to the NYSDEC Freshwater Sediment Guidance Value – Class A (NYSDEC 2014).

Groundwater

Groundwater analytical results were compared to NYSDEC groundwater quality standards (GWQS) 6 NYCRR Part 703 (NYSDEC 1999). For compounds without established GWQS, the applicable groundwater values from the Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS 1.1.1) were used as screening criteria.

Soil Vapor, Indoor Air and Outdoor Air

New York State does not currently have any standards, criteria, or guidance values for subsurface soil vapor. Therefore, the air guideline values established by NYSDOH for a number of chemical compounds, including PCE, TCE, 1,1,1-TCA, 1,1-DCE, cis-1,2-DCE, VC, carbon tetrachloride and methylene chloride (NYSDOH 2017) were used as applicable screening criteria.

The applicable criteria values are included in the analytical data tables of the RI report.

## 2.0 FIELD INVESTIGATION

### 2.1 RI Phase I – September 2013 through April 2015

The first phase of the RI included a phased approach with a combination of groundwater probe samples/piezometers, a single bedrock monitoring well, and sediment samples. The initial phase consisted of groundwater probes sampled at various locations in an attempt to characterize the distribution of contamination in the groundwater downgradient of the site. Three overburden piezometers and one bedrock monitoring well were also installed immediately downgradient of the site. Lastly, SVI sampling occurred at seven selected structures in the vicinity of the site. For reference purposes, the boring logs and well construction logs are found in Appendix A, and the development logs associated with the field investigation are found in Appendix B. The field building inventories and field sampling logs for the SVI sampling program are found in Appendix C and D, respectively.

#### 2.1.1 Groundwater Probe Sampling

Groundwater probe sampling (Figure 2) was conducted in September 2013 by Nothnagle Drilling Inc., (Nothnagle) of Scottsdale, NY. In order to achieve RI sampling objectives, Nothnagle deployed a GeoProbe® 6610DT rig to advance borings at thirteen locations to a maximum depth of 20 feet below ground surface (ft bgs) or refusal. These direct push borings used a four-foot Macro-Core® sampler with dedicated acetate liners to collect soil samples for field screening. In particular, inspection of each soil core involved descriptions of soil composition and depositional characteristics, determination of the presence of unusual odors and staining, and detection of organic vapors via headspace analysis using a 5-gas MultiRAE photoionization (PID) monitor. Upon reaching terminal depth or refusal, a temporary 1-inch PVC well screen and riser were lowered into the open hole. Groundwater samples were retrieved via polyethylene tubing and dedicated check valve. After purging approximately 3 – 5 gallons of water to insure that the sample was being collected from representative formation water, samples were collected in 40 mL vials preserved with HCl and submitted under chain of custody protocols to the contract analytical

laboratory for the project, TestAmerica, Inc. of Buffalo, New York. Each sample was analyzed for VOCs using USEPA method 8260B.

Between probing locations, the probe tooling was decontaminated using a bucket wash with Alconox® detergent and clean water rinse. Soil cuttings and decontamination water was drummed and staged at the rear of the Labelon Facility for later disposal by the NYSDEC.

Boring logs were completed for each sampling location during this sampling event. These logs include a description of soils along with PID readings and other observations of potential significance noted during the screening of the cores. Soil boring and well construction logs are provided in Appendix A.

### 2.1.2 Monitoring Well Installation and Sampling

Three groundwater probe sampling locations were converted to permanent overburden monitoring wells to supplement the screening-level data provided by the September 2013 groundwater probe sampling. Based on the direction of groundwater flow and potential plume extent emanating from the site, permanent points PZ-1, PZ-2, and PZ-3 were installed following the completion of groundwater probe sampling at GP11, GP2, and GP6, respectively (Figure 2). To complete each monitoring well, Nothnagle installed a 1-inch diameter pre-assembled "pre-pack" wells that consist of PVC well screen wrapped with a narrow gauge wire mesh containing well sand, all inserted as a singular unit into the existing open borehole. Since the well was completed in an area subject to traffic the surface construction for the well consisted of a standard flush mount manhole bolted steel cover with concrete pad. The well riser was secured with a locking compression plug to prevent infiltration through the top of the well.

One bedrock well, referred to as LAB-BW, was installed immediately downgradient of the site (Figure 2) to provide characterization of the bedrock aquifer during a June 2014 field event. The installation procedure for this well began with using 4.25 inch hollow stem augers to advance the borehole to the top of bedrock with split spoon samples taken every 5 feet. An HDR geologist inspected each split spoon sample and logged descriptions of soil composition and depositional characteristics, determined of the presence of unusual odors and staining, detection of organic

vapors via headspace analysis using a 5-gas MultiRAE photoionization (PID) monitor, and recorded blow counts. An 8 inch casing with drive chute was inserted into the borehole and temporarily seated approximately 1 inch into the top of rock by hammering. Once seated, a lowered rollerbit reamed out a 3-foot rock socket where the 4 inch casing was placed. While removing the 8 inch casing, the 4 inch casing was grouted in-place. After allowing the grout to set for 12-24 hours, a lowered 3.98" OD core barrel was run inside the 4 inch casing and advanced to a target depth of 10 ft below the top of rock. Core runs of 5 ft were field screened and logged by HDR personnel. After evaluation of rock core and determination of the well screen interval via presence of natural fractures or water-bearing zones, a standard 2 inch diameter schedule-40 PVC 10-slot well screen and riser were installed following standard monitoring well construction procedures. The sand filter pack consisted of #00 well sand and surrounded the well screen and above to a level 2-3 ft above the top of the screened interval. To isolate the screened interval and prevent vertical migration of water downward through the borehole to the screen, a 3-foot bentonite seal was installed above the well sand filter pack. The seal consisted of bentonite chips added directly to the annulus between the wall of the borehole and the well screen and riser. The pellets were hydrated by their installation at a level below the local water table thereby providing a seal above the sand pack surrounding the well screen. Similar to the overburden wells, surface construction for the well consisted of a standard flush mount manhole bolted steel cover with concrete pad. The well riser was secured with a locking compression plug to prevent infiltration through the top of the well.

Upon completion of well installation, the three PZ wells were developed by tubing and foot valve while the bedrock well LAB-BW was developed by overpumping and surging with a submersible pump. The development was conducted by Nothnagle and HDR monitored the progress of the development. HDR collected and logged water quality parameters to document that by the end of the development period the well was yielding representative formation groundwater and could provide similarly representative water for the subsequent round of well sampling. The boring logs and well construction logs are found in Appendix A, and well development logs are compiled in Appendix B.

On July 15, 2014, YEC Inc. conducted a survey to provide coordinates for the newly installed wells and groundwater points. Each location was surveyed to document the point's latitude and longitude and for the monitoring wells the elevations of the top of the PVC risers were surveyed to provide reference points for subsequent water level measurements that were used to determine groundwater elevations and flow direction (Figure 3).

Groundwater sampling at the three PZ wells, as well as the bedrock well occurred in July 2014. Sampling following standard low flow sampling protocols using a peristaltic pump and tubing to purge each well until stabilization of groundwater chemistry data indicated representative aquifer formation water suitable for sampling was being purged. Typically this occurred between approximately one to two hours of pumping the well at about 0.2 liters per minute. Once stabilization had occurred, groundwater VOC samples were collected from each well and submitted under chain of custody protocol to the NYSDEC Standby Analytical Laboratory, Test America of Amherst, NY for analysis. Upon completion of the sample analyses, the laboratory provided the necessary documentation to the HDR's contracted data validator, Data Validation Services, Inc., to allow for preparation of a data usability summary report (DUSR) on the sampling results.

### 2.1.3 Surface Sediment Sampling

Along with the groundwater probe and monitoring well sampling program, HDR also conducted surface sediment sampling at three locations along the east bank of Sucker Creek during the September 2013 and July 2014 field events (Figure 2). This small north-south flowing brook bisects the off-site study area and the three locations were selected at readily accessible locations upgradient, mid-point, and downgradient of the study area. Each sample was collected via in-situ homogenization of the upper 0 to 2 inches of soil using stainless steel spoon. Each soil sample was containerized and submitted under chain of custody protocol to the NYSDEC Standby Analytical Laboratory, Test America of Amherst, NY for analysis. The September 2013 samples were analyzed for VOCs using USEPA Method 8260, while the July 2014 samples were analyzed for Metals using USEPA Method 6010C as requested by NYSDOH. Upon completion of the analysis and receipt of the analytical results, a data package was sent to Data Validation Services, Inc. (along with the well sampling & groundwater probe sampling data) for validation and preparation

of a DUSR (Appendix E) applicable to the various sampling programs conducted as part of Phase I of the RI.

### 2.1.4 Vapor Intrusion Sampling

During the 2013-2014 heating season, SVI sampling was conducted at six occupied structures in the off-site RI area (Figure 2). Under guidance from NYSDEC, follow-up sampling occurred in March 2015 at one of the six occupied structures. In April 2015, sampling occurred at a seventh structure when the owner requested inclusion into the SVI sampling program (Figure 2). Lastly, although not included within the scope of this RI, in December 2016 and March 2017, two post-mitigation vapor sampling events occurred to evaluate the performance of the recently installed a sub-slab depressurization system

At each location HDR constructed a temporary sampling point by drilling through the existing concrete slab using a hammer drill and installing a stainless steel vapor sampling point attached to Teflon tubing. The point was surrounded by coarse, washed sand, sealed below grade using a plug of VOC-free permagum in the annulus around the tubing, and finally sealed at the surface with quick set cement. In accordance with NYSDOH Soil Vapor Guidance, each point was tested for helium intrusion to verify that short circuiting to ambient air was not occurring, purged using a personal air sampling pump at a rate below 0.2 L/minute, and then left to cure overnight prior to sampling. Each location had its sub-slab soil vapor and indoor air sampled. In the event of questionable sub-slab communication of soil gas, new sub-slab points were installed during follow-up sampling where applicable.

Samples were collected into batch certified 6 liter Summa canisters with 24 hour regulators. As per NYSDOH Guidance, Indoor Air samples were collected along with the sub-slab samples and outdoor air samples were collected during the sampling event. Duplicate samples were collected to comply with QC requirements associated with the sampling program. After sample collection, the samples were shipped to Columbia Analytical Services (now ALS) of Rochester, NY of via FedEx under chain of custody protocol. NYSDOH inventory forms and SVI sampling logs are included in Appendix C and D.

# 3.0 PHYSICAL SETTING

## 3.1 Climatology, Topography and Surface Water Features

The climate in Ontario County is characterized by warm summers and cold winters with an annual average temperature of 49.1 °F. Annual precipitation averages are 33.97 inches. The study area for the RI lies at an elevation ranging from approximately 700 ft NAVD88 in the southern portion of the off-site area to approximately 746 ft NAVD88 at the northern portion of the off-site area, at the intersection of Main Street and West Avenue. Land cover in the area primarily consists of asphalt and concrete (parking areas, roads, and sidewalks), structures (businesses and homes), vegetation (road right-of-ways & medians and lawns).Sucker Brook, a small tributary stream leading to Canandaigua Lake (located approximately 1 mile south of the site), is the nearest water body to the investigation area, crossing Chapin Street near the intersection of Chapin Street and Garden Street approximately 0.3 miles west of the site.

## 3.2 Land Use and Ecology

Land use for the off-site study area portion of the RI can primarily be classified as residential development with a mix of single and multi-family homes. A few mixed commercial and light industrial uses are also found along several of the major streets including the Main Street corridor. The ecology of this area would be considered terrestrial cultural which is generally characterized by "communities that are either created and maintained by human activities, or are modified by human influence to such a degree that the physical conformation of the substrate, or the biological composition of the resident community is substantially different from the character of the substrate or community as it existed prior to human influence" (Edinger et al., 2002).

## 3.3 Geology

The site is located near the north end of Canandaigua Lake, one of the Finger Lakes that formed after the last continental glaciation deeply scoured the north-south trending valleys in this area. Overburden deposits in the area consist of glacio-lacustrine silty sands deposited during higher pro-glacial lake stages of Canandaigua Lake, prior to the establishment of the modern lake stage.

The bedrock geology consist of the dark to medium-gray fossiliferous shale and mudrock of the middle Devonian-age Skaneateles Formation, part of the Hamilton Group. The top surface of the bedrock was encountered at 37 ft below ground surface, and is believe to slope rapidly toward Canandaigua Lake to a depth of at least 270 feet based on the lake depth.

### 3.4 Hydrogeology

The hydrogeologic setting in the area of the site includes a shallow overburden aquifer in the silt and sandy overburden. In some areas this aquifer maybe thin or absent depending on the elevation of the bedrock surface. The deeper bedrock aquifer in the Hamilton Group is approximately 225 feet thick in this area and represents a low yield aquifer hydraulically connected with the overburden above. Groundwater flows primarily within the overburden and any flow within the bedrock may be limited to fractured zones that discharge regionally to Canandaigua Lake to the south of the site. Within the off-site area the groundwater flow directions is generally to the west –southwest towards Sucker Brook (Figure 3).

On a regional basis the groundwater in this area is considered suitable for drinking water purposes but wells may exhibit limited yields and in some cases be naturally mineralized. The off-site investigation area is within the city limits of Canandaigua, which has its own municipal supply system that is sources from Canandaigua Lake. It is unlikely that individual residential wells are in use in this area and the available files provided by the NYSDEC did not identify any other groundwater uses for commercial, industrial or agricultural purposes in the area.

## 4.0 NATURE AND EXTENT OF OFF-SITE CONTAMINATION

The analytical data obtained during the RI is outlined in the sections below and has been qualified as needed as part of the data validation reports that were conducted on all of the samples that were collected. The complete Analytical Data Summary Packages provided by the analytical laboratory and the Data Validation Summary Reports are found in Appendix F, G and Appendix E, respectively.

### 4.1 RI Phase I Sampling Results – September 2013 through April 2015

#### 4.1.1 Groundwater Probe Sampling Results

Analytical results from the September 2013 groundwater probe sampling event are summarized in Table 1a and Figure 4. Seven of the thirteen groundwater probe sampling locations contained measurable quantities of CVOCs and BTEX compounds. The highest concentrations in the groundwater probes included TCE found at GP11 at a concentration of 8.2 µg/L and benzene found at GP7 at a concentration of 51 µg/L. The most frequently detected BTEX compound was toluene, found at six sampling locations with concentrations ranging from 0.83 µg/L to 25 µg/L. The only other location that exhibited detectable concentrations of CVOCs was GP3 where 2.5 µg/L of TCE was found. In terms of 6 NYCRR Part 703.5 Class GA standards, four locations (GP7, GP9, GP11, and GP12) contained either TCE, benzene, or toluene at concentrations that exceed it respective Class GA standards.

#### 4.1.2 Monitoring Well Sampling Results

Analytical results of the July 2014 sampling of the three overburden monitoring wells (PZ-1, PZ-2, and PZ-3) and the bedrock well (LAB-BW) are found in Table 2a and Figure 5. Of these four sampling locations, only the bedrock well contained detectable concentrations of VOCs. In particular, the bedrock well contained benzene at a concentration of 1.4 µg/L, chloroform at a concentration at 3.3 µg/L, ethylbenzene at 1.3 µg/L, and toluene at a concentration of 1.6 µg/L. Only the benzene concentration exceeds its respective Class GA standard value. No VOCs were detected in samples from the three overburden monitoring wells.

### 4.1.3 Surface Sediment Sampling Results

Analytical results of the September 2013 and July 2014 surface sediment sampling events along Sucker Brook are presented in Table 1b and 2b, and in Figures 4 and 5. As previously discussed, the remedial investigation objectives of the September 2013 sampling event were to determine the presence of VOCs, while the objectives of the July 2014 sampling event were to determine the presence of metals as requested by NYSDOH. The analytical results of the September 2013 sampling indicated that no VOCs were present in the upper 0 to 2 inches of sediment along Sucker Brook. The metals analysis from July 2014 indicates the presence of several metals present in the upper 0 to 2 inches of sediment. These metals are summarized in detail on Table 2b and Figure 5.

Concentrations of total chromium were compared to the more conservative hexavalent chromium SCOs rather than the trivalent chromium SCOs since total chromium detections made via Method 6010C analysis do not distinguish between hexavalent chromium (industrial product) and trivalent chromium (naturally occurring). Total chromium concentrations of 12 mg/Kg, 11 mg/Kg, and 15 mg/Kg at SED1 (SS1), SED2 (SS2), and SED3 (SS3), respectively, all exceed the more conservative hexavalent chromium UU SCO. None of the total chromium concentrations exceed the RU SCO for hexavalent chromium. No other metals exceeded their respective UU SCO value. In terms of Freshwater Sediment Guidance Values, only lead with a concentration of 50 mg/Kg at SED1 (SS1), and nickel with a concentration of 30 mg/Kg at SED3 (SS3), exceed the Class A values. No other metals exceeded their respective freshwater sediment guidance values.

### 4.1.4 Vapor Intrusion Sampling Results

Analytical Results of the 2013-2014 SVI investigation can be found in Table 3a and Figure 6, and analytical results for the 2015 SVI investigation can be found in Table 3b and Figure 7.

During the 2013 – 2014 heating season, six structures located within the off-site RI area were sampled for soil vapor intrusion. Results from the sampling event were compared to the decision Matrices 1, 2, and 3, which are found in the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Sampling results of the 32-Lab sampling location indicated an indoor air concentration of TCE of 4.9 $\mu g/m^3$ and sub-slab TCE soil gas concentration of 4.0

µg/$m^3$. These results necessitated follow-up sampling to provide confirmatory results and to evaluate the potential need for mitigation. In addition, the higher indoor air concentrations when compared to the sub-slab concentrations indicated that there might be poor communication of sub-slab soil gas at the particular location where the sample was collected. This required the installation of new sub-slab points in different portions of the slab. In March 2015, follow-up sampling at 32-Lab yielded indoor air concentration of TCE of 2.0 µg/$m^3$ and a sub-slab TCE soil gas maximum concentration of 1,100 µg/$m^3$ at the new sub-slab point. In addition, concentrations of additional NYSDOH Matrix analytes such as cis-1,2 DCE, PCE, carbon tetrachloride, 1,1-DCE, and methylene chloride were all found in measurable quantities in the sub-slab soil gas.

In April 2015, an SVI investigation occurred at the 28-Lab location after the owner belatedly requested inclusion in the sampling program. Results from that investigation revealed sub-slab concentrations of TCE at 1,800 and 1,900 µg/$m^3$ at the two sub-slab points, along with several other NYSDOH Matrix analytes, but no detections of TCE within the indoor air. Only 4 µg/$m^3$ of methylene chloride and 1 µg/$m^3$ of PCE were found within the indoor air.

## 5.0 REMEDIAL INVESTIGATION SUMMARY

### 5.1 Field Investigation

Components of the field investigation completed for obtaining data in support of the RI included:

- Installation and sampling of thirteen temporary groundwater probe sampling (points GP1 through GP13) to depths of approximately 20 ft bgs within the off-site area.
- Installation and sampling of three permanent piezometer points (PZ-1 through PZ-3), and a bedrock well (LAB-BW) at locations identified as being downgradient and potentially within the center of a site-related plume.
- Two rounds of off-site sediment sampling from Sucker Brook near the western extent of the study area. The first round of sampling consisted of the selection of three locations for VOC analysis, while the second round of sampling focused on metals analysis at the same three locations.

- Four rounds of SVI sampling events within several structures located within the off-site area. Each round collected sub-slab (via temporary sampling point), indoor air, and outdoor ambient air sampling submitted for TO-15 plus vinyl chloride analysis. Two rounds of SVI sampling occurred during the 2013 – 2014 heating season and covered the sampling of six residential structures. Two rounds of SVI sampling occurred during the 2015 heating season that included an additional seventh structure, as well as follow-up sampling at one of the original six structures.

## 5.2 Data Interpretation

### 5.2.1 Groundwater

The groundwater at this site exhibits varying low levels of total VOC concentrations that exist within a somewhat diffuse plume that likely emanates from the former Labelon Facility. The total VOC concentrations range from of 78.4 μg/l along the western boundary of the off-site area to non-detect status at several temporary sampling points within the off-site area.

In general, metals detections from the groundwater samples are likely derived from the geologic setting of the site and representative of naturally occurring site background levels given their distribution in the majority of the groundwater samples collected as part of the investigations associated with the Former Labelon site.

### 5.2.2 Surface Sediment

The observed concentrations of total chromium would all exceed applicable SCOs if the assumption was made that all of the detected chromium concentrations were hexavalent chromium, however the site history does not suggest that hexavalent chromium would be present at this site and it is likely that the noted concentrations represent the upper range of what would be site background for naturally occurring chromium (NYSDECOH 2005).

Only limited sediment sampling was conducted along the reach of Sucker Brook downgradient from the Former Labelon site. The September 2013 event, during which sediment samples (SS1 through SS3) were collected for VOC (8260B) analysis, yielded no detections of the target analytes from any of the three sampling locations. The July 2014 follow-up sampling event was conducted to quantify target metals in the sediment via USEPA Method 6010C in three samples (SED1 through SED3) collected at the same locations as were sampled during September 2013. Although detected concentrations of total chromium, lead, and nickel for some samples exceeded selected SCOs and Freshwater Sediment Guidance Values no direct correlation to the Former Labelon site can be made given the distance between Sucker Brook and the site and the possibility that the detected metals are not unexpected given that the brook flows through a heavily populated and commercialized area just a few blocks from Main Street in the City of Canandaigua.

#### 5.2.3 **Soil Vapor and Ambient Air**

An initial round of SVI sampling was conducted during the 2013 -2014 heating season, sub-slab and indoor air sampling indicated the presence of CVOC vapors at several of the sampled locations that would require monitoring and/or mitigation measures to be implemented in accordance with NYSDOH vapor intrusion guidelines. One additional occupied structure was sampled in April 2015. The results from this sampling event also indicated that CVOC vapors were present at sub-slab and indoor air levels that would trigger monitoring/mitigation in accordance with NYSDOH guidance.

### 5.3 Potential Exposure Pathways and Receptors

#### 5.3.1 On-site and Off-site Soils

Field screening of off-site soils was conducted on a limited basis during the probing and well drilling phases of work for the RI. No significant readings were noted from the soils encountered during drilling, however only a small portion of the overall area where intrusive activities were conducted during the various phases of the RI were subject to field screening. It is unlikely that the off-site shallow soils in this area were impacted by the activities on-site based on the previous site uses and the samples (sediment and groundwater) that were collected during the off-site RI.

### 5.3.2 Groundwater

Public water supply is available for all residents in the area through the City of Canandaigua public water supply (surface water source). Groundwater at the site is not utilized as potable water and the previous site specific reports did not identify any nearby uses of the groundwater. This potential exposure pathway is limited to the possibility that contaminated groundwater may be encountered during construction activities below the water table in the immediate vicinity of the site. Based on the current uses in the vicinity of the site (commercial, light industry, residential), the only identifiable exposure pathway for groundwater may be the use of groundwater for non-potable commercial or irrigation purposes at off-site properties.

### 5.3.3 Soil Vapor

Of greater concern as a potential exposure pathway is the infiltration of vapor phase CVOCs from shallow contaminated groundwater and soil vapor into overlying structures in the vicinity of site. The vapor sampling program was conducted to address this potential pathway in the immediate vicinity of the site and the results from several occupied structures suggest that this potential exposure pathway cannot be eliminated at this time. However, mitigation of vapor intrusion via sub-slab depressurization systems has been implemented at two immediately adjacent properties where potential impacts due to vapor intrusion were detected.

### 5.4 Site Specific Remedial Action Objectives

Remedial Action Objectives (RAOs) are developed for a site to determine the levels to what site specific concerns must be addressed to protect human health and environment. Included here are site specific RAOs that are applicable for the Former Labelon Facility – Off-site RI:

#### Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore groundwater to pre-disposal/pre-release conditions, to the extent practicable.
- Reduce or remove the source of groundwater contamination, to the extent practicable.

#### Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings on-site and off-site.

## 6.0 CONCLUSIONS

The Remedial Investigation for off-site area associated with Former Labelon Facility identified soil vapor intrusion to adjacent off-site properties as the primary impact and potential exposure pathway for site related contamination. Several contaminants of concern associated with the site

were detected in the vapor phase at adjacent properties, with some detections reaching concentrations high enough to require mitigation via the installation of sub-slab depressurization systems as per NYSDOH guidance. In order to mitigate this potential exposure pathway both structures were mitigated through the installation of residential subslab depressurization systems.

The other primary anticipated contaminant migration pathway, via groundwater flow, was investigated and only low concentrations of VOCs were found in the off-site groundwater and there does not appear to be a defined groundwater contaminant plume off-site. Overall, chlorinated VOCs were only detected at two of the thirteen total groundwater sampling locations and only a single chlorinated solvent (TCE), from a sample collected directly downgradient from the site, exceeded applicable NYSDEC Class GA standards. Further downgradient beyond the two sampling points where the chlorinated VOCs were present, no additional dissolved phase chlorinated VOCs were detected. A number of other VOCs were also detected in the off-site groundwater, primarily BTEX, it is not known if the noted concentrations are related to the site or are associated with separate releases not related to site activities.

Given the developed nature of the off-site areas adjacent to the Former Labelon Facility and the lack of areas of concern for off-site dumping of contaminants or migration pathways to result in impacts to off-site soils, no soil sampling was conducted as part of the off-site RI. Since there was the potential for historical run-off of site related contamination into the Sucker Brook watershed, shallow sediment sampling from the streambed was conducted for VOCs and metals during two separate sampling events. No VOC contamination was present in the samples collected from the sediment however some detections exceeding applicable SCOs were noted for certain metals in the samples. Given the location of the brook in a heavily developed area near the center of Canandaigua however, it is not possible to conclusively attribute the presence of these metals to releases occurring at or associated with the Former Labelon site.

## 7.0 CERTIFICATION

*I Michael Lehtinen,* certify that I am currently a NYS registered professional geologist and *that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.*

_____

Michael D. Lehtinen, P.G.
Program Manager

## REFERENCES

Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

New York State Department of Environmental Conservation (NYSDEC), Division of Fish, Wildlife, and Marine Resources, Bureau of Habitat – Screening and Assessment of Contaminanted Sediment, June 2014.

New York State Department of Health (NYSDOH) – Center for Environmental Health, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006.

| Sample Location | | GP-1 | | GP-2 | | GP-3 | | GP-4 | | GP-5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | GW1-09122013-20130912 | | GW2-09112013-20130911 | | GW3-09092013-20130909 | | GW4-09092013-20130909 | | GW5-09102013-20130910 | |
| Sample Date | | 9/12/13 11:35 | | 9/11/13 14:00 | | 9/9/13 12:40 | | 9/9/13 14:00 | | 9/10/13 8:45 | |
| Constituent | Criteria | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | 1 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHENE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROETHANE | 0.6 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 2-CHLOROETHYL VINYL ETHER | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| ACROLEIN | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| ACRYLONITRILE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BENZENE | 1 | ND | U | ND | U | ND | U | ND | U | ND | U |
| BROMODICHLOROMETHANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BROMOFORM | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BROMOMETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CARBON TETRACHLORIDE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROBENZENE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROFORM | 7 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROMETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| DICHLOROETHYLENES | NS | ND | U | ND | U | 3.9 | J | ND | U | ND | U |
| ETHYLBENZENE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| METHYLENE CHLORIDE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 5 | ND | U | ND | U | 4.4 | J | ND | U | ND | U |
| TOLUENE | 5 | 1.0 | J | ND | U | 0.68 | J | ND | U | ND | U |
| TRANS-1,2-DICHLOROETHENE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 5 | ND | U | ND | U | 2.5 | J | ND | U | ND | U |
| VINYL CHLORIDE | 2 | ND | U | ND | U | ND | U | ND | U | ND | U |

| Sample Location | | GP-6 | | GP-7 | | GP-8 | | GP-9 | | GP-9 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sample Name | | GW6-09122013-20130912 | | GW7-09102013-20130910 | | GW8-09102013-20130910 | | GW9-09102013-20130910 | | DUP1-09102013-20130910 | |
| Sample Date | | 9/12/13 8:40 | | 9/10/13 9:40 | | 9/10/13 12:50 | | 9/10/13 15:45 | | 9/10/13 15:45 | |
| Constituent | Criteria | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | 1 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHENE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROETHANE | 0.6 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U | ND | U |
| 2-CHLOROETHYL VINYL ETHER | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| ACROLEIN | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| ACRYLONITRILE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BENZENE | 1 | ND | U | 51 | | ND | U | 1.1 | J | 0.96 | J |
| BROMODICHLOROMETHANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BROMOFORM | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| BROMOMETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CARBON TETRACHLORIDE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROBENZENE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROFORM | 7 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CHLOROMETHANE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| DICHLOROETHYLENES | NS | ND | U | ND | U | ND | U | ND | U | ND | U |
| ETHYLBENZENE | 5 | ND | U | 2.4 | J | ND | U | ND | U | ND | U |
| METHYLENE CHLORIDE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TOLUENE | 5 | ND | U | 25 | | ND | U | 1.4 | J | 1.1 | J |
| TRANS-1,2-DICHLOROETHENE | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 5 | ND | U | ND | U | ND | U | ND | U | ND | U |
| VINYL CHLORIDE | 2 | ND | U | ND | U | ND | U | ND | U | ND | U |

| Sample Location | | GP-11 | | GP-12 | |
|---|---|---|---|---|---|
| Sample Name | | GW11-09112013-20130911 | | GW12-09112013-20130911 | |
| Sample Date | | 9/11/13 12:00 | | 9/11/13 10:25 | |
| Constituent | Criteria | | | | |
| 1,1,1-TRICHLOROETHANE | 5 | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | 5 | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | 1 | ND | U | ND | U |
| 1,1-DICHLOROETHANE | 5 | ND | U | ND | U |
| 1,1-DICHLOROETHENE | NS | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | NS | ND | U | ND | U |
| 1,2-DICHLOROETHANE | 0.6 | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | NS | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 3 | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 3 | ND | U | ND | U |
| 2-CHLOROETHYL VINYL ETHER | NS | ND | U | ND | U |
| ACROLEIN | NS | ND | U | ND | U |
| ACRYLONITRILE | NS | ND | U | ND | U |
| BENZENE | 1 | ND | U | 1.1 | J |
| BROMODICHLOROMETHANE | NS | ND | U | ND | U |
| BROMOFORM | NS | ND | U | ND | U |
| BROMOMETHANE | 5 | ND | U | ND | U |
| CARBON TETRACHLORIDE | NS | ND | U | ND | U |
| CHLOROBENZENE | 5 | ND | U | ND | U |
| CHLOROETHANE | 5 | ND | U | ND | U |
| CHLOROFORM | 7 | ND | U | ND | U |
| CHLOROMETHANE | 5 | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | NS | ND | U | ND | U |
| DICHLOROETHYLENES | NS | ND | U | ND | U |
| ETHYLBENZENE | 5 | ND | U | ND | U |
| METHYLENE CHLORIDE | 5 | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 5 | ND | U | ND | U |
| TOLUENE | 5 | ND | U | 1.7 | J |
| TRANS-1,2-DICHLOROETHENE | 5 | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 5 | 8.2 | | ND | U |
| VINYL CHLORIDE | 2 | ND | U | ND | U |

| Sample Location | | GP-13 | | | |
|---|---|---|---|---|---|
| Sample Name | | GW13-09102013-20130910 | | TB-09122013-20130912 | |
| Sample Date | | 9/10/13 15:25 | | 9/12/13 9:00 | |
| Constituent | Criteria | | | | |
| 1,1,1-TRICHLOROETHANE | 5 | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | 5 | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | 1 | ND | U | ND | U |
| 1,1-DICHLOROETHANE | 5 | ND | U | ND | U |
| 1,1-DICHLOROETHENE | NS | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | NS | ND | U | ND | U |
| 1,2-DICHLOROETHANE | 0.6 | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | NS | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 3 | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 3 | ND | U | ND | U |
| 2-CHLOROETHYL VINYL ETHER | NS | ND | U | ND | U |
| ACROLEIN | NS | ND | U | ND | U |
| ACRYLONITRILE | NS | ND | U | ND | U |
| BENZENE | 1 | ND | U | ND | U |
| BROMODICHLOROMETHANE | NS | ND | U | ND | U |
| BROMOFORM | NS | ND | U | ND | U |
| BROMOMETHANE | 5 | ND | U | ND | U |
| CARBON TETRACHLORIDE | NS | ND | U | ND | U |
| CHLOROBENZENE | 5 | ND | U | ND | U |
| CHLOROETHANE | 5 | ND | U | ND | U |
| CHLOROFORM | 7 | ND | U | ND | U |
| CHLOROMETHANE | 5 | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | NS | ND | U | ND | U |
| DICHLOROETHYLENES | NS | ND | U | ND | U |
| ETHYLBENZENE | 5 | ND | U | ND | U |
| METHYLENE CHLORIDE | 5 | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 5 | ND | U | ND | U |
| TOLUENE | 5 | 0.83 | J | ND | U |
| TRANS-1,2-DICHLOROETHENE | 5 | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 5 | ND | U | ND | U |
| VINYL CHLORIDE | 2 | ND | U | ND | U |

**Footnotes**

(1) NS - No Standard
ND - Not Detected at the Reporting Limit
NA - Not Applicable

(2) VOC :

Units - micrograms per liter (µg/l)

Bold/highlighted cell – Exceedance of 6 NYCRR Part 703 Class GA Water Quality Standards and Classifications. Compounds without established GWQS, the applicable groundwater values from the Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS 1.1.1) were used.

No sample taken at GP-10 as temporary piezometer point was dry when sampling.

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

U - Compound analyzed for but not detected.

B - Compound found in blank and sample

T - MS and/or MSD Recovery is outside acceptance limits.

| | | | Sample ID | SS1-09122013-20130912 | | SS2-09122013-20130912 | | SS3-09122013-20130912 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Sample Depth | 0 - 2 inches | | 0 - 2 inches | | 0 - 2 inches | |
| | | | Sample Date | 9/12/13 12:00 | | 9/12/13 9:45 | | 9/12/13 10:05 | |
| Constituent | FSGV Cl. A | UUSCO | RUSCO | | | | | | |
| 1,1,1-TRICHLOROETHANE | NS | 0.68 | 100 | ND | U | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHANE | NS | 0.27 | 19 | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHENE | 0.52 | 0.33 | 100 | ND | U | ND | U | ND | U |
| 1,2,4-TRICHLOROBENZENE | 35 | NS | NS | ND | U | ND | U | ND | U |
| 1,2-DIBROMO-3-CHLOROPROPANE | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE) | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | 0.28 | 1.1 | 100 | ND | U | ND | U | ND | U |
| 1,2-DICHLOROETHANE | NS | 0.02 | 2.3 | ND | U | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | NS | NS | NS | ND | U | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 1.8 | 2.4 | 17 | ND | U | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 0.72 | 1.8 | 9.8 | ND | U | ND | U | ND | U |
| 2-HEXANONE | NS | NS | NS | ND | U | ND | U | ND | U |
| ACETONE | NS | 0.05 | 100 | ND | U | ND | U | ND | U |
| BENZENE | 0.53 | 0.06 | 2.9 | ND | U | ND | U | ND | U |
| BROMODICHLOROMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| BROMOFORM | NS | NS | NS | ND | U | ND | U | ND | U |
| BROMOMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| CARBON DISULFIDE | NS | NS | NS | ND | U | ND | U | ND | U |
| CARBON TETRACHLORIDE | 1.07 | 0.76 | 1.4 | ND | U | ND | U | ND | U |
| CHLOROBENZENE | 0.2 | 1.1 | 100 | ND | U | ND | U | ND | U |
| CHLOROETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| CHLOROFORM | NS | 0.37 | 10 | ND | U | ND | U | ND | U |
| CHLOROMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| CIS-1,2-DICHLOROETHYLENE | NS | 0.25 | 59 | ND | U | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | NS | NS | NS | ND | U | ND | U | ND | U |
| CYCLOHEXANE | NS | NS | NS | ND | U | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| DICHLORODIFLUOROMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| ETHYLBENZENE | 0.43 | 1 | 30 | ND | U | ND | U | ND | U |
| ISOPROPYLBENZENE (CUMENE) | NS | NS | NS | ND | U | ND | U | ND | U |
| METHYL ACETATE | NS | NS | NS | ND | U | ND | U | ND | U |
| METHYL ETHYL KETONE (2-BUTANONE) | NS | 0.12 | 100 | ND | U | ND | U | ND | U |
| METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE) | NS | NS | NS | ND | U | ND | U | ND | U |
| METHYLCYCLOHEXANE | NS | NS | NS | ND | U | ND | U | ND | U |
| METHYLENE CHLORIDE | NS | 0.05 | 51 | ND | U | ND | U | ND | U |
| STYRENE | NS | 0.93 | 62 | ND | U | ND | U | ND | U |
| TERT-BUTYL METHYL ETHER | NS | NS | NS | ND | U | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 16 | 1.3 | 5.5 | ND | U | ND | U | ND | U |
| TOLUENE | 0.93 | 0.7 | 100 | ND | U | ND | U | ND | U |
| TRANS-1,2-DICHLOROETHENE | 1.2 | 0.19 | 100 | ND | U | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | NS | NS | NS | ND | U | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 1.8 | 0.47 | 10 | ND | U | ND | U | ND | U |
| TRICHLOROFLUOROMETHANE | NS | NS | NS | ND | U | ND | U | ND | U |
| VINYL CHLORIDE | NS | 0.02 | 0.21 | ND | U | ND | U | ND | U |
| XYLENES, TOTAL | 0.59 | 0.26 | 100 | ND | U | ND | U | ND | U |

**Footnotes**

(1) NS - No Standard
ND - Not detected at the reporting limit

(2) VOC:

Units - miligram per kilogram (mg/Kg)

**Bold** : Exceedence of NYSDEC Part 375 UUSCO - Unrestricted Use SCO
*Italic :* Exceedence of NYSDEC Part 375 RUSCO - Residential Use SCO
**Shaded** *:* Exceedence of NYSDEC Freshwater Sediment Guidance Value - Class A - FSGV Cl. A

*Hexavalent chromium standard used

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

U - Compound analyzed for but no detected.

| Sample Name | | LAB-BW-20140716 | | PZ-1-20140716 | | PZ-3-20140716 | | PZ-2-20140715 | |
|---|---|---|---|---|---|---|---|---|---|
| **Sample Date** | | 7/16/14 15:50 | | 7/16/14 8:53 | | 7/16/14 13:41 | | 7/15/14 16:41 | |
| Constituent | Criteria | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| 1,1,2,2-TETRACHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| 1,1,2-TRICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| 1,1-DICHLOROETHENE | 5 | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROETHANE | 0.06 | ND | U | ND | U | ND | U | ND | U |
| 1,2-DICHLOROPROPANE | 1 | ND | U | ND | U | ND | U | ND | U |
| 1,3-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U |
| 1,4-DICHLOROBENZENE | 3 | ND | U | ND | U | ND | U | ND | U |
| 2-CHLOROETHYL VINYL ETHER | NA | ND | U | ND | U | ND | U | ND | U |
| ACROLEIN | NA | ND | U | ND | U | ND | U | ND | U |
| ACRYLONITRILE | NA | ND | U | ND | U | ND | U | ND | U |
| BENZENE | 1 | **1.4** | J | ND | U | ND | U | ND | U |
| BROMODICHLOROMETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| BROMOFORM | NA | ND | U | ND | U | ND | U | ND | U |
| BROMOMETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| CARBON TETRACHLORIDE | 5 | ND | U | ND | U | ND | U | ND | U |
| CHLOROBENZENE | 5 | ND | U | ND | U | ND | U | ND | U |
| CHLOROETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| CHLOROFORM | 7 | 3.3 | J | ND | U | ND | U | ND | U |
| CHLOROMETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| CIS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U |
| DIBROMOCHLOROMETHANE | 5 | ND | U | ND | U | ND | U | ND | U |
| DICHLOROETHYLENES | NA | ND | U | ND | U | ND | U | ND | U |
| ETHYLBENZENE | 5 | 1.3 | J | ND | U | ND | U | ND | U |
| METHYLENE CHLORIDE | 5 | ND | U | ND | U | ND | U | ND | U |
| TETRACHLOROETHYLENE(PCE) | 5 | ND | U | ND | U | ND | U | ND | U |
| TOLUENE | 5 | 1.6 | J | ND | U | ND | U | ND | U |
| TRANS-1,2-DICHLOROETHENE | 5 | ND | U | ND | U | ND | U | ND | U |
| TRANS-1,3-DICHLOROPROPENE | 0.4 | ND | U | ND | U | ND | U | ND | U |
| TRICHLOROETHYLENE (TCE) | 5 | ND | U | ND | U | ND | U | ND | U |
| VINYL CHLORIDE | 2 | ND | U | ND | U | ND | U | ND | U |

**Footnotes**

(1) NS - No Standard
ND - Not Detected at the Reporting Limit
NA - Not Applicable

(2) VOC :

Units - micrograms per liter (µg/l)

Bold/highlighted cell – Exceedance of 6 NYCRR Part 703 Class GA Water Quality Standards and Classifications. Compounds without established GWQS, the applicable groundwater values from the Division of Water Technical and Operational Guidance Series 1.1.1 (TOGS 1.1.1) were used.

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

U - Compound analyzed for but not detected.

B - Compound found in blank and sample

T - MS and/or MSD Recovery is outside acceptance limits.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Sample Name** | SED1-20140715 | | SED2-20140715 | | SED3-20140715 | |
| | | | **Sample Date** | 7/15/14 17:48 | | 7/15/14 18:00 | | 7/15/14 18:14 | |
| | | | **Sample Depth** | 0 - 2 inches | | 0 - 2 inches | | 0 - 2 inches | |
| Constituent | FSGV Cl. A | UUSCO | RUSCO | | | | | | |
| ALUMINUM | NS | NS | NS | 3300 | | 5700 | | 8000 | |
| ANTIMONY | NS | NS | NS | ND | U | ND | U | ND | U |
| ARSENIC | 10 | 13 | 16 | 2.5 | J | 3.0 | | 3.2 | |
| BARIUM | NS | 350 | 350 | 37 | | 68 | | 23 | |
| BERYLLIUM | NS | 7.2 | 14 | 0.19 | J | 0.28 | | 0.36 | |
| CADMIUM | 1 | 2.5 | 2.5 | 0.11 | J | 0.079 | J | ND | U |
| CALCIUM | NS | NS | NS | 66000 | B | 64000 | B | 92000 | B |
| CHROMIUM, TOTAL | 43 | 1 | 22 | **12** | | **11** | | **15** | |
| COBALT | NS | NS | NS | 4.0 | | 5.5 | | 9.8 | |
| COPPER | 32 | 50 | 270 | 17 | | 18 | | 14 | |
| IRON | NS | NS | NS | 9300 | | 12000 | | 19000 | |
| LEAD | 36 | 63 | 400 | **50** | | 34 | | 17 | |
| MAGNESIUM | NS | NS | NS | 12000 | | 8200 | | 8100 | |
| MANGANESE | NS | 1600 | 2000 | 180 | B | 360 | B | 470 | B |
| NICKEL | 23 | 30 | 140 | 11 | | 17 | | **30** | |
| POTASSIUM | NS | NS | NS | 530 | | 940 | | 1000 | |
| SELENIUM | NS | 3.9 | 36 | ND | U | ND | U | ND | U |
| SILVER | 1 | 2 | 36 | ND | U | ND | U | 0.44 | J |
| SODIUM | NS | NS | NS | 140 | J | 160 | | 170 | |
| THALLIUM | NS | NS | NS | ND | U | ND | U | ND | U |
| VANADIUM | NS | NS | NS | 8.6 | | 12 | | 12 | |
| ZINC | 120 | 109 | 2200 | 85 | B | 53 | B | 38 | B |
| MERCURY | 0.2 | 0.18 | 0.81 | 0.063 | | 0.096 | | ND | U |

**Footnotes**

(1) NS - No Standard
ND - Not detected at the reporting limit

(2) Metals:

Units - miligram per kilogram (mg/Kg)

**Bold** : Exceedence of NYSDEC Part 375 UUSCO - Unrestricted Use SCO
*Italic :* Exceedence of NYSDEC Part 375 RUSCO - Residential Use SCO
**Shaded** : Exceedence of NYSDEC Freshwater Sediment Guidance Value - Class A - FSGV Cl. A

*Hexavalent chromium standard used

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

U - Compound analyzed for but no detected.

| Sample Location | LAB44-IA1 | | LAB44-IA2 | | LAB44-IA3 | | LAB44-IA1 | | 32-LAB-IA | | 32-LAB-SS | | 53-LAB-IA | | 53-LAB-SS | | LAB-OA1 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | LAB44-IA1-121113 | | LAB44-IA2-121113 | | LAB44-IA3-121113 | | LAB44-IA1-121113DUP | | 32-LAB-31714-IA | | 32-LAB-SS-31714 | | 53-LAB-IA-31714 | | 53-LAB-SS-31714 | | LAB-OA1-31714 | |
| **Sample Date** | 12/11/2013 | | 12/11/2013 | | 12/11/2013 | | 12/11/2013 | | 3/17/2014 | | 3/17/2014 | | 3/17/2014 | | 3/17/2014 | | 3/17/2014 | |
| Constituent | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,1,2,2-Tetrachloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,1,2-Trichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,1-Dichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,1-Dichloroethene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,2-Dibromoethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,2-Dichlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,2-Dichloroethane | 0.078 | J | ND | UJ | ND | UJ | 0.072 | J | ND | U | ND | U | 0.09 | J | ND | U | 0.086 | J |
| 1,2-Dichloropropane | 0.096 | J | 0.073 | J | 0.078 | J | 0.094 | J | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,3-Dichlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| 1,4-Dichlorobenzene | 0.066 | J | 0.025 | J | ND | U | 0.061 | J | 0.025 | J | 3.1 | J | ND | U | 2.7 | J | ND | UJ |
| 2-Butanone | 1 | | 0.8 | J | 0.82 | J | 1.1 | | 1.4 | | 17 | | 2.4 | | 12 | | 0.62 | J |
| 2-Hexanone | 0.042 | NJ | ND | UJ | ND | U | 0.049 | J | ND | U | 5.4 | | ND | U | ND | U | ND | UJ |
| 4-Methyl-2-pentanone | ND | U | 0.16 | J | ND | U | 0.025 | J | 0.089 | J | ND | U | 0.095 | J | ND | U | ND | UJ |
| Acetone | 5.1 | J | 5.7 | J | 5.1 | J | 5.1 | J | 10 | | 58 | D | 6.5 | J | 49 | | 3.7 | J |
| Benzene | 0.48 | | 0.84 | J | 0.53 | | 0.46 | J | 2.2 | | 33 | | ND | U | 6.5 | | ND | UJ |
| Bromodichloromethane | ND | U | ND | UJ | 0.093 | J | ND | U | 0.17 | J | ND | U | ND | U | ND | U | ND | UJ |
| Bromoform | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Bromomethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Carbon disulfide | ND | U | ND | UJ | ND | U | 0.062 | J | ND | U | 8.3 | | ND | U | 5.9 | | ND | UJ |
| Carbon tetrachloride | 0.49 | | 0.47 | J | 0.46 | | 0.47 | | 0.59 | | 0.57 | | 0.66 | | 0.58 | | 0.66 | J |
| Chlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Chloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Chloroform | 0.19 | NJ | 0.17 | J | 0.47 | J | 0.19 | J | 0.61 | J | 3.2 | | 0.1 | NJ | 0.59 | J | ND | UJ |
| Chloromethane | 0.9 | NJ | 0.86 | J | 0.89 | | 0.92 | | 2.4 | | 1.9 | | 0.87 | | 0.11 | J | 0.93 | J |
| cis-1,2-Dichloroethene | ND | | ND | UJ | ND | U | ND | U | 0.23 | J | ND | U | ND | U | ND | U | ND | UJ |
| cis-1,3-Dichloropropene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Dibromochloromethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Ethylbenzene | 0.17 | J | 0.43 | J | 0.16 | J | 0.18 | J | 0.63 | J | 11 | | 0.21 | J | ND | U | 0.2 | J |
| M,P-XYLENE (SUM OF ISOMERS) | 0.52 | J | 1.2 | J | 0.42 | J | 0.52 | J | 2 | J | 73 | | 0.59 | J | 35 | | 0.56 | J |
| Methylene chloride | 26 | | 24 | J | 18 | | 27 | | 1 | NJ | ND | U | 0.59 | | ND | U | 0.55 | J |
| Methyl-tert-butyl-ether | ND | U | ND | UJ | ND | U | ND | U | ND | U | 0.54 | NJ | ND | U | 0.31 | J | ND | UJ |
| o-Xylene | 0.16 | J | 0.44 | J | 0.15 | J | 0.16 | J | 0.65 | J | 21 | | 0.25 | J | 11 | | 0.23 | J |
| Styrene | ND | U | 0.18 | J | 0.084 | J | ND | U | 0.41 | J | ND | U | 0.099 | J | ND | U | ND | UJ |
| Tetrachloroethene | ND | U | 0.096 | J | 0.13 | | ND | U | 0.97 | | 0.61 | | 0.13 | | 0.23 | NJ | 0.056 | J |
| Toluene | 0.77 | | 3.6 | J | 0.63 | | 0.74 | | 4.5 | | 90 | | 1.2 | | 27 | | 1 | J |
| trans-1,2-Dichloroethene | ND | U | ND | UJ | ND | U | ND | U | 0.12 | NJ | ND | U | ND | U | ND | U | ND | UJ |
| trans-1,3-Dichloropropene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Trichloroethene | 0.035 | NJ | 0.067 | J | ND | U | ND | U | 4.9 | | 4 | | ND | U | 0.18 | NJ | ND | UJ |
| Trichlorofluoromethane | 1.4 | | 1.2 | J | 1.1 | | 1.4 | | 1.7 | | 1.5 | J | 2.3 | | 1.6 | J | 1.6 | J |
| TRICHLOROTRIFLUOROETHANE | 0.59 | | 0.61 | J | 0.57 | | 0.63 | | 0.64 | | 0.64 | | 0.62 | | 0.59 | | 0.58 | J |
| VINYL ACETATE | ND | U | 0.16 | J | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |
| Vinyl chloride | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | UJ |

| Sample Location | 48-LAB-IA | | 48-LAB-SS | | 25-LAB-SS | | 25-LAB-IA | | 49-LAB-IA | | 49-LAB-SS | | LAB-OA2 | | 25-LAB-IA | | 49-LAB-IA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | 48-LAB-IA-31714 | | 48-LAB-SS-31714 | | 25-LAB-SS-31814 | | 25-LAB-IA-31814 | | 49-LAB-IA-31814 | | 49-LAB-SS-31814 | | LAB-OA2-31814 | | 25-LAB-IA-31814DUP | | 49-LAB-IA-31814DUP | |
| **Sample Date** | 3/17/2014 | | 3/17/2014 | | 3/18/2014 | | 3/18/2014 | | 3/18/2014 | | 3/18/2014 | | 3/18/2014 | | 3/18/2014 | | 3/18/2014 | |
| Constituent | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 0.096 | NJ | ND | U | 0.15 | J | 0.11 | J | 0.066 | NJ | ND | U | ND | U | 0.1 | J | ND | U |
| 1,1,2,2-Tetrachloroethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2-Trichloroethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-Dichloroethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-Dichloroethene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dibromoethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dichlorobenzene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dichloroethane | ND | U | ND | U | ND | U | 0.11 | J | ND | U | ND | U | 0.1 | J | 0.11 | J | 0.11 | J |
| 1,2-Dichloropropane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,3-Dichlorobenzene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,4-Dichlorobenzene | 0.24 | J | 2.1 | J | 0.3 | J | ND | U | ND | U | 4.3 | J | ND | U | ND | U | ND | U |
| 2-Butanone | 0.59 | J | 10 | | 1.6 | | 0.59 | J | 11 | | 24 | | 0.5 | J | 0.58 | J | 14 | |
| 2-Hexanone | ND | U | 2.8 | | 0.6 | J | ND | U | ND | U | 5.8 | | ND | U | 0.069 | J | 0.1 | J |
| 4-Methyl-2-pentanone | ND | U | ND | U | 0.35 | J | 0.076 | J | 12 | | ND | U | ND | U | 0.059 | J | 15 | |
| Acetone | 9.1 | | 30 | | 72 | D | 5.7 | J | 5.8 | J | 110 | | 4.3 | J | 5.9 | J | 8.2 | J |
| Benzene | 1.2 | | 6.4 | | ND | U | ND | U | ND | U | 13 | | ND | U | 0.68 | | 0.87 | J |
| Bromodichloromethane | 0.067 | J | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Bromoform | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Bromomethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Carbon disulfide | ND | U | 4.2 | | 3.3 | | ND | U | ND | U | 16 | | ND | U | ND | U | ND | U |
| Carbon tetrachloride | 0.66 | | 0.46 | | 0.64 | | 0.65 | | 0.66 | | 0.59 | | 0.66 | | 0.67 | | 0.61 | |
| Chlorobenzene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Chloroethane | ND | U | 0.13 | J | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Chloroform | 0.76 | J | ND | U | 0.094 | NJ | 0.12 | NJ | ND | U | 3.9 | | 0.092 | NJ | 0.11 | J | 0.12 | J |
| Chloromethane | 0.87 | | 0.42 | J | 0.096 | NJ | 0.86 | | 0.85 | | 0.98 | J | 0.86 | | 0.91 | | 1.2 | |
| cis-1,2-Dichloroethene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| cis-1,3-Dichloropropene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Dibromochloromethane | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Ethylbenzene | 2.7 | | 4.3 | | 0.52 | J | 0.25 | J | 0.6 | J | 7.7 | | 0.21 | J | 0.25 | J | 0.56 | J |
| M,P-XYLENE (SUM OF ISOMERS) | 9.6 | | 26 | | 3 | J | 0.84 | J | 2 | J | 51 | | 0.61 | J | 0.84 | J | 1.8 | J |
| Methylene chloride | 12 | | 6.3 | | ND | U | 0.4 | J | 0.52 | | ND | U | 0.32 | J | 0.43 | J | 0.56 | J |
| Methyl-tert-butyl-ether | ND | U | 0.4 | NJ | ND | U | ND | U | ND | U | 0.56 | NJ | ND | U | ND | U | ND | U |
| o-Xylene | 2.7 | | 7.9 | | 0.95 | J | 0.36 | J | 1.2 | J | 15 | | 0.24 | J | 0.35 | J | 1 | J |
| Styrene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Tetrachloroethene | 0.096 | J | 0.36 | | 0.15 | | 0.081 | J | 0.089 | J | 0.56 | | 0.079 | J | 0.096 | J | ND | U |
| Toluene | 6.8 | | 29 | | 3.3 | | 1.2 | | 50 | D | 75 | | 1.1 | | 1.2 | | 49 | |
| trans-1,2-Dichloroethene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| trans-1,3-Dichloropropene | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Trichloroethene | ND | U | ND | U | 0.32 | | 0.28 | | ND | U | 0.27 | NJ | ND | U | 0.27 | | ND | U |
| Trichlorofluoromethane | 1.9 | | 1.7 | | 1.6 | | 1.7 | | 1.8 | | 12 | | 1.6 | | 1.7 | | 1.8 | |
| TRICHLOROTRIFLUOROETHANE | 0.58 | | 0.6 | | 0.55 | | 0.57 | | 0.64 | | 0.6 | J | 0.6 | | 0.61 | | 0.62 | |
| VINYL ACETATE | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Vinyl chloride | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U | ND | |

**Footnotes**

(1) NS - No Standard
ND - Not detected at the reporting limit

(2) VOC :

Units - microgram per cubic meter ($ug/m^3$)

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

D - Reported value from a dilution sample

U - Compound analyzed for but no detected.

B - Compound found in blank and sample

UJ - The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

NJ - Detection is tentative in identification and estimated in value.

SVI Sampling Data
March 2015 - April 2015



| Sample Type | SVI-IA1 | | SVI-OA1 | | SVI-SS1 | | SVI-SS2 | | SVI-IA | | SVI-OA | | SVI-SS1 | | SVI-SS2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sample Name** | LAB28-IA1-20150423 | | LAB28-OA1-20150423 | | LAB28-SS1-20150423 | | LAB28-SS2-20150423 | | 32-LAB-20150319-IA | | 32-LAB-20150319-OA | | 32-LAB-20150319-SS1 | | 32-LAB-20150319-SS2 | |
| **Sample Date** | 4/23/15 11:25 AM | | 4/23/15 11:37 AM | | 4/23/15 11:24 AM | | 4/23/15 11:24 AM | | 3/19/2015 11:43 | | 3/19/2015 8:46 | | 3/19/2015 11:44 | | 3/19/2015 16:45 | |
| Constituent | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2,2-Tetrachloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane | ND | U | ND | UJ | ND | U | ND | U | 0.4 | | 0.4 | | ND | U | ND | U |
| 1,1,2-Trichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-Dichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,1-Dichloroethene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | 2 | | ND | U |
| 1,2-Dibromoethane (Ethylene Dibromide) | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dichlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dichloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,2-Dichloropropane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,3-Dichlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 1,4-Dichlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| 2-Hexanone | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | 0.9 | | 2 | |
| Acetone | 5 | J | 6 | J | 34 | J | 22 | J | 12 | | 6 | | 21 | | 21 | |
| Benzene | ND | U | ND | UJ | ND | U | ND | U | 0.8 | | 0.3 | | 6 | | 14 | |
| Bromodichloromethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Bromoform | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Bromomethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Carbon Disulfide | ND | U | ND | UJ | 3 | | ND | U | 0.2 | | ND | U | 6 | | 6 | |
| Carbon Tetrachloride | ND | U | ND | UJ | ND | U | ND | U | 0.3 | | 0.3 | | ND | U | ND | U |
| Chlorobenzene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Chloroethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Chloroform | ND | U | ND | UJ | ND | U | ND | U | 4 | | 0.3 | | 22 | | 2 | |
| Chloromethane | 0.8 | | 1 | J | ND | U | ND | U | 1 | | 0.8 | | ND | U | 0.6 | |
| Cis-1,2-Dichloroethylene | ND | U | ND | UJ | 140 | | 140 | | ND | U | ND | U | 53 | | ND | U |
| Cis-1,3-Dichloropropene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Dibromochloromethane | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Ethylbenzene | ND | U | ND | UJ | ND | U | ND | U | 0.3 | | ND | U | 3 | | 6 | |
| M,P-Xylenes | ND | U | ND | UJ | ND | U | ND | U | 1 | | ND | U | 29 | | 44 | |
| Methyl Ethyl Ketone (2-Butanone) | 2 | | ND | UJ | 11 | J | 4 | J | 0.9 | | 0.3 | | 2 | | 4 | |
| Methyl Isobutyl Ketone (4-Methyl-2-Pentanone) | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | 1 | | 2 | |
| Methylene Chloride | 4 | J | 4 | J | 14 | J | 14 | J | 220 | | 6 | | 9 | | 8 | |
| O-Xylene (1,2-Dimethylbenzene) | ND | U | ND | UJ | ND | U | ND | U | 0.3 | | ND | U | 8 | | 14 | |
| Styrene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Tert-Butyl Methyl Ether | ND | U | ND | UJ | ND | U | ND | U | 0.8 | | ND | U | ND | U | ND | U |
| Tetrachloroethylene (PCE) | 1 | | ND | UJ | ND | U | ND | U | ND | U | ND | U | 2 | | ND | U |
| Toluene | 1 | | ND | UJ | 8 | J | ND | UJ | 2 | | 0.2 | | 24 | | 52 | |
| Trans-1,2-Dichloroethene | ND | U | ND | UJ | 34 | | 40 | | ND | U | ND | U | 15 | | ND | U |
| Trans-1,3-Dichloropropene | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |
| Trichloroethylene (TCE) | ND | U | ND | UJ | 1800 | | 1900 | | 2 | | ND | U | 1100 | | 3 | |
| Trichlorofluoromethane | ND | U | ND | UJ | ND | U | ND | U | 1 | | 0.9 | | ND | U | ND | U |
| Vinyl Acetate | ND | UJ | ND | UJ | ND | UJ | ND | UJ | 1 | | ND | U | 17 | | ND | U |
| Vinyl Chloride | ND | U | ND | UJ | ND | U | ND | U | ND | U | ND | U | ND | U | ND | U |

**Footnotes**

(1) NS - No Standard
ND - Not detected at the reporting limit

(2) VOC :

Units - microgram per cubic meter ($ug/m^3$)

**Qualifiers**

J - Approximate value. Result is less than RL but greater than or equal to the MDL.

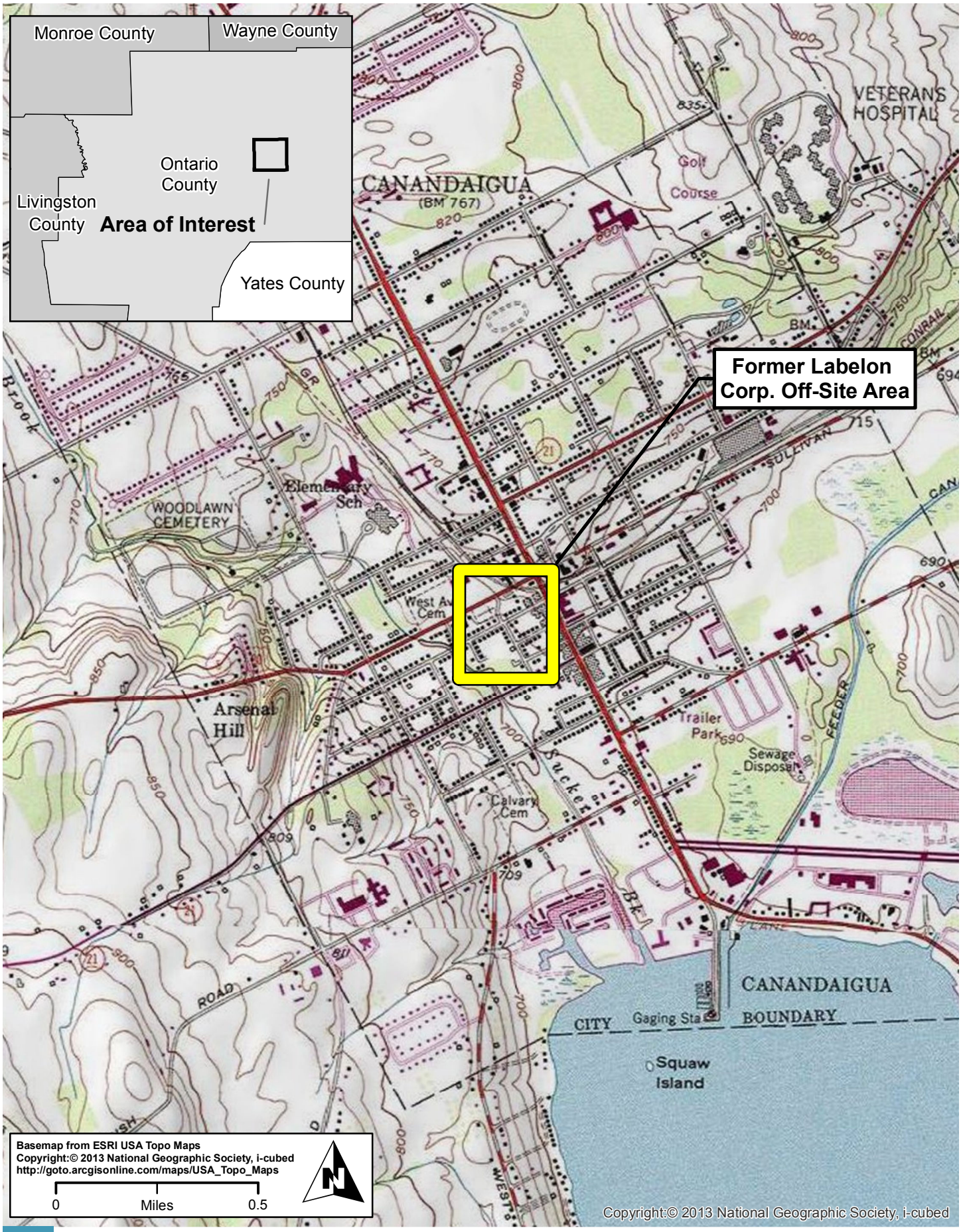
D - Reported value from a dilution sample

U - Compound analyzed for but no detected.

B - Compound found in blank and sample

UJ - The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

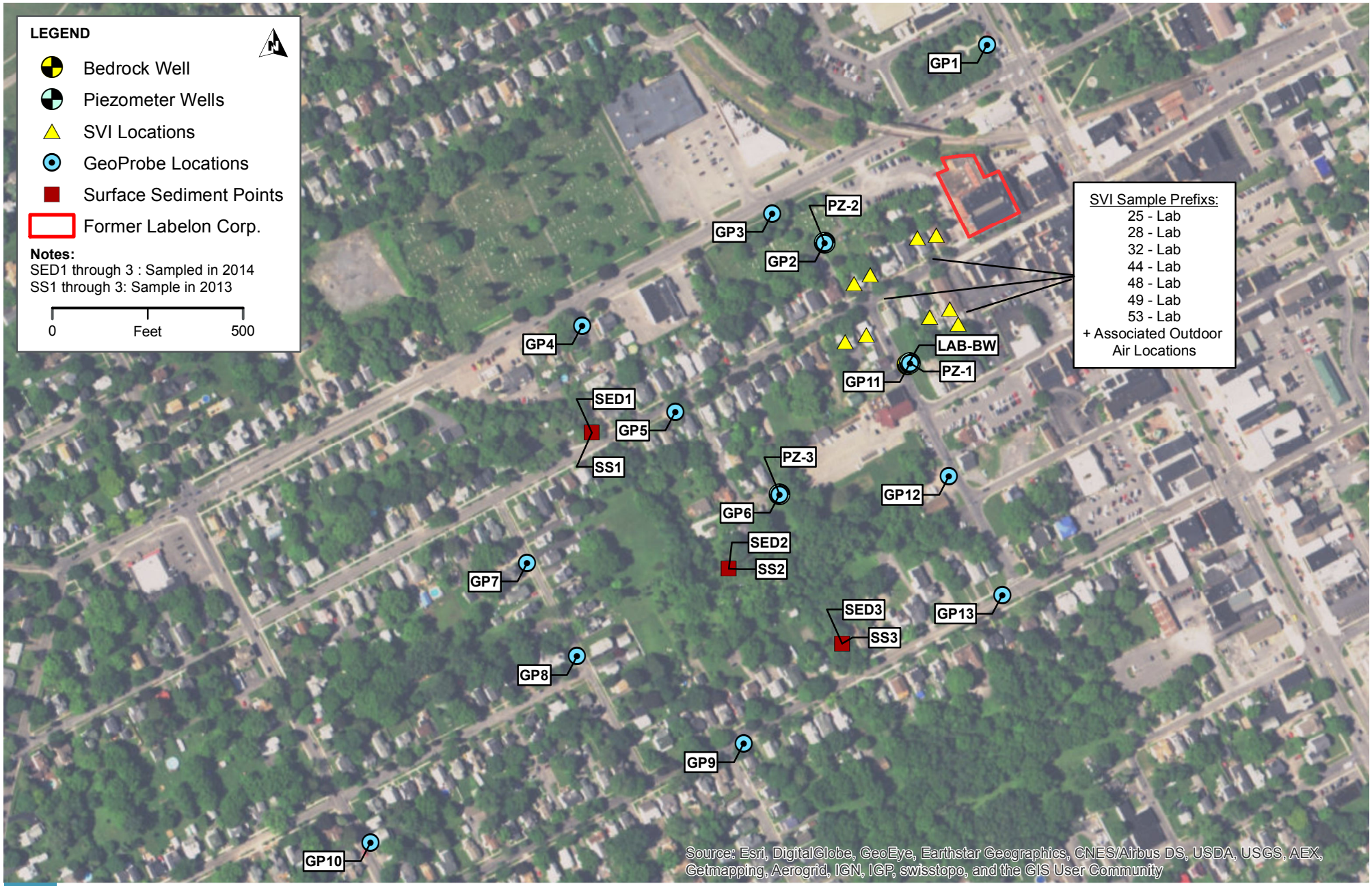
NJ - Detection is tentative in identification and estimated in value.




# SITE LOCATION MAP

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

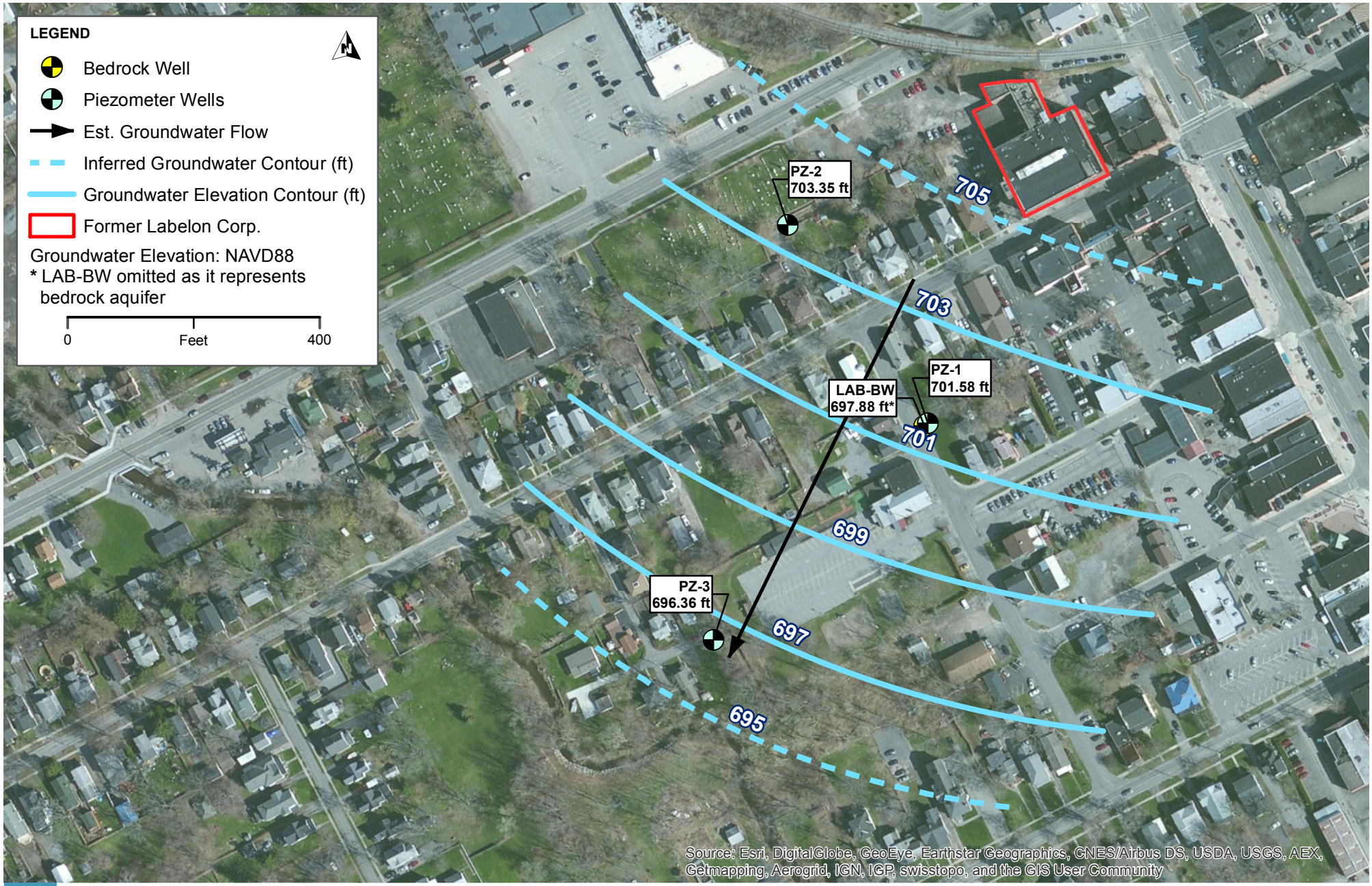
FIGURE 1




# OFF-SITE SAMPLING LOCATIONS - GROUNDWATER, SEDIMENT & SOIL VAPOR

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

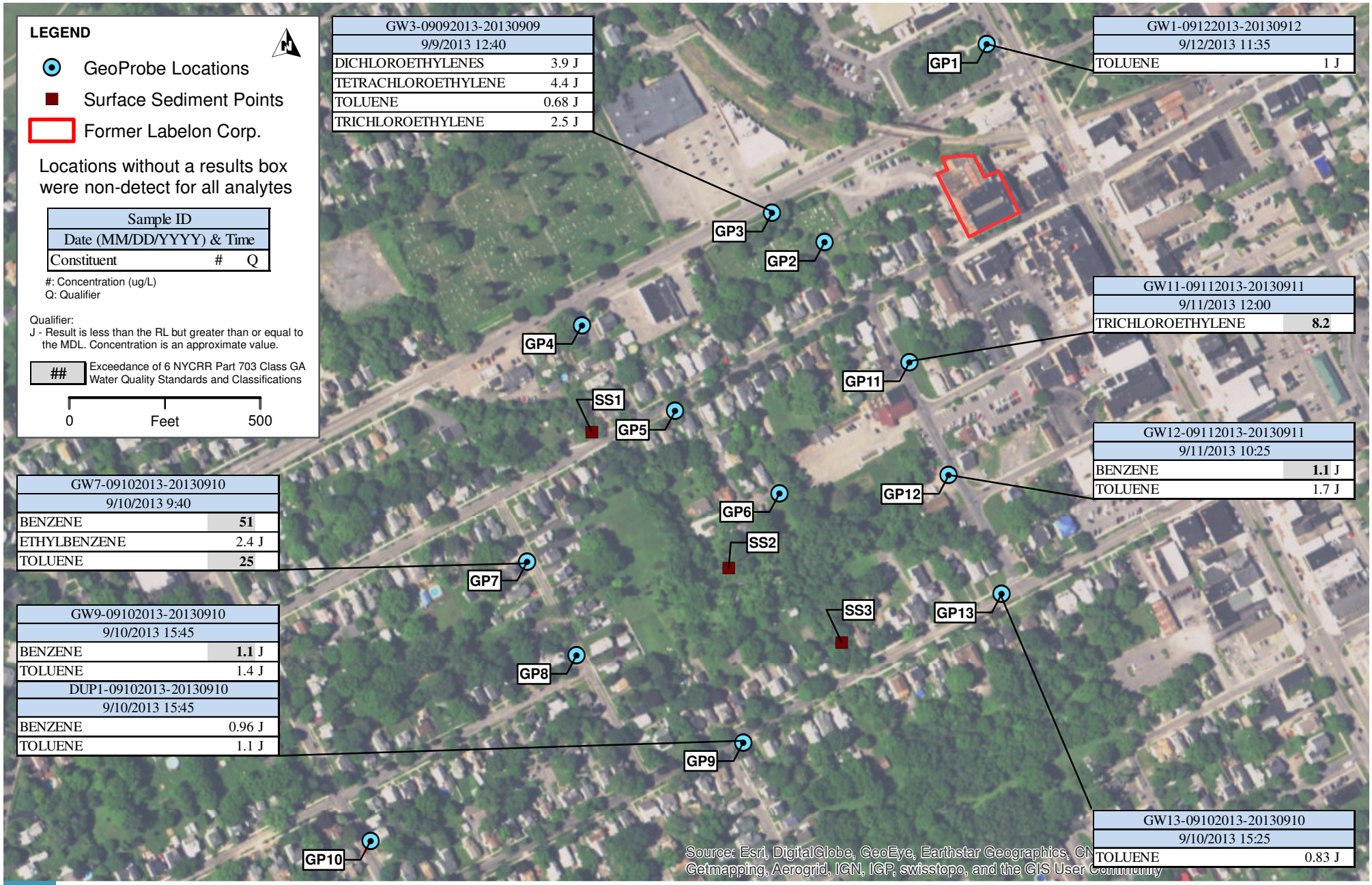
FIGURE 2




# OFF-SITE SHALLOW GROUNDWATER FLOW - JULY 2014

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

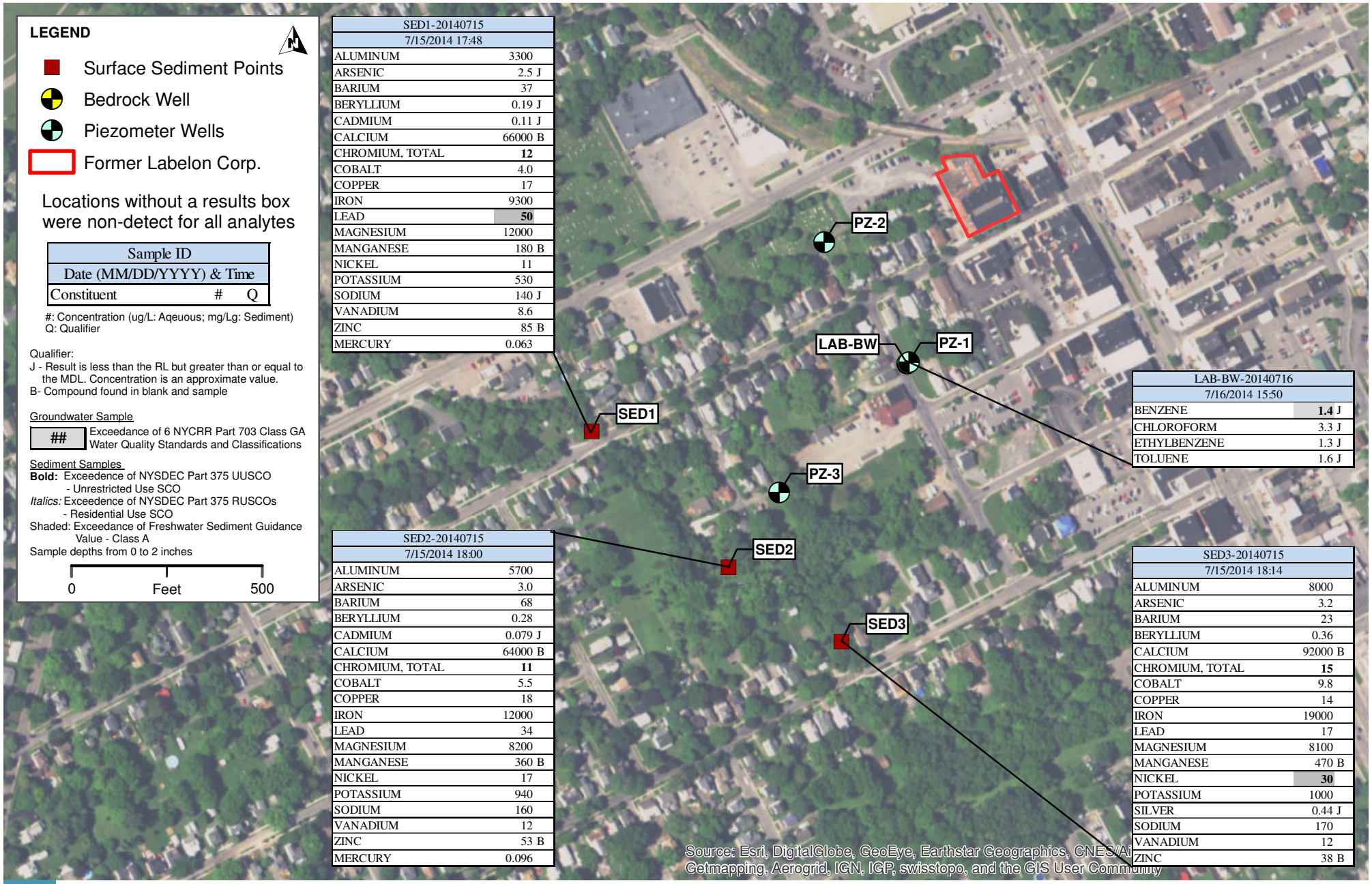
FIGURE 3




# GROUNDWATER AND SEDIMENT SAMPLING RESULTS - SEPTEMBER 2013

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

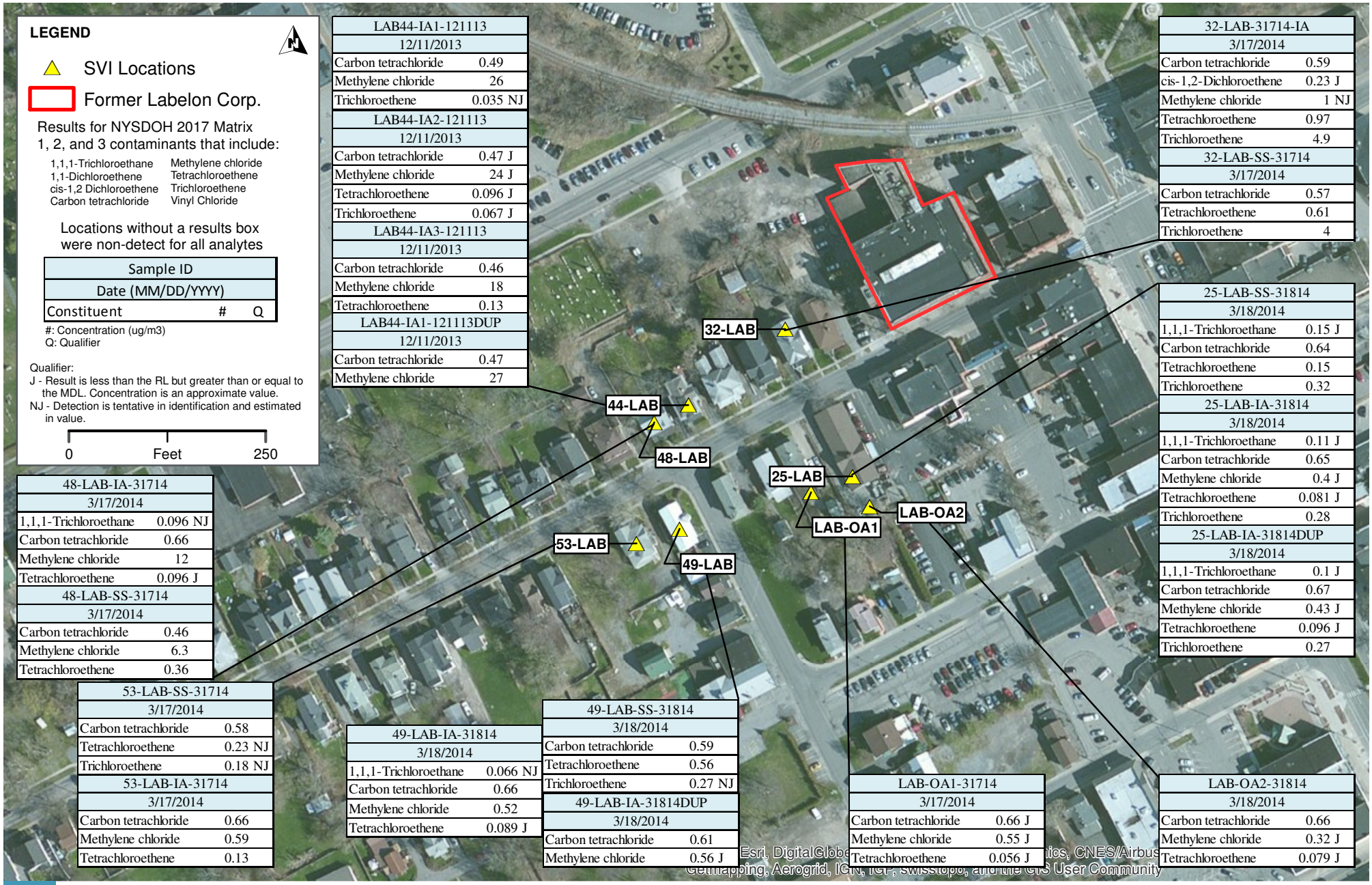
FIGURE 4




# GROUNDWATER AND SEDIMENT SAMPLING RESULTS - JULY 2014

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

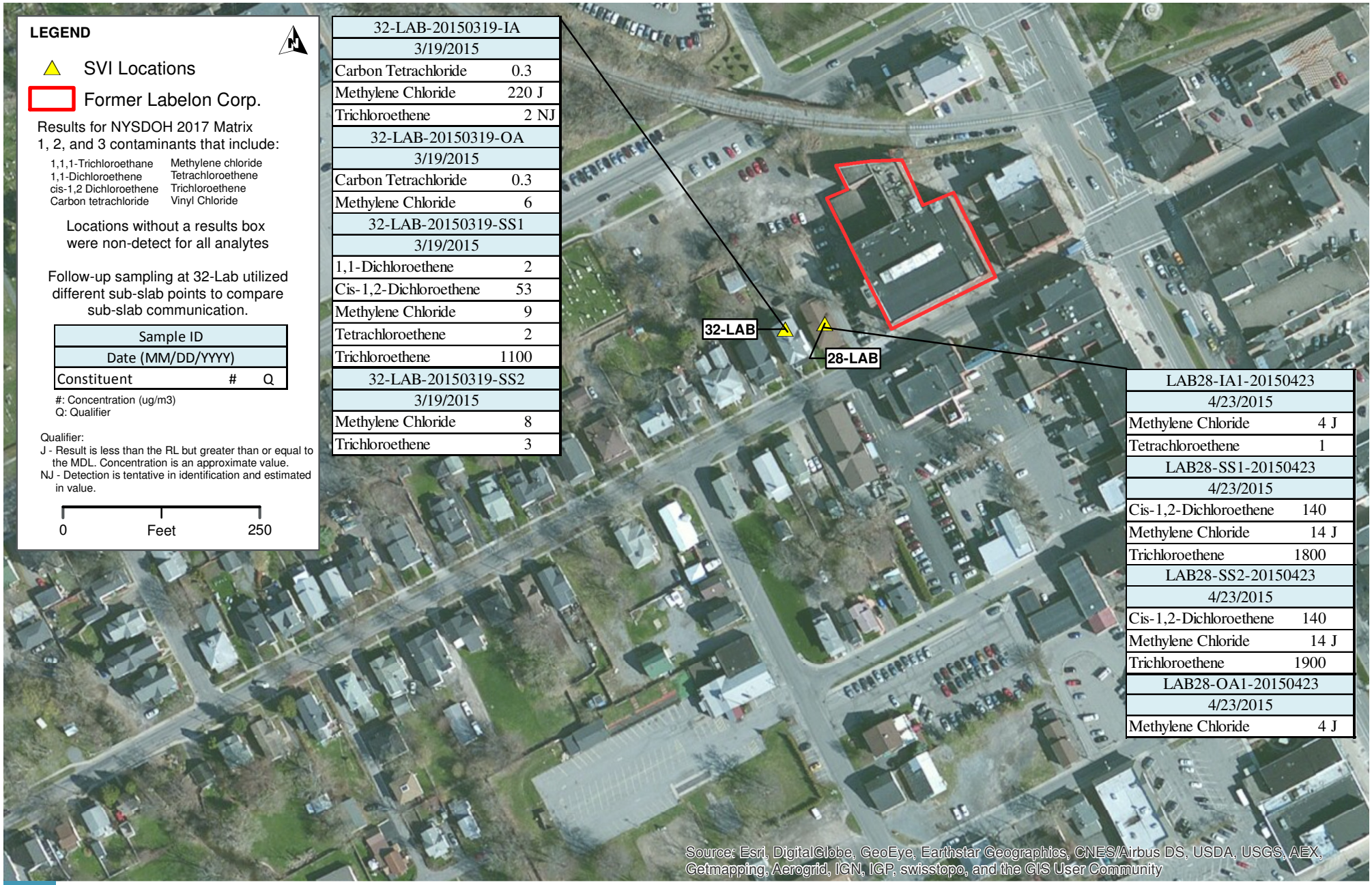
FIGURE 5




# SOIL VAPOR INTRUSION SAMPLING RESULTS - 2013 - 2014

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

FIGURE 6




# SOIL VAPOR INTRUSION SAMPLING RESULTS - 2015

## FORMER LABELON CORP. (NYSDEC SITE # C835016A)

FIGURE 7