Remedial Investigation Report

Former Packaged Lighting Site
BCP Site No. C336079
Town of Walden
Orange County, New York

November 2015

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I certify that I am currently a NYS registered professional engineer 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.

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Mr. Daniel W. Stone, P.E.

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Executive Summary

This Remedial Investigation (RI) Report outlines the activities conducted to evaluate soil and groundwater conditions at the former Packaged Lighting Systems Site located at 29 Grant Street on the southwest corner of Grant Street and Elm Street in the Village of Walden, Orange County, NY (Figure 1). The Chazen Companies (Chazen), on behalf of Grant Street Factory, Inc. and The Estate of Hy Hilzen, completed this investigation under the New York State Brownfield Cleanup Program (BCP). The Site is identified as BCP Site No. C336079. This RI was conducted with the oversight of the New York State Department Environmental Conservation (NYSDEC).

This RI Report documents the findings of a geophysical investigation, soil, groundwater and vapor sampling, and interim remedial measures (IRMs) performed at the Site. IRMs included removal and closure of a 550-gallon underground storage tank (UST), in-place closure of a 10,000-gallon heating oil UST, removal of volatile organic compound (VOC) impacted water and sludge from a cistern, sealing building floor drains, removal of paint containers, and in-situ chemical oxidation in affected groundwater areas.

Subsurface investigations revealed native soils consisting primarily of silty clay and clayey silt, covered by several feet of site-wide urban fill. The groundwater interface in an unconfined aquifer lies 6 to 8.5 feet bgs across the Site. Groundwater elevation data indicate that groundwater flow is to the northeast, toward the off-site Tin Brook.

Representative surface soil samples were collected around areas of historical structures, a former aboveground storage tank (AST) location and pole-mounted transformer. Subsurface soil samples were collected from select test pits where a geophysical survey identified anomalies. The subsurface soil and groundwater samples were used to characterize and support the in-place closure of a 10,000-gallon underground storage tank (UST) and to assess TCE impacts and former Site structure locations as well as subsurface soil from the excavation of a 550-gallon UST. Sub-slab soil vapor and Indoor Air Quality (IAQ) samples were also collected from within Site buildings.

The RI investigated potential sources of contamination associated with the former Site use as a lighting manufacturing plant and a former engine manufacturing company. The following conclusions were determined from the RI and satisfy the project remedial investigation objectives:

- Dissolved TCE exceeding groundwater Part 703 SCGs are present in the vicinity of four on-site monitoring wells and three off-site monitoring wells, with the highest concentrations near the center of the site along the south and north sides of the Main Building. No free product source has been identified. A surrounding affected area of shallow groundwater with decreasing dissolved TCE concentrations, below SCGs, extends in a north-easterly direction. A persulfate injection pilot program reduced prior TCE in shallow groundwater by an average of 38 percent by June of 2014.

- VOC vapor, consisting primarily of TCE, are locally present in sub-slab vapor samples collected under the Main Building in concentrations likely requiring management under the NYSDOH SVI Guidance program for structures retained and occupied in the future.

- Soil samples associated with a fill layer covering much of the site identified SVOCs in concentrations exceeding Restricted-Residential Use SCOs. Copper was detected in two samples near the eastern side of the Main Building exceeding the Restricted-Residential SCO. No TCE source area was identified on the site. Underlying native soils were generally free of any contaminant impacts.

- IRMs completed concurrent with the RI included the closure of two USTs, sealing of building floor drains, cleaning of a building cistern, removal of paint material containers, and a persulfate injection program.

- Limited shallow soil horizon excavation and/or capping and vapor management are anticipated options to address remaining site conditions exceeding SCOs, in accordance with a pending Remedial Work Plan.

No further remedial investigation is recommended for the site. Sufficient data have been generated to be able to recommend a remedial strategy for this BCP property.

1.0 Introduction

This Remedial Investigation (RI) Report outlines the activities conducted to evaluate soil and groundwater conditions at the Former Packaged Lighting Systems Site (hereinafter referred to as the "site"). The Chazen Companies (Chazen) has prepared this RI Report to detail the findings of the investigation performed on the Site. Chazen began work at this site for a prior owner (The Estate of Hy Hilzen) and has completed this RI Report on behalf of Grant Street Factory, Inc., under the New York State Brownfield Cleanup Program (BCP). The Site is identified as BCP Site No. C336079. This RI was conducted with the oversight of the New York State Department Environmental Conservation (NYSDEC). A draft RI report was previously submitted to NYSDEC and this revision responds to Department comments and is updated to reflect the amendment to the BCP Agreement that was executed on August 11, 2015.

1.1 Remedial Investigation Objectives

The site's remedial investigation objectives were to investigate the site for sources of contamination associated with former site uses. The objectives were met by the collection and analysis of samples of soil, groundwater, sub-slab vapor, and indoor air. Various Interim Remedial Measures (IRMs) were implemented during the investigation period, including removal/closure of out-of-service underground storage tanks, closure of building floor drains, cleaning of a water cistern, and removal of paint material containers.

1.2 Site Description

The 1.53-acre site is the industrially developed portion of a 3.0-acre lot. The site was previously occupied by a Packaged Lighting Systems, a design company for unique lighting systems for theatres, and prior to that it was occupied by engine manufacturers. The balance of the 3.0-acre lot was removed from the BCP boundaries, as documented in the BCP amendment. The site is located at 29 Grant Street on the southwestern corner of the intersection of Grant Street and Elm Street in the Town of Montgomery, Village of Walden, Orange County, New York. Figures 1 and 2 of this report illustrate the site location and features.

The site fronts on Grant Street. The BCP property consists of the northern 1.53-acre portion the tax parcel identified on the Orange County Real Property Tax Maps as Parcel 309-14-4. The Site is owned by Grant Street Factory, Inc.

The site is occupied by three commercial buildings: the Main Building (including multiple additions), the Lab Building, and the Paint Building (see Figure 3 and 4).

1.2.1 Property Uses

The site is unoccupied, but has a history of industrial use dating back to the mid-1800s. From 1885 to 1894, the Site was operated by the Rider Engine Company, a manufacturer of steam engines. From 1900 to 1939 the facility operated under the name Rider-Ericsson Engine Company, and continued manufacturing steam engines. From the 1920s until 1967, the facility was operated by Spence Engineering, a manufacturer of steam regulators and valve mechanisms. From 1968 until 2008, the facility was used by Packaged Lighting Systems, Inc., which designed lighting systems for New York City theaters.

Past uses of the Main Building include offices, two residential apartments, showroom, storage areas, utility rooms, a former degreasing room, a parts steam cleaning room, a machine shop, a foundry, a warehouse, and loading areas/garages. The ground level of the northern portion of the building was converted into self-storage units by a prior property owner but not put into use.

The Lab Building has reportedly been used also as a warehouse, research laboratory, and medical offices.

The Paint Building contains a paint booth.

1.2.2 Proposed Future Property Use

During the application stage for the BCP, a prospective purchaser of the site had proposed redevelopment of the site to include commercial office/apartment space and also a public transit facility (i.e., bus and train station). The public transit facility was planned to support a commuter rail line in Walden associated with the existing adjacent railroad. On behalf of this anticipated project, the Estate of Hy Hilzen entered the BCP program as the Volunteer and anticipated that the future site use would commercial. In 2013, Grant Street Factory acquired the property and plans to redevelop the site for mixed use with commercial on the ground floor and residential units on the second floor.

1.2.3 Environmental Setting

The site topography is relatively flat with a slight slope down to the northeast in the direction of the Tin Brook two blocks from the site. According to the USGS topographic survey of the area, the site is approximately 360 feet above mean sea level (Figure 1).

1.2.3.1 Geology

Available information regarding regional and local geology was reviewed to determine the general characteristics of the overburden and bedrock geology of the Site and the surrounding properties prior to field investigation activities. A review of the *Surficial Geologic Map of New York (Lower Hudson Sheet, 1989)* indicates that surficial soils in the northern portion of the Site are mapped as recent deposits consisting of fine sand to gravel typically confined to valley floodplain areas.

During the BCP remedial investigation, geologic logs were prepared by the on-site geologist during installation of soil borings and test pits (Appendix A). Boring and test pit locations are plotted on Figure 5A. Soils encountered during the remedial investigation included several feet of urban fill overlying silty clay and clayey silt, with an intermittent sand layer encountered in some soil borings 6 to 8 feet below the ground surface (bgs). Materials in the overlying urban fill horizon included brown soil, coal and ash, masonry debris, metalworking cuttings, gravel, lumber and scrap metal.

Bedrock was not encountered during RI activities.

1.2.3.2 Hydrogeology

The groundwater flow direction was assessed based on regional topographic interpretation and 11 groundwater monitoring wells/piezometers installed as part of this remedial investigation. The groundwater elevation in all but two monitoring wells was determined by establishing a benchmark on the site at a location of known elevation, then surveying the top-of-well elevations relative to the

benchmark. The groundwater elevations were calculated by subtracting the depth to water from the corresponding top-of-well elevation. The calculated groundwater elevations from the wells were used to create a groundwater contour map (Figure 5B). Two groundwater monitoring wells installed off-site to the north-northeast late in the RI process have been used for sampling purposes but have not been surveyed into the elevation network given the reasonable understanding of groundwater flow movement.

The groundwater interface in the unconfined aquifer was encountered 6 to 8.55 feet bgs across the Site. Groundwater elevation data indicate that groundwater flows through the unconfined aquifer toward the Tin Brook north-northeast of the site.

1.2.3.3 Surface Water Resources

No surface water resources were identified on the site. An off-site drainage channel is located on the southern end of the tax parcel, approximately 210 feet to the south of the BCP site. The next closest surface water body is the Tin Brook located approximately 500 feet northeast of the Site. The Tin Brook flows west-northwesterly discharging into the Wallkill River. The Wallkill River is located approximately 2,000 feet to the west of the site.

1.2.4 Environmental History

The primary site contaminant identified by this investigation is the dissolved chlorinated VOC compound trichloroethylene (TCE), discovered first in shallow groundwater during a Phase II subsurface investigation in 2010. Prior investigation suspected the historic TCE source was from floor drains or possibly dry well infrastructure although TCE has not been documented as a chemical used in former site operations. Other site contaminants identified in lower concentrations include metals and polycyclic aromatic hydrocarbons (PAHs) in surface soils, attributable to general past uses or possibly to an historic on-site foundry operation.

A summary of findings from previous environmental investigations at the site is as follows.

A 2008 Phase I Environmental Site Assessment (ESA) was completed by Team Environmental Consultants, Inc. (Team) on December 30, 2008. The Phase I ESA identified the following:

- One 10,000-gallon heating oil underground storage tank (UST), in-place but inactive since the 1990s, located between the Main Building and the Lab Building.
- One 500- to 1,000-gallon UST within the eastern central area of the Main Building. It was in-place and the use/contents were unknown.
- Two former 275-gallon fuel oil aboveground storage tanks (ASTs), reportedly located adjacent to the Paint Building.
- Five interior floor drains with unknown discharge points. At least two of the floor drains were identified in the southeastern area of the Main Building and were associated with a parts steam cleaning station. One floor drain in the central area of the Main Building was associated with degreasing activities.
- Underground infrastructure including, but not limited to gas piping and an “underground gas machine” dating back more than a century.
- Industrial site operations dating to the late 1800s including machine shops, a foundry, and coal storage.

- Outside the BCP site, an historic on-site rail spur formerly extended from the adjacent railroad to a former coal storage building located south of the present-day Lab Building.

A 2010 Phase II ESA was completed by William L. Going & Associates to investigate the potential issues identified in the 2008 Phase I ESA. The activities included a magnetometer and ground penetrating radar surveys, and installation of nine test pits and five soil borings.

- The site soil and groundwater investigation revealed organic loam mixed overlaid with historic fill that included metal slag. Groundwater was encountered at approximately 8 feet bgs in the northern area of the site and at 4 feet bgs in the southern area of the site. Metals were reported in site fill soils. Solvent-range VOCs were detected in the five groundwater samples. The most elevated VOC concentrations were near the south side of the Main Building, adjacent to an area of identified floor drains; groundwater in this area contained TCE at a concentration of 340 ug/L (parts per billion (ppb)). TCE concentrations in groundwater samples collected elsewhere on the site decreased from 54 ug/L to 2.7 ug/L. A groundwater sample collected from a test pit on the southeastern-most corner of the property contained a trace concentration of TCE at 1 ug/L. The investigation did not extend off site and showed decreasing TCE concentrations near property boundaries.
- As part of the Phase II work, an attempt was made to inspect building floor drains with a camera snake. The floor drain in this central degreasing room was confirmed to connect to a collection sump with no identifiable discharge to the environment. The other floor drains were found to be plugged, blocking exploration efforts.
- No evidence of the alleged "underground gas machine" was found during this test pitting or boring program.

As a result of these evaluations, two Areas of Concern were identified when developing the Work Plan governing the Remedial Investigation described below. These two areas are described here as follows and are shown also on Figure 4. Initial investigation activities included a third AOC, which is the southern half of the tax parcel that was removed from the BCP in August 2015. Activities conducted in AOC 3 are generally not discussed in this report with the exception of up gradient wells to provide a point of reference.

- Area of Concern 1: Main Building and Lab Building
- Area of Concern 2: Lawn and Parking areas east of the Main Building and around the Paint Building.

1.3 Remedial Investigation Chronology

Remedial investigation activities were outlined in the NYSDEC-approved Work Plan which also involved completion of IRMs. A brief chronology of Site activities is provided below to facilitate review of this RIR.

1. Initial site activities included a geophysical survey (December 14, and 15, 2011) in AOC-2. The survey investigated historical site areas including the location of a potential underground "gas machine" in AOC-2 noted on a Sanborn fire insurance map, and a general screening review for other possible buried objects on the Site.
2. Indoor and subslab vapor sampling was conducted within site buildings on February 8, 2012. A liquid sample from the cistern within the Main Building was also collected at this time.

3. Exploratory test pitting and soil sampling occurred on March 5 through 7, 2012, to investigate anomalous areas identified during the geophysical survey. The test pitting revealed several feet of fill across the Site but no hot spot VOC/TCE locations, no gas machine, and no previously unrecognized USTs were identified.
4. A sample of sludge material noted at the bottom of a cistern within the main building was collected on March 14, 2012. Multiple drain pipes enter this cistern, perhaps coming from former roof drains, work stations, or select floor drains.
5. Initial IRMs were conducted between March 2012 and January 2013 to remove a 550-gallon UST and close-in-place a 10,000-gallon heating oil UST. Because the 10,000-gallon tank was confirmed to extend under existing structures, with NYSDEC concurrence it was cleaned, filled with concrete, and abandoned in place.
6. Soil borings and groundwater monitoring wells were installed throughout the site, and shallow surface soil samples were collected between July and September 2012.
7. Water and sludge were removed from the cistern on July 23, 2012 as an IRM, and interior building floor drains were sealed on November 1, 2012. Packaging and disposing of paint and related materials left by previous occupants in the Paint Building occurred on December 6, 2012.
8. A subsequent water sample was collected from the cistern on November 1, 2012.
9. Supplemental shallow soil sampling in exterior areas for SVOC and metals analysis was conducted on November 1, 2012.
10. Two off-site groundwater monitoring wells were installed north of Grant Street on May 15, 2013 under direction of NYSDEC, followed by sampling on May 17, 2013 of the two new wells and resampling of four of the previously-installed on-site monitoring wells exhibiting the greatest TCE concentrations.
11. Community Air Monitoring was conducted during investigation and IRM activities consistent with the Community Air Monitoring Plan (CAMP). CAMP readings consisted of measurements collected with a photoionization detector (PID) with a 10.6 eV lamp to detect any VOCs, and with a particulate meter to detect any particulates. For activities involving outdoor soil excavation, continuous CAMP readings were collected from monitoring stations positioned upwind and downwind of the work zones. During drilling activities, CAMP readings were collected at the work site and recorded in 15 minute intervals.
12. An IRM consisting of the injection of persulfate to reduce residual TCE concentrations in groundwater was conducted on between July 18 and 20, 2013. Post-injection groundwater sampling was performed on September 3, 2013, September 27, 2013, and June 26, 2014.

2.0 Interim Remedial Measures

This section details the IRMs completed between March 2012 and January 2013. UST closures and cistern cleaning activities were conducted by Miller Environmental Group, Inc. under the direction of Chazen. Paint product containers were removed and disposed by Luzon Environmental Services under the direction of Chazen. Floor drains were sealed by Chazen personnel. A persulfate injection program within two areas with shallow groundwater TCE impacts was conducted by Chazen. Analytical sampling results associated with IRMs are discussed in Section 4 with other sampling results. Photos of select IRM activities are included in Appendix B. Field methods followed the approved IRM Work Plans and are briefly reviewed below.

2.1 550-Gallon UST Closure

To remove the 550-gallon oil UST, the overlying concrete floor was saw cut and the top of the tank was accessed. The former heating oil UST was discovered to be full of water with no field indications of residual oil. The water was pumped into a vacuum truck. The UST interior was then accessed and cleaned using a steam cleaner, squeegee, and a mild biodegradable degreaser solution. Cleaning residues contained within the UST were pumped into a vacuum tanker truck. The tank was then removed from the ground and inspected at grade. One 0.25-inch hole was observed at the northern end of the tank bottom; the tank was otherwise in good condition with no further evidence of holes, corrosion, or pitting. No groundwater was encountered in the excavation and no evidence of a petroleum release was noted along the excavation sidewalls or bottom through field screening methods (visual staining, olfactory and photoionization detector [PID] screening) so the single small hole may have corroded after the period when the tank was used for petroleum storage. Copies of the waste liquid disposal manifests are provided in Appendix C. The cleaned tank was staged for recycling by the building in preparation for off-site recycling. It was however stolen from the property prior to off-site disposal so there is no waste manifest for this item.

No discoloration or odor was detected in the UST excavation so the excavation was not expanded. Two soil samples were collected from the UST excavation bottom (UT-1 and UT-2) for laboratory analysis to confirm soil quality. The samples did not identify TCL VOC or TCL SVOC concentrations above Unrestricted Use SCOs.

The UST excavation was backfilled with certified clean backfill from Argenio Brothers, Inc. in Newburgh, New York. Figure 5A shows the locations of confirmation soil samples.

2.2 10,000-Gallon UST Closure

The 10,000-gallon exterior fuel oil UST and associated fuel lines were pumped of residual fluids and the UST was cleaned in-place. The tank was found to be buried deeply, with a brick access vault constructed over the UST fill port. A total of 4,382 gallons of mixed oil residue and water were pumped from the tank using a vacuum truck prior to cleaning. The UST interior was then cleaned with similar methods to those used to close the 550-gallon UST, and cleaning residues were also pumped into the vacuum tanker truck. Copies of the waste liquid disposal manifests are provided in Appendix C. The tank interior was inspected after cleaning, and was found to be in sound condition with no evidence of water intrusion, holes, corrosion or pitting. The interior tank dimensions were also measured at this time, identifying that a portion of the tank extended beneath the adjacent building foundation to the north. Given this restriction,

the tank could not be excavated without compromising the structural integrity of the building; therefore, it was necessary for the tank to be closed–in-place.

NYSDEC was contacted to confer and confirm the alternative closure format. To support an in-place closure of the 10,000-gallon UST, soil borings SB-12, SB-13, and SB-14 were installed east, south and north of the UST to characterize soil and groundwater in the close vicinity of the UST. Because shallow groundwater level observations indicated the UST extended below the water table such that any LNAP would rise into shallower soils around the UST, NYSDEC confirmed that a boring through the center of the UST was unnecessary; therefore, no sample was collected through the tank to beneath the UST. At NYSDEC's request, and as a conservative additional sampling point, a single soil sample was collected from adjacent SB-12 at a depth similar to the tank bottom. Due to site constraints, a boring could not be installed on the western upgradient side of the UST. Soil boring SB-13 was installed downgradient of the UST and was converted to a permanent monitoring well (MW-7); soil boring SB-14 was installed north of the UST and converted to monitoring well MW-4.

The 10,000-gallon UST was then closed-in-place by filling the tank with a cement-based flowable slurry. The brick vault was not filled with flowable slurry. Copies of the slurry material delivery tickets are provided in Appendix C. Figure 5A shows the site characterization boring locations for this UST.

2.3 Cistern Cleaning

Analytical samples collected in February and March 2012 identified limited VOCs and metal residue impacts in water and sludge within the cistern. The approximate dimensions of the cistern are 4 feet in diameter and approximately 14 feet deep. The depth to water in the cistern was measured at 10.42 feet below the ground floor elevation in the Main Building.

A total of 86 gallons of liquid and sludge were pumped from the cistern into a vacuum truck including wash water resulting from cleaning the cistern sidewalls. The fluids and sludge were transported to Bridgeport United Recycling located in Bridgeport, CT for disposal. The waste manifest is provided in Appendix C.

After the contents were evacuated, water was observed seeping back into the cistern through fine-grained porous bottom materials and a crack in the concrete sidewall. The bottom of the cistern was therefore interpreted to intersect the water table since the water depth observed before pumping was also approximately consistent with groundwater elevations noted in site monitoring wells.

After water recharged into the cistern, the refreshed water was resampled. Sample results are found in Section 4. Multiple open pipes, coming from unknown locations, enter this cistern. No smear zones or varying sidewall stains were noted in the cistern. The slow rate of groundwater entry into the cistern and the area's clayey soils suggests it would not have functioned as a high-capacity disposal dry well, although the multiple pipes opening into the cistern do suggest some potential historic discharge activity.

2.4 Floor Drain Sealing

Sub-slab vapor sampling data described elsewhere were not suggestive of the presence of free-phase TCE. There, with NYSDEC and NYSDOH concurrence, the six floor drains identified on Figure 4 were sealed, first by inserting expanding polyurethane foam in deep recesses followed by capping the drains at grade with 6 to 12 inches of concrete with a flush finish. Photos of each sealed drywell are found in Appendix B.

2.5 Removal of Paint Products

Raw paint product containers were removed from the Paint Building by Luzon Environmental Services and transported to EWS Alabama located in Glencoe, Alabama for disposal. The various small containers of raw paint were consolidated by Luzon into two overpack drums prior to shipment, amounting to 125 gallons of drummed waste. A copy of the disposal manifest is provided in Appendix C.

2.6 Summary of Waste Disposal

Table 2.6 provides a summary of all offsite waste disposal quantities, and respective disposal facilities. Copies of the manifests are provided in Appendix C.

Table 2.6 – Offsite Waste Disposal Quantities and Facilities

IRM	Waste Type	Waste Description	Waste Quantity	Disposal Facility
UST Closures	Solid Waste	Scrap Metal (550-gallon tank)	Unknown. Tank was stolen.	Unknown. Tank was stolen.
	Liquid Waste	Oil and water pumped from 550-gallon and 10,000-gallon USTs	4,932 gallons	Bridgeport United Recycling, Bridgeport, CT
		Residual tank cleaning fluids	206 gallons	Bridgeport United Recycling, Bridgeport, CT
Cistern Cleaning	Liquid Waste	Cistern liquid and sludge	86 gallons	Bridgeport United Recycling, Bridgeport, CT
Paint Products Removal	Drummed Waste	Paint product containers	125 gallons (2 overpack drums)	EWS Alabama, Glencoe, AL

2.7 In-situ Chemical Oxidation Groundwater Treatment

Based on the results of shallow groundwater sampling conducted during the RI, injection points were installed at the Site in July of 2013 after all other RI components were completed, in accordance with a NYSDEC-approved Supplemental IRM Work Plan. The injection points were clustered in two areas. One area was near MW-1 and MW-8 at the southeastern side of the Main Building, and the second area was near MW-10 within the northern end of the Main Building. Figure 8 shows the locations of the injection points.

Between July 18 and 20, 2013, 2,090 pounds of PersulfOx were injected in 24 locations distributed across the two areas. The injection volume was calculated based on the stoichiometry of the peroxide to the contaminant concentration with a contaminant mass reduction potential of approximately 50%, with the infusions controlled by the low-permeability of the soils Three post-injection groundwater sampling events were performed on September 3, 2013, September 27, 2013, and June 26, 2014.

3.0 Site Investigation

This section presents a summary of the remedial investigation activities conducted to characterize soil and groundwater at the site. The investigation followed the NYSDEC-approved Work Plan.

3.1 Geophysical Investigation

A geophysical survey was conducted by Naeva Geophysics, Inc. (Naeva) to seek subsurface objects including any potential USTs, drums, or construction debris, and to mark out subsurface utilities in the vicinity of proposed soil borings and two known USTs. The investigation included the driveway and lawn areas within AOC 2 to the south of the Main Building, around the Paint Building, and east of the Lab Building. The geophysical report prepared by Naeva is provided in Appendix D, which describes specific equipment used, field methods, and identified anomalies.

Several areas with electrical signal anomalies were identified by Naeva in both AOC 2 and 3. Anomaly areas were surveyed and are shown on Figure 3. Anomaly areas were also demarcated on site with flagging. One of the anomalies in AOC-2 was in the vicinity of an underground gas machine referenced on Sanborn Fire Insurance Maps.

3.2 Vapor Intrusion Investigation

Ten sub-slab vapor samples were collected by Chazen near floor drains located inside the Main and Lab Buildings (AOC-1), near the Main Building cistern (AOC 1), and beneath the Paint Building (AOC-2). Sampling methods used were consistent with those specified in the NYSDOH SVI Final Guidance document. Seven indoor air samples were also collected, with one outdoor air sample collected to establish background concentrations. Soil vapor and air sampling locations are shown on Figure 4. The analytical sampling results are discussed in section 4.1.

3.3 Test Pitting Investigation

3.3.1 Test Pits

To investigate the AOC-2 anomaly areas identified by the geophysical survey, 14 test pits were advanced in locations shown on Figure 5A. Under the direction of Chazen, the test pits were excavated by Miller Environmental Group, Inc. using a backhoe. The soil profile at each test pit was evaluated and recorded by a Chazen geologist. Geologic observations are presented in Section 1.2.3.1 and in the test pit logs included in Appendix A.

Test pits were installed to depths of 4 to 10 feet bgs. The maximum depth of each test pit was extended either to the water table, equipment refusal, or until a feature suggested by the geophysical survey (i.e., suspected buried object) was exposed or otherwise resolved.

Field screening of soil in test pits was conducted via headspace analysis with PID. PID headspace readings were recorded on the test pit logs.

Excavated soils were returned to their respective excavations; therefore, no waste soil was created during the test pit investigation.

The backhoe bucket was decontaminated upon arrival at the site, between test pit locations, and before leaving the site. Equipment decontamination rinseate was contained in a 55-gallon drum for future disposal. Disposal manifests for rinseate water are included in Appendix C.

3.3.2 Test Pit Sampling

Soils in test pits were characterized by a Chazen hydrogeologist in the field. Field logs are found in Appendix A. Select soil samples were collected during test pitting for confirmatory characterization, selected from intervals which: 1) exhibited the highest VOC field readings, 2) were located at the groundwater interface, 3) exhibited odors, or 4) NYSDEC requested sampled. Soil samples selected for laboratory analysis were collected in laboratory-supplied jars, labeled, and placed in a cooler with ice before being shipped to the analytical laboratory. Analytical results for the soil samples are discussed in Section 4.2.

No test pits were advanced in AOC-1 because most AOC-1 areas are within existing buildings, making test pitting impractical and costly.

AOC-2 Test Pit Samples

Test pits TP-1, TP-2, and TP-13 through TP-24 were advanced in the locations of previously-identified geophysical anomalies. The test pits each identified up to three feet of fill material overlying undisturbed native silty clay and silty glacial till. Fill materials consisted of brown soil, coal and ash, masonry debris, metalworking cuttings, and gravel. No visual or olfactory evidence of a release was noted anywhere in this area, and PID readings were all less than 1 ppm. The test pits identified no any underground storage tanks, dry wells, buried drums, or a potential “gas machine.”

Representative confirmatory soil samples were collected from TP-16 and TP-20 and analyzed for TCL VOCs, TCL SVOCs, and TAL metals.

3.4 Shallow Surface Soil Sampling

Surface soil samples were collected at grade (0-2 inches below grade) by Chazen. These are identified as SS-# on Figure 6A. The samples effectively characterize the upper surface of the fill horizon found across most of the site. Analytical sample results are presented in Section 4.

Three surface samples were collected using hand tools, at the location of a former fuel oil aboveground tank (SS-1), beneath overhead transformers (SS-2), and in an historic fill area (SS-3). The samples were analyzed for TCL SVOCs and TAL metals (SS-1, SS-2, SS-3), with select additional analyses for TCL VOCs (SS-1), PCBs (SS-2).

Additional shallow surface soil samples were collected from areas with suspected historic fill areas (SS-6) and from geographically isolated areas warranting additional site characterization (SS-7 and SS-8).

Samples SS-6 through SS-8 were collected while advancing soil borings during the Subsurface Soil Quality Investigation (Section 3.4) and were analyzed for TCL VOCs, TCL SVOCs, TAL metals, PCBs, and pesticides.

Based on sample results from the initial surface samples, six supplemental shallow soil samples (SS-18 through SS-23) were later collected to expand the delineation areas. These locations are also shown on Figure 6A. Based on the initial distribution of detections, the supplemental samples were analyzed for TAL metals only (SS-22, SS-23) and SVOCs only (SS-18 through SS-21).

3.5 Subsurface Soil Quality Investigation

Deeper soils on the site were investigated using soil borings and field screening of the extracted soil, with laboratory analysis of select confirmatory soil samples. Figure 5A shows locations of the soil borings. Boring logs are provided in Appendix A, which include field measurements, observations, soil descriptions, and well construction details. Analytical sample results are presented in Section 4.

3.5.1 Soil Borings

Soil borings were installed with a Geoprobe 7720DT drilling rig. The soil core samples were collected utilizing a 5-foot Geoprobe Macrocore sampler using disposable plastic sleeve liners. After removal of each liner during drilling, the sleeves were cut open to allow examination of the sampling core. Drill rods and cutting heads were decontaminated before use, between boring locations, and before leaving the Site.

Soil borings were advanced to depths between 10 and 20 feet bgs. The maximum depth of each soil boring was selected based on evidence of groundwater or equipment refusal. A discussion of site geology logged in the borings is presented in Section 1.2.3.

Sampled soil intervals were screened for visual and olfactory signs of impacts and also screened with a flame ionization detector (FID) and a PID. VOC readings were recorded on the soil boring logs. PID and FID field measurements were all 0.0 ppm (e.g. non-detect), with the following exceptions:

- 0.8 ppm (FID) was measured in the 10 to 15 foot interval at the MW-9 boring location. There were no visible signs of contaminants at this depth.
- 7.7 ppm (PID) and 6.9 ppm (FID) were measured in 10 to 15 foot interval at the SB-12 boring location. These measurements are consistent with petroleum odor observed at approximately 12 feet bgs.

With the exception of SB-12, there were no obvious signs of petroleum or hazardous material impacts in any borings. Humid weather at the time of field screening may have contributed to elevated PID readings at these locations.

Following initial data collection, NYSDEC requested the installation of two off-site groundwater monitoring wells MW-12 and MW-13.

3.5.2 Soil Boring Sampling

One laboratory soil sample was collected from each of the nine borings from intervals which: 1) exhibited the highest VOC field readings, 2) were located at the groundwater interface, 3) exhibited odors, or 4) NYSDEC requested be sampled while in the field.

Soil samples for analysis were collected in laboratory-supplied jars, which were then labeled and placed in a cooler with ice before being shipped to the analytical laboratory. All soil samples from soil borings were analyzed for TCL VOCs. A representative distribution of samples were also analyzed for TCL SVOCs (SB-12, SB-13, SB-14, MW-1, and MW-2), and two samples were analyzed for TAL Metals, PCBs and Pesticides (SB-14 and MW-1). Discrete soil samples were gathered from the two intervals noted above in Section 3.5.1 from borings MW-9 and SB-12.

Analytical results are discussed in Section 4.2 with a focus on samples collected near areas of current structures.

Drill cuttings were returned to the bore hole from which they came. Drill cuttings which could not readily fit back into annular space were placed in a 55-gallon drum as investigation-derived waste for off-site disposal. Waste disposal manifests are included in Appendix C.

3.6 Groundwater Quality Investigation

A total of 12 permanent groundwater monitoring wells were installed as part of this investigation. These were installed in seven of the on-site soil borings, and in five offsite locations. Locations are shown on Figure 7B. Groundwater samples were collected from these monitoring wells and the cleaned cistern, and water level data from most of the wells were used to evaluate groundwater gradients and direction of groundwater flow.
Brief descriptions of each monitoring well location follow:

- Monitoring well MW-1 was installed south of the Main Building in the area where chlorinated solvents were detected in groundwater by previous investigations.

- MW-8 was installed approximately 50-feet downgradient from MW-1 and east of the former Parts Steam Cleaning Area.

- MW-2 was installed on the east side of the Main Building, in the location of a suspected historical gasoline tank.

- MW-4 was installed along the western and upgradient site boundary. Another upgradient well, off-site well MW-11, was installed south of the Lab Building.

- MW-5 was installed along the eastern site boundary, cross-gradient to MW-1 and MW-8.

- MW-7 was installed to assess groundwater quality by the 10,000-gallon UST location. The well is situated east and downgradient of UST.

- MW-3 is an on-site downgradient well installed near the northeast corner of the site.

- Monitoring wells MW-9, MW-10, MW-12, and MW-13 were installed off-site along Grant Street in cross gradient and downgradient locations. Wells MW-9 and MW-10 abut the site building. MW-12 and MW-13 lie further off-site and were installed following the initial well installation based on sampling data suggesting potential for off-site impacts.

3.6.1 Monitoring Well Installation

Most soil boring locations were converted to permanent groundwater monitoring wells by driving in 2-inch diameter steel casing with an expendable steel drive tip to depths approximately 5-feet below the water table. One-inch diameter PVC screen and solid PVC riser were placed inside the drill rods. Filter sand was poured around the screened interval while withdrawing the drill rods, leaving the sand pack between the screen and native formation. Sand was added until rising at least 1 foot above the screened interval. Screens were either 5 or 10 feet in length. Two-foot bentonite seals were then installed over the sand, and cuttings were used fill remaining annular spaces to grade.

Wells were finished at grade using flush-mounted covers or steel guard pipe stick-ups set in concrete. Boring logs showing well construction details are provided in Appendix A.

3.6.2 Monitoring Well Sampling

Finished monitoring wells MW-1 through MW-11 were sampled on September 6, 2012. Off-site monitoring wells MW-12 and MW-13 were installed later and added to the subsequent sampling events. Additional sampling events for select wells were conducted on May 17, 2013 and September 3 of 2013, and June 26 of 2014.

The groundwater levels in each monitoring well were gauged to determine the depth to groundwater. Following gauging the wells were sampled using low flow methods. Low flow purging continued until field parameters pH, conductivity, total dissolved solids (TDS), temperature, dissolved oxygen, and oxygen-reduction potential generally stabilized.

Groundwater samples were then collected in labeled laboratory-supplied bottles, placed in a cooler along with ice, and transported to the analytical laboratory. All site groundwater samples were analyzed for VOCs specified in the work plan. Initial samples from wells MW-1, MW-2, MW-4, MW-7 and MW-11 were also analyzed for SVOCs. In addition, initial samples from wells MW-1, MW-4 and MW-7 were analyzed for PCBs, pesticides and both total and dissolved Target Analyte List (TAL) Metals.

Based on initial groundwater results, with NYSDEC concurrence, subsequent samples were only analyzed for TCL VOCs.

Groundwater samples were later collected from off-site wells MW-12 and MW-13, at which time wells MW-1, MW-3, MW-8 and MW-10 were resampled for representative comparison purposes. These supplemental groundwater samples were analyzed for TCL VOCs.

No measureable non-aqueous phase liquid was noted during any well sampling activities. The odor of fuel oil was noted during sampling of MW-7, and sheens were noted on purged water from wells MW-7, MW-9 and MW-10 during the September sampling event. No sheens were noted during subsequent sampling events.

Purged groundwater was placed in a labeled 5-gallon buckets of investigation-derived waste for off-site disposal, pending laboratory results.

4.0 Analytical Results

The analytical data generated during this remedial investigation were compared to the applicable NYSDEC standards, criteria, and guidance (SCGs). Sub-slab vapor and indoor air quality sample data were compared to the NYSDOH matrixes from the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York.* Soil sample data were compared to 6 New York Codes Rules and Regulations (NYCRR) Part 375.

Consistent with the amended BCP agreement and DER-10, the sampling data have been compared to the Unrestricted Use Soil Cleanup Objectives (SCOs), as required by DER-10, and Restricted-Residential Use SCOs applicable to this BCP site. Groundwater data were compared to 6 NYCRR Part 703.

The laboratory analytical reports and complete data summary tables are provided to NYSDEC as a separate submittal, per DER-10.

4.1 Analytical Vapor Quality Data

Figure 4 shows locations of the sub-slab (SV) and indoor air (IA) quality samples. TCE was the primary compound detected in any samples. TCE is a Matrix 1 analyte in NYSDOH Vapor Encroachment Guidance; detections are summarized below in Table 4.1.

NYSDEC and NYSDOH have concurred that sufficient data were collected to indicate that sub-slab TCE vapor concentrations were not suggestive of free-phase TCE. The Matrix 1 criteria do however exceed action levels for monitoring or abatement (see salmon and orange data below). Should these building areas be retained and occupied in the future, mitigation could consist of ventilating the basement level and installing a sub-slab depressurization system (SSDS) under areas with floor slabs.

Table 4.1 VOCs in Vapor Requiring Action Steps (ug/m^3)
IA indicates indoor air samples; SV indicates sub-slab vapor samples.

			Matrix 1 TCE (µg/m^3)
LOCATION	Date	SAMPLE ID	
AOC-1: Lab Building	2/8/2012	PL-IA-XX2	0.91
		PL-SV-XX2	9.14
AOC-1: Parts Cleaning and Warehouse Area	2/8/2012	PL-IA-XX3	0.86
		PL-SV-XX3	**91.4 D**
		PL-SV-XX4	ND
		PL-SV-XX5	ND
		PL-SV-XX6	**81 D**
AOC-1: Degreasing Room, East Garage and Cistern Areas	2/8/2012	PL-IA-XX5	ND
		PL-SV-XX7	**1,300 D**
		PL-SV-XX8	33.3
		PL-SV-XX9	**505 D**
AOC-1: Basement	2/8/2012	PL-IA-XX4	**11.3**
		PL-SV-X10	**2203 D**
AOC-1: Office	2/8/2012	PL-IA-XX6	0.81
		PL-IA-XX7 (crawl space)	1.13
AOC-2: Paint Building	2/8/2012	PL-IA-XX1	ND
		PL-SV-1	ND
Outdoor Background	2/8/2012	PL-OA-XX1	ND

Notes:

"ND" indicates that the compound was not detected at a concentration equal to or greater than the laboratory determined minimum detectable limit.

"J" indicates that the compound was detected and provides a usable estimation of the conditions being measured
"D" indicates that the reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

Take reasonable and practical actions to identify source(s) and reduce exposure

Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine if the indoor air or sub-slab vapor have changed.

Monitor/Mitigate

Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion.

4.2 Analytical Soil Quality Data

This section presents the analytical results for 24 soil samples, excluding QA/QC samples, collected from the site.

4.2.1 VOCs in Soil

Of 19 samples analyzed for VOCs, four were from shallow surface soil and 15 were of subsurface soil collected from depths of more than several feet bgs. Samples were collected from the following locations:

- the 550-gallon UST excavation (two samples: UT-1 and UT-2),
- borings around the 10,000-gallon UST (three samples: SB-12, SB-13, SB-14),
- representative test pits of anomaly areas, site characterization, and TCE groundwater impact delineation borings (ten samples: TP-16, TP-20, SB-15, SB-16, MW-1, MW-2, MW-3, MW-5, MW-9, and MW-10), and
- Shallow surface soil samples were collected from across AOC 2 (four samples: SS-1, SS-6, SS-7, and SS-8).

All shallow soil samples met Unrestricted Use SCOs.

Of the deeper soil samples, all met Unrestricted Use VOCs SCOs except for TCE concentrations reported in three samples summarized below in Table 4.2.1.TCE in the soil samples from MW-1 and MW-10 exceeded Unrestricted SCOs but not Restricted Residential SCO. TCE in the soil from TP-16 exceeded Restricted Residential SCO.

Table 4.2.1 VOCs in Soil that Exceed Unrestricted and Restricted-Residential Use SCOs (ppm)

Sample Location:	**NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (ppm)**		***TP-16***	***MW-1***	***MW-10***
Sample ID:			*PL-TP-TPX16-X10*	*PL-MW-XX1-XX6-XL*	*PL-MW-X10-XX6-XL*
Lab Sample ID:	Unrestricted	**Restricted-Residential**	*D1765-06*	*D3578-06*	*D3578-12*
Sampling Date:			*3/6/2012*	*7/23/2012*	*7/24/2012*
Sample Depth (feet):			*10*	*6*	*6*
COMPOUND					
Trichloroethene	0.47	21	**46**	1.6	3.4

NOTES

Yellow shading indicates concentration exceeds the NYSDEC Part 375 Unrestricted Use SCO.

Orange shading and **bold** font indicate concentration exceeds the NYSDEC Part 375 Restricted-Residential Use SCO.

4.2.2 SVOCs in Soil

Of 19 soil samples tested for SVOCs, ten were from shallow surface soil and nine were of subsurface soil collected from depths of more than several feet below grade. Samples were collected from the following locations:

- the 550-gallon UST excavation (two samples: UT-1 and UT-2),
- borings around the 10,000-gallon UST (three samples: SB-12, SB-13, SB-14),
- representative test pits of anomaly areas, site characterization, and TCE groundwater impact delineation borings (four samples: TP-16, TP-20, MW-1, and MW-2), and

Shallow surface soil samples were collected from across AOC 2 (ten samples: SS-1, SS-2, SS-3, SS-6, SS-7, SS-8, SS-18, SS-19, SS-20, and SS-21).

All nine subsurface soil samples met the Unrestricted Use SCOs for tested SVOCs.

Of the ten shallow soil samples, nine samples reported SVOC concentrations greater than Unrestricted Use SCOs. SVOC concentrations that numerically exceed Unrestricted Use and Restricted-Residential Use SCOs are summarized below in Table 4.2.2. The exceedances were reported throughout AOC-2, except for the northeastern landscaped area. The greatest SVOC exceedances were reported in SS-1 and SS-8, located south and east of the Paint Building, respectively. The wide distribution of reported of SVOCs in surface soils and lack of SVOCs in subsurface samples support a conclusion that there is no identified source area of SVOCs, and that SVOC concentrations relate to the quality of the historical fill on the Site.

Table 4.2.2 SVOCs in Soil that Exceed Unrestricted and Restricted-Residential Use SCOs (ppm)

Sample Location:	NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (ppm)		*SS-1*	*SS-2*	*SS-3*	*SS-6*	*SS-8*	*SS-18*	*SS-19*	*SS-20*	*SS-21*	Minimum Concentration	Average Concentration	Maximum Concentration
Sample ID:			*PL-SS-XX1-XX2-XL*	*PL-SS-XX2-XX2-XL*	*PL-SS-XX3-XX2-XL*	*PL-SS-XX6-XX2-XL*	*PL-SS-XX8-XX2-XL*	*PL-SS-X18-XX2-XL 1112*	*PL-SS-X19-XX2-XL 1112*	*PL-SS-X20-XX2-XL 1112*	*PL-SS-X21-XX2-XL 1112*			
Lab Sample ID:	Unrestricted	**Restricted-Residential**	*D3576-01*	*D3576-02*	*D3576-03*	*D3576-06*	*D3576-10*	*12K0079-09*	*12K0079-10*	*12K0079-11*	*12K0079-12*			
Sampling Date:			*7/25/2012*	*7/25/2012*	*7/25/2012*	*7/23/2012*	*7/24/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*	*11/1/2012*			
Sample Depth (feet):			*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*			
COMPOUND														
Benzo(a)anthracene	1	1	**110**	**5.6**	**22**	**13**	**130 J**	**6.79**	**13.1**	**6.39**	0.638	5.6	34.17	140
Benzo(a)pyrene	1	1	**93**	**7.8**	**31**	**12**	**130 J**	**9.2**	**8.31**	**6.11**	0.965	6.11	33.15	140
Benzo(b)fluoranthene	1	1	**130**	**11**	**48**	**16**	**160 J**	**8.59**	**7.59**	**6.26**	0.960	6.26	43.16	180
Benzo(g,h,i)perylene	100	100	**130**	5.6	21	7.8	88 J	5.98	1.45 J	3.89	0.642	130	29.37	130
Benzo(k)fluoranthene	0.8	3.9	**27**	**3.6**	**13**	**4.8**	**65 J**	**10.4**	**8.63**	**6.65**	1.18	1.18	15.58	65
Chrysene	1	3.9	**100**	**6**	**22**	**12**	**140 J**	**6.25**	**12.5**	**5.16**	0.581	5.16	33.83	140
Dibenz(a,h)anthracene	0.33	0.33	**12**	**1.3 J**	**5.3**	**1.6 J**	**15 J**	3.88 U	3.96 U	3.85 U	0.232	1.3	5.24	15
Dibenzofuran	7	59	7.2	1.9 U	3.5 U	1.9 U	2.7 J	3.88 U	3.96 U	3.85 U	0.176 U	7.2	3.23	7.2
Fluoranthene	100	100	**310**	8.3	22	26 D	**300 J**	12.6	25.9	12.2	0.802	300	79.76	310
Indeno(1,2,3-cd)pyrene	0.5	0.5	**100**	**5.8**	**23**	**7.8**	**79 J**	**5.97**	**2.03 J**	**4.03**	**0.620**	0.62	25.36	100
Phenanthrene	100	100	**220**	3.8	5.7	7.9	63 J	3.23 J	9.51	9.75	0.184	220	35.90	220
Pyrene	100	100	**250**	9	28	23	**260 J**	11.5	24.5	10.4	1.01	250	68.60	260

NOTES

Yellow shading indicates concentration exceeds the NYSDEC Part 375 Unrestricted Use SCO.

Orange shading and **bold** font indicate concentration exceeds the NYSDEC Part 375 Restricted-Residential Use SCO.

U - The compound was not detected at the indicated concentration.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

4.2.3 Pesticides in Soil

No pesticides were reported in the tested soil samples. The site soil therefore meets the Unrestricted Use SCOs for pesticides.

4.2.4 PCBs in Soil

Two subsurface and four shallow surface soil samples were tested for PCBs. The soil samples meet the Restricted-Residential Use SCO of 1 ppm. PCB concentrations in two deeper soil samples and four shallow soil samples that exceeded the Unrestricted Use SCO summarized below in Table 4.2.4.

Table 4.2.4 PCBs in Soil that Exceed Unrestricted and Restricted-Residential Use SCOs (ppm)

Sample Location:	NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (ppm)		***SB-14***	***MW-1***	***SS-2***
Sample ID:			*PL-SB-X14-XX6-XL*	*PL-MW-XX1-XX6-XL*	*PL-SS-XX2-XX2-XL*
Lab Sample ID:	Unrestricted	**Restricted-Residential**	*D3578-03*	*D3578-06*	*D3576-02*
Sampling Date:			*7/23/2012*	*7/23/2012*	*7/25/2012*
Sample Depth (feet):			*6 feet*	*6 feet*	*0-2 inch*
COMPOUND					
Aroclor-1260	0.1	1	0.96	0.26	0.11

Sample Location:	NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (ppm)		***SS-6***	***SS-7***	***SS-8***
Sample ID:			*PL-SS-XX6-XX2-XL*	*PL-SS-XX7-XX2-XL*	*PL-SS-XX8-XX2-XL*
Lab Sample ID:	Unrestricted	**Restricted-Residential**	*D3576-06*	*D3576-07*	*D3576-10*
Sampling Date:			*7/23/2012*	*7/23/2012*	*7/24/2012*
Sample Depth (feet):			*0-2 inch*	*0-2 inch*	*0-2 inch*
COMPOUND					
Aroclor-1260	0.1	1	0.11 J	0.19 J	0.13

Notes

Yellow shading indicates concentration exceeds the NYSDEC Part 375 Unrestricted Use SCO.

Orange shading and **bold** font indicate concentration exceeds the NYSDEC Part 375 Restricted-Residential Use SCO.

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

4.2.5 TAL Metals in Soil

Of 12 soil samples tested for TAL metals, eight were from shallow surface soil and four were of subsurface soil collected from depths of more than several feet below grade. Samples were collected from the following locations:

- representative test pits of anomaly areas, site characterization, and TCE groundwater impact delineation borings (three samples: TP-16, TP-20, and MW-1), and

- Shallow surface soil samples were collected from across AOC 2 (eight samples: SS-1, SS-2, SS-3, SS-6, SS-7, SS-8, SS-22, and SS-23).

Only one deeper sample exceeded an Unrestricted Use SCO for metal. The sample from the MW-1 location slightly exceeded the nickel Unrestricted SCO.

Shallow soil samples generally also met the metals Unrestricted Use SCOs, except for exceedances of chromium (slight exceedance one sample), copper, lead, mercury, selenium, silver, and zinc. Three of these also exceeded the metals Restricted-Residential Use SCOs for copper, lead, and/or mercury. As with SVOC findings, the metals results suggest that surface soil impacts are both limited to the fill horizon and focused to soils near the east/northeastern side of the Main Building.

Metals concentrations that numerically exceed Unrestricted and Restricted-Residential Use SCOs are summarized below in Table 4.2.5.

Table 4.2.5 TAL Metals in Soil that Exceed Unrestricted and Restricted-Residential Use SCOs (ppm)

Sample Location:	NYSDEC 6 NYCRR Part 375 Soil Cleanup Objectives (ppm)		*MW-1*	*SS-1*	*SS-2*	*SS-3*	*SS-6 and field duplicate*		*SS-7*	*SS-8*	*SS-22*	*SS-23*	**Minimum Concentration**	**Average Concentration**	**Maximum Concentration**
Sample ID:			*PL-MW-XX1-XX6-XL*	*PL-SS-XX1-XX2-XL*	*PL-SS-XX2-XX2-XL*	*PL-SS-XX3-XX2-XL*	*PL-SS-XX6-XX2-XL*	*PL-FD-001-XXX-XL*	*PL-SS-XX7-XX2-XL*	*PL-SS-XX8-XX2-XL*	*PL-SS-X22-XX2-XL 1112*	*PL-SS-X23-XX2-XL 1112*			
Lab Sample ID:	Unrestricted	**Restricted-Residential**	*D3578-06*	*D3576-01*	*D3576-02*	*D3576-03*	*D3576-06*	*D3578-14*	*D3576-07*	*D3576-10*	*12K0079-13*	*12K0079-14*			
Sampling Date:			*7/23/2012*	*7/25/2012*	*7/25/2012*	*7/25/2012*	*7/23/2012*	*7/23/2012*	*7/23/2012*	*7/24/2012*	*11/1/2012*	*11/1/2012*			
Sample Depth (feet):			*6*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*	*0-2 inch*			
COMPOUND															
Chromium	30	180	17.4 J	21.8 J	31.4 J	22.1 J	16.8 J	21.2 J	19.8 J	18.9 J	12.1	18.5	12.1	20	31.4
Copper	50	270	38.8 J	41.1 J	168 J	**524 J**	82.3 J	77.6 J	38.6 J	53.3 J	161	**503**	38.6	169	524
Lead	63	400	15.4 N*	80.5	**497**	388	54.1	45.3 N*	249	59.8	96.9	188	15.4	167	497
Mercury	0.18	0.81	0.034	0.071	0.293	**2.02 D**	0.084	0.08	0.344	0.055	0.109 U	0.116 U	0.034	0	2.02
Nickel	30	310	34 J	30.7 J	35.6 J	36 J	21.3 J	26.3 J	25.4 J	33.3 J	27.0	39.4	21.3	31	39.4
Selenium	3.9	180	0.445 UN	0.466 U	0.42 U	0.429 U	0.433 U	0.515 UN	0.53 U	0.424 U	4.16	5.29	0.42	1	5.29
Zinc	109	10,000	72.2 J	165 J	210 J	224 J	98.3 J	142 J	198 J	104 J	92.6 B	183 B	72.2	149	224

NOTES

0.12 Yellow shading indicates concentration exceeds the NYSDEC Part 375 Unrestricted Use SCO

351 Orange shading and **bolded** text indicates the concentration exceeds the NYSDEC Part 375 Restricted-Residential Use SCO.

U - The compound was not detected at the indicated concentration.

N - Presumptive Evidence of a Compound

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

* - For dual column analysis, the lowest quantitated concentration is being reported due to coeluting interference.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

Q - Laboratory control sample (LCS) control sample did not meet requirements

4.3 Analytical Groundwater Quality Data

This section presents the analytical results for four rounds of groundwater samples collected at the site. During the RI process, a total of 33 groundwater samples (excluding QAQC samples) were collected and submitted to the analytical laboratory.

4.3.1 VOCs in Groundwater

Ten groundwater samples in September of 2012 from a boring and nine monitoring wells, including one up gradient well (MW-11). VOCs were identified greater than detection levels in four on-site wells and one off-site well (MW-1, MW-2, MW-3, MW-8, and MW-10). Three VOC compounds were reported above standards: cis 1,2-dichlorethene, tetrachloroethene (PCE), and TCE, with the highest-concentration constituent being TCE. Concentrations of TCE in these five wells ranged from 60 parts per billion (ppb) to 440 ppb, with the highest concentrations reported in MW-1 near the southern end of the Main Building, and in MW-10 off-site near the north side of the Main Building. Lower concentrations were found nearer property lines toward the northeast site margin confirming that the residual contaminant conditions diminish with distance. The data identified no "hot spot" source area, and chlorinated solvent concentrations in groundwater decreased significantly over relatively short distances across the Site.

Either only trace or no VOCs were reported in the other site groundwater sample locations.

Additional off-site wells MW-12 and MW-13 were later installed to the north to further assess off-site impacts. In May 2013, the two newer wells, and wells MW-1, MW-3, MW-8 and MW-10 were resampled for a total of six groundwater samples, plus a duplicate. Most VOC concentrations in groundwater were sharply lower in this second sampling round for unknown reasons. TCE concentrations in MW-1 were decreased from 420 ppb to 73.9 ppb, remained generally consistent in MW-10 at 440 ppb and 480 ppb. The two newer off-site wells MW-12 and MW-13 identified PCE at 38 and 14.7 ppb, respectively and TCE concentrations were 210 and 100 ppb, respectively.

While laboratory LOQs for two VOC constituents were greater than the Part 703 SCGs, the laboratory met the laboratory report limit goal of 5 ppb.

The persulfate injection IRM followed these two preliminary sampling rounds.

Three rounds of groundwater sampling have occurred thereafter, on September 3, 2013, September 27, 2013, and June 26, 2014. Results of that sampling showed initial slow responses, likely due to slow dissemination of the infusion into the low-permeability formation. By the most recent round of samples, however, CVOC concentrations have shown an average decrease of 38 percent across the impacted on-site wells. Off-site wells MW-10 and MW-12 have shown similar reductions as on-site wells while off-site well MW-13 initially showed increased PCE and TCE concentrations which have since decreased to almost pre-injection concentrations.

VOC constituents reported in groundwater at concentrations greater than the SCGs, as of June 26, 2014, are presented in summary Table 4.3.1 below. The groundwater quality standards for the three listed compounds are each 5 ug/L (ppb).

Table 4.3.1 VOCs in Groundwater that Exceed NYCRR Part 703.5 Groundwater Standards of 5 ug/L (ug/L)

Sample Location:	***MW-1***				***MW-2***		***MW-3***			
Lab Sample ID:	*D4122-01*	*E2300-01*	*E3553-01*	*F2944-01*	*D4122-04*	*F2944-02*	*D4122-05*	*E2300-02*	E3553-02	*F2944-03*
Sampling Date:	*09/06/12*	*05/17/13*	*09/03/13*	*06/26/14*	*09/06/12*	*06/26/14*	*09/07/12*	*05/17/13*	09/03/13	*06/26/14*
COMPOUND										
cis-1,2-Dichloroethene	1.6	0.5 U	0.2 U	1 U	1.5	0.75 J	**8**	**5.1**	**5.7**	**5.4**
Tetrachloroethene	0.73 J	3.6 U	2.6	2.6	**17**	**7.3**	**12**	**7.3**	**9.4**	4.6
Trichloroethene	**420 D**	**73.9**	**56.8 J**	**43.1**	**60**	**26.6**	**180**	**100**	**130 J**	**100**

Sample Location:	***MW-8***							***MW-10***					
Lab Sample ID:	*D4122-12*	*E2300-03*	*E2300-07*	E3553-03	*E3903-01*	*E3903-02*	*F2944-04*	*D4122-14*	*E2300-04*	*E3553-03*	*E3903-03*	*E3903-04*	*F2944-05*
Sampling Date:	*09/06/12*	*05/17/13*	*05/17/13*	*09/03/13*	*09/27/13*	*09/27/13*	*06/26/14*	*09/07/12*	*05/17/13*	*09/03/13*	*09/27/13*	*09/27/13*	*06/26/14*
COMPOUND						*Inj Point*						*Inj Point*	
cis-1,2-Dichloroethene	**5.9**	3.5	3.6	4.8	4.2	1 U	4.1	**8.4**	**11.1**	**9.1**	**7.5**	2.3	**8.6**
Tetrachloroethene	0.42 J	0.77 J	0.63 J	0.64 J	**19.6**	**14.4**	1 U	**66**	**71.7**	**110**	**100**	**44.2**	**41.7**
Trichloroethene	**200**	**120**	**120**	**160 J**	**150**	**55.6**	**99.3**	**440 D**	**480 D**	**440 DJ**	**380 D**	**290 D**	**250 D**

Sample Location:	***MW-12***			***MW-13***		
Lab Sample ID:	*E2300-05*	*E3553-05*	*F2944-06*	*E2300-06*	*E3553-06*	*F2944-07*
Sampling Date:	*05/17/13*	*09/03/13*	*06/26/14*	*05/17/13*	*09/03/13*	*06/26/14*
COMPOUND						
cis-1,2-Dichloroethene	4.1	2	2.7	1	2.6	1.8
Tetrachloroethene	**38**	**30.5**	**16.4**	**14.7**	**44.2**	**16.4**
Trichloroethene	**210 D**	**210 D**	**150**	**100**	**210 D**	**150**

4.3.2 SVOCs in Groundwater

No SVOCs were reported in the five groundwater samples, plus one duplicate and one up gradient groundwater sample; therefore, groundwater meets the Part 703 SCGs for SVOCs. While laboratory LOQs for multiple SVOC constituents were greater than the Part 703 SCGs, the lack of SVOCs in groundwater is consistent with the lack of SVOC impacts in subsurface soil.

4.3.3 Pesticides in Groundwater

No pesticides were reported in the two groundwater samples tested plus one duplicate and one up gradient groundwater sample; therefore, groundwater meets the Part 703 SCGs for pesticides. While laboratory LOQs for five pesticides were slightly greater than the Part 703 SCGs, the lack of pesticides in groundwater is consistent with the lack of pesticide impacts in soil.

4.3.4 PCBs in Groundwater

No PCBs were reported in the two groundwater samples plus one duplicate and one up gradient groundwater sample; therefore, groundwater meets the Part 703 SCGs for PCBs. While laboratory LOQs for PCBs were slightly greater than the Part 703 SCGs, the lack of PCBs in groundwater is consistent with the lack of PCB impacts in soil.

4.3.5 TAL Metals in Groundwater

The two groundwater samples tested, plus one duplicate and one up gradient groundwater sample, met the Part 703 SCGs for all metals except:

- elevated iron was identified in all samples,
- elevated manganese was reported in one sample, and
- sodium was reported in all samples.

Exceedances of iron and manganese are likely related to local native soils and/or laboratory digestion of low turbidity in acid-preserved samples. The sodium concentrations are likely associated with winter parking lot salt application. No site soils appear to have been otherwise impacted by these three metals.

The few samples in which metals concentrations that numerically exceeded Part 703 SCGs are summarized below in Table 4.3.5.

Table 4.3.5 Metals in Groundwater that Exceed Groundwater Quality Standards (ppb)

Sample Location:	NYCRR Part 703.5 Groundwater Standard (ug/L)	*MW-1*	*MW-4 and field duplicate*		*MW-11*
Sample ID:		*PL-MW-XX1-X10-XL 0912*	*PL-MWXX4-XX7-XL 0912*	*PL-FDXX3-XXX-XL 0912*	*PL-MWX11-XX6-XL 0912*
Lab Sample ID:		*D4122-01*	*D4122-06*	*D4122-18*	*D4122-15*
Sampling Date:		*9/6/2012*	*9/7/2012*	*9/7/2012*	*9/6/2012*
Sample Depth (feet):		*10*	*7*	*7*	*6*
Units:		*ug/L*	*ug/L*	*ug/L*	*ug/L*
COMPOUND					
Iron	300	**3,680 J**	**339 J**	**390 J**	**3,030** J
Manganese	300	**570** J	212 J	242 J	213 J
Sodium	20,000	**45,400**	**202,000**	**222,000**	**103,000**

Notes:
Shaded cells indicate concentrations that are greater than the respective Part 703 SCG.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

4.4 Analytical Cistern Contents Data

This section presents the analytical results for the water and sludge samples collected from the cistern located inside the Main Building. Analytical results were used to assess whether the cistern was a source of TCE and to assess if its contents required special handling and disposal as an IRM.

4.4.1 VOCs in Cistern

Three VOCs were reported in the initial water sample collected from the cistern: cis-1,2, dichloroethene, PCE and TCE. Concentrations of PCE and TCE exceeded Part 703 SCGs, with TCE being the more prevalent compound at 140 ppb. The sludge sample from the cistern contained low level detections of seven VOCs. The water and sludge from the cistern was addressed as an IRM (see Section 2.3). During cistern cleaning actives, groundwater infiltrated back into the space suggesting that the cistern was a source of groundwater and not a receiving source of waste discharges. A second water sample was later collected from the cistern and tested for VOCs for an investigation data point for groundwater quality beneath the Main Building. The concentrations of the three VOCs previously reported remained relatively consistent with the initial sampling data. VOCs detected in the cistern water samples are summarized below in Table 4.4.1.

Table 4.4.1 VOCs in Detected in Cistern Groundwater (ppb)

Sample Location:	*Cistern*	*Cistern*
Sample ID:	*PL-CL-XX1-X11*	*PL-CL-XX1-X10 1112*
Lab Sample ID:	*D1485-01*	*12K0079-01*
Sampling Date:	*2/8/2012*	*11/1/2012*
Sample Depth (feet):	*11*	*10*
Units:	*ug/L*	*ug/L*
COMPOUND		
cis-1,2-Dichloroethene	5.8	**8.3**
Tetrachloroethene	**39 J**	**26**
Trichloroethene	**140 D**	**130 J**

Notes:
Shaded cells indicate concentrations that are greater than the respective Part 703 SCG.
J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.
D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

4.4.2 SVOCs in Cistern

No SVOCs were reported in the initial water sample collected from the cistern. The sludge sample from the cistern contained low level detections of SVOCs. The sludge from the cistern was addressed as an IRM (see Section 2.3).

4.4.3 Pesticides in Cistern

No pesticides were reported in the cistern water or sludge samples.

4.4.4 PCBs in Cistern

No PCBs were reported in cistern water or sludge samples.

4.4.5 TAL Metals in Cistern

Metals were reported in the cistern samples. Metal concentrations in the water sample meet Part 703 SCGs, except for sodium. The contents of cistern were addressed as an IRM (see Section 2.3). The water and sludge from the cistern was addressed as an IRM (see Section 2.3). Metals concentrations in sludge did not identify a potential contaminant source. Metals detected in the cistern water sample are summarized below in Table 4.4.5.

Table 4.4.5 Detected Metals Concentrations in Cistern Samples

Sample Location:	**NYCRR Part 703.5 Groundwater Standard (ug/L)**	***Cistern (Liquid)***	
Sample ID:		*PL-CL-XX1-X11*	
Lab Sample ID:		*D1485-01*	
Sampling Date:		*2/8/2012*	
Sample Depth (feet):		*11*	
Units:		*ug/L*	
COMPOUND			
Antimony	3	12.5	U
Arsenic	25	5	U
Barium	1,000	24.7	J
Beryllium	ns	1.5	U
Cadmium	5	1.5	U
Calcium	ns	38,900	
Chromium	50	2.5	U
Cobalt	5	7.5	U
Copper	200	6.25	J
Iron	300	57.1	
Lead	25	3.57	J
Magnesium	ns	9,620	
Manganese	300	5.12	J
Mercury	0.7	0.1	U
Nickel	100	10	U
Potassium	ns	2,350	
Selenium	10	5	U
Silver	50	2.5	U
Sodium	20,000	21,900	
Thallium	ns	10	U
Vanadium	ns	10	U
Zinc	ns	45.2	

NOTES U indicates that the compound was not detected at the indicated concentration.
J indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.
NS - There is no published NYSDEC standard for this compound.

4.5 Data Validation – Data Usability Summary Report Findings

Independent data validation of laboratory results was performed by Data Validation Services (DVS) and DataVal in accordance with the quality assurance/quality control requirements of the NYSDEC's Analytical Services Protocol requirements, where applicable. The Data Usability Summary Report (DUSR) with modified data qualifiers are provided to NYSDEC as a separate submittal with the data summary tables, per DER-10. The majority of the data were reviewed collectively by DVS, with subsequent groundwater

sampling events evaluated separately by DataVal. Although the data sets reviewed by DVS included numerous samples collected across the full 3.0-acre parcel, this text section focuses only on DUSR samples located within the BCP site boundaries.

Data validation was performed to determine the usability of the site data and included the evaluation of data package completeness, chain-of-custody review, sample holding times, surrogate and internal standards recovery, matrix spike/matrix spike duplicates (MS/MSD), field duplicate correlations, preparation/calibration blanks, matrix spike blanks or laboratory control sample (LCS), instrument tunes, calibration/low level standards, inductively coupled plasma (ICP) interference check standards and serial dilution correlations, method compliance, and sample result verification.

Based on their review, DVS/DataVal provided the following conclusions relative to the data groups evaluated:

- Data are usable with the noted data qualifiers.
- High PAH concentrations masked some pesticide results, resulting in rejection of some pesticide results for two samples and all pesticide results for one sample. However, pesticides were not reported in the remaining samples, supporting the finding that there are no site-wide pesticide impacts.
- Although non-detect, sodium results for soil samples were rejected due to failed recovery in the matrix spikes, there is no Part 375 SCO for sodium. In addition, sodium is not a site contaminant.

4.5.1 Precision

In addition to the DUSRs summarized above, the data precision was evaluated by calculating the relative percent difference (RPD) between primary samples and duplicate samples using the following equation:

$$\%RPD = \frac{D_1 - D_2}{(D_1 + D_2)/2} \times 100\%$$

where,

RPD Relative Percent Difference
D_1 First Sample Value
D_2 Second Sample Value (duplicate)

The RPD data are used to evaluate the long term precision of the analytical/measurement methods. RPD calculations cannot be performed on concentrations that were not detected above the laboratory reporting limit. As a result of numerous “non-detect” results, RPD calculations were only performed for the primary site constituent, TCE, some of the metals and one detection of PCBs.

4.5.1.1 Precision of Soil Samples

Soil data are considered precise if the duplicate values are within 35% of the primary sample values. Tables 4.5.1.1a through 4.5.1.1d provides the RPD calculations for VOCs, SVOCs, Metals, and PCBs in soil, which ranged from 0% to 99%.

For VOCs, most of the RPD calculations are considered precise, and only 1 VOC (TCE) exhibited precision calculation results greater than 35%. The greater variation expected from estimated concentrations, indicated with a J flag data qualifier, resulted in the anticipated correlated increased RPDs.

Table 4.5.1.1a Precision Calculations for VOCs in Soil (ppm)

Sample Location:	*TP-16*			
Sample ID:	*PL-TP-TPX16-X10*	*PL-TP-TPXXX-XXX-XD*	*Average*	*RPD*
Units:	*mg/Kg*	*mg/Kg*		
Trichloroethene	46	34	40	30%

Sample Location:	*SS-6*			
Sample ID:	*PL-SS-XX6-XX2-XL*	*PL-FD-001-XXX-XL*	*Average*	*RPD*
Units:	*mg/Kg*	*mg/Kg*		
Trichloroethene	0.043 J	0.015 J	0.0290	**97%**

For SVOCs, the RPD calculations are considered precise.

Table 4.5.1.1b Precision Calculations for SVOCs in Soil (ppm)

Sample Location:	*TP-16*			
Sample ID:	*PL-TP-TPX16-X10*	*PL-TP-TPXXX-XXX-XD*	*Average*	*RPD*
Units:	*mg/Kg*	*mg/Kg*		
Dimethylphthalate	0.71	0.6	0.6550	17%

Sample Location:	*SS-6*		*Average*	*RPD*
Sample ID:	*PL-SS-XX6-XX2-XL*	*PL-FD-001-XXX-XL*		
Units:	*mg/Kg*	*mg/Kg*		
Benzo(a)anthracene	13	10	11.5	26%
Benzo(a)pyrene	12	11	11.5	9%
Benzo(b)fluoranthene	16	14	15.0	13%
Benzo(g,h,i)perylene	7.8	7.7	7.8	1%
Benzo(k)fluoranthene	4.8	5	4.9	-4%
bis(2-Ethylhexyl)phthalate	7.3	5.9	6.6	21%
Chrysene	12	11	11.5	9%

Dibenz(a,h)anthracene	1.6	J	1.8	J	1.7	-12%
Fluoranthene	26	D	21		23.5	21%
Indeno(1,2,3-cd)pyrene	7.8		6.2		7.0	23%
Phenanthrene	7.9		5.7		6.8	32%
Pyrene	23		20		21.5	14%

For metals, most of the RPD calculations are considered precise, and only seven metals exhibited precision calculation results greater than 35%. The greater variation expected from estimated concentrations, indicated with a J flag data qualifier, resulted in the anticipated correlated increased RPDs.

Table 4.5.1.1c Precision Calculations for Metals in Soil (ppm)

Sample Location:	*TP-16*					
Sample ID:	*PL-TP-TPX16-X10*		*PL-TP-TPXXX-XXX-XD*		*Average*	*RPD*
Units:	*mg/Kg*		*mg/Kg*			
COMPOUND						
Aluminum	6650		6820		6735	3%
Arsenic	7.64		7.58		7.61	1%
Barium	13.6		14.5		14.05	6%
Beryllium	0.3	J	0.187	J	0.244	**46%**
Cadmium	0.155	J	0.201	J	0.178	26%
Calcium	25600	J	19200	J	22400	29%
Chromium	9.7		9.97		9.84	3%
Cobalt	9.58		9.95		9.77	4%
Copper	36.7	J	36.3	J	36.50	1%
Iron	18,700	J	19,500	J	19100	4%
Lead	11.7		11.2		11.45	4%
Magnesium	8070	J	8330	J	8200	3%
Manganese	752	J	698	J	725	7%
Mercury	0.028		0.027		0.028	4%
Nickel	19.5		20.1		19.80	3%
Potassium	456	J	487	J	471.50	7%
Sodium	124	J	189	J	156.50	**42%**
Vanadium	11.1		11.5		11.30	4%
Zinc	58.5	N	61.5	N	60	5%

Sample Location:	*SS-6*			
Sample ID:	*PL-SS-XX6-XX2-XL*	*PL-FD-001-XXX-XL*	*Average*	*RPD*
Units:	*mg/Kg*	*mg/Kg*		
COMPOUND				
Aluminum	8030	8900	8465.00	10%
Arsenic	2.9 J	5.82 J	4.36	**67%**
Barium	48	43.9	45.95	9%
Beryllium	0.091 J	0.27 JN	0.18	**99%**
Cadmium	1.02 J	0.48 J	0.75	**72%**
Calcium	16600 J	7790 J	12195.00	**72%**
Chromium	16.8 J	21.2 J	19.00	23%
Cobalt	7.82	7.82 N*	7.82	0%
Copper	82.3 J	77.6 J	79.95	6%
Iron	21,700 J	24,200 J	22950.00	11%
Lead	54.1	45.3 N*	49.70	18%
Magnesium	6690 J	4060 J	5375.00	**49%**
Manganese	558 J	462 J	510.00	19%
Mercury	0.084	0.08	0.08	5%
Nickel	21.3 J	26.3 J	23.80	21%
Potassium	825 J	836 J	830.50	1%
Thallium	1.32 J	1.45 J	1.39	9%
Vanadium	16.7	18.2	17.45	9%
Zinc	98.3 J	142 J	120.15	**36%**

For PCBs, most of the RPD calculations are considered precise, and only one aroclor compound exhibited precision calculation results greater than 35%.

Table 4.5.1.1d Precision Calculations for PCBs in Soil (ppm)

Sample Location:	*SS-6*			
Sample ID:	*PL-SS-XX6-XX2-XL*	*PL-FD-001-XXX-XL*	*Average*	*RPD*
Units:	*mg/Kg*	*mg/Kg*		
Aroclor-1260	0.11 J	0.076 J	0.093	**37%**

4.5.1.2 Precision of Groundwater Samples

Water data are considered precise if duplicate values are within 20% of the primary sample. The tables below provide the RPD calculations for VOCs and Metals in groundwater, which were 20% or less, with

one exception for zinc. The greater variation for zinc is expected due to the estimated concentration indicated with a J flag data qualifier. VOC RPDs are not calculated for the samples from MW-4 as VOCs were not reported in those samples.

Table 4.5.1.2 Precision Calculations for Groundwater (ppb)

Sample Location:	*MW-8*					
Sample ID:	*PLMWXX8X10XL0513*		*PLFDXX4XXXXL0513*		*Average*	*RPD*
Units:	*ug/L*		*ug/L*			
VOCs						
cis-1,2-Dichloroethene	3.5		3.6		3.6	3%
Tetrachloroethene	0.77	J	0.63	J	0.7	20%
Trichloroethene	120		120		120.0	0%

Sample Location:	MW-4					
Sample ID:	PL-MWXX4-XX7-XL 0912		PL-FDXX3-XXX-XL 0912		*Average*	*RPD*
Units:	*ug/L*		*ug/L*			
Metals						
Aluminum	48.8	J	54.2		51.5	10%
Barium	123		138		130.5	11%
Calcium	114,000		129,000		121,500	12%
Iron	339	J	390	J	364.5	14%
Lead	9.04		9.28		9.16	3%
Magnesium	14,600		16,600		15,600	13%
Manganese	212	J	242	J	227	13%
Potassium	4,770		5,230		5,000	9%
Sodium	202,000		222,000		212,000	9%
Zinc	9.18	J	21.8		15.49	**81%**

4.5.2 Accuracy

Data accuracy was evaluated by assessing potential sources of error include physical sampling process, decontamination procedures, sample preservation and handling, homogeneity of the sample matrix, and sample preparation and analysis techniques used by the laboratory. An evaluation of potential sources of error follows.

Equipment Blanks: Equipment blank samples did not contain SVOCs, pesticides or PCBs. One equipment blank sample reported a low and estimated toluene concentration, but this constituent was not reported in soil or groundwater samples. Methylene chloride was reported

in two equipment blanks; however, this constituent is a common laboratory artifact that does not represent a site contaminant.

Equipment blank samples contained several metals, generally at estimated concentrations that were less than the quantitation limit. As such, these concentrations are not considered sample contamination and, therefore, do not indicate an adverse impact to data accuracy. While one equipment blank reported some metals concentrations, the data validator has indicated that these results are actually from a laboratory spike and the equipment blank data will be rejected and are not considered sample contamination. The data indicate that decontamination procedures were sufficient to prevent cross contamination between samples.

Trip Blanks: Trip blanks accompanied groundwater samples to assess the potential for contamination of aqueous samples during sample shipment. Trip blanks did not contain VOC concentrations at or above the method reporting limits. The data indicate that aqueous samples were not contaminated during the shipment process.

Field Duplicates/Replicates: A comparison of primary samples to duplicates is provided in the precision discussion in Section 4.5.1.

4.5.3 Representativeness

Representativeness is a qualitative parameter associated with design of the sampling plan. The NYSDEC-approved Work Plan was designed to provide adequate data to sufficiently represent site soil and groundwater characteristics.

4.5.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which two data sets can be compared to one another. Primary and duplicate samples were compared in Section 4.5.1. Comparison of the field data to analytical data would compare field screening readings (i.e., PID) to laboratory analytical results. Field screening results did not indicate elevated volatiles in Site soil, and this was confirmed by the laboratory analytical results.

5.0 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

5.1 Exposure Assessment

5.1.1 Contaminant Source

Samples of soil, groundwater and soil vapor on the Site indicate the presence of chlorinated VOCs from past site activities. In addition, SVOCs and metals (arsenic and copper) are detectable in site surface soil. There are no site-wide impacts from pesticides or PCBs. In general, there is compliance with Restricted-Residential SCOs at the site, although in some locations there are detectable concentrations of metals and SCOs above these SCOs. A description of constituents that do not meet the Restricted-Residential Use SCOs follows for each media:

- Soil: One subsurface soil sample, collected from 10 feet below grade, reported a 46 ppm TCE concentration in soil that is greater than the Restricted-Residential Use SCO.

  SVOCs were reported in surface soil across the site exceeding Restricted-Residential Use SCOs. Copper, lead, and mercury exceeded the Restricted-Residential Use SCOs in three of 12 shallow soil samples, with results suggesting that surface soil impacts are focused to the shallow surface soil near the east/northeastern side of the Main Building.

- Groundwater: Groundwater is impacted by chlorinated VOCs, primarily TCE, with lower concentrations of PCE and cis-1,2-dishloroethene. Following a PersulfOx injection program, CVOC concentrations have shown an average decrease of 38 percent across the impacted on-site wells. On the site, elevated TCE concentrations range up to approximately 100 ppb. TCE concentrations in groundwater in downgradient areas to the north of the site are between 150 and 250 ppb. While the two on-site groundwater samples reported elevated iron, manganese, and sodium, exceedances were generally similar to the up gradient groundwater sample. In addition, iron and manganese concentrations are likely related to local native soils and/or laboratory digestion of low turbidity in acid-preserved samples. The sodium concentrations are likely associated with winter parking lot salt application. No site soils appear to have been otherwise impacted by these three metals.

- Soil Vapor and Indoor Air: Based on results of the sub-slab soil vapor and indoor air quality sampling, interior building floor drains were sealed as an IRM. If needed, a sub-slab depressurization system may be installed to mitigate sub-slab VOC concentrations within the northern areas of the Main Building. Indoor air TCE concentrations are extremely low, with a somewhat higher concentration in the basement.

5.1.2 Contaminant Release and Transport Mechanisms

The VOC impacts identified in groundwater at the site could be released or migrate in the following ways:

- Migration of contaminants in groundwater –Groundwater contaminants have migrated from the site to off-site areas to the north. Figures 7A, 7B, and 7C present groundwater concentration

contours for total CVOCs. In-situ treatment of groundwater in two areas was performed as a supplemental IRM to address CVOCs in Site groundwater.

- Migration of sub-slab vapors into building –There is potential for the volatilization of VOCs into the Main Building; but this condition may be mitigated by an SSDS or basement ventilation, if needed. Operation of an SSDS would generally occur until VOCs are reduced to levels below required mitigation action limits.

SVOC and metals impacts identified in surface soil at the site could be released or migrate in the following ways:

- Release of dust into air – If surface soil in the source area is disturbed through a construction activity, it could release dust into the air. The SVOC and metals impacted soil areas can be mitigated by either pavement, two feet of clean soil cover, or soil removal to meet Restricted-Residential Use goals.

  There is no identified source of SVOC or metals contamination in subsurface soil. Metals and SVOCs in surface soil appear to be related to historical fill identified across the Site and metals concentrations in groundwater are considered naturally occurring at the detected concentrations. Detected VOCs have met Restricted-Residential Use SCOs, with one subsurface soil sample exception (TP-16) that reported a slight exceedance for TCE. A subsurface source of TCE has not been identified.

5.1.3 Point of Exposure

The site is partially developed (covered) by the site buildings. Surface soil in some areas of the site not covered by the buildings is impacted by SVOCs and metals exceeding Restricted-Residential Use SCOs. No subsurface soil impacts were identified above Restricted-Residential Use SCOs, with one exception (a deep sample from TP-16) that reported a slight exceedance for TCE. The site is unoccupied. There is the potential for exposure to future site occupants or construction workers when the site is reoccupied and/or redeveloped. An alternatives analysis will be completed to evaluate a remediation program that will address this exposure.

Groundwater impacted with CVOCs exists under the site. IAQ sampling within the Main Building indicates that vapor intrusion of CVOCs into the indoor air is occurring in the basement level of the Main Building. The site is vacant and so there are currently no building occupants for potential exposure to subsurface VOC contaminants. In the event of building re-occupancy or site redevelopment, an SSDS or basement ventilation may need to be installed to mitigate building occupant exposure to subsurface VOC contaminants that exist beneath the Main Building. Future proposed buildings may also warrant active venting of vapors from beneath a building floor and discharging the vented vapors above the building roof to the atmosphere, thus removing the vapor intrusion pathway. Indoor air TCE vapor concentrations are extremely low, with a somewhat higher concentration in the basement.

A water elevation survey of on-site monitoring wells indicates that groundwater at the Site flows in a northeasterly direction. Groundwater sampling conducted at off-site wells indicates that groundwater impacted with CVOCs migrates to downgradient locations off-site; therefore, there is some potential for vapor intrusion concerns beneath off-site downgradient structures. The potential concern for off-site

impacts from VOC migration via groundwater transport or via vapor transport in shallow unsaturated soil is being evaluated by NYSDEC and NYSDOH but judged to be low on the basis of the availability of a public water supply.

5.1.4 Route of Exposure

The site is vacant and not accessed on regular basis. However, people who may access the site could come into contact with surface soil impacted by SVOCs and metals in areas of the site that are not covered by buildings or pavement.

The site is connected to municipal water; therefore, impacted groundwater is not being used for drinking water and there are no related routes of exposure. People could come into contact with impacted groundwater if they perform ground intrusive work at the site.

Detectable concentrations of sub-slab vapors indicates that vapor mitigation is warranted. However, this building is vacant and not accessed on a regular basis. Should the building become re-occupied, or the Site developed with new structures, a vapor intrusion mitigation system (i.e., SSDS or basement ventilation) may be installed to mitigate potential indoor air quality impacts. At this time, residential units are planned for the second floor of the northeastern-most area of the Main Building.

5.1.5 Receptor Population

Potential receptors include people that occasionally access the site where surface soil impacts are present, and site workers performing ground intrusive work that come into contact with soil or groundwater where impacts present. The site is vacant with no active population. Future building occupants are a potential receptor population; however, as needed, an SSDS will be installed within the Main Building or future proposed buildings to mitigate vapor exposures prior to re-occupancy of the site. A soil cover will also be placed prior to re-occupancy of the site to mitigate exposures to impacted surface soil.

5.2 Water Well Survey

The site and surrounding area are supplied with municipal water; therefore, a water well survey is unnecessary.

5.3 Conceptual Site Model

The Conceptual Site Model takes into consideration sources of contamination, fate and transport processes, potential receptors, exposure pathways, and exposure points. Contaminated media associated with the site include groundwater, indoor air and sub-slab vapor, and soil.

Chazen's conceptual site model views the site as a relatively level property with a Main Building that has been expanded over time with multiple additions and some independent out buildings. The direction of shallow groundwater flow is northeast toward the Tin Brook. TCE is the primary constituent of concern at the site and is found in low dissolved concentrations in site groundwater. No free-phase product was located during the RI through sampling of groundwater, subsurface soil and the compounds in sub-slab

vapor are considered relatively low-level and not indicative of a hot spot area. The dissolved-phase TCE is unlikely to have penetrated deeply into the shallow aquifer formation because of silty-clay soils on the site.

Soils across the site were disturbed over time by storage and management of coal and slag materials in association with general leveling and stabilizing of existing soils. A fill layer is generally spread over clean native silty soils. Reported concentrations of SVOCs, copper, lead, and mercury exceed Restricted-Residential Use SCOs in surface soil. A limited area of TCE impacts to subsurface soils have been identified.

The table below provides a summary of the contamination sources, migration pathways and potential receptors based on existing data gathered in the field and from laboratory analysis.

Media	**Known or Suspected source of contamination**	**Type of Contaminant (General)**	**Contaminants of Potential Concern (COPCs)**	**Primary or Secondary Source Release Mechanism**	**Migration Pathways**	**Potential Receptors**
Subsurface Soil	Subsurface soil impacts were identified in one location	Dissolved Solvents	TCE	Disturbance	Infiltration/ percolation. Dust from soil movement.	Human: direct contact with subsurface soil in impacted area
Surface Soil	Urban Fill	SVOCs and Metals	PAHs, Copper, Lead and Mercury	Disturbance	Dust from soil movement	Human: direct contact with surface soil in impacted area
Ground water	Impacted soil (primary)	Dissolved Solvents	TCE	Infiltration/ Percolation and saturation of soil	Groundwater flow/utility trenches	Human and ecological receptors are not expected to be exposed
Sub-Slab Soil Vapor	Impacted soil or groundwater near or under buildings	Solvents Vapor	TCE	Volatilization of impacted soil and/or groundwater	Migration into buildings partitioning to air	Human: Inhalation
Surface Water/ Sediment	No discharge mechanism or pathways have been identified	NA	NA	Contaminants in groundwater are expected to attenuate prior to potential discharge points (i.e., Tin Brook)	NA	Human or Ecological Receptors are not expected to be exposed
Building	No continuing sources of contamination	NA	NA	Site operations have ceased	NA	NA

6.0 Fish and Wildlife Resources Impact Analysis (FWRIA)

The Site is located in a mixed commercial, residential and industrial use area. Approximately one-half of the Site is covered by buildings. Vegetated areas of the property include a maintained lawn to the northeast of the buildings/parking driveway. The area south of the site is primarily overgrown grass and weeds with a drainage swale located approximately 200 feet south of the site. The topography of the site is flat and there is no evidence of erosion. Given the condition of the property, a Fish and Wildlife Resources Impact Analysis was not warranted. A completed Fish and Wildlife Resources Impact Analysis Decision Tree is included in Appendix E.

7.0 SUMMARY AND CONCLUSIONS

This section presents a summary of SCG exceedances with descriptions of the areas of concern, potential exposure pathways, conclusions, and recommendations for future work.

7.1 Summary of SCG Exceedances

- Soil: VOCs in site soil met Unrestricted Use SCOs, except for an isolated area near the southern side of the Main Building (samples from nearby locations TP-16 and MW-1) which was not replicated elsewhere on the site. TP-16 reported a TCE concentration greater than the Restricted-Residential SCO. Subsurface soil samples from on-site MW-1 and off-site MW-10 slightly exceeded the Unrestricted SCO for TCE, but met the Restricted-Residential Use SCO.

  SVOC concentrations greater than Restricted-Residential Use SCOs were reported in shallow surface soils (0 to 2 inches) around structures. Shallow surface soil in the northeastern corner of the site met Unrestricted Use SCOs for SVOCs. The deeper subsurface soils met Unrestricted Use SCOs for SVOCs.

  PCBs met Restricted-Residential SCOs, but were reported at low concentrations in six locations greater than Unrestricted Use SCOs.

  Shallow surface soil in the area immediately east of the Main Building reported concentrations greater than Restricted-Residential Use SCOs for copper (two samples), mercury (one sample), and lead (one sample).

- Groundwater: Chlorinated VOCs cis-1,2-Dichloroethene, PCE and TCE were reported in groundwater, with TCE being the primary constituent. No source area in soil was identified. Groundwater at the northern half of the site near the Main Building contains the highest TCE concentrations, ranging up to 480 ppb. A second groundwater sampling event indicated off-site groundwater impacts to the northeast, decreasing by half along the northern side of Grant Street.

  In-situ treatment of groundwater using sodium persulfate (PersulfOx) injection grids in the MW-1/MW-8 and MW-10 was implemented by Chazen in July of 2013 as an IRM to reduce VOC concentrations in groundwater. Post-injection groundwater sampling events were conducted in September of 2013 and June of 2014. Results show decreased CVOC concentrations with an average decrease of 38 percent across the impacted on-site wells. Two of the off-site wells (MW-10 and MW-12) also showed a similar concentration reduction as the on-site wells. The latest round of groundwater samples identify on-site TCE concentrations of 100 ug/L or less, with off-site TCE concentrations decreased but remaining between 150 and 250 ug/L.

  Iron, manganese and sodium concentrations reported in groundwater are likely related to native soils and winter application of salt to the parking area.

- Soil Vapor and Indoor Air: Based on results of the 2012 sub-slab soil vapor and indoor air quality sampling, mitigation is warranted for structures prior to occupancy.

7.2 Areas of Concern

The remedial investigation has identified and described the present condition of soils and groundwater and indoor air at the site. The areas of concern are surface soil in exterior site areas primarily northeast and east of the Main Building (AOC-2), and groundwater in the northern half of the Site (AOC-1 and AOC-2) with the greatest impacts near MW-1 and MW-8 in AOC-2 and MW-10 in AOC-1. Off-site groundwater impacts have also been identified.

7.3 Exposure Pathway

Identified potential exposure pathways include the following:

- Direct human contact with shallow surface soil in the areas impacted by SVOCs and metals; and
- Human inhalation of solvents from impacted sub-slab vapor migration into occupied buildings.

7.4 Conclusions

The RI investigated potential sources of contamination associated with the former site uses as a lighting manufacturer and steam engine manufacturer. The following conclusions indicate that the remedial investigation objectives were met:

- IRMs conducted during the RI included the closure to two underground storage tanks, closure of building floor drains, cleaning of an interior cistern, removal of paint materials, and an *in situ* groundwater treatment IRM substantially reducing dissolved TCE. Follow-up groundwater sampling has demonstrated the effectiveness of the groundwater treatment.
- VOC impacts to groundwater have been delineated on site. Moderate dissolved-phase chlorinated solvents, primarily consisting of TCE, are found on the site and diminish as they migrate off site. No source area was identified.
- Sub-slab vapor and indoor air within the Main Building have been characterized. Impacts from sub-slab VOCs are present and mitigation (e.g. a sub-slab depressurization system or basement ventilation) would be warranted for certain areas of occupied structures.
- Shallow soil impacts have been delineated, identifying SVOCs and select metals, copper, lead and mercury, reported primarily near the Main Building. A soil cover may be installed at the site as an engineering control.

The RI investigated the potential for on-site sources of other contaminants of concern, and none were identified via sampling of soil and groundwater.

7.5 Recommendation for Future Work

No further remedial investigation is recommended for the site as remedial investigation objectives have been met and data have not identified further potential contaminant sources on the site.

The Site is currently vacant, although the owner plans to use the second floor of the northeastern part of the Main Building for residential units. An Alternatives Analysis will be prepared and will include an alternative to implement engineering controls during redevelopment of the Site to remediate or mitigate affected media at the Site in accordance with the Site Management Plan. Expected engineering controls could include:

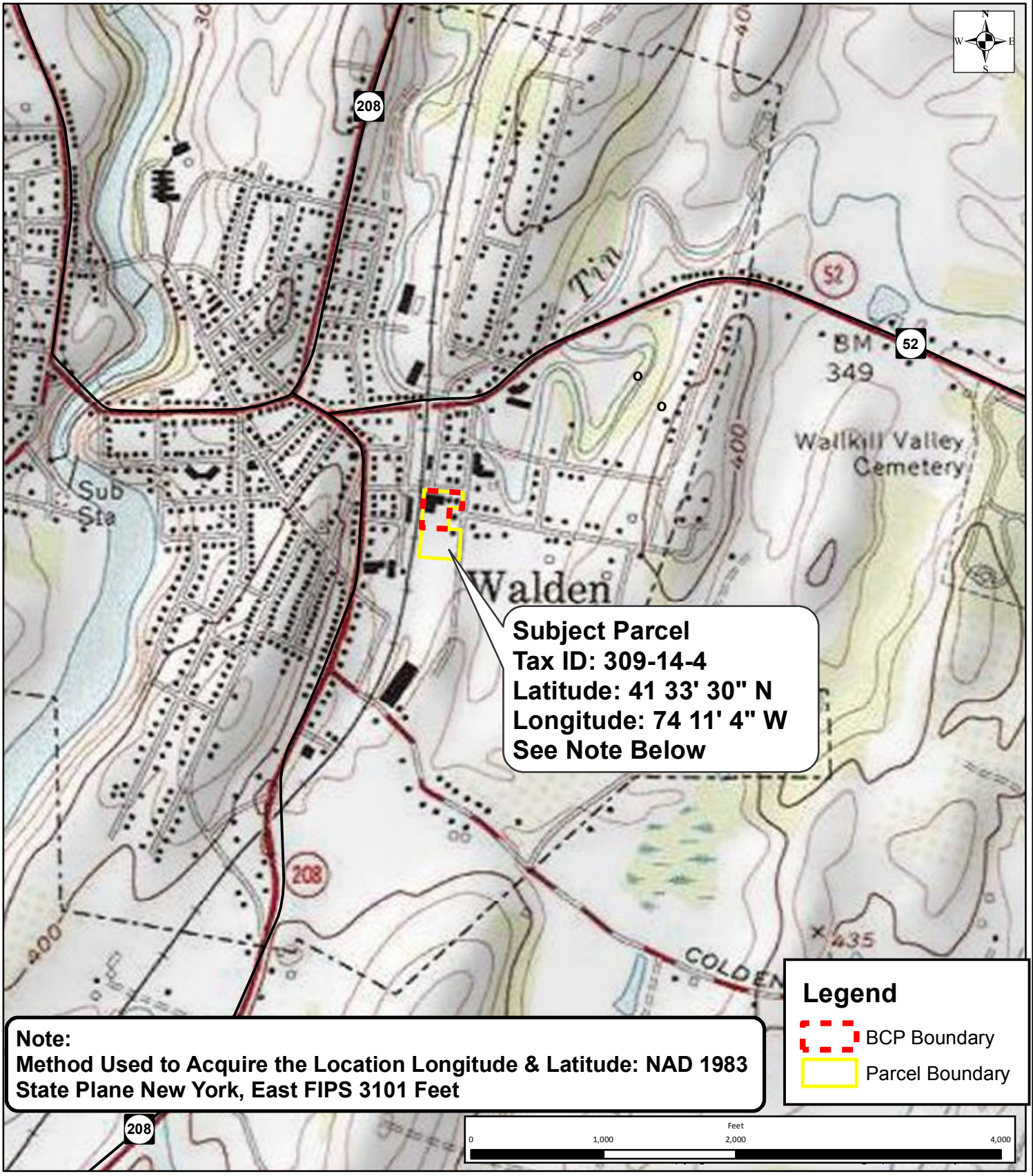
- Excavation of impacted surface soil during Site redevelopment and managing in accordance with the Excavation Plan outlined in the SMP.

- Covering of remaining shallow surface soils to meet Restricted-Residential Use goals for the site.

- Installing a sub-slab depressurization system (SSDS) or basement ventilation within areas of structures proposed for retention and occupation, depending on proposed future site development, in accordance with a SMP.

- Addressing any unidentified VOC-impacted source soil, if any, found beneath existing building(s) in the future, in accordance with an Excavation Plan outlined in a SMP.

FIGURES



THE Chazen COMPANIES®
ENGINEERS/SURVEYORS
PLANNERS
ENVIRONMENTAL SCIENTISTS
LANDSCAPE ARCHITECTS

Dutchess County Office:
21 Fox Street, Poughkeepsie, NY 12601
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547 River Street, Troy, NY 12180
Phone: (518) 273-0055

Glens Falls Office:
100 Glen Street, Glens Falls, NY 12801
Phone: (518) 812-0513

Estate of Hy Hilzen

Figure 1 - Site Location Map

29 Grant Street
Village of Walden, Orange County, New York

Source: U.S.G.S. Topographic Map Dated 1978, Photo Revised 1980: USGS Ref. Code: Walden - 41074-E2-TF-024; Village of Walden 2007 Tax Parcel Data; State of New York DOT 2008 Roads dataset.

Drawn:	SCP/STF
Date:	July 2013/Feb. 2015
Scale:	1 inch = 1,000 feet
Project:	41115.00
Figure:	1

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\Pough_41115.00_Fig 1 SIte Location Map_8 X 11_withBCP.mxd

LEGEND:

- PROPERTY LINE NO PHYSICAL BOUNDS
- ADJACENT PROPERTY LINE
- EXISTING PROPERTY EASEMENT
- EXISTING BUILDING
- CONC. CURB — EXISTING CURB/GUTTER
- GRAVEL — EXISTING GRAVEL DRIVEWAY
- EXISTING GUIDERAIL
- EXISTING FENCE
- EXISTING TREE LINE
- EXISTING BRUSH LINE
- OHW — EXISTING OVERHEAD WIRES
- G — EXISTING GAS LINE

SYMBOLS:

- EXISTING SIGN
- MB — EXISTING MAILBOX
- PST — EXISTING POST
- IPF — EXISTING IRON PIPE FOUND
- IRF — EXISTING IRON ROD FOUND
- MNS — EXISTING MAGNETIC NAIL SET
- TONE — EXISTING MAGNETIC READING/TONE
- STKF — EXISTING STAKE FOUND
- EXISTING SANITARY MANHOLE
- EXISTING CLEANOUT
- EXISTING DRAINAGE MANHOLE
- EXISTING CATCH BASIN
- RL — EXISTING ROOF DRAIN LEADER
- EXISTING GUY WIRE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE W/ LIGHT
- EXISTING AIR CONDITION COMPRESSOR
- EXISTING PANEL/SWITCH BOX
- UGC — EXISTING CONDUIT TO/FROM UNDERGROUND
- EXISTING SATELLITE DISH
- GAS — EXISTING GAS STRUCTURE
- EXISTING GAS VALVE
- EXISTING WELL
- EXISTING HYDRANT
- EXISTING AUTO SPKLR. HYDRANT
- EXISTING WATER SHUT OFF VALVE
- EXISTING WATER VALVE
- EXISTING UNKNOWN MANHOLE
- EXISTING MONITORING WELL
- EXISTING UTILITY VALVE
- VENT — EXISTING VENT

EASEMENT NOTES:

WITH RESPECT TO OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY TITLE NO. 437-O-ORT HAVING AN EFFECTIVE DATE OF NOVEMBER 15, 2013,
SCHEDULE B:

32. UTILITY COMPANY EASEMENT IN LIBER 3412 OF DEEDS AT PAGE 316 (20' WIDE EASEMENT AND RIGHT OF WAY FOR UNDERGROUND GAS PIPELINE). [AFFECTS THE SUBJECT PARCEL APPROXIMATE LOCATION SHOWN HEREON, THE CENTERLINE OF WHICH BEGINS AT A POINT ON THE WESTERLY SIDE OF ELM STREET 26' NORTHERLY OF POLE CRAMBERRED 38 OF LINE NUMBER 927, EXTENDING WESTERLY 102± AND 120'± SOUTHWESTERLY AND SOUTHERLY 2'± TO THE WESTERLY SIDE OF GRANTORS PACKAGED LIGHTING BUILDING].

33. RIGHTS AND AGREEMENTS FOUND IN LIBER 1798 CP 967.

34. DRIVEWAY EASEMENT RECITED IN MANY DEEDS OF RECORD (INCLUDING SUBJECT PARCEL DEED, LIBER 5915 OF DEEDS AT PAGE 303, PARCEL NO. 2) [AFFECTS THE SUBJECT PARCEL AND IS SHOWN HEREON]

DEED REFERENCE:

ESTATE OF HY HILZEN BY MICHAEL DANIELS AND WILLIAM MARLIEB, CO-EXECUTORS TO GRANT STREET FACTORY, INC. DATED JANUARY 21, 2014 AND FILED IN THE OFFICE OF THE ORANGE COUNTY CLERK ON FEBRUARY 7, 2014 IN BOOK 13714 PAGE 0186.

TAX PARCEL NUMBER:

VILLAGE OF WALDEN, ORANGE COUNTY, NEW YORK
SECTION 309 BLOCK 14 LOT 4

AREA:

SUBJECT PARCEL= 3.08 AC.

PROPERTY ADDRESS:

29 GRANT STREET, WALDEN, NY 12586

NOTES:

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S INKED SEAL OR HIS EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES.

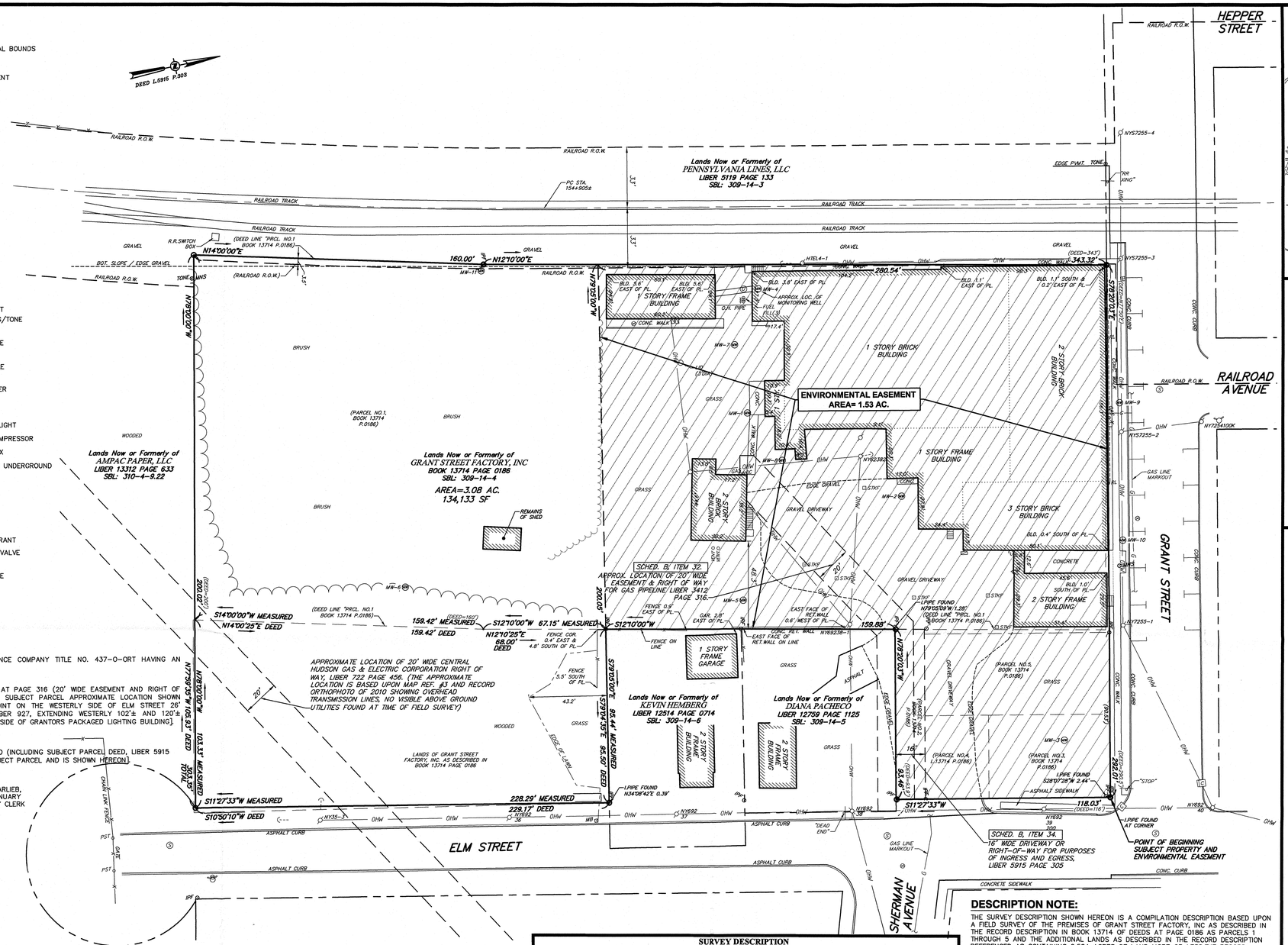
SURVEYED FROM RECORD DESCRIPTION AND AS IN POSSESSION.

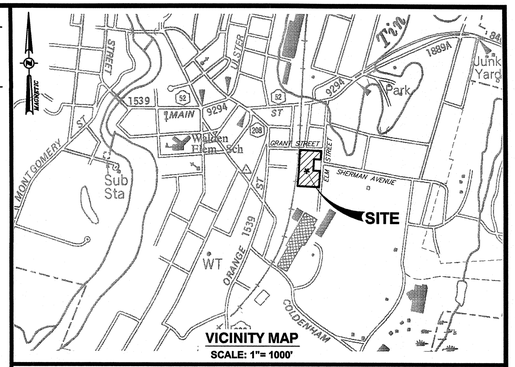
SUB-SURFACE STRUCTURES NOT VISIBLE OR READILY APPARENT ARE NOT SHOWN AND THEIR LOCATION AND EXTENT ARE NOT CERTIFIED.

BUILDINGS SHOWN HEREON SERVED BY UNDERGROUND UTILITIES.

ENVIRONMENTAL EASEMENT NOTE:

THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233.





SURVEY DESCRIPTION
SUBJECT PROPERTY
LANDS OF GRANT STREET FACTORY, INC.

ALL that plot, piece or parcel of land situate and being in the Village of Walden, Town of Montgomery, County of Orange, State of New York, bounded and described as follows:

BEGINNING at a point marked by an iron pipe found at the intersection of the southerly line of Grant Street with the westerly side of Elm Street, said point being the northeasterly corner of the herein described parcel of land and being located N28°07'29"E 2.44 feet from another iron pipe found, and running; thence southerly along the westerly side of Elm Street S 11°27'33" W 118.03 feet to an iron pipe found; thence along the northerly line of lands now or formerly of Diana Pacheco as described in liber 12759 of deeds at page 1125, N 78°20'03" W 93.46 feet to a point being S79°05'09"E 1.28 feet from an iron pipe found; thence along the westerly line of said lands of Pacheco and also along the westerly line of lands now or formerly of Kevin Hemberg as described in liber 12514 of deeds at page 714, S 12°10'00" W 159.88 feet to an iron rod found; thence along the southerly line of said lands of Hemberg, S 79°05'00" E 95.44 feet to a point being S34°08'42"W 0.39 feet of an iron pipe found at the westerly side of Elm Street; thence along the westerly side of Elm Street, S 11°27'33" W 228.29 feet; thence westerly along lands now or formerly of Ampac Paper, LLC as described in liber 13312 of deeds at page 633, N 78°00'00" W 303.35 feet to a point; thence along the westerly line of the herein described parcel, N 14°00'00" E 160.00 feet to an iron pipe found; thence continuing along the westerly line of the herein described parcel, N 12°10'00" E 343.32 feet to a point on the southerly side of Grant Street; thence along the southerly side of Grant Street, S 78°20'03" E 292.01 feet, passing through an iron pipe found at 201.48 feet, to the point or place of beginning;

CONTAINING AN AREA OF 134,133 SF OR 3.08 AC. OF LAND MORE OR LESS

RECORD DESCRIPTION (AS IT APPEARS IN DEED BOOK 13714 PAGE 0186)
SUBJECT PROPERTY
LANDS OF GRANT STREET FACTORY, INC.

ALL that certain lot, pieces or parcel of land with the buildings and improvements thereon, situate, lying and being in the VILLAGE OF WALDEN, TOWN OF MONTGOMERY, County of Orange and State of New York, bounded and described as follows:

PARCEL NO. 1

BEGINNING at a point in the easterly line of Wallkill Valley Railway at the intersection of a high picket fence; RUNNING THENCE along the said Railroad Company's lands, North 14°00'00" East, 160 feet; THENCE along same North 12°10'00" East, 343 feet to its intersection with the southerly line of Grant Street; THENCE along said southerly line of Grant Street South 77°50'00" East, 200 feet to the line of H.B. Wooster's lot marked by an old picket fence; THENCE along the said Wooster and other lots South 12°10'00" West, 343 feet to a point in the fence; THENCE along same South 14°00'00" West, 160 feet to a corner post in the fence; and THENCE along the fence North 78°00'00" West, 200 feet to the point or place of BEGINNING.

PARCEL NO. 2

BEGINNING at a point on the westerly side of Elm Street, which said point is marked by an iron and is the northeasterly corner of the premises herein described; and RUNNING THENCE in a westerly direction along the southerly line of premises of Bodine and premises of DuBois; a distance of 93.9 feet, more or less, to a point marked by an iron set on the easterly line of premises owned by Spence Engineering Company, Inc.; THENCE in a southerly direction, along the easterly line of premises of the aforesaid Spence Engineering Company, Inc., a distance of 16 feet to a point marked by an iron set on the lands formerly of Mary Craplis and now of John R. Noonan; THENCE in an easterly direction through the lands formerly of Mary Craplis (now John R. Noonan) parallel to the first mentioned course, a distance of 93.9 feet, more or less, to an iron set on the westerly side of Elm Street; THENCE in a northerly direction along the westerly side of Elm Street a distance of feet to the point or place of BEGINNING.

FOR CONVEYEANCE ONLY:

EXCEPTING AND RESERVING to John R. Noonan, his heirs and amigos, the right and privilege of using the foregoing premises as a driveway or right-of-way for purposes of ingress and egress from premises of said John R. Noonan, lying southerly of the foregoing described premises.

PARCEL NO. 3

Bounded and described as follows: On the NORTH by Grant Street; on the EAST by Creamery Street, on the WEST by lands now or formerly of William Bray; and on the SOUTH by lands now or formerly of Thomas Hepper, being 45 feet 6 inches front and rear and 65 feet deep.

Bounded and described as follows: On the NORTH by lands now or formerly of C. Fred Fowler; on the EAST by Creamery Street; on the WEST by lands now or formerly of William Bray, and on the SOUTH by lands now or formerly of Thomas Hepper being 45 feet 6 inchesfront and rear and 35 feet deep.

PARCEL NO. 5

Bounded and described as follows: NORTH by Grant Street, EAST by lands formerly of John Cates, now or formerly of C. Fred Fowler; SOUTH by lands now or formerly of Thomas Hepper; WEST by lands belonging to the foundry. Being a lot of land 45 feet front and rear and 100 feet deep.

Note: Being District, Section 309, Block(s) 14, Lot(s) 4, Tax Map of the Town of Montgomery, County of Orange.
Note: Lot and Block shown for Informational purposes only.

Also the land described as follows:
All that certain piece or parcel of land, with buildings and improvements thereon erected, situate, lying and being in the Village of Walden, County of Orange, and the State of New York and being more particularly bounded and described as follows:

Beginning at an iron pipe found on the westerly side of Elm Street, said point being the southeasterly most corner of the lands reputedly of Hermberg and also being 158.31 feet southerly from an iron pipe found; thence from said point or place of beginning and along the westerly side of said Elm Street South 13°39'45" West a distance of 229.17 feet; thence along the lands reputedly of Interstate Acquisition Corp., North 75°10'00" West a distance of 105.93 feet; thence the following two (2) courses and distances through the lands of Hilzen, 1) North 16° 50'00" East a distance of 159.42 feet, 2) North 15°00'00" Est a distance of 68.00 feet; thence along the lands reputedly of said Hermberg, South 76°15'00" East a distance of 95.50 feet to the point or place of beginning, and containing 0..524 acres of land more or less.

DESCRIPTION NOTE:

THE SURVEY DESCRIPTION SHOWN HEREON IS A COMPILATION DESCRIPTION BASED UPON A FIELD SURVEY OF THE PREMISES OF GRANT STREET FACTORY, INC AS DESCRIBED IN THE RECORD DESCRIPTION IN BOOK 13714 OF DEEDS AT PAGE 0186 AS PARCELS 1 THROUGH 5 AND THE ADDITIONAL LANDS AS DESCRIBED IN THE RECORD DESCRIPTION REFERENCED AS CONTAINING 0.524 ACRES OF LAND MORE OR LESS.THE RECORD DESCRIPTION CONTAINS 2 DIFFERENT BEARING MERIDIANS FOR PARCEL 1 AND THE LAST PARCEL. CHAZEN CHOSE PARCEL 1 AS THE BASIS FOR THE SURVEY BEARING SYSTEM.

THE RECORD DESCRIPTION CONTAINS 6 PARCELS WITH PARCEL NO. 1 BEING DESCRIBED BY METES AND BOUNDS WITH A MIS-CLOSURE OF 0.58 FEET AND PARCELS NO. 2 THROUGH NO. 5 BEING GENERALLY DESCRIBED BY DISTANCE AND ADJOINING LAND OWNERSHIP AND SUBJECT TO THE INTERPRETATION OF FOUND EVIDENCE. THE ADDITIONAL 0.524 ACRE PARCEL REFERENCED ABOVE HAD A MIS-CLOSURE OF 0.01'.

MAP REFERENCE:

1. REFERENCE IS HEREBY MADE TO A CERTAIN MAP ENTITLED "RIGHT OF WAY AND TRACK MAP THE WALLKILL VALLEY R. R. OPERATED BY THE NEW YORK CENTRAL RAILROAD COMPANY AS LESSEE MAIN LINE WALDEN FROM STA. 147+754 TO STA. 158+314" PREPARED BY THE OFFICE OF VALUATION ENGINEER GRAND CENTRAL TERMINAL NEW YORK, NY, DATED JUNE 30th 1917.

2. REFERENCE IS HEREBY MADE TO A CERTAIN MAP ENTITLED "MAP OF LOTS OF THE ORANGE LAND COMPANY WALDEN, N.Y." FILED IN THE OFFICE OF THE ORANGE COUNTY CLERK ON JANUARY 5, 1911 AS MAP #893.

3. REFERENCE IS HEREBY MADE TO A CERTAIN MAP ENTITLED "CENTRAL HUDSON GAS & ELECTRIC CORP. WALDEN-MONROE 66 KV. LINE PLAN AND PROFILE" FILE NO. 20-P-3610, SHEET 3 OF 11 DATED "CHANGE NO. 11 8-4-04 UPDATE TINBROOK". (MAP PROVIDED BY CENTRAL HUDSON GAS & ELECTRIC CORP.)

SURVEY DESCRIPTION
ENVIRONMENTAL EASEMENT, SITE #C336079

ALL that plot, piece or parcel of land situate and being in the Village of Walden, Town of Montgomery, County of Orange, State of New York, bounded and described as follows:

BEGINNING at a point marked by an iron pipe found at the intersection of the southerly line of Grant Street with the westerly side of Elm Street, said point being the northeasterly corner of the herein described Environmental Easement and being located N28°07'28"E 2.44 feet from another iron pipe found, and running; thence southerly along the westerly side of Elm Street S 11°27'33" W 118.03 feet to an iron pipe found; thence along the northerly line of lands now or formerly of Diana Pacheco as described in liber 12759 of deeds at page 1125, N 78°20'03" W 93.46 feet to a point being S79°05'09"E 1.28 feet from an iron pipe found; thence along the westerly line of said lands of Pacheco and also along the westerly line of lands now or formerly of Kevin Hemberg as described in liber 12514 of deeds at page 714, S 12°10'00" W 159.88 feet to an iron rod found; thence through the lands of Grant Street Factory, Inc. as described in Book 13714 of deeds at page 0186, N 79°05'00" W 200.05 feet to the southwesterly corner of the herein described Environmental Easement; thence along the westerly line of Grant Street Factory, Inc. and the herein described Environmental Easement, N 12°10'00" E 280.54 feet to a point on the southerly side of Grant Street; thence along the southerly side of Grant Street, S 78°20'03" E 292.01 feet, passing through an iron pipe found at 201.48 feet, to the point or place of beginning;

CONTAINING AN AREA OF 1.53 AC. OF LAND MORE OR LESS

ALTA/ACSM CERTIFICATION:

TO:
NEW YORK STATE - DEPARTMENT OF ENVIRONMENTAL CONSERVATION
GRANT STREET FACTORY, INC.
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 4, 7a, 8, 11A, 12, 13, AND 14 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MAY 7, 2013.

STATE OF NEW YORK · STEVEN JAY ALEX · 050016 · LICENSED LAND SURVEYOR

November 13, 2014
Date

STEVEN J ALEX, PLS.
REGISTERED SURVEYOR, STATE OF NEW YORK
REGISTRATION NO. 050016

30 0 30
SCALE IN FEET
1"=30'

10M 0 10M
SCALE IN METERS

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rev.	date	description
1	11/12/14	REVISE LIMITS OF ENVIRONMENTAL EASEMENT AND SURVEY DESCRIPTION

29 GRANT STREET - GRANT STREET FACTORY, INC

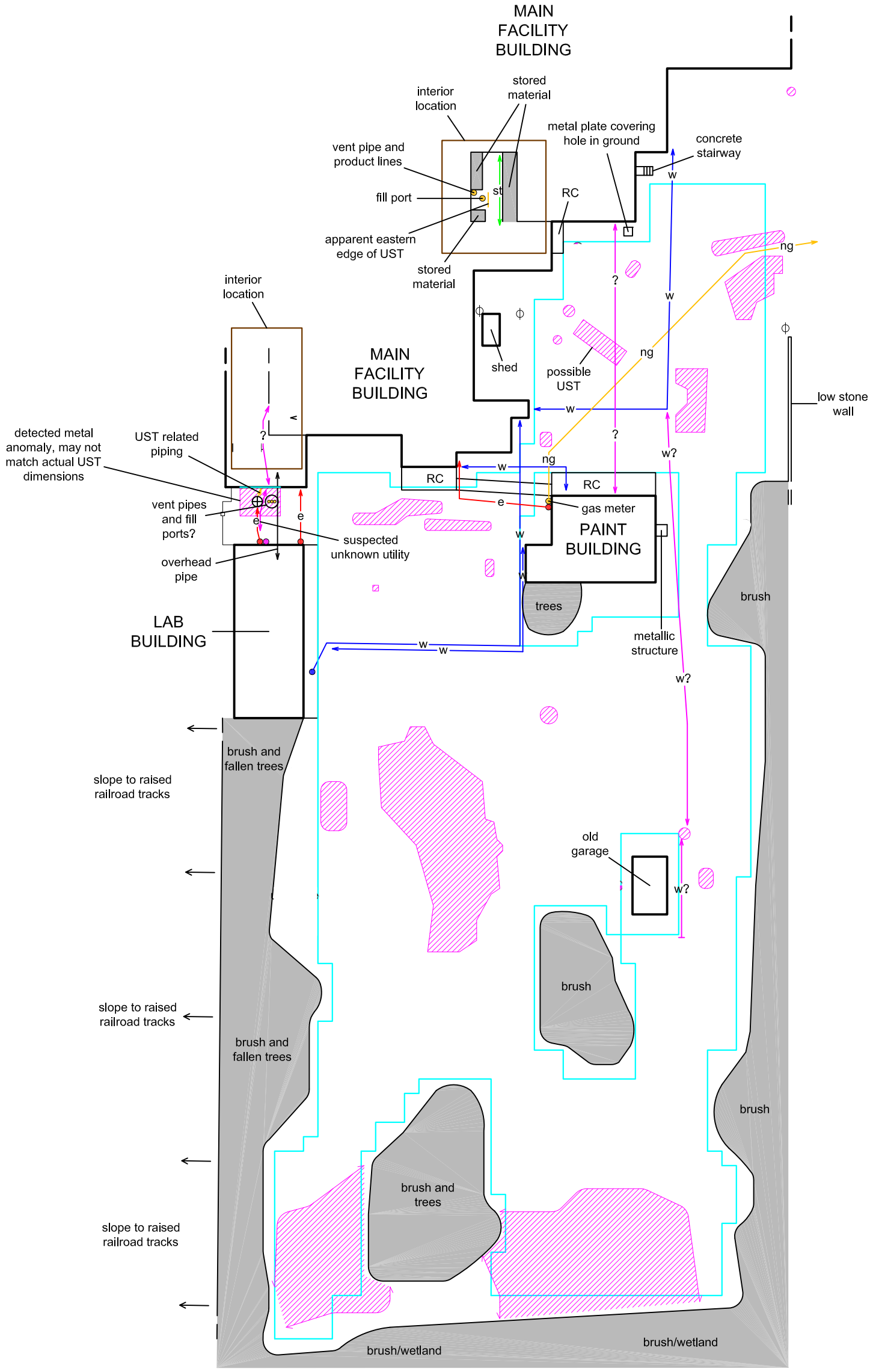
ALTA/ACSM LAND TITLE SURVEY PREPARED FOR STATE OF NEW YORK - DEPT. OF ENVIRONMENTAL CONSERVATION

VILLAGE OF WALDEN, TOWN OF MONTGOMERY, ORANGE COUNTY, NEW YORK

designed	checked
CJS	SJA
date	scale
05/30/13	1"=30'
project no.	
41115.01	
sheet no.	
SV1	
1 OF 1	

Drawing Name: X:\41100-41199\41115.00 Hilzen BCP Walden NY\SURVEY\DWG\05_SV1_41115-00_ALTA.dwg
Xref's Attached: XBASE-SVY_41115-00
Date Printed: Nov 13, 2014, 10:24am

6407



LEGEND

e	electric line		metal-detector anomaly		electrical conduit
w	water line		area of EM31 investigation		unknown conduit
ng	natural gas line		chain-link fence		post indicator valve (P.I.V.)
w?	suspected water line			RC	reinforced concrete
?	unknown line		utility pole		manhole cover
st	storm sewer line				

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THE LEADER IN SUBSURFACE DETECTION
Subsurface Geophysical Surveys

225 North Route 303, Suite 1021
Congers, NY 10920
(845)268-1800
(845)268-1802 FAX

Figure 3: Results of Geophysical Investigation
Former Packaged Lighting Systems, Inc.
29 Grant Street, Walden, New York

Client	The Chazen Companies	Date of Work	December 14-15, 2011
Project No.	C1112141X	Map By	Gerald Williamson

ALL UNDERGROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP

Figure 3



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Former Packaged Lighting Systems, Inc. Site

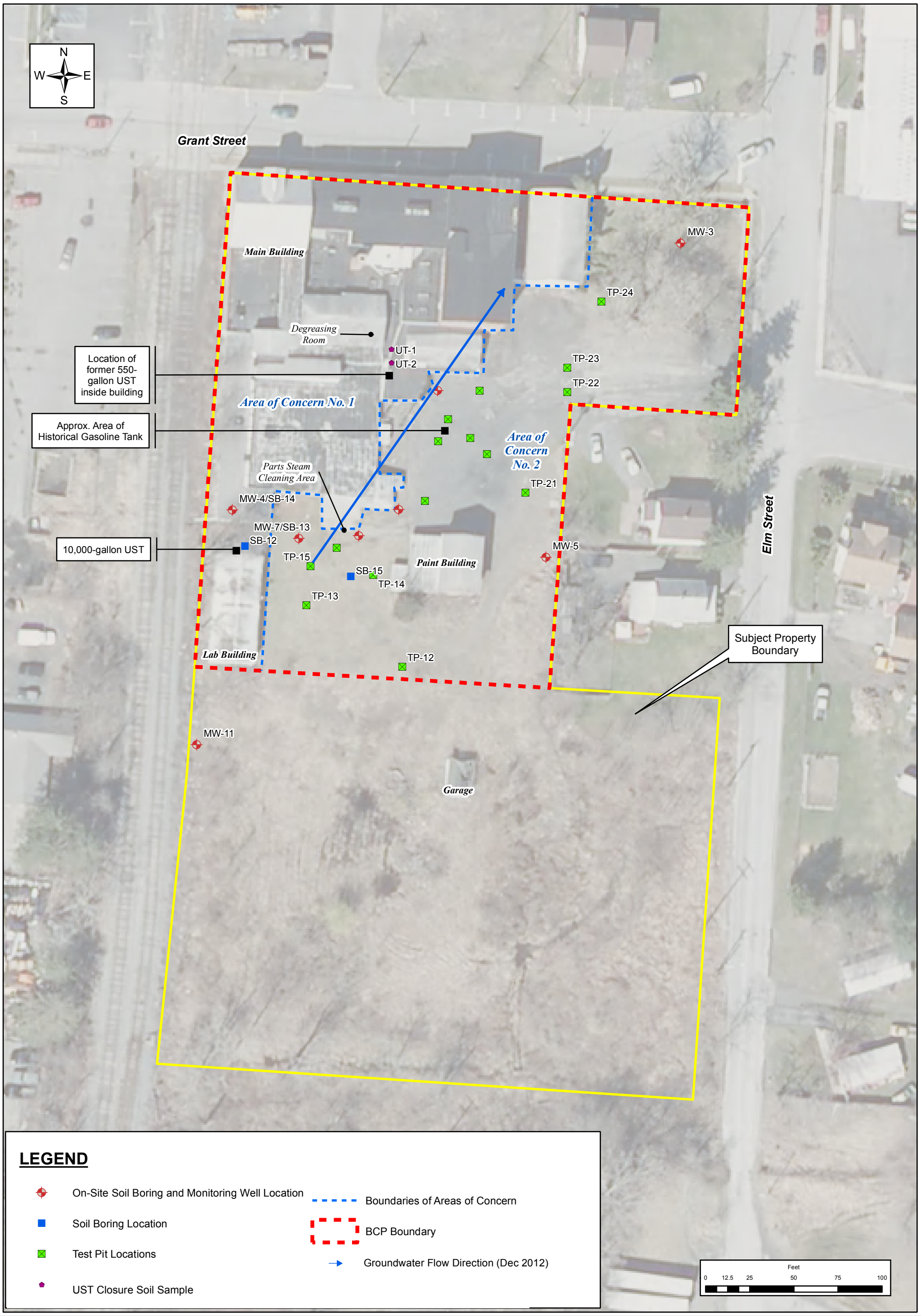
Figure 4 - Indoor Air Quality & Sub-slab Vapor Sample Locations

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010;Proposed Features Drawn by Chazen, 2011-2013.

Drawn:	RL/STF
Date:	February 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	4

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F4_IA & SS Sample Locations_Jul 2013_WithBCPBoundary.mxd



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Former Packaged Lighting Systems, Inc. Site

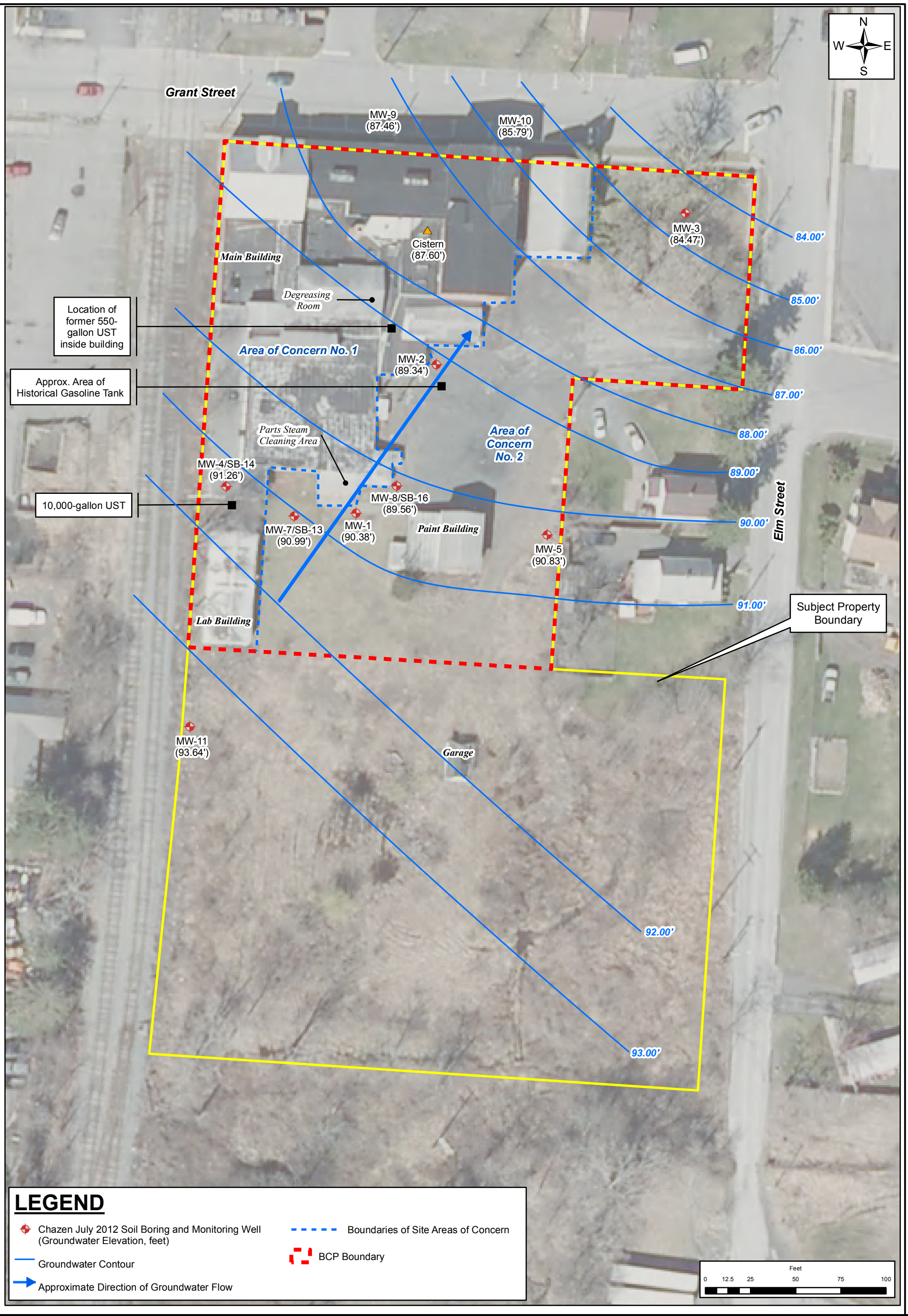
Figure 5A - Subsurface Soil Sample Locations

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010;Proposed Features Drawn by Chazen, 2011-2013.

Drawn:	RL/STF
Date:	March 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	5A

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F5A_Soil & MW Sample Locations_Jul 2013_withBCP.mxd



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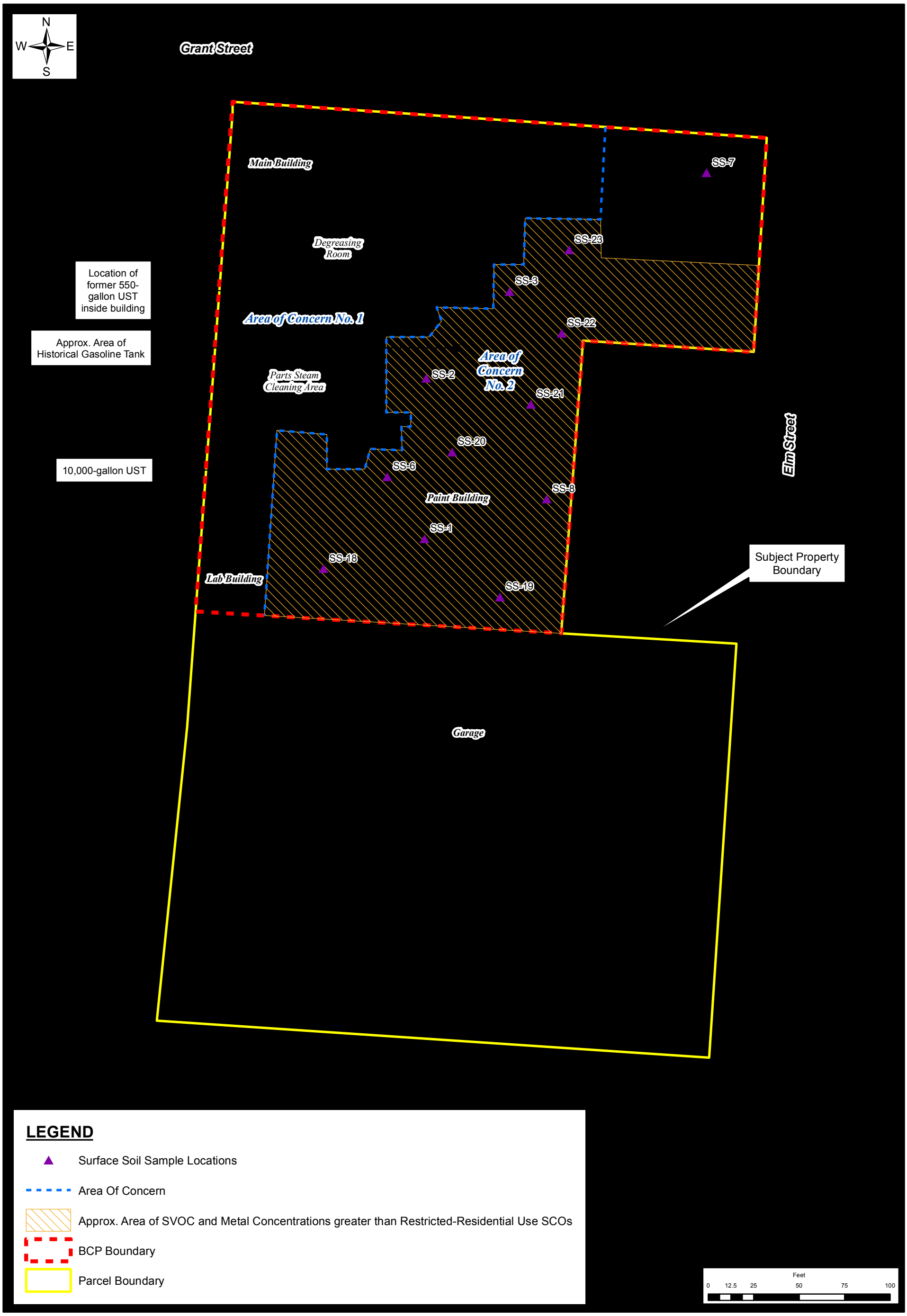
Figure 5B - Groundwater Contour Map

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010; Proposed Features Drawn by Chazen, 2011-2012.

Drawn:	EJO/STF
Date:	March 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	5B

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F5B_GW Contour_Nov 2012_WithBCPBoundary.mxd



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Former Packaged Lighting Systems, Inc. Site

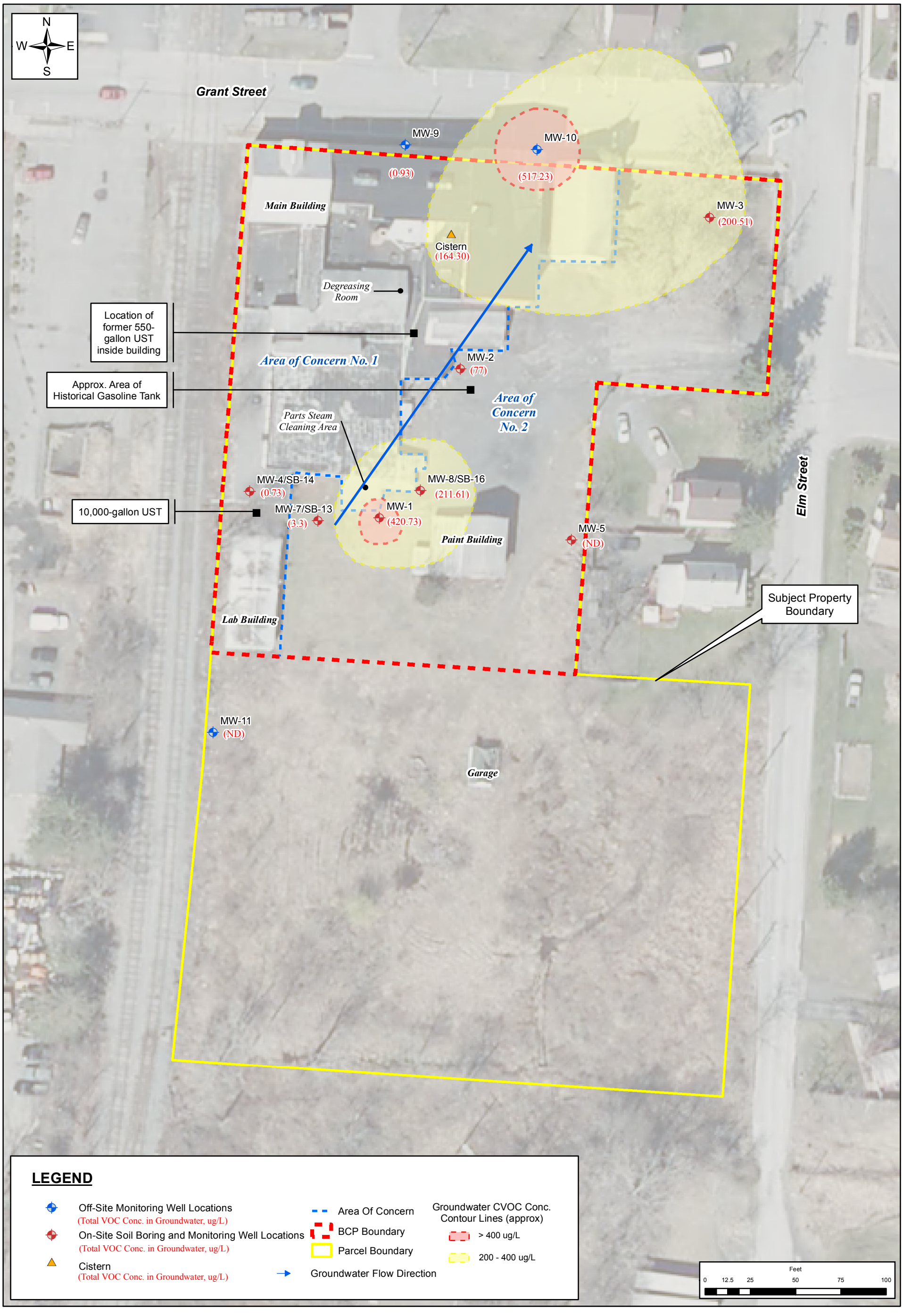
Figure 6 - Surface Soil Sample Locations Exceeding Restricted-Residential Use

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010;Proposed Features Drawn by Chazen, 2011-2013.

Drawn:	RL/STF
Date:	11/12/2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	6

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F6_Surface Soil SVOC and Metals_Jul 2013_with BCP Boundary.mxd



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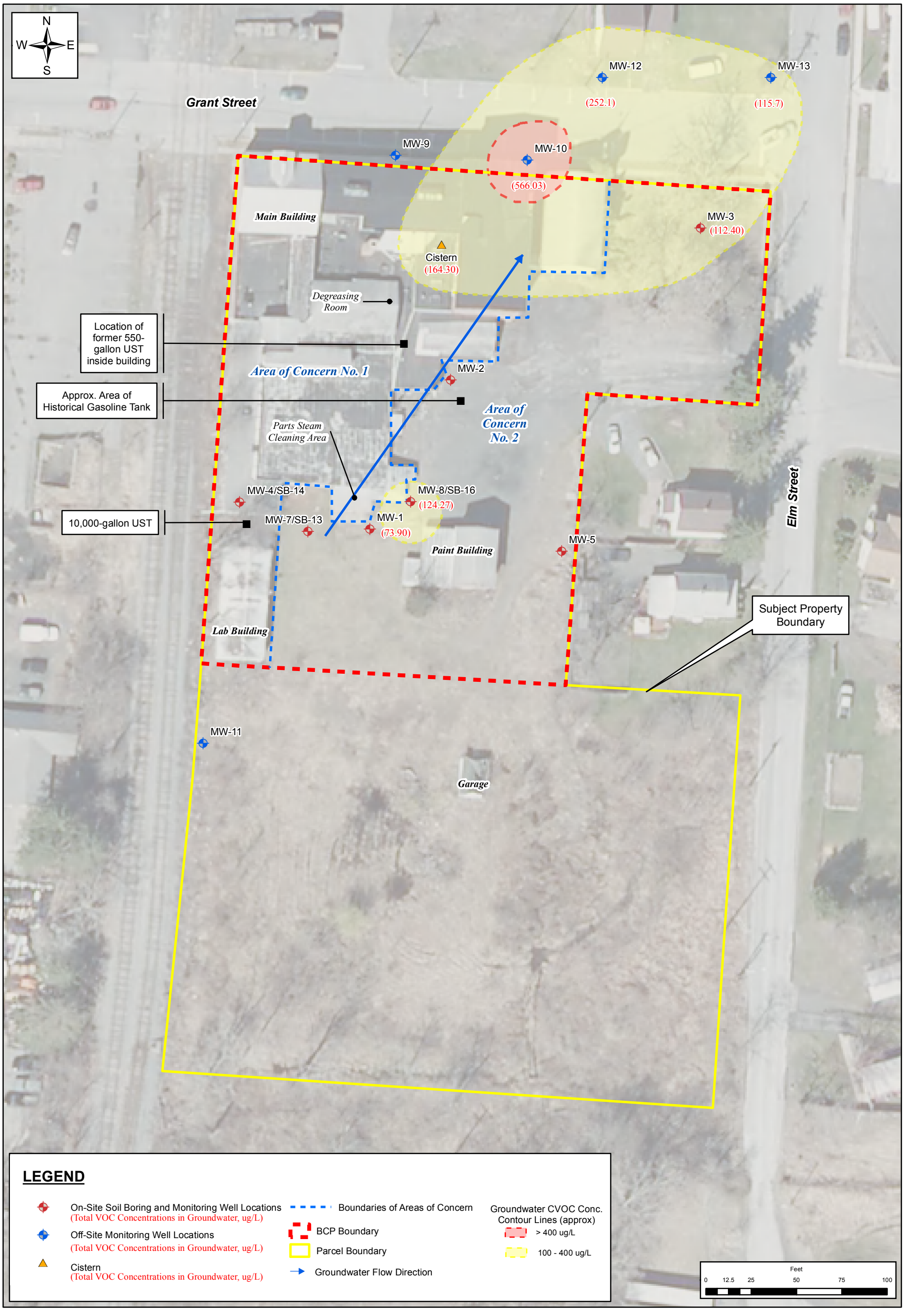
Figure 7A - CVOC Concentrations in Groundwater September 2012

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010;Proposed Features Drawn by Chazen, 2011-2013.

Drawn:	RL/STF
Date:	March 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	7A

Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F7A_2012 GW Concentrations_Jul 2013_revised07302014_WithBCPBOundary.mxd



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Former Packaged Lighting Systems, Inc. Site

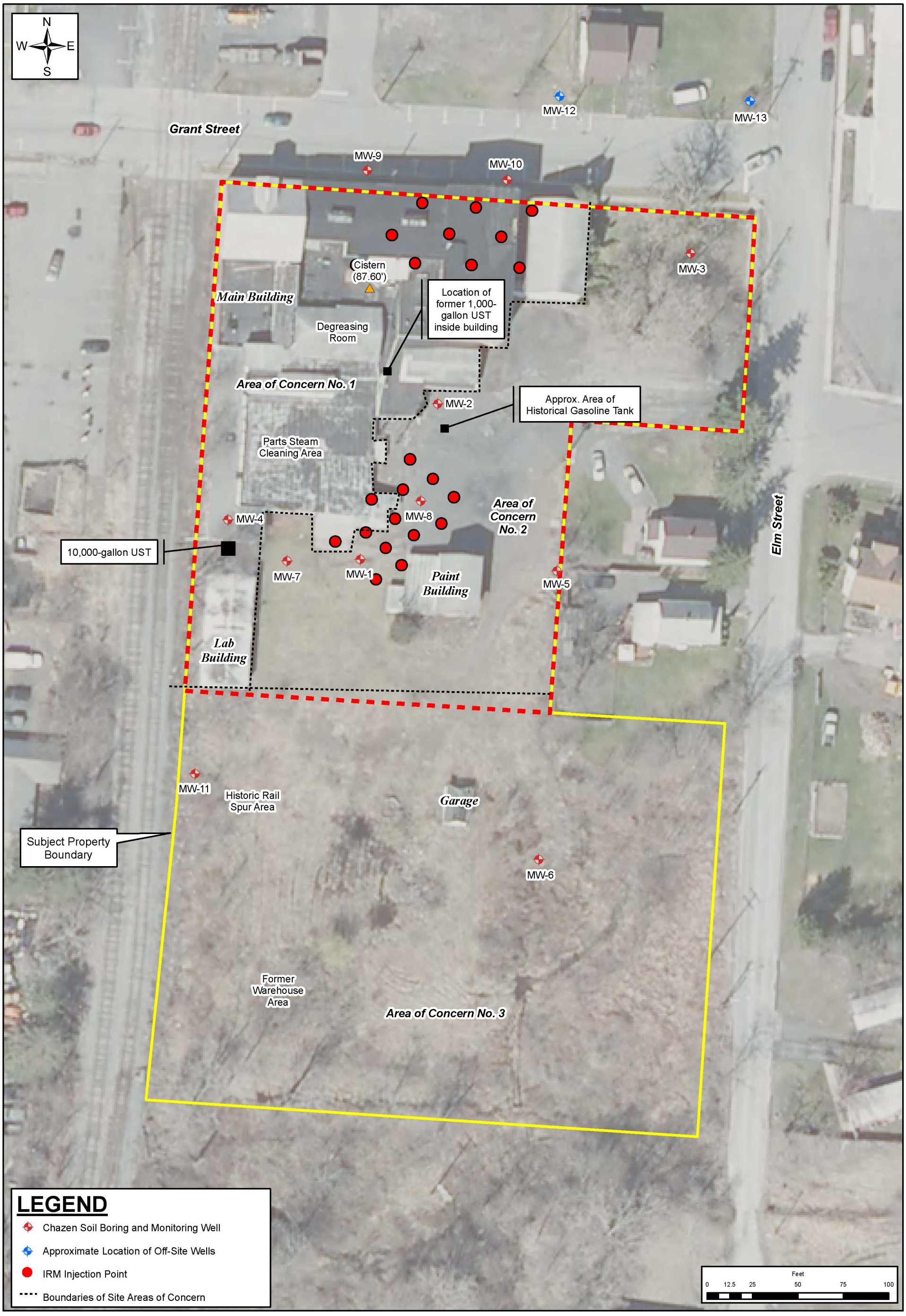
Figure 7B - CVOC Concentrations in Groundwater May 2013

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010;Proposed Features Drawn by Chazen, 2011-2013.

Drawn:	RL/STF
Date:	March 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	7B

Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\RI\RI Report\Figures\GIS Maps\F7B_2013 GW Concentrations_Jul 2013_revised07302014_WithBCPBOundary.mxd



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Former Packaged Lighting Systems, Inc. Site

Figure 8 - IRM Injection Point Locations

29 Grant Street
Town of Walden, Orange County, New York

Source: NYS Department of Homeland Security and Emergency Services 2010 Orthoimagery; Existing Sample Locations and Site Features from Going Phase II, 2010; Proposed Features Drawn by Chazen, 2011-2012.

Drawn:	STF
Date:	November 2015
Scale:	1 inch equals 50 feet
Project:	41115.00
Figure:	8

Document Path: X:\4\41100-41199\41115.00 Hilzen BCP Walden NY\R\RI Report\Figures\GIS Maps\F8_IRM Injection Point Locations.mxd

Appendix A: Test Pit, Soil Boring, and Monitoring Well Construction Logs

TEST PIT LOGS

TEST PIT #: TP-1

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Asphalt over misc. fill materials: coal ash, silty soil, brick fragments
3 – 6		No	Brown-grey mottled silty CLAY Water table not encountered
7 – 20			End of test pit at 6.5 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-2

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Asphalt over misc. fill materials: metallic milling waste, silty soil, coal ash Perched water present on top of clay layer
3 – 6	0.0	No	Brown-grey mottled silty CLAY Water table not encountered
7 – 20			End of test pit at 6 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-3

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Soil and misc. fill materials: scrap metal, brick, broken glass, bx cable, sand-like material with orange-red coloring Perched water on clay layer
3 – 4		No	Grey-brown silty CLAY
4 – 5	0.0		Water flowing in to pit from top of clay.
5 – 20			End of test pit at 5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-4

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3	0.2	No	Dark brown soil and misc. fill materials: ash, brick, tire
4 – 5		No	Grey-brown mottled silty CLAY Water table not encountered.
6 – 20			End of test pit at 5 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-5

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Dark brown soil with misc. fill materials: brick fragments, lumber, metallic fillings Water perched on top of clay.
3 – 7	0.0	No	grey-brown silty CLAY, trace organic matter, dense Water table not encountered.
8 – 20			End of test pit at 7.5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-6

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1		No	Dark brown soil with fill materials: ash, wood matter Water perched on top of clay.
2 – 6	0.0	No	Grey-brown mottled silty CLAY, dense Water table not encountered.
7 – 20			End of test pit at 6 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-7

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1		No	dark brown soil with misc. fill materials: metal drum lid, metal strap, coal-like material, wood fragments, shale fragments Water perched on top of clay.
2 – 4	0.0	No	Grey-brown mottled silty CLAY, dense Water table not encountered.
5 – 20			End of test pit at 4 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT #: TP-8

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/5/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		None	Dark brown soil and misc. fill materials: approximately 10 flattened rusty metal drums, lumber, shale fragments, brick, unidentified metal waste. Water perched on top of clay.
3 – 5	0.0	None	Grey-brown silty CLAY, trace organic matter, dense. Water table not encountered.
6 – 20			End of test pit at 5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-9

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1			Brown soil and misc. fill materials: brick, boulders, wooden debris, cobbles, large pieces of asphalt.
2			
3		No	
4	0.0		Water flowing in to pit from west side at approx. 4 feet bgs.
5			8-inch thick layer or piece of asphalt at 5 feet bgs.
6			
7	0.0	No	Grey-brown mottled silty CLAY, slightly moist, dense
8			End of test pit at 7 feet bgs.
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-10

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1–5		No	Metal plate atop a 6 to 8-inch thick asphalt slab Misc. fill materials: ash, brick, silty clay, boulders
6–9	199 427	Petroleum-like	Grey-brown mottled silty CLAY Water with sheen flowing in to pit from west side between 8.5 and 9 feet bgs
10–20			End of test pit at 9 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-11

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Metal plate at grade over a 6 to 8-inch asphalt slab. Misc fill materials: ash, brick, clayey soil
3 – 10	0.0	No	Grey-brown mottled silty CLAY, dense, dry to slightly moist
11 – 20			End of test pit at 10 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT #: TP-12

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Concrete filled 55-gallon metal drum, oriented vertically Misc. fill materials: clayey soil, ash, small pieces of rusted metal.
4 – 5	0.3	No	Grey-brown mottled silty CLAY, dense
6 – 20			End of test pit at 5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-13

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Dark brown clayey soil with misc. fill materials: brick, trace ash, trace gravel
4 – 7	0.1	No	Grey-brown mottled silty CLAY, dense, dry to slightly moist
8 – 20			End of test pit at 7.5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-14

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Dark brown soil with misc. fill materials: coal-like material, brick, pieces of 3/8-inch diameter metal rod, boulder
4 – 7	0.0	No	Grey-brown silty CLAY, mottled, trace organic matter, dense, dry to slightly mo
8 – 20			End of test pit at 7.5 bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-15

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Misc. fill materials: dark brown soil, ash, asphalt pieces, brick, rusty slag-like material.
4 – 7	0.0	No	Grey-brown mottled silty CLAY, dense, dry to slightly moist
8 – 20			End of test pit at 7.5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-16

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Misc. fill materials: dark brown soil, ash, asphalt pieces, brick, rusty slag-like material, oxidized copper-like material
4 – 9		No	Grey-brown mottled silty CLAY
10	2.2	No	Change to grey CLAY, wet, thixotropic, capillary fringe encountered
11 – 20			End of test pit at 9.5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-17

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/6/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1		No	Gravel driveway Brown soil and misc. fill materials: brick, unidentified pieces of metal, ash, slag-like material
2			
3			
4		No	Grey-brown mottled silty CLAY, dry to slightly moist
5			
6			
7			
8			
9	0.4		Change to grey clayey SILT, wet, capillary fringe encountered
10			End of test pit at 9.5 feet bgs.
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-18

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/7/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1–2		No	Gravel driveway Misc. fill materials: dark brown soil, brick, abundant unidentified pieces of metal 6-inch diameter pipe dipping N-NE encountered.
3–6		No	Grey-brown mottled silty CLAY, dense, dry to slightly moist
7–8			Water recovered to 8 feet bgs prior to backfilling pit.
9	0.0		Water bearing seam encountered at 9 feet bgs
10		No	f SAND and silt, mottled, wet
11–20			End of test pit at 10 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-19

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/7/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Gravel driveway Misc. fill materials: dark brown soil, brick, abundant unidentified pieces of metal, large piece of clay
3 – 8		No	Grey-brown mottled silty CLAY Water recovered to 8 feet bgs prior to backfilling pit.
9	0.0		f-c Gravel and sand, trace silt, saturated
10 – 20			End of test pit at 9.5 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT #: TP-20

Project Name: Former Packaged Lighting Systems BCP

Project # : 41115.00 Town: Walden
Date of Installation: 3/7/2012 County: Orange
Geologist: Will Olsen State: New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Gravel driveway Misc. fill materials: brick, ash, rusty-colored soil
3 – 7		No	Grey-brown mottled silty CLAY, dense, trace Gravel at 7 feet bgs Water recovered to 7.5 feet bgs prior to backfilling pit.
8 – 9	0.0	No	f brown silty SAND, f-c gravel, cobbles wet at 8.5 feet bgs
10 – 20			End of test pit at 9 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-21

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/7/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1–3		No	Gravel driveway Misc. fill materials: brick, coal, ash, unidentified metal pieces, dark brown soil 3-pipes (1-inch diameter, 2-inch diameter (2)) oriented east-west encountered 2-3 feet bgs
4–8	0.0	No	Brown-grey silty CLAY, dense, dry to slightly-moist, mottled Water table not encountered.
9–20			End of test pit at 8 feet bgs on bedrock or large rock.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT #: TP-22

Project Name: Former Packaged Lighting Systems BCP

Project # : 41115.00 Town: Walden
Date of Installation: 3/7/2012 County: Orange
Geologist: Will Olsen State: New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Gravel driveway Misc. fill materials: ash, brick, cobbles, dark brown soil
3 – 8		No	Grey-brown mottled silty CLAY Cobbles and boulders present, becoming more till-like: silty clay with f-Gravel
9 – 10	0.0	No	f SAND, trace silt, f-c Gravel, cobbles, wet at 9 feet
11 – 20			End of test pit at 10 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT #: TP-23

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/7/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 2		No	Gravel driveway Misc. fill materials: ash, brick, cobbles, dark brown soil
3 – 8		No	Grey-brown mottled silty CLAY Cobbles and boulders present, becoming more till-like: silty clay with f-Gravel
9 – 10	0.0	No	f SAND, trace silt, f-c Gravel, cobbles, wet at 9 feet
11 – 20			End of test pit at 10 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-24

Project Name: Former Packaged Lighting Systems BCP

Project # : 41115.00 Town: Walden
Date of Installation: 3/7/2012 County: Orange
Geologist: Will Olsen State: New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1		No	Gravel driveway over small concrete pad Misc. fill materials: soil, concrete block, brick; encountered buried 12-3 AWG electic cable and 3/4-inch HDPE pipe
2 – 6		No	Brown silty CLAY with boulders, moderately dense, till-like Water flowing in to pit at 6 feet bgs.
7	0.0	No	Grey f-SAND, f-c Gravel, tree roots present, saturated
8 – 20			End of test pit at 7.5 feet bgs

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST PIT LOGS

TEST PIT #: TP-25

Project Name: Former Packaged Lighting Systems BCP

Project # :	41115.00	Town:	Walden
Date of Installation:	3/7/2012	County:	Orange
Geologist:	Will Olsen	State:	New York

DEPTH (feet)	PID Reading (ppm)	ODOR	DESCRIPTION
1 – 3		No	Dark brown clayey soil with misc. fill materials: brick, broken rock
4 – 9	0.0	No	Brown-grey mottled silty CLAY, f-c angular f-c Gravel, shale cobbles and boulders, till-like Water bearing seam at 7.5 feet bgs flowing in to pit.
10 – 20			End of test pit at 9 feet bgs.

NOTES: All test pits were approx. 3 ft wide by 6 ft long, except TP-21 (3 ft by 15 ft).

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-1**
Total Depth: 10 ft.

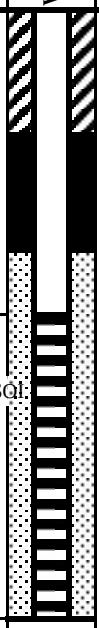
Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~353 ft.

Northing: -
Easting: -
Longitude: 74.184544 W
Latitude: 41.558512 N

Borehole Dia.: 2.25 in.
Depth to Water: 7.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	28	0.0	0.0		2" dark brown topsoil
1	-1						SM	12" silty SAND, dark brown, some fragments of concrete, coal ash, slag, dry, NOSOI
2	-2						CL	14" silty CLAY, mottled brown and grey, dry to moist, NOSOI
3	-3							
4	-4							
5	-5							
			2	52	0.0	0.0	CL	24" SAA, moist to wet, NOSOI
6	-6						ML	20" SILT, brown, some clay, wet, NOSOI
							CL	8" clayey SILT, grey, trace fine to medium sub-rounded gravel, wet, NOSOI
7	-7							
8	-8							
9	-9							
10	-10							
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 7.5 feet bgs.*
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							



Well Diagram

Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Stick-up
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 10' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 10' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 10' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-2**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~351 ft.

Northing: -
Easting: -
Longitude: 74.184379 W
Latitude: 41.558379 N

Borehole Dia.: 2.25 in.
Depth to Water: 7 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:	Well Diagram	Field Notes, Well Notes, Comments:
			1	28	0.0	0.0	SM	16" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI		Well Type: Monitoring Well Finish: Stick-up Reference Pt.: TOC - PVC Reference Pt. El.:
1	-1									
							CL	12" CLAY, mottled brown and grey, dry to moist, NOSOI		
2	-2									
3	-3									
4	-4									
5	-5									Well installed to 10' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 10' bgs. Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 10' bgs.
			2	44	0.0	0.0	CL	16" SAA, moist to wet, NOSOI		
6	-6						CL	20" clayey SILT, brown, trace fine to medium sub-rounded gravel, wet, NOSOI		
7	-7						SW	8" SAND, brown, fine to coarse, some fine to medium sub-rounded gravel, wet, NOSOI		
8	-8									
9	-9									
10	-10									
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 7.0 feet bgs.*		
12	-12									
13	-13									
14	-14									
15	-15									
16	-16									
17	-17									
18	-18									
19	-19									
20	-20									

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-3**
Total Depth: 20 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

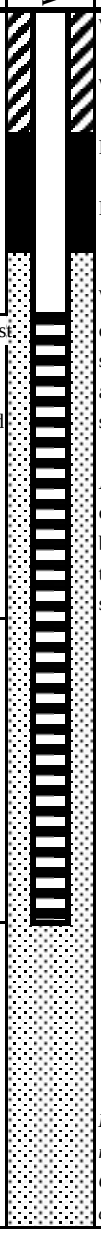
Start Date: 7/24/2012
Finish Date: 7/24/2012
El. Datum: NAD 83
G.S. Elevation: ~347 ft.

Northing: -
Easting: -
Longitude: 74.183883 W
Latitude: 41.558974 N

Borehole Dia.: 2.25 in.
Depth to Water: 6.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
1	-1							No recovery, sleeve jammed in sampler barrel and sampled soils dropped out while extracting sleeve.
2	-2							
3	-3							
4	-4							
5	-5							
			1	44	0.0	0.0	CL	6" silty CLAY, mottled brown and grey, few angular rock fragments, moist to wet, NOSOI
6	-6							
							SM	8" silty fine SAND, grey, wet, NOSOI
7	-7						SP	10" SAND, fine to coarse, brownish grey, little silt, little fine sub-rounded gravel, wet, NOSOI
8	-8						CL	12" silty CLAY, brown, little fine sub-rounded gravel, wet, NOSOI
							SW	8" gravelly SAND, brown, little silt, wet, NOSOI
9	-9							
10	-10							
			2	26	0.0	0.0	GP	26" fine to medium GRAVEL, brown, sub-angular to sub-rounded, little fine to coarse sand, little silt, wet, NOSOI
11	-11							
12	-12							
13	-13							
14	-14							
15	-15							
			3	30	0	0.0	GP	2" SAA, wet, NOSOI
16	-16							16" silty CLAY, grey, some fine to medium sub-rounded gravel and/or rock fragments, little fine to coarse sand, wet, NOSOI
17	-17							12" SAA, very stiff, moist to dry
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Stick-up
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 15' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 15' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 20' bgs.

End of boring at 20 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.5 feet bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-5**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

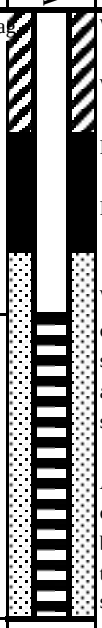
Start Date: 7/24/2012
Finish Date: 7/24/2012
El. Datum: NAD 83
G.S. Elevation: ~350 ft.

Northing: -
Easting: -
Longitude: 74.184150 W
Latitude: 41.558490 N

Borehole Dia.: 2.25 in.
Depth to Water: 7 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
1	-1		1	48	0.0	0.0	SM	14" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
							CL	34" CLAY, mottled brown and grey, dry to moist, NOSOI
2	-2							
3	-3							
4	-4							
5	-5							
			2	44	0.0	0.0	CL	7" SAA, moist to wet, NOSOI
6	-6						CL	21" clayey SILT, brown, wet, NOSOI
							CL	16" silty CLAY, grey, some fine to medium sub-rounded gravel, little fine sand, stiff, moist, NOSOI
7	-7							
8	-8							
9	-9							
10	-10							
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 7.0 feet bgs.*
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Stick-up
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 10' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 10' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 10' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-6**
Total Depth: 13 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

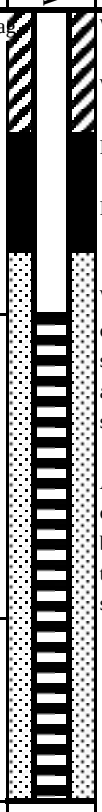
Start Date: 7/25/2012
Finish Date: 7/25/2012
El. Datum: NAD 83
G.S. Elevation: ~351 ft.

Northing: -
Easting: -
Longitude: 74.183982 W
Latitude: 41.558092 N

Borehole Dia.: 2.25 in.
Depth to Water: 7 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
1	-1		1	40	0.0	0.0	SM	11" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
							CL	29" silty CLAY, mottled brown and grey, dry to moist, NOSOI
2	-2							
3	-3							
4	-4							
5	-5							
6	-6		2	42	0.0	0.0	CL	12" SAA, moist to wet, NOSOI
							CL	18" silty CLAY, light brown, wet, NOSOI
							CL	12" clayey SILT, grey, stiff, moist to wet
7	-7							fine sand, moist, stiff, NOSOI
8	-8							
9	-9							
10	-10							
11	-11		3	36	0.0	0.0	CL	12" SAA, wet, thixotropic
							SM	3" fine sandy SILT, brown, little clay, wet, NOSOI
							SW	21" gravelly fine SAND, brown, some silt, wet, NOSOI
12	-12							
13	-13							
14	-14							*End of boring at 13 feet bgs, due to refusal, probably on a boulder.* *Groundwater encountered at approximately 7.0 feet bgs.*
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Stick-up
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 13' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 13' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 13' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-9**
Total Depth: 18 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

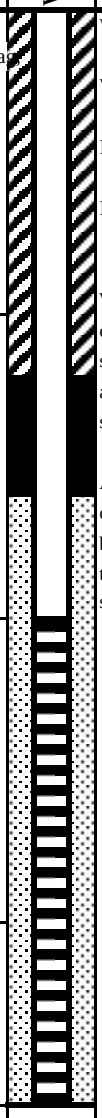
Start Date: 7/24/2012
Finish Date: 7/24/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.183982 W
Latitude: 41.558092 N

Borehole Dia.: 2.25 in.
Depth to Water: 7 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	26	0.0	0.0		2" dark brown topsoil
1	-1						SM	11" silty SAND, brown to black, some fragments of concrete, coal ash, sla dry, NOSOI
2	-2						SM	4" sandy SILT, brown, some fine sub-rounded gravel, moist, NOSOI
3	-3							
4	-4							
5	-5							
			2	24	0.0	0.0	SM	24" SAA, moist, NOSOI
6	-6							
7	-7							
8	-8							
9	-9							
10	-10							
			3	18	0.0	0.8	SM	4" SAA, moist, no odor
11	-11						SM	10" gravelly fine to medium SAND, grey, some angular rock fragments, moist to wet, no odor
12	-12						CL	4" silty CLAY, grey, some fine to medium sub-angular gravel, little fine sand, moist to wet, no odor
13	-13							
14	-14							
15	-15							
			4	30	0	0.0	CL	8" SAA, wet, NOSOI
16	-16						SM	22" silty SAND, grey, some fine to medium sub-angular gravel, little clay, moist, NOSOI
17	-17							
18	-18							
								End of boring at 18 feet bgs, due to refusal, probably on a boulder.
19	-19							*Groundwater encountered at approximately 14.0 feet bgs.*
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Flush Mount
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 18' bgs, consisting of 1" diameter solid PVC riser 0 to 10' bgs and 1" diameter, 0.010" slot PVC screen 10 to 18' bgs.

Annular space fill consists of native soil backfill 0 to 6' bgs, 1/4" bentonite clay tablets 6 to 8' bgs and No. 2 silica well sand 8 to 18' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-10**
Total Depth: 20 ft.

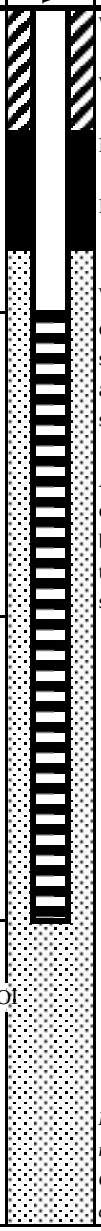
Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/24/2012
Finish Date: 7/24/2012
El. Datum: NAD 83
G.S. Elevation: ~350 ft.

Northing: -
Easting: -
Longitude: 74.184229 W
Latitude: 41.559078 N

Borehole Dia.: 2.25 in.
Depth to Water: 7.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	18	0.0	0.0		3" dark brown topsoil
1	-1						SM	6" silty SAND, dark brown, some fine to medium sub-angular gravel, dry to moist, NOSOI
2	-2						SM	4" fine sandy SILT, orange-brown, some fine to medium sub-angular gravel, wet, NOSOI
3	-3						SM	5" silty SAND, dark brown, some fine to medium sub-angular gravel, dry to moist, NOSOI
4	-4							
5	-5							
			2	30	0.0	0.0	SM	2" SAA, dry to moist
6	-6						CL	28" silty CLAY, brown, some fine to medium sub-angular gravel, little fine to medium sand, moist to wet, NOSOI
7	-7							
8	-8							
9	-9							
10	-10							
			3	40	0.0	0.0	CL	32 " SAA, wet, NOSOI
11	-11						ML	8" SILT, grey, some fine to medium sub-angular gravel and/or rock fragments, little fine to medium sand, little clay, moist, stiff, NOSOI
12	-12							
13	-13							
14	-14							
15	-15							
			4	38	0	0.0	GM	6" gravelly SILT, borwn, little fine to medium sand, wet, NOSOI
16	-16						SP	24" fine SAND, brown, little fine sub-rounded gravel, wet, NOSOI
							SM	8" fine sandy SILT, grey, little fine sub-rounded gravel, moist, stiff, NOSOI
17	-17							
18	-18							
19	-19							
20	-20							



Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Flush Mount
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 15' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 15' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 20' bgs.

End of boring at 20 feet bgs, refusal not encountered. Groundwater encountered at approximately 7.5 feet bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-11**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

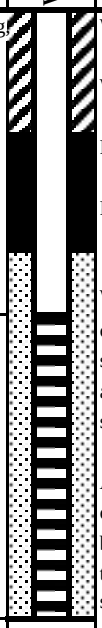
Start Date: 7/24/2012
Finish Date: 7/24/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.184892 W
Latitude: 41.558196 N

Borehole Dia.: 2.25 in.
Depth to Water: 6 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
1	-1		1	24	0.0	0.0	SM	6" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
							CL	16" silty CLAY, mottled light brown and grey, dry to moist, NOSOI
2	-2						CL	2" silty CLAY, light brown, some fine sub-rounded garvel, moist, stiff, NOSOI
3	-3							
4	-4							
5	-5							
			2	30	0.0	0.0	CL	6" SAA, moist to wet, NOSOI
6	-6						CL	24" GRAVEL, light brown, some angular rock fragments, little silty sand, wet, NOSOI
7	-7							
8	-8							
9	-9							
10	-10							
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.0 feet bgs.*
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Stick-up
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 10' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 10' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 10' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-6**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/25/2012
Finish Date: 7/25/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.184779 W
Latitude: 41.558227 N

Borehole Dia.: 2.25 in.
Depth to Water: 8.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:	Well Diagram	Field Notes, Well Notes, Comments:
			1	31	0.0	0.0		1" dark brown topsoil		Well Type:
1	-1						SM	22" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI		Well Finish:
2	-2						CL	8" CLAY, mottled brown and grey, little silt, trace fill debris (coal ash, slag), dry to moist, NOSOI		Reference Pt.:
3	-3									Reference Pt. El.:
4	-4									
5	-5									
			2	50	0.0	0.0	CL	31" CLAY, mottled brown and grey, little silt, moist to wet, NOSOI		
6	-6						CL	17" silty CLAY, brown to grey, some fine sand, some fine to medium sub-angular gravel, moist to wet, NOSOI		
7	-7							2" angular rock fragments, wet, NOSOI		
8	-8									
9	-9									
10	-10									
								End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 8.5 feet bgs.		
11	-11									
12	-12									
13	-13									
14	-14									
15	-15									
16	-16									
17	-17									
18	-18									
19	-19									
20	-20									

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-8**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/25/2012
Finish Date: 7/25/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.184364 W
Latitude: 41.557955 N

Borehole Dia.: 2.25 in.
Depth to Water: 6.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:	Well Diagram	Field Notes, Well Notes, Comments:
			1	46	0.0	0.0	SM	14" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI		Well Type:
1	-1						CL	32" CLAY, mottled brown and grey, little silt, moist, NOSOI		Well Finish:
2	-2									Reference Pt.:
3	-3									Reference Pt. El.:
4	-4									
5	-5									
			2	44	0.0	0.0	CL	34" SAA, moist to wet, NOSOI		
6	-6						ML	10" SILT, grey, little clay, wet, thixotropic, NOSOI		
7	-7									
8	-8									
9	-9									
10	-10									
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.5 feet bgs.*		
12	-12									
13	-13									
14	-14									
15	-15									
16	-16									
17	-17									
18	-18									
19	-19									
20	-20									

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-10**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/25/2012
Finish Date: 7/25/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.184397 W
Latitude: 41.558148 N

Borehole Dia.: 2.25 in.
Depth to Water: 6 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:	Well Diagram	Field Notes, Well Notes, Comments:
			1	31	0.0	0.0	SM	15" silty SAND, brown to black, some fragments of concrete, coal ash, slag,		Well Type:
1	-1							dry, NOSOI		
							CL	16" CLAY, mottled brown and grey, little silt, moist, NOSOI		Well Finish:
2	-2									
										Reference Pt.:
3	-3									
										Reference Pt. El.:
4	-4									
5	-5									
			2	45	0.0	0.0	CL	22" SAA, moist to wet, NOSOI		
6	-6						ML	23" SILT, brown, some fine to medium sub-angular gravel, little fine to		
								medium sand, little clay, wet, NOSOI		
7	-7									
8	-8									
9	-9									
10	-10									
								End of boring at 10 feet bgs, refusal not encountered. Groundwater		
11	-11							*encountered at approximately 6.0 feet bgs.*		
12	-12									
13	-13									
14	-14									
15	-15									
16	-16									
17	-17									
18	-18									
19	-19									
20	-20									

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-12**
Total Depth: 15 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~354 ft.

Northing: -
Easting: -
Longitude: 74.184782 W
Latitude: 41.558501 N

Borehole Dia.: 2.25 in.
Depth to Water: 7.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	28	0.0	0.0	SM	14" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
1	-1						CL	14" silty CLAY, mottled brown and grey, dry to moist, faint petroleum odor
2	-2							
3	-3							
4	-4							
5	-5							
			2	57	0.0	0.0	CL	26" SAA, dry to moist, NOSOI
6	-6				0.0	0.0	ML	25" SILT, brown, some fine sand, little to medium sub-angular gravel, wet, NOSOI
7	-7				0.0	0.0	SW	6" gravelly SAND, grey, wet, slight petroleum odor
8	-8							
9	-9							
10	-10							
			3	14	7.7	6.9	SW	6" SAA, wet, petroleum odor
11	-11				0.0	0.0	SM	8" silty fine SAND, grey, some fine to coarse sub-rounded gravel, wet, NOSOI
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							*End of boring at 15 feet bgs, refusal not encountered. Groundwater encountered at approximately 7.5 feet bgs.*
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram

Field Notes, Well Notes, Comments:

Well Type:

Well Finish:

Reference Pt.:

Reference Pt. El.:

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-13 / MW-7**
Total Depth: 15 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

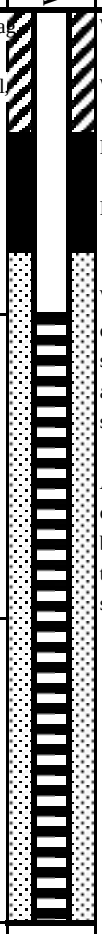
Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~353 ft.

Northing: -
Easting: -
Longitude: 74.184669 W
Latitude: 41.558516 N

Borehole Dia.: 2.25 in.
Depth to Water: 6.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
1	-1		1	28	0.0	0.0	SM	16" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
							CL	12" silty CLAY, mottled brown and grey, trace coarse sub-rounded gravel,
2	-2							dry, NOSOI
3	-3							
4	-4							
5	-5							
6	-6		2	54	0.0	0.0	CL	16" SAA, moist to wet, NOSOI
							SM	26" fine sandy SILT, mottled brown and grey, wet, NOSOI
7	-7						SM	12" fine sandy SILT, brown, wet, NOSOI
8	-8							
9	-9							
10	-10							
11	-11		3	48	0.0	0.0	SM	36" SAA, wet, NOSOI
							SW	12" gravelly SAND, brownish grey, wet, NOSOI
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							*End of boring at 15 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.5 feet bgs.*
17	-17							NOTE: While soils did not exhibit any obvious signs of impact, groundwater extracted from this well exhibited a slight sheen and an odor of petroleum (weathered fuel oil).
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Stick-up
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 15' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 15' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 15' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-14 / MW-4**
Total Depth: 15 ft.

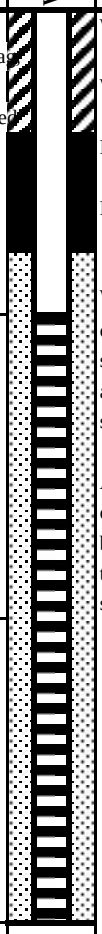
Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~354 ft.

Northing: -
Easting: -
Longitude: 74.184804 W
Latitude: 41.558560 N

Borehole Dia.: 2.25 in.
Depth to Water: 7.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	39	0.0	0.0		4" concrete
1	-1						SM	14" silty SAND, brown to black, some fragments of concrete, coal ash, sla dry, NOSOI
2	-2						CL	21" silty CLAY, mottled brown and grey, little fine to medium sub-rounde gravel, dry, NOSOI
3	-3							
4	-4							
5	-5							
			2	40	0.0	0.0	CL	2" SAA, moist, NOSOI
6	-6						CL	18" clayey SILT, light brown, moist to wet, NOSOI
							SP	8" fine SAND, brown, wet, NOSOI
7	-7						SW	6" fine to coarse SAND, brown, wet, NOSOI
							SM	6" silty fine SAND, brown, wet, NOSOI
8	-8							
9	-9							
10	-10							
			3	12	0.0	0.0	SM	12" silty SAND, grey, some clay, some fine to medium sub-angular to
11	-11							sub-rounded gravel, wet, stiff, NOSOI
12	-12							
13	-13							
14	-14							
15	-15							
								End of boring at 15 feet bgs, refusal not encountered. Groundwater
16	-16							*encountered at approximately 7.5 feet bgs.*
17	-17							
18	-18							
19	-19							
20	-20							



Well Diagram

Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Stick-up
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 15' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 15' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 15' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-15**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~353 ft.

Northing: -
Easting: -
Longitude: 74.184555 W
Latitude: 41.558451 N

Borehole Dia.: 2.25 in.
Depth to Water: 7 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:	Well Diagram	Field Notes, Well Notes, Comments:
			1	34	0.0	0.0	SM	16" silty SAND, brown to black, some fragments of concrete, coal ash, slag,		Well Type:
1	-1							dry, NOSOI		
							CL	18" silty CLAY, mottled brown and grey, moist, NOSOI		Well Finish:
2	-2									
										Reference Pt.:
3	-3									
										Reference Pt. El.:
4	-4									
5	-5									
			2	50	0.0	0.0	CL	15" SAA, moist, NOSOI		
6	-6						CL	23" clayey SILT, brown, wet, NOSOI		
							CL	12" clayey SILT, grey, trace fine to medium sub-rounded gravel, wet,		
7	-7							NOSOI		
8	-8									
9	-9									
10	-10									
								End of boring at 10 feet bgs, refusal not encountered. Groundwater		
11	-11							*encountered at approximately 7.0 feet bgs.*		
12	-12									
13	-13									
14	-14									
15	-15									
16	-16									
17	-17									
18	-18									
19	-19									
20	-20									

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **SB-16 / MW-8**
Total Depth: 10 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: Anthony Palomeque
Inspector: Eric Orlowski

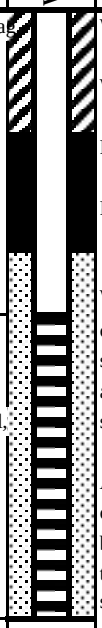
Start Date: 7/23/2012
Finish Date: 7/23/2012
El. Datum: NAD 83
G.S. Elevation: ~352 ft.

Northing: -
Easting: -
Longitude: 74.184425 W
Latitude: 41.558597 N

Borehole Dia.: 2.25 in.
Depth to Water: 6.5 ft.
Depth to Rock: NE ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
0			1	26	0.0	0.0	SM	14" silty SAND, brown to black, some fragments of concrete, coal ash, slag, dry, NOSOI
1	-1						CL	12" silty CLAY, mottled brown and grey, moist, NOSOI
2	-2							
3	-3							
4	-4							
5	-5							
			2	48	0.0	0.0	CL	20" SAA, moist to wet, NOSOI
6	-6						CL	24" clayey SILT, brown, trace fine to medium sub-rounded gravel, wet, NOSOI
7	-7						SP	4" fine to coarse SAND, brown, some fine to medium sub-rounded gravel, wet, NOSOI
8	-8							
9	-9							
10	-10							
11	-11							*End of boring at 10 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.5 feet bgs.*
12	-12							
13	-13							
14	-14							
15	-15							
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Stick-up
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 10' bgs, consisting of 1" diameter solid PVC riser 0 to 5' bgs and 1" diameter, 0.010" slot PVC screen 5 to 10' bgs.

Annular space fill consists of native soil backfill 0 to 2' bgs, 1/4" bentonite clay tablets 2 to 4' bgs and No. 2 silica well sand 4 to 10' bgs.

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
bgs = below ground surface
SAA = Same as Above
** : Soil Group Symbol not provided for materials outside of USCS groups

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-12**
Total Depth: 15 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: John Theiling
Inspector: Will Olsen

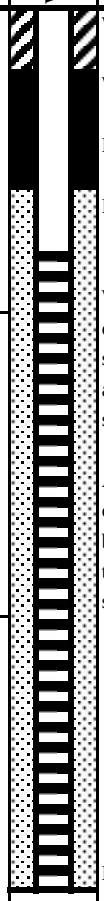
Start Date: 5/15/2013
Finish Date: 5/15/2013
El. Datum: NAD 83
G.S. Elevation: ~344 ft.

Northing: -
Easting: -
Longitude: 74.184066 W
Latitude: 41.559213 N

Borehole Dia.: 2.25 in.
Depth to Water: 8 ft.
Depth to Rock: >15 ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
			1	3			OL/OH	dark brown organic soil
1	-1			3				SILT, brown, with coal ash
2	-2							
				9	725		ML	clayey SILT, brownish-grey, mottled, moist
3	-3							
4	-4							
5	-5							
			2	6	182		ML	SAA
6	-6							
7	-7							
				27	341		GM	mostly SAND and GRAVEL, some silt and clay, dense, bottom 14" wet
8	-8							
9	-9							
10	-10							
			3	7	110		SW	mostly c SAND and f subrounded GRAVEL, some f-m Sand, clean, loose, grey, wet
11	-11							
12	-12							
				25	269		ML	mostly SILT, little f gravel, hard, dry, top 4" brown then change to grey
13	-13							
14	-14							
15	-15							
								End of boring at 15 feet bgs, refusal not encountered. Groundwater encountered at approximately 8.0 feet bgs.
16	-16							
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type:
Monitoring
Well Finish:
Flush
Reference Pt.:
TOC - PVC
Reference Pt. El.:

Well installed to 14' bgs, consisting of 1" diameter solid PVC riser 0 to 4' bgs and 1" diameter, 0.020" slot PVC screen 4 to 14' bgs.

Annular space fill consists of native soil backfill 0 to 1.0 bgs, 3/8" bentonite clay tablets 1-3' bgs and No. 2 silica well sand 3 to 14' bgs.

Hard driving 14.5-15 feet

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

TEST BORING LOG

THE Chazen COMPANIES

21 Fox Street
Poughkeepsie, NY
12601

PROJECT: Former Packaged Lighting Services, Inc. Site
LOCATION: 29 Grant Street, Village of Walden, New York
CLIENT: Estate of Hy Hilzen
PROJECT NO.: 41115.00

Test Boring No.: **MW-13**
Total Depth: 15 ft.

Contractor: Miller Environmental Group
Drill Rig: Geoprobe 7720 DT
Driller: John Theiling
Inspector: Will Olsen

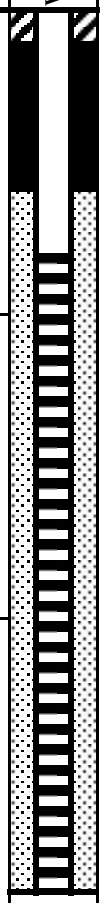
Start Date: 5/15/2013
Finish Date: 5/15/2013
El. Datum: NAD 83
G.S. Elevation: ~343 ft.

Northing: -
Easting: -
Longitude: 74.183737 W
Latitude: 41.559222 N

Borehole Dia.: 2.25 in.
Depth to Water: 6 ft.
Depth to Rock: >15 ft.

Depth (Feet)	Elevation (Feet)	Casing Data	Sample No.	Recovery (Inches)	PID (ppm)	FID (ppm)	Group Symbol	Stratum and Field Descriptions:
0			1	6			OL/OH	brown soil with f gravel
1	-1							
				2				brick
2	-2							
3	-3			8	4.5		ML	clayey SILT, brownish-grey, mottled, moist, NOSOI
4	-4							
5	-5							
6	-6		2		16.0		ML	clayey SILT, brownish-grey, mottled, changing to grey silty CLAY, wet, NOSOI
7	-7							
8	-8				8		SM	f SAND, some silt and clay, little shale gravel, wet, NOSOI
9	-9							
10	-10							
11	-11		3		12		CL	silty CLAY, trace f-c gravel, grey, wet, NOSOI
12	-12							
					14		SW	f-c SAND, some f-c gravel, little silt and clay, brown, dense, wet
13	-13							
14	-14							
15	-15				1		ML	SILT, grey, in tip
16	-16							*End of boring at 15 feet bgs, refusal not encountered. Groundwater encountered at approximately 6.0 feet bgs.*
17	-17							
18	-18							
19	-19							
20	-20							

Well Diagram



Field Notes, Well Notes, Comments:

Well Type: Monitoring
Well Finish: Flush
Reference Pt.: TOC - PVC
Reference Pt. El.:

Well installed to 14' bgs, consisting of 1" diameter solid PVC riser 0 to 4' bgs and 1" diameter, 0.020" slot PVC screen 4 to 14' bgs.

Annular space fill consists of native soil backfill 0 to 0.5 bgs, 3/8" bentonite clay tablets 0.5-3' bgs and No. 2 silica well sand 3 to 14' bgs.

Hard driving 14.5-15 feet

STANDARD NOTES: 1. Refer to the "Interpretation of Subsurface Logs" for additional symbology and abbreviation definitions.
2. Samples classified in accordance with ASTM D-2488 unless otherwise noted.
3. Test Boring Log Page 1: 0 - 20 feet Each subsequent page: Additional 25 feet.

DRILLING INFORMATION
Method: Direct Push

	Casing	Sample	Core
Type:			
Diam.:			
Weight:			
Fall:			

ADDITIONAL NOTES:
NE : Not Encountered
EOB : End of Boring
NOSOI : No Obvious Signs of Impacts
** : Soil Group Symbol not provided for materials outside of USCS groups
bgs = below ground surface
SAA = Same as Above

Appendix B: Photographic Log



Photo 1

Test Pit TP-1 in the area of geophysical anomaly and reported historical gas tank in AOC-2. No tank found.



Photo 2

Metal debris at TP-8 near the detached garage in AOC-3. Metal set aside for later recycling .



Photo 3
Uncovered concrete-filled metal drum at TP-12.



Photo 4
Removed drum from TP-12.



Photo 5
Uncovered 550-gallon UST inside of the Main Building.



Photo 6
Removed 550-gallon UST.



Photo 7
Cleaning of removed 550-gallon UST.



Photo 8
550-gallon UST after cleaning and removal.



Photo 9
Backfilled 550-gallon UST area.



Photo 10
Pumping of 10,000-gallon UST between Main Building and Lab Building in AOC-2.



Photo 11
Representative view of cleaned in-place 10,000-gallon UST.



Photo 12
Filling 10,000-gallon UST with cement slurry.



Photo 13
View of filled manhole/fill port for closed-in place 10,000-gallon UST.



Photo 14
View of cistern during cleaning. Pipes include pump and suspected roof and/or floor drain discharge pipes.



Photo 15
Sealed floor drain in degreasing room of the Main Building.



Photo 16
Sealed floor drain in the east garage area of the Main Building.



Photo 17
Sealed floor drain the warehouse area of the Main Building.



Photo 18
One of two sealed floor drains in the steam parts cleaning area of the Main Building.



Photo 19
Second sealed floor drain in the steam parts cleaning area of the Main Building.



Photo 20
View of paint material containers in the Paint Building prior to packaging and transport for disposal.



Photo 21

Overpack drums of paint materials removed from the Paint Building getting loaded for transport.



Photo 22

Paint waste transporter.

THE Chazen COMPANIES

Appendix C: Tank Closure Documents and Waste Manifests

PRIVATE
NON-HAZARDOUS
DOCUMENT OF CARGO

107507

N.Y. State 364 Permit No. 1A-041

#1 MEG ID # 510

#1 Truck License Number 60183PA

#2 MEG ID # _____

#2 Truck License Number _____

IDENTIFICATION

Company name, mailing address and telephone number

Generator: Chazen
29 Grant Street
Walden, NY
H12-0081

Transporter: **Miller Environmental Group, Inc.**
538 Edwards Avenue
Calverton, New York 11933

TSDF Treatment Storage or Disposal Facility: Bridgeport United
50 Cross St
Bridgeport, CT

WASTE INFORMATION

NON-HAZARDOUS WASTE SHIPPING DESCRIPTION	Containers No.	Containers Type	Total Quantity Gals./Lbs./Yds./Bgs.	NYSDEC Code	TSDF Code
Non RCRA, Non DOT Liquid	1	TI	206 Gals	N199	61362H

I hereby certify that the above waste description is complete and accurate, and that no component exist in the wastes which render it hazardous as defined by 6 NY CRR Section 371 and 372.

Will C. Shaw of the Chazen Company for the Estate of Hy Hilzen — Generator's Signature — Date 3/14/12

Transporter's Signature #1 — Date 3/14/12

Transporter's Signature #2 — Date

TSDF Signature — Date

PRIVATE
NON-HAZARDOUS
DOCUMENT OF CARGO

107506

N.Y. State 364 Permit No. 1A-041

#1 MEG ID # # 420

#1 Truck License Number _____

#2 MEG ID # # 123

#2 Truck License Number AL5201S (my)

IDENTIFICATION

Company name, mailing address and telephone number

Generator: Chazen
29 Grant Street
Walden, NY
H12-0081

Transporter: **Miller Environmental Group, Inc.**
538 Edwards Avenue
Calverton, New York 11933

TSDF Treatment Storage or Disposal Facility: Bridgeport United
50 Cross St.
Bridgeport, CT

WASTE INFORMATION

NON-HAZARDOUS WASTE SHIPPING DESCRIPTION	Containers No.	Containers Type	Total Quantity Gals./Lbs./Yds./Bgs.	NYSDEC Code	TSDF Code
NON RCRA, NON DOT Liquid	1	TT	4932 Gals	N199	6136LH

I hereby certify that the above waste description is complete and accurate, and that no component exist in the wastes which render it hazardous as defined by 6 NY CRR Section 371 and 372.

The Chazen Company - Will G. [illegible] 3-13-12
Generator's Signature — Date

[signature]
Transporter's Signature #1 — Date 3.13.12

Transporter's Signature #2 — Date

TSDF Signature — Date

Cranesville Block Company, Inc. 845-561-3224 Project#
Newburgh Order Number: 1045
07/25/12 TICKET # 2243145 TRUCK #493 Gonzalez Jose PO#

Miller Environmental Group, I
169 Stone Castle Road
Rock Tavern NY 12575
887

Elm St-Walden
Old Package Lighting
corner of Grant and Elm
look for Miller Envir truck

TO JOB
10.00 YD 2 2
7.65 M

	PRODUCT ID	QUANTITY	PRODUCT DESCRIPTION	UNIT	PRICE/UNIT	EXTENDED
	CFC2002	10.00	Fill Crete 2	cy		
V PLANT 0720						
T JOB 0730	FUELENV	1.00	FUELENV	ea		
START POUR 0755						
STOP POUR 0804	slump	air	SLUMP8 "			
			NOT RESPONSIBLE FOR FROZEN CONCRETE			
LEAVE JOB	plant H20	job H20	WAITING TIME CHARGED AFTER 6 MINUTES PER YARD			
ARRIVE PLANT			Jul 25, 2012			

WARNING: IRRITATION TO SKIN AND EYES. Contains Portland Cement. Avoid contact with eyes and prolonged contact with skin. Wear rubber boots and proper eye protection and gloves. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. Keep children away.

I as owner or owners representative assumes all responsibility for trucks going beyond curb and any damages to driveways, lawns, personal or private property, and any damage to our company's vehicles and obtain MSDS sheets from Cranesville.com or other sources.

AUTHORIZED SIGNATURE

REC'D BY OWNER
OR OWNER'S REPRESENTATIVE

THIS CONCRETE HAS BEEN PROPORTIONED AND MIXED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. SINCE WE HAVE NO CONTROL OVER THE USE OF THIS CONCRETE WE THEREFORE CANNOT GUARANTEE OR ASSUME RESPONSIBILITY FOR THE FINISHED WORK FOR WHICH IT IS USED.

SUB-TOTAL	
FREIGHT	
SALES TAX	
TOTAL PRICE	
BALANCE DUE	

AUTHORIZED SIGNATURE

_____ DATE _____

1125581

Cranesville Block Company, Inc. 845-561-3224 Project#
Newburgh Order Number: 1045
07/25/12 TICKET # 2243148 TRUCK #495 Ramirez Luis PO#

Miller Environmental Group, I
169 Stone Castle Road
Rock Tavern NY 12575
807

Elm St-Walden
Old Package Lighting
corner of Grant and Elm
look for Miller Envir truck

TO JOB
20.00 YD 2 2
15.29 M

	PRODUCT ID	QUANTITY	PRODUCT DESCRIPTION	UNIT	PRICE/UNIT	EXTENDED
7:45 LV PLANT	CFC2002	10.00	Fill Crete 2	cy		
8:00 AT JOB	FUELENV	1.00	FUELENV	ea		
8:07 START POUR						
8:15 STOP POUR	slump	air	SLUMP8 "			
LEAVE JOB			NOT RESPONSIBLE FOR FROZEN CONCRETE			
ARRIVE PLANT	plant H20	job H20	WAITING TIME CHARGED AFTER 6 MINUTES PER YARD			
			Jul 25, 2012			

WARNING: IRRITATION TO SKIN AND EYES. Contains Portland Cement. Avoid contact with eyes and prolonged contact with skin. Wear rubber boots and proper eye protection and gloves. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. Keep children away.

AUTHORIZED SIGNATURE

REC'D BY OWNER
OR OWNER'S REPRESENTATIVE

SUB-TOTAL
FREIGHT
SALES TAX
TOTAL PRICE
BALANCE DUE

I as owner or owners representative assumes all responsibility for trucks going beyond curb and any damages to driveways, lawns, personal or private property, and any damage to our company's vehicles and obtain MSDS sheets from Cranesville.com or other sources.

THIS CONCRETE HAS BEEN PROPORTIONED AND MIXED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. SINCE WE HAVE NO CONTROL OVER THE USE OF THIS CONCRETE WE THEREFORE CANNOT GUARANTEE OR ASSUME RESPONSIBILITY FOR THE FINISHED WORK FOR WHICH IT IS USED.

AUTHORIZED SIGNATURE

_____ DATE _____

1125584

Cranesville Block Company, Inc. 845-561-3284
Order No. 1045 Project#
07/25/12 TICKET # 2243151 TRUCK #493 Gonzalez Jose PO# 629-0316 Mark

Miller Environmental Group, I
169 Stone Castle Road
Rock Tavern NY 12575
887

Elm St-Walden
Old Package Lighting
corner of Grant and Elm
look for Miller Envir truck

TO JOB
30.00 YD ~ 2 2
22.94 M

	PRODUCT ID	QUANTITY	PRODUCT DESCRIPTION	UNIT	PRICE/UNIT	EXTENDED
C838 V PLANT	CFC2002	10.00	Fill Crete 2	cy		
AT JOB C846	FUELENV	1.00	FUELENV	ea		
START POUR C849						
STOP POUR C855	slump	air	SLUMP8 "			
			NOT RESPONSIBLE FOR FROZEN CONCRETE			
LEAVE JOB	plant H20	job H20	WAITING TIME CHARGED AFTER 6 MINUTES PER YARD			
ARRIVE PLANT			Jul 25, 2012			

WARNING: IRRITATION TO SKIN AND EYES. Contains Portland Cement. Avoid contact with eyes and prolonged contact with skin. Wear rubber boots and proper eye protection and gloves. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. Keep children away.

I as owner or owners representative assumes all responsibility for trucks going beyond curb and any damages to driveways, lawns, personal or private property, and any damage to our company's vehicles and obtain MSDS sheets from Cranesville.com or other sources.

AUTHORIZED SIGNATURE

REC'D BY OWNER
OR OWNER'S REPRESENTATIVE

THIS CONCRETE HAS BEEN PROPORTIONED AND MIXED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. SINCE WE HAVE NO CONTROL OVER THE USE OF THIS CONCRETE WE THEREFORE CANNOT GUARANTEE OR ASSUME RESPONSIBILITY FOR THE FINISHED WORK FOR WHICH IT IS USED.

SUB-TOTAL	
FREIGHT	
SALES TAX	
TOTAL PRICE	
BALANCE DUE	

AUTHORIZED SIGNATURE

_____ DATE _____

1125587

Cranesville Block Company, Inc. 845-561-3224 Project#
Newburgh Order Number: 1045
07/25/12 TICKET # 2243153 TRUCK #495 Ramirez Luis PO# 629-0316 Mark

Miller Environmental Group, I
169 Stone Castle Road
Rock Tavern NY 12575
087

Elm St-Walden
Old Package Lighting
corner of Grant and Elm
look for Miller Envir truck

TO JOB
40.00 YD 2 2
30.58 M

	PRODUCT ID	QUANTITY	PRODUCT DESCRIPTION	UNIT	PRICE/UNIT	EXTENDED
9:00 LV PLANT	CFC2002	10.00	Fill Crete 2	cy		
9:02 AT JOB	FUELENV	1.00	FUELENV	ea		
9:08 START POUR						
9:15 STOP POUR	slump	air	SLUMP8 "			
9:20 LEAVE JOB			NOT RESPONSIBLE FOR FROZEN CONCRETE			
ARRIVE PLANT	plant H20	job H20	WAITING TIME CHARGED AFTER 6 MINUTES PER YARD Jul 25, 2012			

WARNING: IRRITATION TO SKIN AND EYES. Contains Portland Cement. Avoid contact with eyes and prolonged contact with skin. Wear rubber boots and proper eye protection and gloves. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. Keep children away.

AUTHORIZED SIGNATURE

REC'D BY OWNER
OR OWNER'S REPRESENTATIVE

I as owner or owners representative assumes all responsibility for trucks going beyond curb and any damages to driveways, lawns, personal or private property, and any damage to our company's vehicles and obtain MSDS sheets from Cranesville.com or other sources.

THIS CONCRETE HAS BEEN PROPORTIONED AND MIXED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. SINCE WE HAVE NO CONTROL OVER THE USE OF THIS CONCRETE WE THEREFORE CANNOT GUARANTEE OR ASSUME RESPONSIBILITY FOR THE FINISHED WORK FOR WHICH IT IS USED.

SUB-TOTAL	
FREIGHT	
SALES TAX	
TOTAL PRICE	
BALANCE DUE	

AUTHORIZED SIGNATURE

_____ DATE _____

1125589

Cranesville Block Company, Inc. 845-561-3284
Newburgh Order Number 1045 Project#
07/25/12 TICKET # 2243156 TRUCK #493 Gonzalez Jose PO# 629-0316 Mark

Miller Environmental Group, I
169 Stone Castle Road
Rock Tavern NY 12575
887

Elm St-Walden
Old Package Lighting
corner of Grant and Elm
look for Miller Envir truck

TO JOB
50.00 YD 2 2
38.23 M

	PRODUCT ID	QUANTITY	PRODUCT DESCRIPTION	UNIT	PRICE/UNIT	EXTENDED
LV PLANT 0924	CFC2002	10.00	Fill Crete 2	cy		
AT JOB 0937	FUELENV	1.00	FUELENV	ea		
START POUR 0938						
STOP POUR 0945	slump	air	SLUMP8 "			
LEAVE JOB			NOT RESPONSIBLE FOR FROZEN CONCRETE			
ARRIVE PLANT	plant H20	job H20	WAITING TIME CHARGED AFTER 6 MINUTES PER YARD Jul 25, 2012			

WARNING: IRRITATION TO SKIN AND EYES. Contains Portland Cement. Avoid contact with eyes and prolonged contact with skin. Wear rubber boots and proper eye protection and gloves. In case of contact with skin or eyes, flush thoroughly with water. If irritation persists, get medical attention. Keep children away.

AUTHORIZED SIGNATURE

REC'D BY OWNER
OR OWNER'S REPRESENTATIVE

SUB-TOTAL	
FREIGHT	
SALES TAX	
TOTAL PRICE	
BALANCE DUE	

I as owner or owners representative assumes all responsibility for trucks going beyond curb and any damages to driveways, lawns, personal or private property, and any damage to our company's vehicles and obtain MSDS sheets from Cranesville.com or other sources.

THIS CONCRETE HAS BEEN PROPORTIONED AND MIXED IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. SINCE WE HAVE NO CONTROL OVER THE USE OF THIS CONCRETE WE THEREFORE CANNOT GUARANTEE OR ASSUME RESPONSIBILITY FOR THE FINISHED WORK FOR WHICH IT IS USED.

AUTHORIZED SIGNATURE

DATE

1125592

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
N/A	1	631-369-4900	187614

GENERATOR

5. Generator's Name and Mailing Address
The Chazen Companies
21 Fox Street
Poughkeepsie, NY 12601 US
Generator's Phone: 845-486-1658

Generator's Site Address (if different than mailing address)
Chazen Engineering
29 Grant Street
Walden, NY US

6. Transporter 1 Company Name: Miller Environmental Group, Inc.
U.S. EPA ID Number: NYD986986985

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Bridgeport United Recycling
50 Cross Street
Bridgeport, CT US
Facility's Phone: 203-334-1666

U.S. EPA ID Number: CTD002593697

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON RCRA, NON DOT LIQUID	1	TT	26	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
MEG Job#H12-0276
1) Approval #6136LH

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Eric J. Prokop for The Chazen Companies
Signature
Month: 2 Day: 23 Year: 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name
Signature
Month Day Year

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

CHAZEN # H13-0244

13781

Argenio Brothers, Inc.

P.O. Box 2068, Newburgh, NY 12550 (845) 561-5102

Customer's Order No. Date: 7/15/13

Name Miller Excav

Address Wallkill

Project Location

Start Date End Date (approx.)

Project Use

Approved By Municipality

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.

QTY.	DESCRIPTION	AMOUNT
	CONCRETE & ROCK (DUMP) - 24"	
	CONCRETE & ROCK (DUMP) + 24"	
1	RECYCLED ITEM 4	6-30 Tons
	BULK FILL	
	SAND	
	SCREENED TOPSOIL	
	OTHER	
	TRUCK # 740	

ALL claims and returned goods MUST be accompanied by the bill.

Received by

INFORMATION FOR PERSONS PURCHASING OR ACCEPTING PROCESSED C&D DEBRIS

a) The products distributed by this C&D debris facility are made from processing of regulated solid wastes and require disposal at a permitted solid waste management facility unless used in accordance with a beneficial use determination issued by DEC as indicated under paragraph (b), below, or used as a fill material at an exempt disposal site meeting the requirements specified in paragraph (c), below.

b) Recognizable uncontaminated concrete and concrete products, asphalt pavement, brick and rock, and soils with aggregate properties may be used as a substitute for conventional aggregate (i.e. crushed stone, run of bank gravel, etc.) in the manufacture of concrete or asphalt pavement or in construction of roads, drainage layers, foundations, or similar uses. Recycled aggregate used in this manner must be recognizable and may not be contaminated or commingled with wood, metal, plastic, sheetrock, roofing shingles or any other type of waste prior to or after processing.

c) Use of processed C&D debris as general fill or grading material is limited only to recognizable, uncontaminated concrete and concrete products, asphalt pavement, brick, soil and rock placed at sites which are opened only between the hours of sunrise and sunset where no fee or other form of consideration is required for placing the material. Material used in this manner must be recognizable and may not be contaminated or commingled with wood, metal, plastic, sheetrock, roofing shingles or any other type of waste prior to or after processing. Fines or ends associated with processing of C&D debris often contain constituents which make them unsuitable of use as general fill or grading material on residential properties, schools, parks or other uses where the public may come into contact with the general fill or grading material. Pulverized concrete, brick, asphalt pavement and other wastes which have the appearance of soil or are mixed with soil cannot be used as general fill or grading material at any location.

d) Failure to use recycled aggregate or other C&D debris related products in accordance with the requirements specified above may result in adverse environmental impact and may violate applicable 6 NYCRR Part 360 Solid Waste Management Facilities Regulations. For questions regarding these requirements, contact the appropriate DEC Regional Office at 718-482-4896 for Region 2 or 845-256-3144 for Region 3.

5. Acknowledgement of Notification by the User/Purchaser:

The undersigned, having read the information provided in item 4 above, acknowledges notification regarding the nature and proper use of the above-described C&D debris derived products. I agree to use the product on the site identified in item 3, above, and in accordance with guidelines outlined above. I acknowledge that the use of this product in any manner other than that specified under item 4 is inconsistent with 6 NYCRR Part 360 regulations and may be viewed by the DEC as illegal disposal of a solid waste.

Signature *Date*

Note: A copy of this form, completed and signed by the purchaser/user must be filed by the facility operator and must be made available for inspection at the facility by the New York State Department of Environmental Conservation staff.

(NH)

MILLER ENVIRONMENTAL GROUP, INC.

Daily Job Report

DATE: 12-6-12 PAGE 1 OF 1

CUSTOMER: Chuzen Engineering JOB#: H12-0482

CONTACT AND PHONE: CLIENT CODE:

BILLING ADDRESS: 29 Grant Street Walton NH PO#:

LOCATION OF WORK: PHONE:

JOB DESCRIPTION: waste pickup for disposal SERVICE CODE:

MATERIALS

PURCHASED ITEMS:

EQUIPMENT Box truck #608c

SUBCONTRACTORS:

PERSONNEL	HRS	PPE		HRS	PPE
S. McKeen	1.5				

MEALS: N/C SUBSISTENCE:

START TIME: 1430 SECURED TIME: 1600

DISPOSAL/NOTES: 3 DF's & ~~DM's~~ or nonhaz bol# 166447

I ACKNOWLEDGE AND AUTHORIZE PAYMENT FOR THE ABOVE ITEMIZED LABOR, EQUIPMENT, AND MATERIALS, IN THE QUANTITIES SPECIFIED.

APPROVED _____

CUSTOMER REPRESENTATIVE DATED

166447

MILLER ENVIRONMENTAL GROUP, INC.

Daily Job Report

DATE: 12/10/12 PAGE 1 OF 1

CUSTOMER: Estate of Hy Hitzen JOB#: H12-0482

CONTACT AND PHONE: 845-486-1558 CLIENT CODE:

BILLING ADDRESS: 29 Grand St. Walden N.Y. 12586 PO#:

LOCATION OF WORK: Walden N.Y. PHONE:

JOB DESCRIPTION: SERVICE CODE:

Transported Drums to United For Disposal

MATERIALS

PURCHASED ITEMS:

EQUIPMENT

Truck #637

SUBCONTRACTORS:

PERSONNEL	HRS	PPE		HRS	PPE
R Garcia HT (100s)	9				

MEALS: 1/2 SUBSISTENCE:

START TIME: 0700 SECURED TIME: 1630

DISPOSAL/NOTES:

I ACKNOWLEDGE AND AUTHORIZE PAYMENT FOR THE ABOVE ITEMIZED LABOR, EQUIPMENT, AND MATERIALS, IN THE QUANTITIES SPECIFIED.

APPROVED _____

CUSTOMER REPRESENTATIVE DATED

166453

SITE # 4

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: Not Required
2. Page 1 of: 1
3. Emergency Response Phone: 845-569-1200
4. Waste Tracking Number: 146447

GENERATOR

5. Generator's Name and Mailing Address
Estate of Hy Hilzen
29 Grant Street
Walden, NY 12586 US
Generator's Phone: 845-486-1558

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Miller Environmental Group, Inc.
U.S. EPA ID Number: NYD986908085

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Bridgeport United Recycling
50 Cross Street
Bridgeport, CT US
Facility's Phone: 203-334-1866
U.S. EPA ID Number: CTDD02593687

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	NON RCRA, NON DOT SOLID	2	DF ~~DM~~	350	P	1741
2.	NON RCRA, NON DOT LIQUID	1	DF ~~DM~~	50	G	1041
3.						
4.						

13. Special Handling Instructions and Additional Information

1) Approval # 1469N4 (P052507022N4) ERG# NA
2) Approval # 6136LH
MEG Job # H12-0482

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: NICHOLAS MARRONE ON BEHALF OF CHARLENE'S ESTATE
Signature:
Month: 12 Day: 6 Year: 12

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Sean McLean
Signature:
Month: 12 Day: 6 Year: 12

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Deborah Duquette
Signature:
Month: 12 Day: 10 Year: 12

FREEHOLD CARTAGE INC.

P.O. BOX 5010 • FREEHOLD, NJ 07728-5010
(732) 462-1001 • FAX (732) 308-0924

BILL OF LADING

FCI EPA ID NO. NJD054126164

M 116863

350 Pigeon Point Road New Castle, DE 19720 Phone: (302) 658-2005 Fax: (302) 658-6229	175 Bartow Mun. Airport Bartow, FL 33830 Phone: (863) 533-4599 Fax: (863) 533-1613	5533 Dunham Road Maple Heights, OH 44137 Phone: (330) 835-3473 Fax: (330) 835-3732	108 Monahan Avenue Dunmore, PA 18512 Phone: (570) 342-7232 Fax: (570) 342-7367	132 Myrtle Beach Hwy. Sumter, SC 29153 Phone: (803) 773-2611 Fax: (803) 773-2942

SHIPPER NAME/ADDRESS: ESTATE OF HY HILZER (LUZON)
29 GRANT STREET
WALDEN NY 12586

PHONE: (845) 434-7805 (AREA CODE)

TRACTOR: 779 TRAILER: 4804

APPOINTMENT TIME: 11:30

FCI REP. LOADING (PRINT): KOHUT BRIAN

PROCEDURE: live load

EQUIP. SPOTTED:

EQUIP. REMOVED:

TIME AT SHIPPER (MILITARY TIME ONLY): 10:45 ARRIVAL TIME / : DEPARTURE TIME

COMMENTS OR DELAYS AT SHIPPER

EQUIPMENT USED

BROKER: 20513 US WASTE INDUSTRIES

PO#: NONE WO#: 936070.01

MANIFEST/DOCUMENT NO. 009265623

(X) HM		PROPER U.S. D.O.T. SHIPPING NAME	U.S. D.O.T. HAZARDOUS CLASS	NA/UN/NO.	PACKING GROUP	NO. CONT.	CONT. TYPE	NET QUANTITY	UNIT MEASURE	WASTE NO.	FORM
	1	See Manifest				2	DF	(Overpacks)			
	2										
	3										

SPECIAL HANDLING INSTRUCTIONS INCLUDING CONTAINER EXEMPTION NUMBER.

SHIPPER'S CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation, U.S. EPA and the State. The materials described above were consigned to the Transporter named. The consignee can and will accept the shipment and has a valid permit to do so if required. I certify that the foregoing is true and correct to the best of my knowledge.

Payment to the contractor for waste removal does not constitute payment to the carrier and if the contractor does not pay the carrier, the shipper is obligated to pay the agreed rate offered to the contractor.

PLEASE PRINT NAME/TITLE: Eric J. Orlowski (Chosen) on behalf of Estate of Hy Hilzer

SHIPPER'S SIGNATURE: X _____ I HAVE READ THE ABOVE AND UNDERSTAND AND AGREE TO ALL OF ITS CONTENT.

DATE LOADED: 01/08/2013 MO. DAY YR.

CONSIGNEE NAME/ADDRESS: GLENCO SITE
GLENCOE AL

PHONE (AREA CODE)

TRACTOR TRAILER

APPOINTMENT TIME:

FCI REP. UNLOADING (PRINT)

PROCEDURE

EQUIP. SPOTTED

EQUIP. REMOVED

TIME AT CONSIGNEE (MILITARY TIME ONLY): : ARRIVAL TIME / : DEPARTURE TIME

COMMENTS OR DELAYS AT CONSIGNEE

EQUIPMENT USED

PLEASE PRINT NAME/TITLE

CONSIGNEE SIGNATURE: X _____

DATE UNLOADED: / / MO. DAY YR.

AR H-0257	MD HWH-167 2001-OPV-2335	MO H-1490	OH UPW-0190713-OH	TX 40705
CT CT-HW-307	ME ME-HWT-47 ME-WOT-47	ND WH-429	OK UPW-0190713-OH	WI 11602
DE DE-HW-203 DE-SW-203	MI UPW-0190713-OH	NH TNH-0047	ONTARIO, CANADA A 840943	WV UPW-0190713-OH
IL UPW-0190713-OH	MN UPW-0190713-OH	NJ S-2265 15939	PA PA-AH-0067	
MA MA-294		NY NJ-113	QUEBEC, CANADA QC-6ML-047	
			RI RI-535	

White - FCI Original
Yellow - FCI Billing
Blue - FCI Office/Customer
Green - Retained by TSDF
Gold - Retained by Generator

M 116863

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
CESQG	1	845-778-3515	009265623 JJK

GENERATOR

5. Generator's Name and Mailing Address
ESTATE OF HY HILZEN
29 GRANT STREET
WALDEN, NY 12586
Generator's Phone: 845-778-3515

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: Freehold Carriage Inc. U.S. EPA ID Number: NJ3065412614

7. Transporter 2 Company Name U.S. EPA ID Number

8. Designated Facility Name and Site Address
EWS ALABAMA
402 WEBSTER CHAPEL RD
GLENCOE, AL 35905
Facility's Phone: 256-492-6340
U.S. EPA ID Number: ALD981020894

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN1263,RQ,WASTE PAINT RELATED MATERIAL,N.O.S., (TOULENE/XYLENE),3,PGII,ERG-128 #108696	2	DM	125	G	D001	F003	F005
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
NEEDS CD SENT TO US WASTE 24 HR EMERGENCY CONTACT ROBBIN 845-434-7605 CC103401

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Eric J. Orlowski (Citizen) on behalf of Estate of HY Hilzen Signature: [signature] Month: 01 Day: 08 Year: 13

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Brian Kohler Signature: [signature] Month: 01 Day: 08 Year: 13

Transporter 2 Printed/Typed Name Signature Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

...signated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Name Signature Month Day Year

...ious editions are obsolete.

GENERATOR'S INITIAL COPY

Appendx D: Geophysical Survey Report

NAEVA GEOPHYSICS INC.
THE LEADER IN SUBSURFACE DETECTION
Subsurface Geophysical Surveys

GPR
MAGNETICS
ELECTROMAGNETICS
SEISMICS
RESISTIVITY
UTILITY LOCATION
UXO DETECTION
BOREHOLE CAMERA
STAFF SUPPORT

Results of Geophysical Investigation

Results of Geophysical Investigation
Former Packaged Lighting Systems, Inc.
29 Grant Street
Walden, New York

Prepared for: **The Chazen Companies, Inc.**
Poughkeepsie, New York

Dates of Investigation: **December 14-15, 2011**



Aerial photo provided by Google Maps

Prepared by:

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- 1.2 Area of Concern

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- 2.4 Utility Locating Instruments

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- 3.2 Geophysical Data Collection
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- 3.4 Electromagnetic Anomaly Follow-up Investigation

4.0 Results

- 4.1 EM-31
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Figure 1 Results of a Geophysical Investigation

Figure 2 EM-31 In-Phase (Metal-Detection)) Contour Map

Figure 3 EM-31 Quadrature-Phase (Terrain Conductivity) Contour Map

Table 1 EM-31 In-phase (metal-detection) Anomalies

Table 2 EM-31 Quadrature-phase (terrain conductivity) Anomalies

Results of Geophysical Investigation
Former Packaged Lighting Systems, Inc.
29 Grant Street
Walden, New York

1.0 Introduction

1.1 Purpose

On December 14-15, 2011, NAEVA Geophysics, Inc. conducted a geophysical investigation at a former Packaged Lighting Systems, Inc. property located at 29 Grant Street in Walden, New York. The site is an approximate 3.3-acre inactive industrial complex with several facility buildings and a large, undeveloped yard. The purposes of this investigation were 1) to investigate an approximately 1.25-acre exterior portion of the property for abandoned underground storage tanks (USTs) and other buried objects such as drums and construction debris and, 2) to mark out detectable subsurface utilities and features in the vicinity of 12 proposed boring locations and two areas with known USTs.

1.2 Area of Concern

The area of concern (AOC) for the undocumented UST and buried debris investigation was approximately 170 by 400 feet in size and consisted of portions of the open, undeveloped yard located south and east of the main facility buildings (see Figure 1). The AOC contained the former Paint Building, a small wood building, and several areas of thick brush and trees that could not be investigated. The area was primarily covered with grass, with some gravel and asphalt to the north, near the facility buildings. The 12 proposed boring locations were located throughout the site, with 11 locations outside and one inside the facility building. Two of the borings (MW-3 and MW-6) were situated outside the AOC in open areas near Elm Street. They are not depicted on any figures as they were situated well outside the AOC and there were no identified subsurface utilities or anomalies near them. The two known USTs were also located outside the AOC; one was inside the facility building and the other was outside, between the Lab Building and the main facility building.

2.0 Methods and Instrumentation

The equipment selected for this investigation included a Geonics EM31 Terrain Conductivity Meter, a Fisher TW-6 Pipe and Cable Locator (a hand-held electromagnetic metal-detector), a Sensors & Software Noggin SmartCart ground penetrating radar (GPR) system with a 250 MHz antenna, and utility locating instruments.

The EM31 was primarily used in to investigate for undocumented USTs and buried debris, but it is also capable of detecting some subsurface utilities. The TW-6 and the GPR were used in follow-up investigations of the EM31 survey and to aid in locating subsurface

utilities. Utility locating instruments were used to investigate for detectable subsurface utilities.

2.1 EM31

The EM-31 measures the conductivity of the subsurface material and is useful for delineating areas where conductivity differs from background. These variations can be caused by subsurface features such as foundations of former buildings, accumulations of buried metal or debris, and also by the electromagnetic fields produced by buried utilities. Terrain conductivity is a function of porosity, conductivity of included soil moisture, degree of saturation, and subsurface material.

The EM-31 consists of boom-mounted coplanar electromagnetic (EM) transmitter and receiver coils mounted at a fixed distance of 12 feet to one another. The electronic processing and control unit is located at the midpoint of the boom. Data is stored in a digital data recorder attached to the instrument. A current applied to the transmitter coil produces a time-varying magnetic field, which induces small secondary currents within the earth. These currents, in turn, generate a secondary magnetic field, which is detected along with the primary field by the receiver coil. The secondary signal has the same frequency as the primary signal but has a phase shift. The phase shift of the secondary signal is linearly proportional to the apparent conductivity.

The EM-31 measures two components of the induced magnetic field. The first is the quadrature-phase component, which is a measurement of the apparent soil conductivity expressed in milliSiemens per meter (mS/m) and, as mentioned above, is used to delineate areas of anomalously high or low conductivity. The second is the in-phase component, which is a relative measurement between the induced magnetic field and the earth's magnetic field expressed in parts per thousand (ppt). The in-phase component is much more sensitive to metallic objects and, therefore, can be useful in the detection of buried metal targets such as USTs. A negative response by the in-phase component is usually an indication of buried metal; however, under certain conditions, a positive response to metal can be seen in the data.

2.2 TW-6

The Fisher TW-6 Pipe and Cable Locator is a type of hand-held EM metal-detector that is useful for delineating the surface traces of buried metallic items. The instrument consists of a transmitter coil and a receiver coil mounted at opposite ends of a 4-foot horizontal staff. The transmitter is fixed in a vertical position. The receiver's orientation is then adjusted to the horizontal, exactly perpendicular to the transmitter. When the receiver is in this perpendicular orientation, its response to the transmitter is at a minimum. Metallic objects or conductive utilities in the detection range of the instrument pick up the transmitted signal, act as secondary transmitters, and cause a detectable interference at the receiver. By adjusting the gain and the position of the instrument relative to a buried metallic object, an experienced operator can often obtain information as to the size or shape of the target.

2.3 Ground Penetrating Radar

The Sensors & Software Noggin Smart Cart GPR system with a 250 MHz antenna consists of four major parts: a 4-wheeled chassis with an integrated odometer, a transmitter/receiver antenna, a battery unit, and a digital video logger (DVL). The GPR's transmitter radiates a short pulse of electromagnetic energy into the ground. When this pulse strikes an interface between layers of material having different dielectric properties, a portion of the energy is reflected back to the surface, while the remaining energy continues on to the next interface. The GPR records these reflections versus time in nanoseconds (two-way travel time), or depth when using an appropriate radar velocity, and displays them in real-time via the DVL as a vertical column of data on the screen. As the GPR moves, the integrated odometer triggers the system to collect data at fixed scan intervals of every .96 inches. As the individual data lines build up, they create a continuous image. These profiles are then examined for parabolic reflections that could be interpreted as representing USTs, subsurface utilities, or other buried objects.

GPR can often provide high-resolution cross-sectional images of buried objects, but its suitability is site-specific. In general, better results are obtained in dry, resistive, sandy soils than in wet, clayey, or conductive soils. Lower frequency signals provide greater depth of penetration, but less resolution, than higher frequency antennas. The 250 MHz shielded antenna is commonly used in urban environments for delineating both metallic and non-metallic subsurface utilities and underground storage tanks.

2.4 Utility Locating Instruments

The Ditch Witch Subsite 950 and 3M Dynatel 2250 were the primary means of utility location. The Subsite is suitable for locating the surface traces of a variety of buried utilities. The Dynatel is particularly suited for locating telephone, electric, and other narrow-gauge wiring, but it can also detect larger metallic conduits and piping. The instruments work by using a transmitter to apply a radio frequency signal onto a metallic/electrically conductive line. The signal is then traced at the surface using the instrument's receiver. The ideal method of detection is to apply the signal directly onto an exposed portion of the line. Alternatively, where there are no convenient exposures, the tracing signal may be induced onto the lines by placing transmitters on the ground above the utilities. The Dynatel was also used in a split-box fashion, where two operators (one carrying the transmitter and one carrying the receiver) walked bi-directionally across each proposed boring location at a fixed distance to one another while listening for increases in signal strength that would suggest possible subsurface utilities.

To investigate non-metallic utilities such as ceramic or PVC sewers, a signal was conducted onto a flexible steel antenna inserted into the line. This signal allowed the line to be detected at the ground surface by an operator using the receiver. GPR was also used to assist in the delineation of non-metallic utilities.

Many utilities carry electric currents, and therefore produce EM fields that can be detected at the surface. In addition, buried metallic lines, acting as antennae, often pick up and re-radiate

background vibrations and commercial radio signals. Each proposed boring location was searched for evidence of these passive signals using the Subsite receiver.

3.0 Field Operations

This section provides a description of field operations for the EM31 investigation, including grid setup, data collection, data processing and interpretation, and follow-up investigations. In addition to the EM survey, areas in the vicinity of the facility buildings, proposed boring locations, identified anomalies, and USTs were investigated using the utility line locators, the TW-6, and the GPR to search for and delineate detectable subsurface utilities and structures as described in Section 2.0 Methods and Instrumentation.

3.1 Geophysical Sampling Grid Set-up

To facilitate a systematic approach to data collection and the reacquisition of anomalies identified in the EM31 data, a grid of parallel north/south lines spaced 5 feet apart was established across accessible portions of the AOC. Grid north was established parallel to the long axis of the Lab Building, which was approximately 7 degrees west of magnetic north. All references to compass directions in this report refer to grid north. Grid coordinate 0E/0N was located approximately 10 feet west and 215 feet south of the southeast corner of the Lab Building.

3.2 Geophysical Data Collection

The EM31, operating in automatic collection mode, collected two data readings per second, which was approximately every 2.5 feet along each grid line. Fiducial marks for reference points in data editing were entered into each data set at 50-foot intervals. The grid line number and the beginning and ending points of each line were hand recorded in a field notebook.

3.3 Geophysical Data Processing and Interpretation

The raw data from the digital recorder was transferred to a laptop computer for processing using Geonics' DAT31W software and Golden's Surfer® software after completion of the data collection. First, the starting and ending points of each line were individually checked against the written field notebook for accuracy. The software adjusted the location of data between fiducial marks by either compressing or expanding them. The adjusted data was converted to a spreadsheet format compatible with the Surfer® mapping software for contouring. The two components of EM31 data, which are quadrature-phase and in-phase, were contoured. More advanced processing to produce the final report quality contour maps of the EM31 data, in addition to maps of the contoured data with the culture maps overlain to aid in interpretation (see Figures 2 and 3), was performed using GEOSOFT Oasis montaj® software at NAEVA's Congers, New York office.

3.4 Electromagnetic Anomaly Follow-up Investigation

Follow-up investigations were based on EM anomalies identified in the EM31 data sets. Using the grid coordinates as a guide, the locations of significant targets were identified in the field. The area surrounding each EM anomaly was visually inspected for evidence of cultural features, such as reinforced concrete and/or metallic objects that could represent the source of the anomaly. When no obvious surface cultural interference could be identified, the anomalies were investigated using the TW-6 metal-detector, the GPR, and the line locators in an attempt to identify and characterize underground sources and delineate their approximate surface traces.

EM31

Quadrature-phase: Quadrature-phase or terrain conductivity, expressed in milliSiemens per meter (mS/m), is a measurement of the ease with which an electric current can be made to flow through a material. Areas displayed in the data exhibiting relatively high or relatively low mS/m values as compared to the background values can be expected to have different chemical or physical properties. These areas were further investigated in an attempt to characterize their sources.

In-phase: The in-phase component, measured in relative parts per thousand (ppt), is primarily used in searching for buried metal. Typically, negative in-phase values can be expected to represent significant amounts of metal; however, positive values may also be indicative of buried metal. Areas displayed in the data exhibiting relatively high or relatively low ppt values were further investigated in an attempt to characterize their sources.

4.0 Results

This investigation identified a large number of EM anomalies, metal-detector anomalies, and subsurface utilities within the AOC. An attempt was made to delineate the surface trace of two known USTs in two separate areas, one located inside the main facility building and the other outside, between the Lab Building and the main building.

4.1 EM31

The results of the EM31 survey revealed 29 anomalies in the in-phase data (see Table 1; Figure 2) and 32 anomalies in the quadrature-phase data (see Table 2; Figure 3). Both data sets correlate well with each, with a majority of the anomalies appearing in both contour maps. The difference in the number of anomalies is due to the quadrature-phase data showing multiple small anomalies in areas that the in-phase data displayed a single large anomaly. For both the in-phase and quadrature-phase, the relative high and low anomalous areas have equal potential to contain buried metal and/or debris.

NAEVA used the TW-6 and GPR to further investigate the EM anomalies and to search the portions of the AOC that could not be covered with the EM31; including the perimeter of the buildings and the areas covered by fallen trees and/or brush. NAEVA identified 20 metal-detector anomalies within the AOC that could not be explained by known cultural features, with 19 correlating with EM anomalies and one located outside the area of the EM31 investigation, near the southeast corner of the main facility building. Not all EM31

anomalies were identified with the TW-6 or GPR. This could be due to the fact the EM31 can detect targets up to approximately 18 feet deep, while the TW-6 can detect targets up to approximately 6 feet deep. The GPR data profiles collected over most of the anomalies were inconclusive due to poor signal penetration, which was 2 feet or less over a majority of the site. If further information regarding the source of the anomalies is required, NAEVA recommend careful excavation.

4.2 UST and Utility Investigation

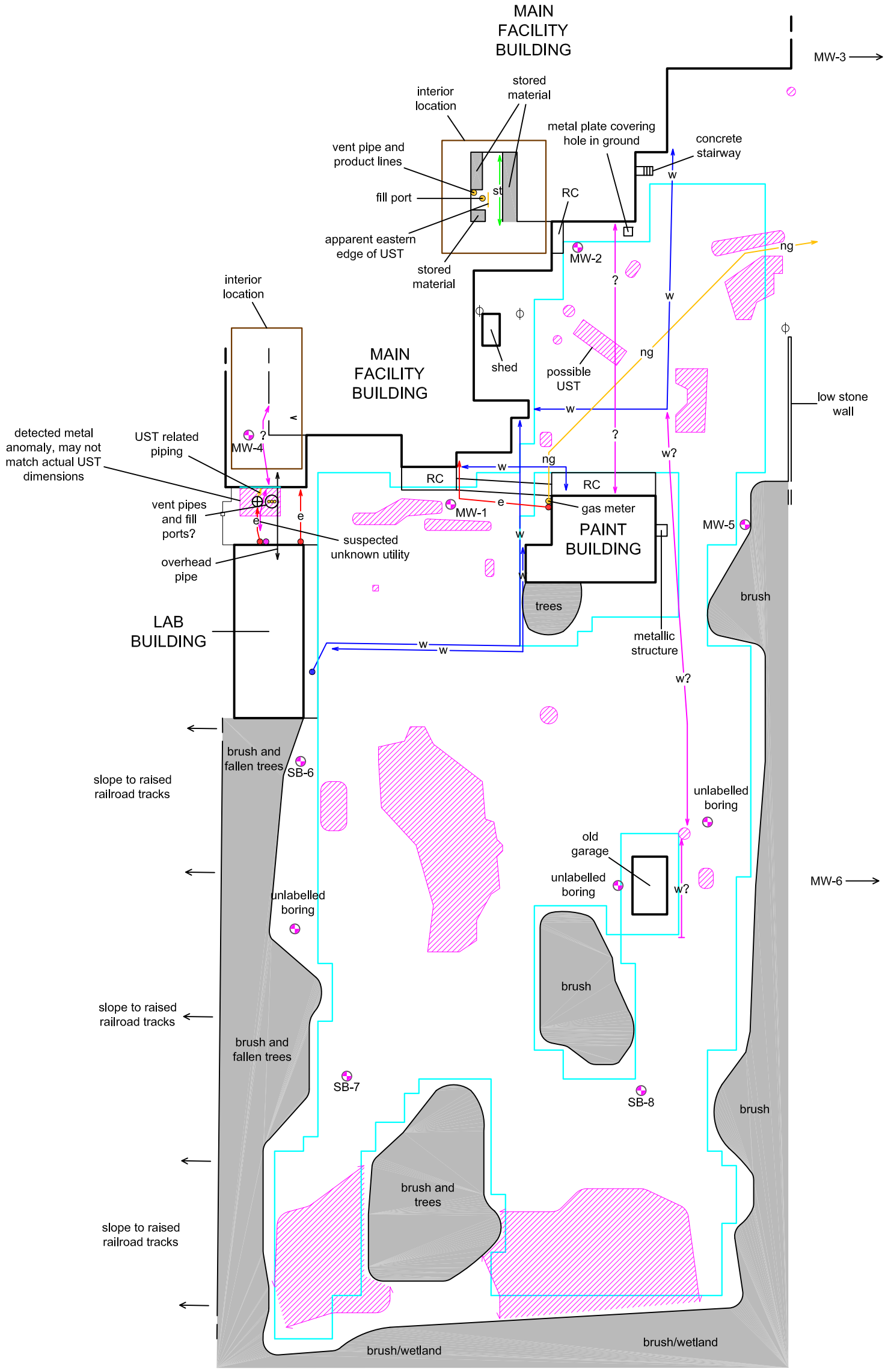
NAEVA attempted to delineate the surface trace of two known USTs and one suspected UST. One known UST was located outside, between the Lab Building and the main facility building. There was a concrete pad with a manhole, a fill port, and a vent pipe visible at the surface. The TW-6 identified a rectangular 9 by 14-foot metal anomaly surrounding the manhole, fill port, and vent pipe. These dimensions are equivalent to those of a tank having a capacity of 4,000 to 8,000 gallons. The GPR did not provide any additional information, but it should be noted the area was small and contained some vegetation and brush that made investigating with the GPR difficult. NAEVA also identified UST related piping that entered the main facility building from the manhole. An electric line and a line of unknown use were identified crossing the suspected UST location. Another electric line was identified approximately 6 feet east of the UST heading between the Lab Building and the main facility building.

The second known UST location was within the main facility building inside a small room. The room contained several shelves and benches with stored materiel. There was a vent pipe and fill port visible at the surface. The size of the room and the amount of stored material limited the ability to investigate the area. NAEVA inserted a curved polyurethane pipe into the fill port in an attempt to obtain the size and orientation of the UST. It was determined the UST had a diameter of approximately 4 feet and NAEVA identified one possible edge of the UST, approximately 6 feet from the western wall. A storm sewer line was identified orientated north-south approximately 6 feet off the eastern room wall.

NAEVA also investigated an area in the north portion of the AOC for a suspected UST. A rectangular 6 by 19-foot metal-detector anomaly was identified in the area. The GPR data profiles collected over the anomaly proved to be inconclusive due to poor signal penetration. However, the size and shape of the anomaly indicate it may potentially represent a tank roughly 4,000 gallons in capacity.

NAEVA identified detectable subsurface utilities and features within the AOC and particularly in the vicinity of 12 proposed boring locations. These included several water lines, electric lines, and lines of unknown use as well as a natural gas line, a storm sewer line, and a suspected water line. It should be noted that NAEVA did not identify any sanitary sewer lines. Bathroom facilities were noted in the Paint Building and Lab Building as well as the main facility building, yet no sanitary system was detected. The lines may not be detectable to our instruments due to being too deep or constructed of a non-metallic material that is difficult to detect.

All detected subsurface features were marked on the ground with paint and/or pin flags using the American Public Works Association color code (yellow for natural gas, red for electric, blue for water, and green for sewer). Fluorescent pink was used to mark the locations of metal-detector anomalies, suspected utilities, and EM anomalies. The EM and metal-detector anomalies were flagged with orange pin flags. All detected subsurface utilities and features are indicated on the accompanying site map. NAEVA recommends that you exercise caution when excavating near any detected and marked out features.



LEGEND

e	electric line		metal-detector anomaly		electrical conduit
w	water line		area of EM31 investigation		unknown conduit
ng	natural gas line		chain-link fence		post indicator valve (P.I.V.)
w?	suspected water line		proposed exploratory boring site	RC	reinforced concrete
?	unknown line		utility pole		manhole cover
st	storm sewer line				

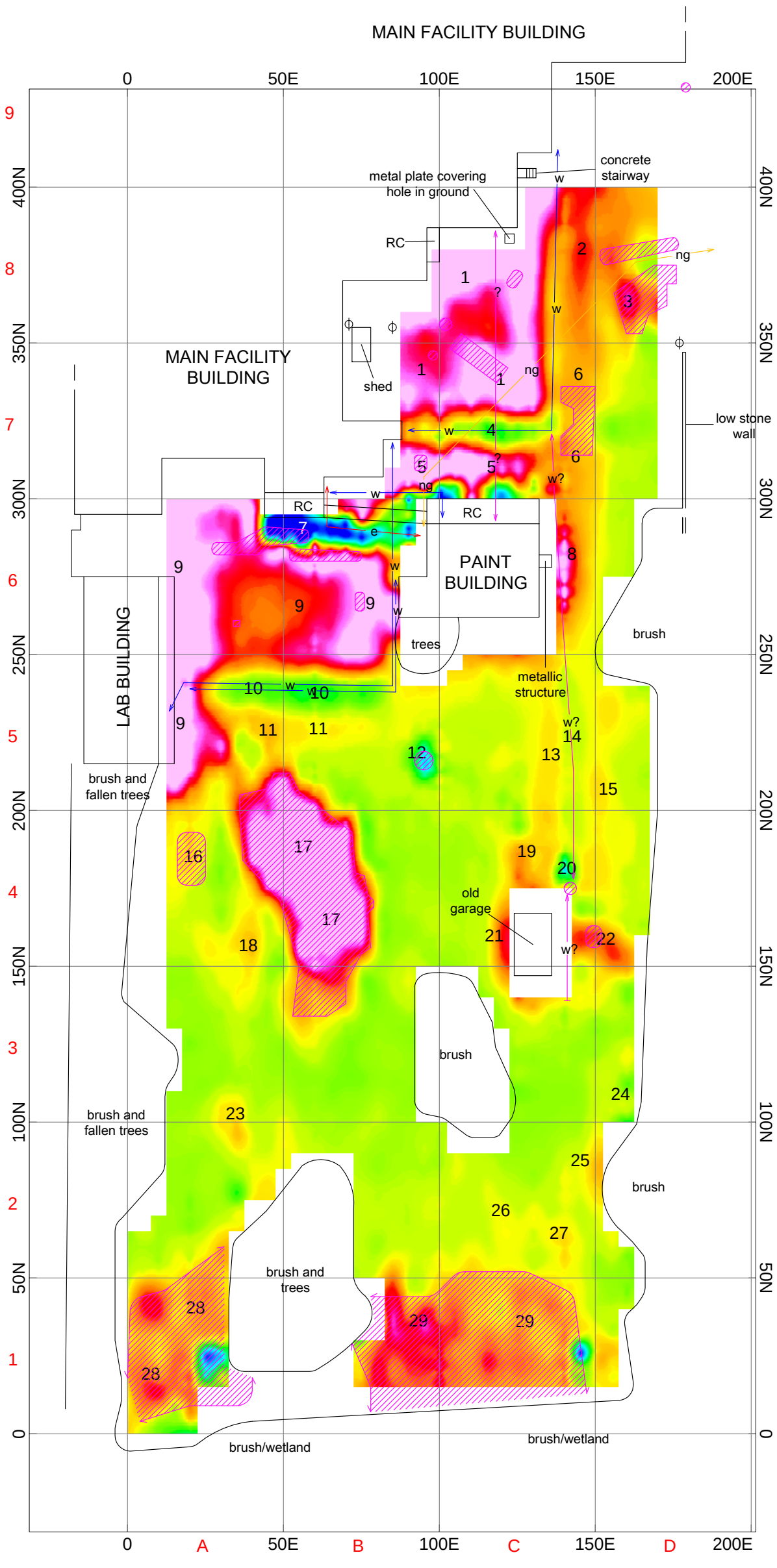
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Figure 1. Results of Geophysical Investigation
Former Packaged Lighting Systems, Inc.
29 Grant Street, Walden, New York

Client	The Chazen Companies	Date of Work	December 14-15, 2011
Project No.	C1112141X	Map By	Gerald Williamson

ALL UNDERGROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP



LEGEND

metal-detector anomaly		w?	suspected water line
e	electric line	?	unknown line
w	water line	RC	reinforced concrete
ng	natural gas line	ϕ	utility pole

Scale 1:480

25 0 25 50

(feet)

Figure 2

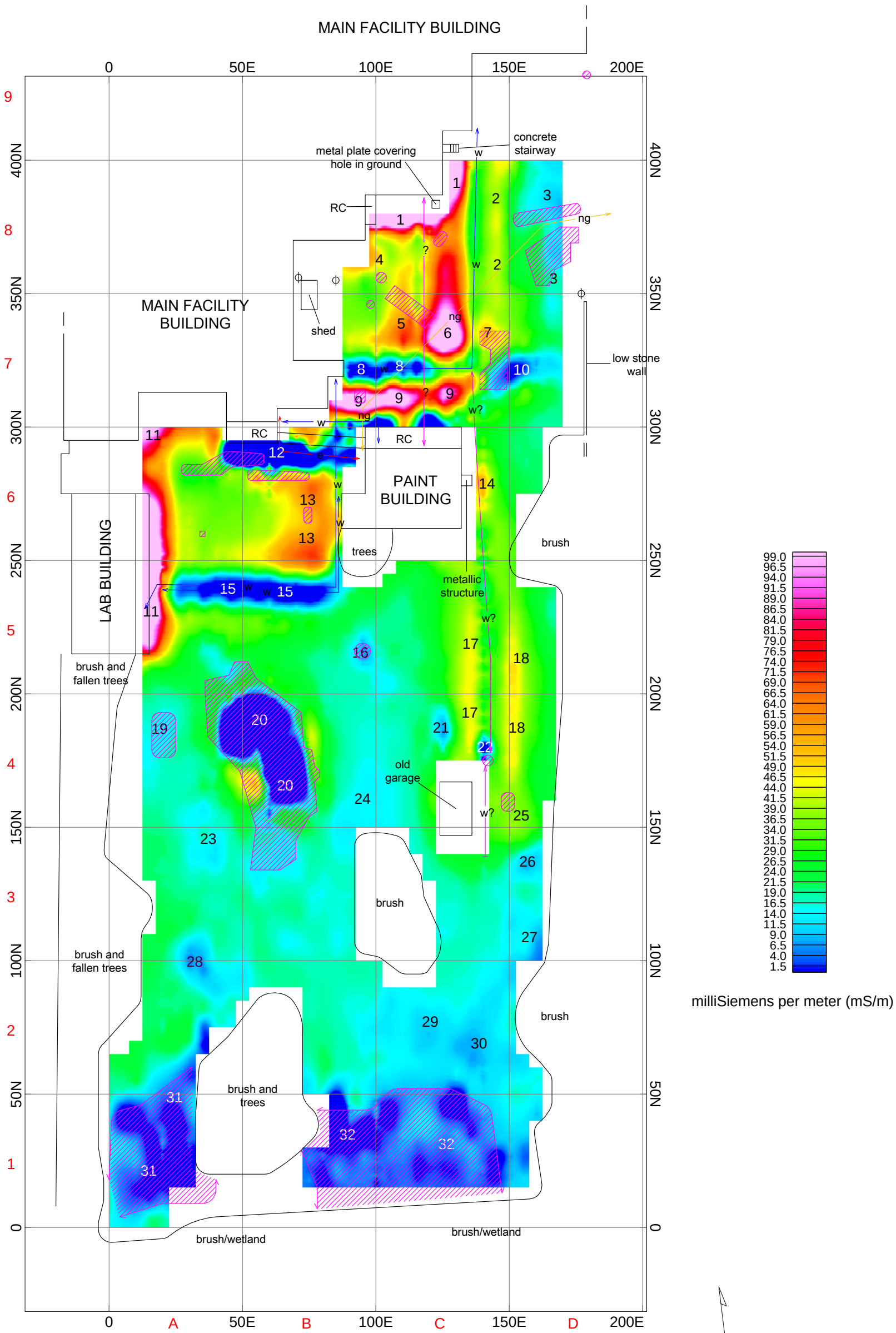
NAEVA GEOPHYSICS INC.
THE LEADER IN SUBSURFACE DETECTION
Subsurface Geophysical Surveys

The Chazen Companies

Project Number: C1112141X
EM31 In-Phase Component (Metal-Detection)
Former Packaged Lighting Systems, Inc.
Walden, New York

Date of Survey: December 14, 2011
Map By: Gerald Williamson

ALL BELOW GROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP.



LEGEND

	metal-detector anomaly	w?	suspected water line
e	electric line	?	unknown line
w	water line	RC	reinforced concrete
ng	natural gas line	ϕ	utility pole

Scale 1:480

25 0 25 50

(feet)

Figure 3

NAEVA GEOPHYSICS INC.
THE LEADER IN SUBSURFACE DETECTION
Subsurface Geophysical Surveys

The Chazen Companies

Project Number: C1112141X
EM31 Quadrature-Phase Component (Terrain Conductivity)
Former Packaged Lighting Systems, Inc.
Walden, New York

Date of Survey: December 14, 2011
Map By: Gerald Williamson

ALL BELOW GROUND FACILITIES MAY NOT BE DEPICTED ON THIS MAP.

Table 1: EM-31 In-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 2	Follow-up Notes	Suspected Source
1	B7, B8, C7, C8	Large rectangular anomaly, ~45 by 70 feet in size. Identified several smaller metal-detector anomalies with TW-6 within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source. Maybe influenced by nearby buildings and/or conductive soils.
2	C8	Linear feature, ~10 by 35 feet in size. No anomaly identified with the TW-6. GPR data was inconclusive due to poor signal penetration.	Suspected source is the adjacent water line. It is common to see a high-to-low-to-high EM response associated with buried utilities.
3	D8	Small circular anomaly, ~7 feet in diameter. TW-6 identified two nearby metal anomalies. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic).
4	B7, C7	Linear feature ~50 feet long that separates Anomalies 1 and 5. Identified a water line that correlates with the location of the EM anomaly.	Suspected source is a buried water line.
5	B7, C7	Approximately 15 by 50-foot linear feature. TW-6 identified a small metal anomaly within the feature. GPR data was inconclusive due to poor signal penetration.	Likely to be related to water line to the north. Another example of a high-to-low-to-high EM response associated with buried utilities.
6	C7	Approximately 10 by 50-foot linear feature. Identified a metal anomaly with the TW-6. A suspected water line was identified just to the west of the anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source. Maybe related to identified TW-6 anomaly. Also maybe a continuation of Anomaly 2, and thus due to the nearby water line.
7	A6, B6	Approximately 10 by 50-foot linear feature. Identified several utilities in the area. There is also a reinforced concrete pad and sidewalk near the anomaly. The TW-6 identified two linear metal anomalies near the EM feature (the TW-6 anomalies are partially located in Anomaly 9 as well). GPR data was inconclusive due to poor signal penetration.	Unknown source. Likely due to nearby reinforced concrete pad and sidewalk and/or the several utilities in the area.
8	C6	Approximately 5 by 20-foot anomaly located on the east side of the Paint Building. Identified a water line which passes through the anomaly. There is also a large, metallic piece of equipment attached to the side of the Paint Building.	Source is likely the metallic piece of equipment that is attached to the Paint Building.
9	A5, A6, B6	Large rectangular anomaly located between the Lab Building and Paint Building. The TW-6 identified several smaller metal anomalies within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source. At least some of the anomaly maybe due to nearby buildings and reinforced concrete, especially along the eastern edge of the Lab Building.

Table 1: EM-31 In-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 2	Follow-up Notes	Suspected Source
10	A5, B5	Approximate 55-foot linear anomaly. Identified two water lines that correlate with the EM anomaly.	Suspected source is buried water lines.
11	A5, B5	Linear feature approximately 5 by 45-feet in size. The TW-6 did not identify any anomaly and GPR data was inconclusive due to poor signal penetration.	Suspected source is the adjacent water line . Likely another example of a high-to-low-to-high EM response associated with buried utilities.
12	B5	Circular anomaly with a diamter ~4 feet. The TW-6 identified a ~5-foot diamter metal anomaly. GPR data also displayed a strong reflection at a depth of ~2 feet.	Unknown source. Likey to contain buried metal. Due to the size and shape of the anomaly, it could potentially represent a buried dry well.
13	C4, C5	Approximate 5 by 55-foot linear feature. Identified a suspected water line just to the east of the anomaly (Anomaly 14). The TW-6 and GPR did not provide any additional information.	Likely to be a result of the suspected water line located just to the east of the anomaly. It is common to see a high-to-low-to-high EM response associated with buried utilities.
14	C4, C5	Approximate 5 by 55-foot linear feature. Identified a suspected water line that correlates with the EM anomaly.	Suspected source is the suspected water line. It is common to see a high-to-low-to-high EM response associated with buried utilities.
15	C4, C5, D4, D5	Approximate 5 by 55-foot linear feature. Identified a suspected water line just to the west of the anomaly (Anomaly 14). The TW-6 and GPR did not provide any additional information.	Likely to be a result of the suspected water line located just to the east of the anomaly. It is common to see a high-to-low-to-high EM response associated with buried utilities.
16	A4	Identified a 9 by 17-foot TW-6 metal anomaly at the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic)
17	A4, A5, B3, B4, B5	Identified a large, irregular shaped TW-6 metal anomaly within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic).
18	A3, A4	Approximate 20 by 25-foot EM anomaly. The TW-6 did not identify any anomalies and the GPR was inconclusive due to poor signal penetration.	Unknown source
19	C4	EM anomaly located just north of the old garage building. The TW-6 did not identify any anomalies and GPR data was inconclusive due to poor signal penetration.	Unknown source. Maybe related to nearby EM Anomalies 17 and 20. May also be influenced by nearby garage building.
20	C4	Identified a ~3-foot diameter circular TW-6 metal anomaly near EM anomaly. Also identified a suspected water line passing through EM anomaly.	Unknown source (likely metallic). Maybe a feature related to the suspected water line such as a buried water valve or vault.

Table 1: EM-31 In-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 2	Follow-up Notes	Suspected Source
20	C4	Identified a ~3-foot diameter circular TW-6 metal anomaly near EM anomaly. Also identified a suspected water line passing through EM anomaly.	Unknown source (likely metallic). Maybe a feature related to the suspected water line such as a buried water valve or vault.
21	C4	EM anomaly is located just to the west of the old garage building. The TW-6 and GPR did not identify any anomalies at this location.	Unknown source. Likely to be due to response from the nearby garage building.
22	C4, D4	Identified a ~5 by 7-foot oval TW-6 metal anomaly in the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic).
23	A2, A3	Approximately 10 by 15-foot oval EM anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source.
24	D3	Approximately 10 by 25-foot EM anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source.
25	C2, D2	Approximately 6 by 20-foot oval anomaly located on the edge of the area of investigation. The TW-6 and GPR did not provide any additional information.	Unknown source.
26	C2	Approximately 10 by 15-foot EM anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source.
27	C2	Approximately 10 by 15-foot EM anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source.
28	A1, A2	Approximately 35 by 60-foot EM anomaly. The TW-6 indicated the area of the EM anomaly had a high overall response. GPR data was inconclusive due to poor signal penetration.	Unknown source, likely to be metallic. The TW-6 indicated that the area may contain a large amount of buried metallic debris.
29	B1, B2, C1, C2, D1	Approximately 40 by 85-foot EM anomaly. Similar to Anomaly 28, the TW-6 indicated a high overall response over the entire EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source, likely to be metallic. The TW-6 indicated that the area may contain a large amount of buried metallic debris.

Table 2: EM-31 Quadrature-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 3	Follow-up Notes	Suspected Source
1	B8, C8	Approximate 25 by 35-foot anomaly wrapped around a corner of the main facility building. The TW-6 and GPR did not provide any additional information.	Unknown source. Most likely due to response from the nearby building. Located within the large EM In-Phase Anomaly 1.
2	C7, C8	Approximate 5 by 55-foot linear EM anomaly. Correlates with EM In-Phase Anomaly 2.	Likely related to nearby water line. Same as EM In-Phase Anomaly 2.
3	D7, D8	Approximate 15 by 60-foot EM anomaly. The TW-6 identified two metal anomalies within the EM anomaly. GPR data was inconclusive due to poor signal penetration. Correlate with EM In-Phase Anomaly 3, although the In-Phase anomaly is smaller.	Unknown source (likely metallic). EM In-Phase Anomaly 3 is located within this anomaly.
4	B8	Approximate 15 by 15-foot anomaly that follows a corner of the main facility building. The TW-6 and GPR did not provide any additional information.	Unknown source. Most likely due to response from the nearby building. Located within the large EM In-Phase Anomaly 1.
5	C7, C8	Approximate 15 by 30-foot anomaly. The TW-6 identified a 6 by 19-foot rectangular metal anomaly within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source. The TW-6 anomaly may represent a UST, but does not quite match with the EM anomaly, indicating the EM anomaly may represent a separate feature. The EM anomaly is located within the EM In-Phase Anomaly 1.
6	C7, C8	Approximate 15 by 45-foot EM anomaly. The TW-6 identified a small metal anomaly north of the EM anomaly, but did not identify anything within the EM anomaly. GPR data did not provide any additional information.	Unknown source. Located within the EM In-Phase Anomaly 1.
7	C7	A circular EM anomaly with an approximate diameter of 10 feet. The TW-6 identified a metal anomaly larger than the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic). Located within EM In-Phase Anomaly 6.
8	B7, C7	Approximate 20-foot long linear EM anomaly. Correlates with the location of an identified water line.	Suspected source is a buried water line. Same as EM In-Phase Anomaly 4.
9	B7, C7	Approximate 15 by 55-foot linear EM anomaly. The TW-6 identified a small metal anomaly within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Likely to be related to water line to the north. Same as EM In-Phase Anomaly 5, another example of a high-to-low-to-high EM response associated with buried utilities.

Table 2: EM-31 Quadrature-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 3	Follow-up Notes	Suspected source
10	C7, D7	Approximate 10 by 25-foot oval EM anomaly. The TW-6 identified a metal anomaly larger than the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source (likely metallic). Located near EM In-Phase Anomaly 6.
11	A5, A6	Approximate 10 by 85-foot linear anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source. Most likely due to nearby Lab Building and reinforced concrete pad located along the building. Located within EM In-Phase Anomaly 9.
12	A6, B6	Approximate 10 by 50-foot linear EM anomaly. Same as EM In-Phase Anomaly 7.	Unknown source. Maybe due to nearby reinforced concrete pad and sidewalk and/or the several utilities in the area, same as In-Phase Anomaly 7.
13	B5, B6	Approximate 25 by 40-foot EM anomaly. The TW-6 identfied two smaller metal anomalies within the EM anomaly. GPR data was inconclusive due to poor signal penetration.	Unknown source. Located within the EM In-Phase Anomaly 9.
14	C6	Approximate 5 by 10-foot EM anomaly. Same as EM In-Phase Anomaly 8.	Source is likely the metallic piece of equipment that is attached to the Paint Building. Same as EM In-Phase Anomaly 8.
15	A5, B5	Approximate 10 by 60-foot linear EM anomaly. Same as EM In-Phase Anomaly 10.	Suspected source is buried water lines. Same as EM In-Phase Anomaly 10.
16	B5	Approximate 5 by 10-foot oval EM Anomaly. Same as EM In-Phase Anomaly 12.	Unknown source. Likey to contain buried metal. Due to the size and shape of the anomaly, it could potentially represent a buried dry well. Same as EM In-Phase Anomaly 12.
17	C4, C5	Approximate 5 by 50-foot linear EM anomaly. Same as EM In-Phase Anomaly 13.	Likely to be a result of the suspected water line located just to the east of the anomaly. It is common to see a high-to-low-to-high EM response associated with buried utilities. Same as EM In-Phase Anomaly 13.
18	D4, D5	Approximate 5 by 50-foot linear EM anomaly. Same as EM In-Phase Anomaly 15.	Likely to be a result of the suspected water line located just to the east of the anomaly. It is common to see a high-to-low-to-high EM response associated with buried utilities. Same as EM In-Phase Anomaly 15.
19	A4	Approximate 10 by 20-foot EM anomaly. Same as EM In-Phase Anomaly 16.	Unknown source (likely metallic), same as EM In-Phase Anomaly 16.

Table 2: EM-31 Quadrature-Phase Anomalies

EM-31 Anomaly ID	Location in Figure 3	Follow-up Notes	Suspected source
20	A4, B4	Approximate 30 by 40-foot EM anomaly. Same as EM In-Phase Anomaly 17.	Unknown source (likely metallic).
21	C4	Approximate 5 by 10-foot EM anomaly. Located within EM In-Phase Anomaly 19. The TW-6 and GPR did not provide any additional information.	Unknown source. It is a discrete target and does not seem to be caused by nearby culture such as the garage.
22	C4	Approximate 5-foot diameter circular EM anomaly. Same as EM In-Phase Anomaly 20.	Unknown source (likely metallic). Maybe a feature related to the suspected water line such as a buried water valve or vault. Same as EM In-Phase Anomaly 20.
23	A3, A4	Approximate 15 by 25-foot EM anomaly. Same as EM In-Phase Anomaly 18.	Unknown source, same as EM In-Phase Anomaly 18.
24	B3, B4, A4	Approximate 25 by 35-foot EM anomaly. Does not have a corresponding EM In-Phase anomaly. The TW-6 and GPR did not provide any additional information.	Unknown source.
25	C4, D4	Approximate 10 by 10-foot EM anomaly. Same as EM In-Phase Anomaly 22.	Unknown source (likely metallic).
26	D3	Approximate 10 by 10-foot circular EM anomaly. Located within EM In-Phase Anomaly 24.	Unknown source. Located within EM In-Phase Anomaly 24.
27	D3	Approximate 15 by 20-foot EM anomaly. Located within EM In-Phase Anomaly 24.	Unknown source. Located within EM In-Phase Anomaly 24.
28	A2, A3	Approximate 15-foot circular EM anomaly. Same as EM In-Phase Anomaly 23.	Unknown source. Located within EM In-Phase Anomaly 23.
29	C2	Approximate 10-foot circular EM anomaly. Same as EM In-phase Anomaly 26.	Unknown source. Located within EM In-Phase Anomaly 26.
30	C2	Approximate 10-foot circular EM anomaly. Same as EM In-phase Anomaly 27.	Unknown source. Located within EM In-Phase Anomaly 27.
31	A1, A2	Approximate 35 by 60-foot EM anomaly. Same as EM In-Phase Anomaly 28.	Unknown source, likely to be metallic. The TW-6 indicated that the area may contain a large amount of buried metallic debris. Same as EM In-Phase Anomaly 28.
32	B1, B2, C1, C2	Approximate 35 by 80-foot EM anomaly. Same as EM In-Phase Anomaly 29.	Unknown source, likely to be metallic. The TW-6 indicated that the area may contain a large amount of buried metallic debris. Same as EM In-Phase Anomaly 29.

Appendix E: Fish and Wildlife Resources Impact Analysis Decision Key

Appendix 3C Fish and Wildlife Resources Impact Analysis Decision Key		If YES Go to:	If NO Go to:
1.	Is the site or area of concern a discharge or spill event?	13	2
2.	Is the site or area of concern a point source of contamination to the groundwater which will be prevented from discharging to surface water? Soil contamination is not widespread, or if widespread, is confined under buildings and paved areas.	13	3
3.	Is the site and all adjacent property a developed area with buildings, paved surfaces and little or no vegetation? The site is an industrial property developed with buildings and pavement/gravel. Adjacent properties are developed, with vegetated land directly south of the site.	4	9
4.	Does the site contain habitat of an endangered, threatened or special concern species?	Section 3.10.1	5
5.	Has the contamination gone off-site? Groundwater impacts have migrated off-site to the north/northeast	6	14
6.	Is there any discharge or erosion of contamination to surface water or the potential for discharge or erosion of contamination?	7	14
7.	Are the site contaminants PCBs, pesticides or other persistent, bioaccumulable substances?	Section 3.10.1	8
8.	Does contamination exist at concentrations that could exceed ecological impact SCGs or be toxic to aquatic life if discharged to surface water?	Section 3.10.1	14
9.	Does the site or any adjacent or downgradient property contain any of the following resources? i. Any endangered, threatened or special concern species or rare plants or their habitat ii. Any DEC designated significant habitats or rare NYS Ecological Communities iii. Tidal or freshwater wetlands iv. Stream, creek or river v. Pond, lake, lagoon vi. Drainage ditch or channel vii. Other surface water feature viii. Other marine or freshwater habitat ix. Forest x. Grassland or grassy field xi. Parkland or woodland xii. Shrubby area xiii. Urban wildlife habitat xiv. Other terrestrial habitat	11	10
10.	Is the lack of resources due to the contamination?	3.10.1	14
11.	Is the contamination a localized source which has not migrated and will not migrate from the source to impact any on-site or off-site resources?	14	12
12.	Does the site have widespread surface soil contamination that is not confined under and around buildings or paved areas?	Section 3.10.1	12
13.	Does the contamination at the site or area of concern have the potential to migrate to, erode into or otherwise impact any on-site or off-site habitat of endangered, threatened or special concern species or other fish and wildlife resource? (See #9 for list of potential resources. Contact DEC for information regarding endangered species.)	Section 3.10.1	14
14.	No Fish and Wildlife Resources Impact Analysis needed.		X