AECOM Environment

Prepared for:
NYSDEC
Albany, NY

Prepared by:
AECOM
Chestnut Ridge, NY
60133564
September 2012

Site Characterization Report
Sulzer Metco, Inc. Site
(Site No. 130178)

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ENGINEERING CERTIFICATION

I, Scott Underhill, certify that I am currently a NYS registered professional engineer and that this Site Characterization 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.

Respectfully submitted,
AECOM Technical Services Northeast, Inc.

Scott Underhill, PE
Registered Professional Engineer
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September 6, 2012
Date

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1.0 Introduction

1.1 General Introduction

AECOM Technical Services, Inc. (AECOM) was issued Work Assignment (WA) # D004436-14 under the New York State Department of Environmental Conservation (NYSDEC) State Superfund Standby Program. The site under this work assignment is Sulzer Metco, Inc. (Site # 130178). The location of the site is shown on Figure 1.

The specific objectives of this project are to gather data to determine whether hazardous wastes including tetrachloroethene (PCE), trichloroethene (TCE), 1, 1-dichloroethane (1,1-DCA) and 1,1,1-trichloroethane (TCA) have been disposed at the site, and determine whether the site should be added to the NYS Registry of Inactive Hazardous Waste Sites. In order to be listed on the Registry, the investigation performed under this work assignment must first confirm that a consequential amount of hazardous waste disposal has occurred and then determine if the hazardous waste presents a significant threat to the public health or the environment.

A waste material may be regulated as a hazardous waste if it is a material included in federal or NYSDEC lists of hazardous waste. If a material is regulated because it is included on a federal or state list, it is commonly referred to as a "listed hazardous waste."

Regulations 6 NYCRR Part 375, set forth several definitions of significant threat to the environment and to the public health. The mere presence of hazardous waste at a site or in the environment is not a sufficient basis for finding that hazardous waste disposed at a site constitutes a significant threat to public health or the environment. Significant threat is evaluated by taking into account the factors specified in Section 375-2.7a of 6NYCRR, which include, but are not limited to the following: levels of contaminants in groundwater, soil vapor and soils at and near the site and areas known to be directly affected or contaminated by waste from the site, contravention of groundwater quality standards in Part 703 of 6NYCRR, and the extent to which contaminants and/or contaminant constituents have migrated or are reasonably expected to migrate from the site.

The site is currently not classified. The outcome of the investigation will reclassify this site into a class 2, class 3 or class N site. These classifications are defined as:

Class 2 – A site at which the disposal of hazardous waste has been confirmed and this hazardous waste or its components or breakdown products present a significant threat to the public health or the environment;

Class 3 – A site at which the disposal of hazardous waste has been confirmed and this hazardous waste or its components or breakdown products do not presently constitute a significant threat to the public health or the environment;

Class N – No Further Action Anticipated at this Time – Used for State Superfund sites where a determination has been made (based upon investigation) that the degree of contamination does not qualify the site for placement on the Registry and that additional remedial work is not anticipated at this time.

This site summary report outlines the specific activities completed by AECOM. It identifies and details the methods, procedures, results, and conclusions of those activities. The report has been prepared in general accordance with the scope of work specified by the NYSDEC project management team. The work was performed in accordance with NYSDEC Division of Environmental Remediation Draft DER-10 Technical Guidance for Site Investigation and Remediation, May 2010.

1.2 Site Description

The site is located at 1101 Prospect Avenue, Westbury, Nassau County, New York (Figure 1). Based on information obtained from the Nassau County website (http://www.nassaucountyny.gov), the site covers approximately 6.88 acres and is identified on the Nassau County tax map as Section 11, Block 329 Lot 369. The site is improved with two buildings: Building 1 consists of a 138,000 square feet (sf), one- story brick building constructed in 1954, while Building 2 is a two-story addition that was built in the mid-1990s. Based on the information provided by Mr. Alfonso A. Rolli, the Environmental & Safety Engineering Manager for the site, the facility is approximately 340,000 sf, including 160,000 sf of production, warehouse, and office space. The Westbury Water District provides potable water to the facility, while sanitary wastewater is discharged to the Nassau County sewage treatment system.

The site is located in an area containing a mix of commercial and residential properties. The site is abutted by Bridge Street to the east and a private driveway to the north. Directly north and east of the site are several buildings used by the Board of Cooperative Education Services (BOCES) that house the Joseph M. Barry Career and Technical Education Center. The site is bordered by wooded land and the Wantagh State Parkway to the west and Prospect Avenue to the south. Directly south, across Prospect Avenue, are several buildings used by the Nassau County Public Works Department. Residential properties are located west of Wantagh Parkway, as well as north of the BOCES property. The nearest public water supply well is located about 0.5 miles southwest of the site.

Parking areas are located to the east, south and west of the buildings. The parking area is asphalt and covers about 30 percent of the site. The parking area is accessible from Prospect Avenue as well as from Bridge Street.

1.3 Physical Setting

Topography

According to Environmental Data Resources (EDR, 2008), the elevation of the site is approximately 134 ft above mean sea level (amsl). The topography of the immediate site area was observed to be sloping towards the south. A copy of the topographic map is presented in the Preliminary Environmental Site Assessment report.

Geology and Hydrology

Information pertaining to the regional geology and hydrology for the site and its surroundings is obtained from various United States Geological Survey (USGS) reports (Stumm, 2006; Chu, 2006; Foreman, 2006). These reports indicate that Nassau County is underlain by unconsolidated glacial deposits of Pleistocene age and coastal plain deposits of Late Cretaceous age. This deposit consists of gravel, sand, silt and clay and rests upon crystalline-metamorphic bedrock of early Paleozoic age. The top of bedrock is relatively impermeable and generally forms the base of the groundwater reservoir.

The groundwater systems in Long Island consist of three major aquifers – the Upper Glacial, the Magothy, and the Lloyd. The Magothy, which is the prime source of potable water, generally underlies the Upper Glacial aquifer. The lowermost aquifer is the Lloyd, which lies directly above the bedrock and is separated from the Magothy by a thick layer of Raritan Clay. The Magothy aquifer is absent in northwest Nassau County, but increases in thickness to over 1,000 ft in the southern part of Suffolk County.

The nearest Public Water System well is located about 0.5 miles southwest of the site. Based on information provided in the EDR report, groundwater flow is assumed to be to the south towards Prospect Avenue. This finding is in agreement with the latest groundwater study.

Stormwater runoff is collected in storm drains in the parking lots to the south and west of the facility. A large recharge basin was observed at the north western end of the site boundary. The site boundary is not located within an existing wetland; however, several wetlands are mapped within 1 mile of the site. According to the EDR report, the site is not within either the 100-year flood plain or the 500-year flood plain.

Soil

As reported by EDR, no historical site-specific soil data are available for the site. The site lies within an area classified as urban land, with soil type varying between silty loam to fine sandy loam. The latest study characterized the soil up to 20 feet primarily as sand with some or trace gravel and at times some silt.

1.4 Current and Historic Use of the Site

Information relating to the current and historic use of the site was obtained from the NYSDEC WA, Freedom of Information Act (FOIA) search, and site reconnaissance conducted by AECOM during site characterization.

Based on available information, Sulzer Metco, Inc. currently operates at the site and manufactures thermal spray equipment, material and supplies. Thermal spray involves the use of a torch to heat a material in powder or wire form to a molten or near-molten state, and using a gas to spray the material to a target substrate, thus creating a completely new surface. The coatings are usually metallic, ceramic, carbides or a combination of these materials; the coated materials are used in the area of thermal protection (as in space shuttle and jet engines). Various types of spraying techniques including wire flame spraying, powder flame spraying, plasma spraying and high velocity oxy-fuel spraying are used in this facility. In addition to the manufacturing processes, the facility also has a research and development (R&D) department along with testing laboratories supporting product quality assurance/quality control (QA/QC). The R&D and QA/QC operation includes various surface testing and surface characterization of the manufactured products using electron microscope, X-ray diffraction, and inductively coupled plasma (ICP). In addition to the above processes, operations at this facility also involve corporate functions, shipping and receiving, and warehousing of the raw materials as well as finished products. A map of the facility is provided in Figure 2.

Historically, site operations involved the manufacture of metallic and ceramic powders for use in the thermal spray coating industry, as well as manufacture of thermal spray guns and parts. Site operations have also included wedging (compression and stretching of wire that has been filled with metal powder), blending of metallic or ceramic powder with a lacquer and glue.

Based on the information provided in NYSDEC WA D004436-14 (NYSDEC, 2007), during the course of operations, Sulzer Metco, Inc. has used industrial solvents as degreasers in its processes. Based on the review of Nassau County Department of Health (NCDOH) and State Pollution Discharge Elimination (SPDES) files, it appears that the primary solvents were PCE, TCE, 1,1-DCA, and TCA. Solvents were used on site between 1955 and 1978. It appears that spent solvents were disposed into floor drains to on-site subsurface discharge points. The facility's SPDES permit indicated that four SPDES outfalls were located at the site. According to the available information, a recharge basin is located adjacent to the northwest corner of the building that received storm drainage and process water prior to the construction of three sewer connections in 1983. Sanitary wastewater was originally routed to cesspools. The cesspools were abandoned in 1983, when the sewer connection was completed.

Closure of the Outfall #2 distribution box and settling chamber was performed in 1998.

1.5 Site History and Previous Investigations

Information on site history and previous investigations was provided in the NYSDEC WA (NYSDEC, 2007). Additional information was gathered from a FOIA search conducted by AECOM during site characterization. Site information was provided by the United States Environmental Protection Agency (USEPA) and the NCDOH as part of the FOIA request. Copies of the relevant documents obtained during the FOIA request are included in the Preliminary Environmental Site Assessment Report (AECOM, 2008).

1.5.1 Site Ownership History

The original structure (Building 1) was built in 1957 (Kalogeras & Grosser Consulting Engineers, 1998), and was owned by the Axluf Corporation, which was believed to have been owned by the founder of the Metalizing Engineering Company (later known as Metco). Warehouse and office area extensions were built in 1964, with plans showing a further addition to the warehouse area in 1967. Perkin-Elmer Corporation acquired Metco in 1971 and continued operations at the site. Sulzer Corporation acquired Metco from the Perkin-Elmer group in October 1994 and integrated all Metco and Sulzer Surface Tech companies under the name of Sulzer Metco, Inc.

1.5.2 Summary of Previous Investigations

A number of previous investigations have been conducted at the site. These include two rounds of environmental site assessment by Geraghty & Miller, Inc. (Geraghty & Miller) in 1993 and 1994 and additional site investigation including the removal of the distribution box and settling tank by P.W. Grosser Consulting Engineer & Hydrogeologist (P.W. Grosser) in 1998.

1.5.2.1 Environmental Site Assessment Report, Geraghty & Miller, 1994

The March 1994 Summary of Environmental Site Assessment Report submitted by Geraghty & Miller, summarized the findings of the June 1993 sampling event, when 10 soil borings were advanced at the site. Boring B-21 was drilled 6 feet (ft) from a manhole for a drywell that was located in the northwest corner of the property. Sample B-24 was a grab sample collected from the loading dock drywell; boring B-23 was advanced in the area of an old leaching field; borings B-25, B-26, and B-27 were advanced in the area of a former UST; boring B-28 was drilled in the recharge basin located in the northwest portion of the property; and borings B-29 and B-30 were installed in the area of an old sanitary leach field. The soil samples were collected from depths that ranged from 5-7 ft below ground surface (bgs) at B-28 to 36-38 ft bgs at B-21.

The soil samples collected from the area of the former underground storage tank (UST) were analyzed for total petroleum hydrocarbons (TPH), while the remaining samples were analyzed for volatile organic compounds (VOCs), 13 priority pollutant (PP) metals, and site-specific metals (yttrium and zirconium) Based on the analysis report, the drywell at the loading dock (B-24, collected at 6-7 ft bgs) was the only location identified as an area to be addressed further. The concentrations of chromium (198 mg/kg), copper (1,750 mg/kg) and nickel (1,250 mg/kg) exceed the current NYSDEC Restricted-Residential Soil Cleanup Objective (6 NYCRR Subpart 375-6.8[b]). The concentrations of chromium and lead had the potential to exceed the toxicity characteristic leaching procedure (TCLP) criterion of 5 mg/L. The liquid and sediment contained in this drywell area were removed, tested and disposed of at a non-hazardous waste disposal facility. After the material was removed, it was determined that the drywell actually had a solid bottom and acted as a holding tank for rain and surface water runoff prior to disposal of the runoff through the county sewer system.

In April 1994, Geraghty & Miller conducted an additional investigation in the area of the drywell adjacent to the loading dock on the south side of Building 1, and in the leaching pool downgradient of the distribution box for the decommissioned sanitary leach field at the southeast side of the building. In addition, AAA Backflow, Inc. (hereafter referred to as AAA) conducted a dye test to determine the discharge location in the facility. AAA identified a sewer manhole cover at the northwest corner of the recharge basin and another sewer manhole cover in the parking lot along the west fence. Based on the dye test, AAA concluded that the discharge from the test location goes to the sanitary facility, and informed NCDOH in March 1995.

During the April 1994 sampling event, Geraghty & Miller collected soil samples at 10 ft and 15 ft bgs downgradient of the leaching pool adjacent to the loading dock and analyzed the samples for TPH and polychlorinated biphenyls (PCBs). Soil samples were also collected at 17 and 27 ft bgs downgradient of the distribution box for the decommissioned sanitary leach field located at the southeast side of the building and analyzed for VOCs and PP metals plus aluminum. The Geraghty & Miller report that summarized the findings of the April 1994 sampling event obtained by AECOM did not include the full set of analytical data. According to the Geraghty & Miller report, no TPHs were detected in the soil samples collected from the area of the drywell adjacent to the loading dock. PCBs (Aroclor 1242) were detected at 0.023 mg/kg in the shallow sample. No PCBs were detected in the deeper sample. The concentration of PCBs detected in the shallow sample was below the then-current guidance (NYSDEC Technical and Guidance Memorandum TAGM HWR-94-4046 [TAGM 4046]) recommended soil cleanup objective (SCO) and is also less than the current Part 375 SCOs. AECOM was unable to compare the chemical analysis data with the current NYSDEC Restricted-Residential Soil Cleanup Objectives, because the laboratory data were not provided with the report.

With the exception of acetone which was also detected in the laboratory method blank at 17 µg/L, no VOCs were detected in the soil samples collected from the leaching pool downgradient of the distribution box of the decommissioned sanitary leach field. No metals were detected in any of the soil samples collected at concentrations exceeding the TAGM criteria.

In a letter to Mr. Charles Heinzer (Perkin Elmer Corporation) and Mr. Michael Tone (Nixon, Hargrave, Devans & Doyle), dated May 26, 1994, Geraghty & Miller recommended no additional remedial work for the Prospect Avenue facility.

1.5.2.2 Final Closure Report for Distribution Box and Settling Tank, P.W. Grosser, 1998

As mentioned in Section 1.3, the facility's SPDES permit indicated the presence of four SPDES outfalls. Closure of the Outfall #2 distribution box and settling chamber was performed in 1998, as part

of the expansion of the original facility, southwards into the parking lot. Information relating to the closure is summarized from the “Final Closure Report for Distribution Box and Settling Tank”, by P.W. Grosser (September, 1998). At the time of that investigation, the review of the existing facility plans from the 1950s showed discharges from former laboratories and metalizing departments to the distribution box and settling tank within the footprint of the proposed expansion. The distribution box appeared to be a brick manhole (8 ft deep and 4 ft diameter), with several inlets and outlets, with one outlet leading to the settling tank (10 ft deep) located approximately 15 ft to the south of the distribution box. The final closure report indicated that these structures had not been used since the 1970s.

As part of the closure activity, the contents of the distribution box and settling tanks were pumped out on July 22 and 23, 1998. The contents were vacuumed out and placed directly into 55-gallon drums. A total of four drums of soil were removed from the distribution box and 27 drums were removed from the settling tank and were disposed off-site. The settling tank was registered with the NCDOH on July 23, 1998 and was removed the same day. The settling tank was approximately 10 ft in diameter and constructed of cinder blocks. No staining was observed around the exterior of the tank. There were no indications of any leaks. The soil under the tank appeared to be clean and dry native soils. The cinder block tank debris and surrounding soils were placed into a lined roll-off container and disposed off-site. A composite sample was collected from the roll-off container for disposal characteristics analysis and the analysis showed it to be non-hazardous.

Composite soil samples were collected from inside the settling tank and distribution box. A liquid sample was collected from the settling tank. Both the soil and liquid samples were analyzed for VOCs, TPH, and eight Resource Conservation and Recovery Act (RCRA) metals. The soil samples from the distribution box had a concentration of chromium (64 mg/kg) which is less than the restricted residential SCO. The sludge samples from the settling tank had elevated levels (i.e., exceeding current restricted residential SCOs) of VOCs including vinyl chloride (3.7 mg/kg), toluene (140 mg/kg), PCE (34 mg/kg), TCA (4,200 mg/kg), and 1,1-DCA 860 mg/kg); and metals (chromium 2,200 mg/kg; cadmium 26 mg/kg; lead 680 mg/kg; barium 480 mg/kg; and mercury 2.5 mg/kg).

An end point soil sample was also collected from under the settling tank and was analyzed for VOCs, TPH, and metals. The analytical results indicated that all the constituent concentrations were less than the TAGM 4046 recommended SCOs with the exception of cadmium (1.9 mg/kg). However, the cadmium concentration was less than the current NYSDEC Restricted-Residential Soil Cleanup Objective (Subpart 375-.6.8[b]). P.W. Grosser determined that the cadmium concentration was not significantly greater than background levels presented in literature for an industrial area, and requested NCDOH for closure regarding the distribution box and settling tank area. In a letter dated September 22, 1998, NCDOH informed P.W. Grosser that no further remedial activity was necessary for these two structures.

P.W. Grosser also conducted additional investigation at the site to verify the location and discharge points of floor drains inside the facility. In a letter dated December 23, 1998, P.W. Grosser informed NCDOH that their investigation indicated that the floor drain in the field/service training room discharged to a series of drywells located on the north of the building, which formerly discharged to the on-site recharge basin. However, P.W. Grosser also noted that at the time of their investigation, there were inadequate records to investigate discharges while the building was under previous ownership. The report also highlighted that the piping drawings for the facility were in most cases construction plans, rather than as-built drawings.

1.6 Data Gap Analysis

The findings of the past site investigations confirmed the use of VOCs (vinyl chloride, toluene, PCE, TCA, 1,1-DCE, and 1,1-DCA) and metals (chromium, copper, nickel, lead, barium, aluminum and mercury) at the facility. The 1998 tank closure report indicates that, while one of the former settling tanks had been removed, the distribution box remained in place, and Building 2 was extended over the former distribution box and settling tank. The 1998 report mentions that the distribution box had several inlets and outlets; among which one of the outlets appeared to lead to the settling tank. The above mentioned report did not indicate the final discharge points from the other outlets. Other areas of concern and data gaps for the facility include the following:

- Status and contents of the USTs located to the north and south of Building 1, as mentioned in the Geraghty & Miller (March 1994) report. No information as was provided on the quantity, status or precise location of the USTs;
- The facility was connected to the sewer system in 1983, prior to which time process water and sanitary wastes were discharged through a series of leach fields and recharge basins to the south and northeast of Building 1. There is limited information relating to the historic piping and discharge system in the facility; and no information as to when the discharge to subsurface leach fields ceased; and,
- The 1998 tank closure report did not include the downstream leaching structures which were the final wastewater effluent discharge point to the subsurface. In addition, the investigations and closures were not expanded to review three other former SPDES outfalls, including the much larger recharge basin, Outfall #1, in the facility.

Based on historic site use, previous site investigation reports and the existing data gaps, there is potential for soil and groundwater contamination at the facility.

1.7 Site Access

In 2009, the site property owner did not permit NYSDEC to perform field work on the site. NYSDEC modified the scope of work to the collection of hydropunch samples from adjacent properties. AECOM obtained permission from the school adjacent to the site and from Department of Public Work (DPW) to perform field work on their properties. AECOM complied with the requirements of the adjacent property owners to perform the field investigation. The field investigation activities were executed when the school was not in secession. AECOM and their subcontractor complied with the requirements of the DPW and their contractors who were engaged in site improvements while the field investigation was conducted. In 2012, the NYSDEC negotiated access to the Sulzer Metco, Inc. property to perform soil, soil vapor and groundwater sampling.

2.0 Field Investigation Activities (Off-Site)

The off-site field investigation consisted of the collection of groundwater samples from the overburden at the periphery of the site. Hydropunch borings were advanced by Zebra Environmental Corporation (Zebra), subcontractor to AECOM. AECOM conducted the Site Characterization field activities in accordance with DER-10, section 3. All field work was completed in USEPA Level D protection in accordance with the health and safety plan (HASP). All subcontracted field activities were monitored by an AECOM representative.

A project kick-off meeting was held on December 21, 2009 prior to initiating field work to orient field team members and subcontractors with the site and to familiarize AECOM personnel and AECOM's subcontractor personnel with site background, scope of work, potential dangers, health and safety requirements, emergency contingencies and other field procedures.

The field investigation was conducted between December 2009 and January 2010. To proceed with the field investigation, the necessary material and equipment required were mobilized to the site by AECOM's subcontractors. AECOM collected groundwater samples from four hydropunch locations, as shown in Figure 3. Initially, three background sample locations were planned for the BOCES property. Due to the time constraints and the requirement that the work be conducted with school was out of session, only one of the three hydropunch boring was completed on school property.

Field forms are provided in Appendix A. A photo log of field activities is provided in Appendix B.

2.1 Utility Clearance

Prior to the start of drilling, AECOM's drilling subcontractor notified the New York State One Call Utility for utility clearance. However, utility clearance from One Call Utility does not cover private property. No geophysical survey was conducted. Therefore, the driller hand cleared the top 5 ft bgs using a hand auger at each hydropunch location prior to drilling.

2.2 Hydropunch Groundwater Sampling

A groundwater investigation was conducted at four off-site locations. Hydropunch borings were developed to collect groundwater samples. Hydropunch borings DPW-E, DPW-C, and DPW-W were developed downgradient to the site and BOC-C was developed at an upgradient location to the site (Figure 3). Groundwater samples were collected at specified intervals using a direct push sampler (hydropunch device). The hydropunch device was advanced to the targeted depth and retracted to expose the stainless steel screened interval. Groundwater was purged from the hydropunch device with the goal of obtaining clear water prior to sampling. Groundwater samples from the four hydropunch locations were collected through Teflon-lined poly tubing. A water level indicator was used to measure the static water level. Fifteen groundwater samples were collected from DPW-E, DPW-C, DPW-W and BOC-C and three QC samples (a field duplicate, matrix spike and matrix spike duplicate, and a field rinsate blank [metals only]) were collected at the location of DPW-C at 90 ft bgs. One trip blank for VOC analysis was also submitted with each of the two sample shipments.

Samples for VOCs analysis were collected from depths of 70 ft bgs, 90 ft bgs, 110 ft bgs and 130 ft bgs from downgradient locations DPW-E, DPW-C and DPW-W; and from depths of 70 ft bgs, 90 ft

bgs and 110 ft bgs from upgradient location BOC-C. All samples for metal analysis were collected from the depth of 90 ft bgs. All metal samples were field filtered using single-use Nalgene filters for dissolved metal analysis.

Water samples were collected and cooled in pre-preserved bottles (hydrochloric acid for VOCs and nitric acid for metals) provided by the laboratory (Hampton Clark-Veritech [HCV], Fairfield, NJ; New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certification 11939 and 11408), and shipped to HCV for VOC (USEPA Method 8260) and metal analysis (USEPA Method 6010 and Mercury by USEPA Method 7471). Hydropunch boring logs are provided in Appendix A.

3.0 Field Investigation Activities (On-Site)

The on-site field investigation consisted of the collection of soil, soil vapor and groundwater samples from the overburden on-site. Five permanent monitoring wells were installed. Drilling was conducted by Zebra. AECOM conducted the site characterization field activities in accordance with DER-10, section 3.

AECOM collected samples from five monitoring well locations, six soil boring locations, and six soil vapor points on-site. The field investigation was conducted between April 2012 and May 2012. To proceed with the field investigation, the necessary material and equipment required were mobilized to the site by AECOM and AECOM's subcontractors. All field work was completed in USEPA Level D protection in accordance with the HASP. YEC, Inc. assisted with the field activities.

A consultant from Envirotech, Inc. oversaw the field activities on-site for Sulzer Metco, Inc. Split samples were provided to Envirotech, Inc. for all media.

3.1 Utility Clearance

Prior to the start of drilling, AECOM's drilling subcontractor notified the New York State One Call Utility for utility clearance. However, utility clearance from One Call Utility does not cover private property. No geophysical survey was conducted. Therefore, the driller hand cleared the top 5 ft bgs using a hand auger at each soil boring, soil vapor and monitoring well location prior to drilling.

3.2 Monitoring Well Installation and Sampling

Four permanent monitoring wells were installed to a depth of 70 ft bgs and one well (MW-1D) to a depth of 90 ft bgs. The well locations are shown on Figure 3. All wells were installed by direct push. The screens were all prepacked and 10 ft long. The wells are 1.5-inch diameter, schedule 40 PVC pipe. The wells were developed by AECOM using a pump and surge technique after at least one day following installation. Purge water was discharged back onto the ground away from impervious surfaces or drains. The groundwater samples were collected in accordance with DER-10, Section 3.7.1 and analyzed for VOCs and metals. No soil samples were collected during well installation.

MW-1 was installed downgradient of Outfall #3 and Outfall #4. MW-3 was installed downgradient of Outfall #1, the baghouse tower and settling box, while MW-2 was installed downgradient of the closed Outfall #2 and its abandoned settling tank. Available information indicates that the closure work (for Outfall #2) in 1998, did not include the downstream leaching structures which were the final wastewater effluent discharge point to the subsurface. MW-4 was installed near Outfall #2 to aid in obtaining the groundwater flow direction. MW-1D is located next to MW-1, with a deeper screen.

Immediately prior to the groundwater sampling, the depth to water in the monitoring wells was gauged to provide information on groundwater flow in the vicinity of the site. The permanent wells were surveyed by Nelson & Pope Engineers and Land Surveyors. A groundwater elevation contour map was created based on field measurements and survey datum (Figure 4).The survey and field measurement data are provided in Table 1. The survey results are provided in Appendix C. Groundwater flow is to the south.

Approximately 14 days after the installation and development of the monitoring wells, a round of groundwater samples were collected from the new monitoring wells. The monitoring wells were purged via low flow sampling methods.

Monitoring well construction, development and sampling logs are provided in Appendix A.

3.3 Soil Sampling

As planned AECOM collected soil samples from six locations on-site. At each location a surface soil sample from zero to two inches bgs was collected as well as a subsurface soil samples. All samples were analyzed for VOCs and metals. The surface soil samples were also analyzed for PCBs.

AECOM advanced a total of six soil borings (SB-1 through SB-6) to a depth of 20 ft bgs as shown in Figure 5. An AECOM representative characterized the soil at each soil boring location. Soil Boring SB-1, was advanced in the vicinity of the sump, at the northeast corner of the property; SB-2 was advanced along the northern boundary of the property, in the vicinity of the old settling box; SB-3, SB-4, SB-5 and SB-6 were advanced downgradient of the outfalls shown on Figure 2. The outfalls may have been the ultimate wastewater and process water discharge points, prior to the facility being connected to the sewer system in 1981.

Two soil samples (one subsurface and one surface soil) were collected from each soil boring location and submitted for laboratory analysis. Subsurface soil samples were screened with a photo-ionization detector (PID). All PID readings were 0 ppm. No visual or olfactory evidence of contamination was observed. The deepest soil samples were selected for analysis at each soil boring location.

Boring logs are provided in Appendix A.

3.4 Soil Vapor Sampling

Soil vapor samples (SV-1 to SV-6) were collected to determine if VOCs in soil vapors are present at elevated levels. The soil vapor sample locations are shown in Figure 6. Six temporary soil vapor probes were installed at locations selected by the NYSDEC, in consultation with the NYSDOH; 2-hour soil vapor samples were collected in Summa canisters. The samples were shipped to TestAmerica in South Burlington, VT (ELAP #10391), and analyzed for VOCs by EPA method TO-15. The temporary soil vapor probes were installed in general accordance with NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (SVI Guidance), October 2006.

SV-1 was located in the vicinity of an old settling box. SV-2, SV-3, SV-5 and SV-6 were located in the vicinity of outfalls shown on Figure 2. SV-4 was located in the vicinity of the loading dock. The soil vapor samples were collected approximately 10 feet away from the building or closer when possible.

Soil vapor construction logs and the Summa canister sampling form are provided in Appendix A.

4.0 Laboratory Analytical Results

4.1 Groundwater Sample Data

A total of 22 groundwater samples, including two field duplicate samples, were collected for VOC analysis utilizing USEPA SW-846 Method 8260. A total of 11 groundwater samples, including two field duplicate samples, were collected for metals analysis utilizing Method 6010 and 7470A. The groundwater data are compared to the NY Class GA Groundwater Criteria and presented in Table 2 for VOCs and Table 3 for metals. The analytical results are summarized in Figure 3.

There were no VOC detections in the on-site samples with reporting limits below the applicable criteria. For the off-site samples, NY Class GA Groundwater criteria were exceeded for PCE (8.8 µg/L) and TCE (40 µg/L) in the deep sample collected from location DPW-E at 130 ft bgs; two other chlorinated VOCs (1,1-DCA and TCA) were also detected in this sample, but at concentrations less than the NY Class GA Groundwater criteria. VOCs were not detected in the three shallower samples from this location (i.e., DPW-E 70 ft, 90 ft, and 110 ft bgs). No VOCs were detected at concentrations exceeding NY Class GA Groundwater criteria in any other off-site groundwater sample analyzed as part of this investigation. Toluene was detected below the NY Class GA Groundwater criterion at the upgradient sample location (BOC-C, 130 ft bgs, 1.5 µg/L) and at one downgradient location (DPW-W, 130 ft bgs, 1 µg/L). Chloroform was detected below the NY Class GA Groundwater criterion at the upgradient location (BOC-C, 130 ft bgs, 1.5 µg/L).

Iron concentrations exceeded the NY Class GA Groundwater criterion of 300 µg/L in all filtered samples collected for metals analysis with concentrations ranging from 1,900 µg/L to 5,400 µg/L. Manganese concentrations exceeded the NY Class GA Groundwater criterion of 300 µg/L in the filtered samples collected at MW-1 (820 µg/L) and MW-2 (620 and 610 µg/L) on-site. Manganese is detected below the NY Class GA Groundwater criterion in all other groundwater samples. Sodium concentrations exceeded the NY Class GA Groundwater criterion of 20,000 µg/L in four of the five on-site wells at concentrations ranging from 27,000 µg/L to 140,000 µg/L. The upgradient samples collected at BOC-C are below the criterion for sodium. The sodium concentrations in the downgradient samples exceeded the criterion with concentrations ranging from 24,000 µg/L to 93,000 µg/L .

4.2 Soil Sample Data

Seven surface soil samples, including one field duplicate sample, and six subsurface soil samples were collected from six on-site soil boring locations (SB-1 to SB-6). The samples were submitted to HCV for VOC analysis by USEPA method 8260 and metals analysis by method 6010B/7471A. The surface soil samples were also analyzed for PCBs by method 8082. The results are compared to NYS Part 375 Unrestricted Use SCOs (6 NYCRR Part 375-6.8(a)) and presented in Table 4 for VOCs, Table 5 for PCBs and Table 6 for metals. The results are summarized in Figure 5.

No VOCs were detected above the NYS Part 375 Unrestricted Use SCOs. The surface sample at SB-4 had 1,2,4-Trimethylbenzene detected at a concentration of 0.0021 mg/kg. No other VOCs were detected. No PCBs detected in any of the surface samples.

No metals concentrations exceeded the NYS Part 375 Unrestricted Use SCOs in the subsurface samples. There were exceedances of the NYS Part 375 Unrestricted Use SCOs for mercury, arsenic, nickel and zinc in the surface samples:

- Mercury was detected above the NYS Part 375 Unrestricted Use SCO of 0.18 mg/kg at SB-2 (0.43 mg/kg), SB-3 (0.48 mg/kg), and SB-4 (0.24 mg/kg);
- Arsenic was detected above the NYS Part 375 Unrestricted Use SCO of 13 mg/kg at SB-2 (20 mg/kg), SB-3 (16 mg/kg), and SB-4 (14 mg/kg);
- Nickel was detected above the NYS Part 375 Unrestricted Use SCO of 30 mg/kg at SB-1 (51 mg/kg), SB-2 (87 mg/kg), and SB-3 (36 mg/kg); and,
- Zinc was detected above the NYS Part 375 Unrestricted Use SCO of 109 mg/kg at SB-2 (130 mg/kg).

4.3 Soil Vapor Sample Data

Six soil vapor samples were analyzed for VOCs by USEPA method TO-15. The soil vapor samples were split with Envirotech, Inc. using a tee provided by the laboratory. The analytical results are presented on Table 7. The PCE results are summarized on Figure 6. NYSDOH has not established criteria or guidance values for VOCs in soil gas. A brief summary of the VOCs observed in the soil vapor is:

- PCE was detected in all six of the soil vapor samples ranging from 14 to 1,000 µg/m^3. In addition, toluene, ethylbenzene, xylene, and 4-ethyltoluene were detected in all six of the soil vapor samples;
- Benzene was detected in three of the six samples;
- 1,3,5-Trimethylbenzene, n-heptane and n-hexane were detected in five of the six samples; and,
- 2,2,4-Trimethylpentane, cyclohexane, dichlorodifluoromethane, and methylene chloride were only detected at one location (SV-1) and trichlorofluoromethane was only detected at two locations (SV-1 and SV-2).

The detected VOCs in the soil vapor samples were compared with the generic screening levels provided in draft USEPA (2002). The comparison is provided in Table 8 These threshold values are shallow gas concentrations corresponding to indoor air concentrations. A soil gas to indoor air attenuation factor of 0.1 is assumed. Guidance values are provided for three risk levels: 1x10-4, 1x10-5, and 1x10-6. Of the detected VOCs, only PCE exceeds the USEPA thresholds. Soil vapor samples from SV-5 and SV-6 exceed the 1x10-4 threshold of 881 µg/m^3 for PCE. All soil vapor samples except SV-1 exceed the 1x10-5 threshold of 81 µg/m^3. All samples have a PCE concentration exceeding the 1x10e-6 threshold of 8.1 µg/m^3.

5.0 Data Validation

Data Usability Summary Reports (DUSRs) were prepared for all on-site samples Environmental Data Services, Inc. The DUSRs are included in Appendix D. All laboratory data (on-site and off-site samples) are provided in Appendix D. A summary of the DUSRs is provided below.

Groundwater data from samples collected in May 2012 were reported by HCV as sample delivery group (SDG) 2052101. A total of 15 analyses were validated including field duplicates, a matrix spike/matrix spike duplicate (MS/MSD) and a trip blank. The analyses included VOCs and metals. There were several rejections of data. Acrolein, t-butyl alcohol, and 1,4-dioxane were rejected in all samples due to low initial calibration relative response factor values. Overall, the remaining data are acceptable for the intended purposes as qualified for the following deficiencies: twelve VOC compounds were qualified as estimated in all samples due to high continuing calibration percent difference values.

Soil data from samples collected in May 2012 were reported by HCV as SDG 2050319. A total of 15 samples were validated. A total of 15 analyses were validated including a field duplicate and a MS/MSD. The analyses included VOCs, PCBs, and metals. There were several rejections of the data. Acrolein, t-butyl alcohol, and 1,4-dioxane were rejected in all samples due to low initial calibration relative response factor values. Overall, the remaining data are acceptable for the intended purposes as qualified for the following deficiencies:

- Several VOCs compounds were qualified as estimated in all samples due to high continuing calibration percent difference values. These compounds include: trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, carbon disulfide, methyl-t-butyl ether, 2-butanone, 1,1,1-trichloroethane, and carbon tetrachloride;
- Antimony and manganese were qualified as estimated in all samples due to low MS/MSD recoveries; and,
- Calcium was qualified as estimated in six samples due to a high serial dilution percent difference value.

Soil vapor data from samples collected in May 2012 were reported by TestAmerica as SDG 200-10762. A total of six samples were validated. There were no rejections of the data. Overall, the data are acceptable for the intended purposes. There were no qualifications.

6.0 Conclusions

A summary of the site characterization findings is provided below by matrix.

Groundwater

- PCE was detected in one downgradient groundwater sample (DPW-E at 130 ft bgs) above the NY Class GA Groundwater criterion. Groundwater flow is to the south based on the groundwater elevation measurements collected at the five on-site wells. Additionally, PCE was detected in each of the soil vapor samples. The file review identified PCE as one of the primary solvents used on-site between 1955 and 1978. The PCE in groundwater may originate at the site;
- TCE was detected above the NY Class GA Groundwater criterion in the downgradient groundwater samples with the PCE exceedance (DPW-E at 130 ft bgs). TCE was not detected in the soil or soil vapor samples collected on-site. However, the file review identified TCE as one of the primary solvents used on-site between 1955 and 1978 and TCE is also a known degradation product of PCE. The TCE in groundwater may originate at the site;
- Dissolved iron was detected above the NY Class GA Groundwater criterion in all groundwater samples. The dissolved iron concentrations are expected to result from the aquifer (USEPA, 1975); and,
- Manganese exceeded the NY Class GA Groundwater criterion at three on-site wells. These wells are close to the approximate location of Outfall #2 and Outfall #3. Sodium exceeded the NY Class GA Groundwater criterion in four of the five on-site well samples (near Outfall #2, Outfall #3, and Outfall #4), and in the three downgradient samples. The location of the exceedances indicates that the compounds may originate at the site.

Soil

- There are exceedances of the NYS Part 375 Unrestricted Use SCOs for mercury, arsenic, nickel, and zinc in the surface soil samples collected on-site. Mercury and nickel were detected in samples collected on-site during past remedial activities; and,
- There are no exceedances of the NYS Part 375 Unrestricted Use SCOs for VOCs or PCBs in the soil samples.

Soil Vapor

- PCE was detected in each of the six soil vapor samples collected on-site which indicates past use at the site. The soil vapor concentrations of PCE in each sample exceed one or more of the USEPA generic screening levels. Soil vapor PCE concentrations indicate a potential threat to human health; and,
- Several additional VOCs were observed in the soil gas samples at levels below the USEPA generic screening levels.

7.0 References

AAA Backflow Inc., 1995. Correspondence from Linda Poetluk (AAA Backflow Inc.) to Mr. Mike Mangino, Bureau of Environmental Management, Nassau County Department of Health, Mineola, NY, March 1.

ASTM, 2005. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, E 1527-05, ASTM International, Philadelphia, PA.

Chu, Anthony, 2006. Hydrogeology of the Lloyd Aquifer on Long Island, New York- A Brief Summary of USGS Investigations. Presentation to the Long Island Groundwater Research Institute, Stony Brook, New York.

Earth Tech Northeast (now AECOM), 2008. Final Preliminary Environmental Site Assessment Report. July.

Environmental Data Resources (EDR), 2008. Standard Package Report for Sulzer Metco, Inc. 1101 Prospect Avenue, Westbury, NY 11590. January.

Kalogeras & Grosser Consulting Engineers, 1998. Correspondence from J Robert Holzmacher (Kalogeras & Grosser Consulting Engineers) to Mr. Bruce F. Mackey, Office of Groundwater Assessment and Enforcement, Bureau of Water Supply Protection, Nassau County Department of Health, Mineola, NY, December 23.

New York State Department of Environmental Conservation (NYSDEC), 1999. RCRA Inspection Report, January 6.

Nixon, Hargrave, Devans & Doyle, 1994. Correspondence from Michael Tone (Nixon, Hargrave, Devans & Doyle) to Mr. Heinzer and Mr. Tone, Perkin-Elmer Corporation, Norwalk, CT, March 26.

NYSDEC, 2002. Draft DER-10, Technical Guidance for Site Investigation and Remediation. December.

NYSDEC, 2010. NYSDEC Division of Environmental Remediation DER-10 Technical Guidance for Site Investigation and Remediation. May.

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

P. W. Grosser Consulting Engineers & Hydrogeologist, P.C., 1998. Final Closure Report for Distribution Box & Settling Tank, Bohemia, NY 11716, September 11, 1998.

Seth, Foreman, 2006. Groundwater: Tapping the Lloyd Reservoir, Long Island Regional Planning Board, Draft Action Memo.

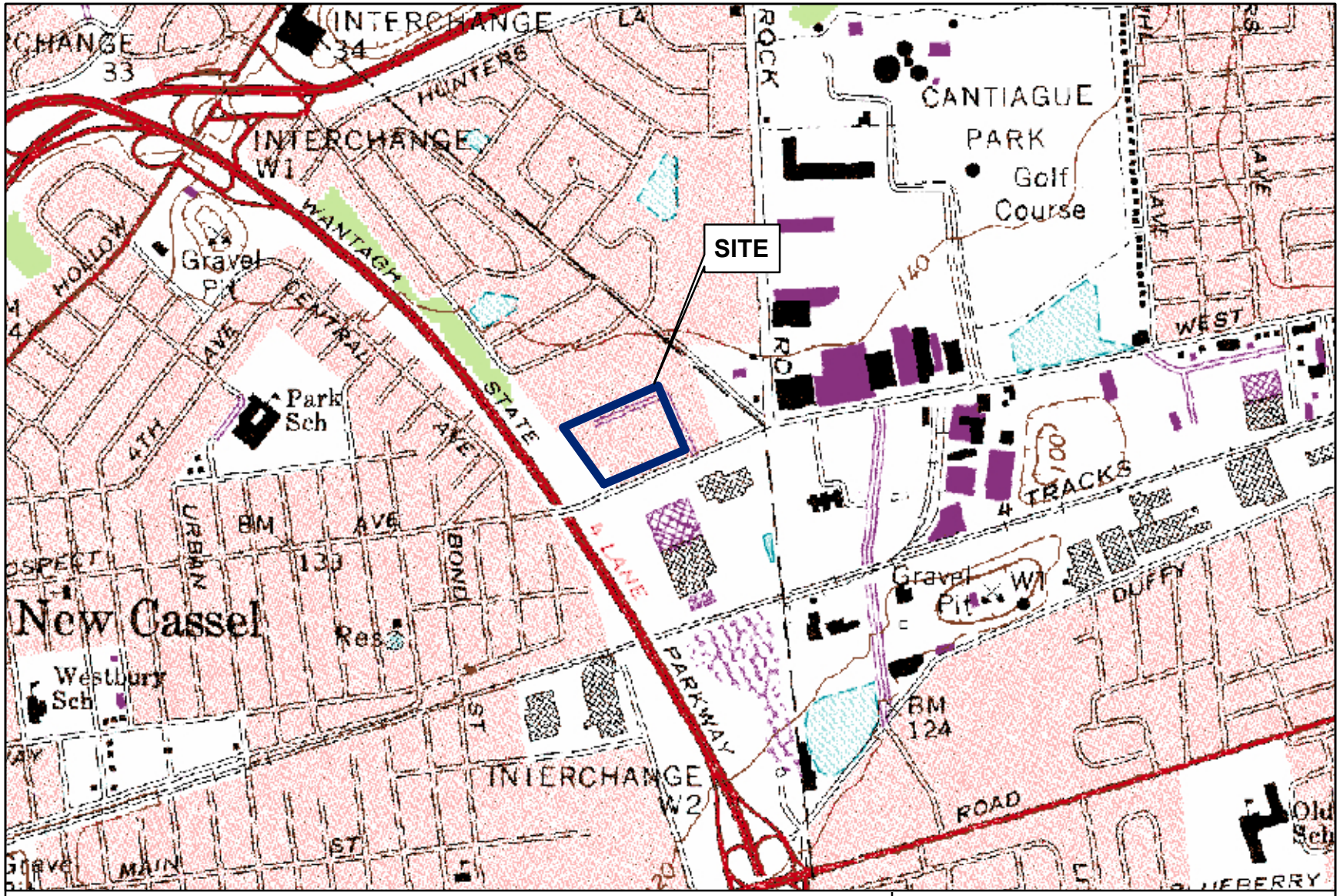
Stumm, Frederick, 2006. Hydrogeology and Extent of Saltwater Intrusion of the Lloyd Aquifer in Northern Nassau County, New York. Presentation to the Long Island Groundwater Research Institute, Stony Brook, New York, 2006.

Geraghty & Miller, Inc., 1994. Summary of Environmental Site Assessments Conducted at the Perkin-Elmer Metco Division Facilities, Long Island, New York, Geraghty & Miller, Inc., Plainview, New York 11803. March.

United States Environment Protection Agency (USEPA), 1975. Nassau-Suffolk Aquifer System. May.

USEPA, 2002. OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). EPA530-D-02-004. November.

Figures



NORTH

1,000 500 0 Feet

Sulzer Metco, Inc. Westbury, NY

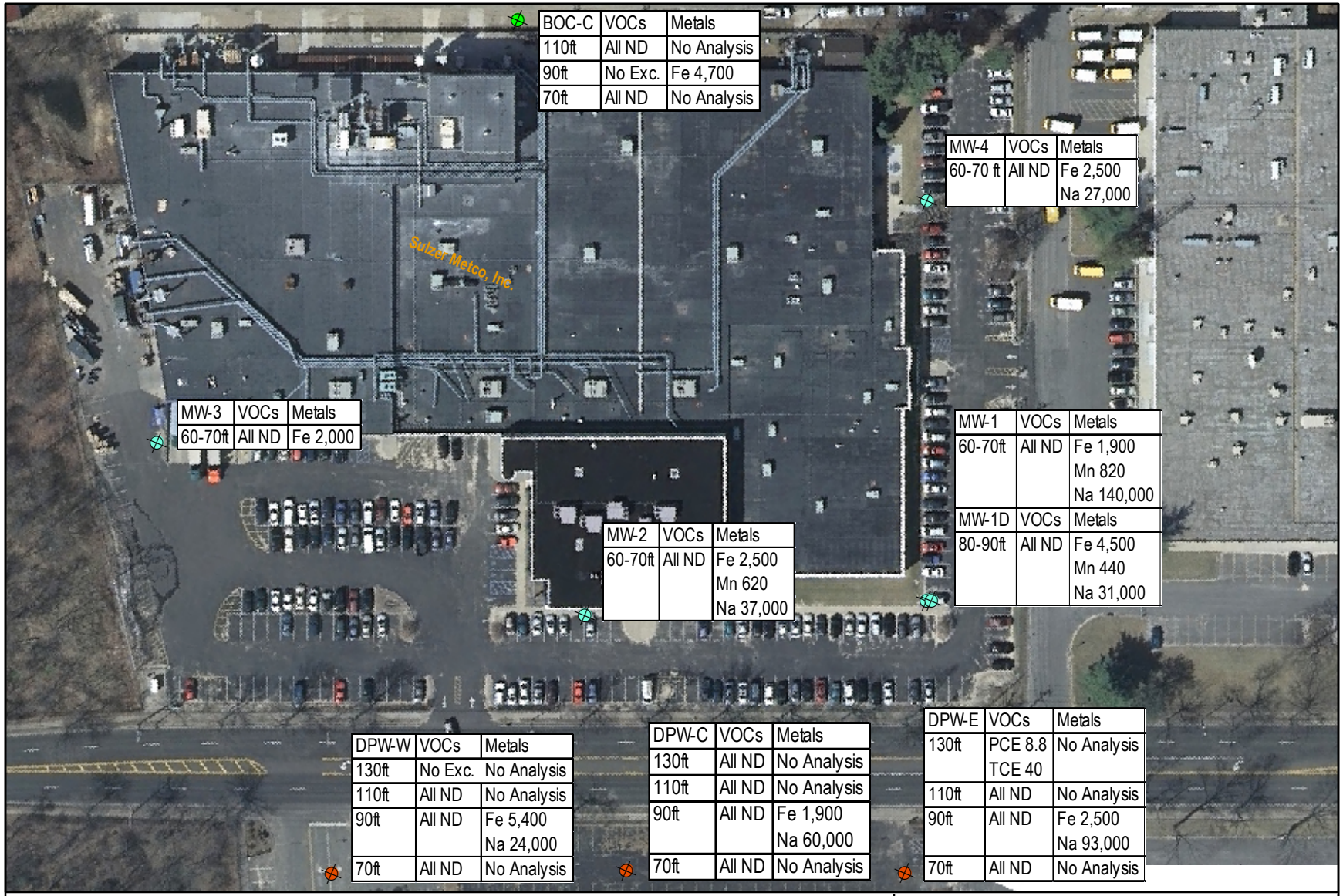
Figure 1

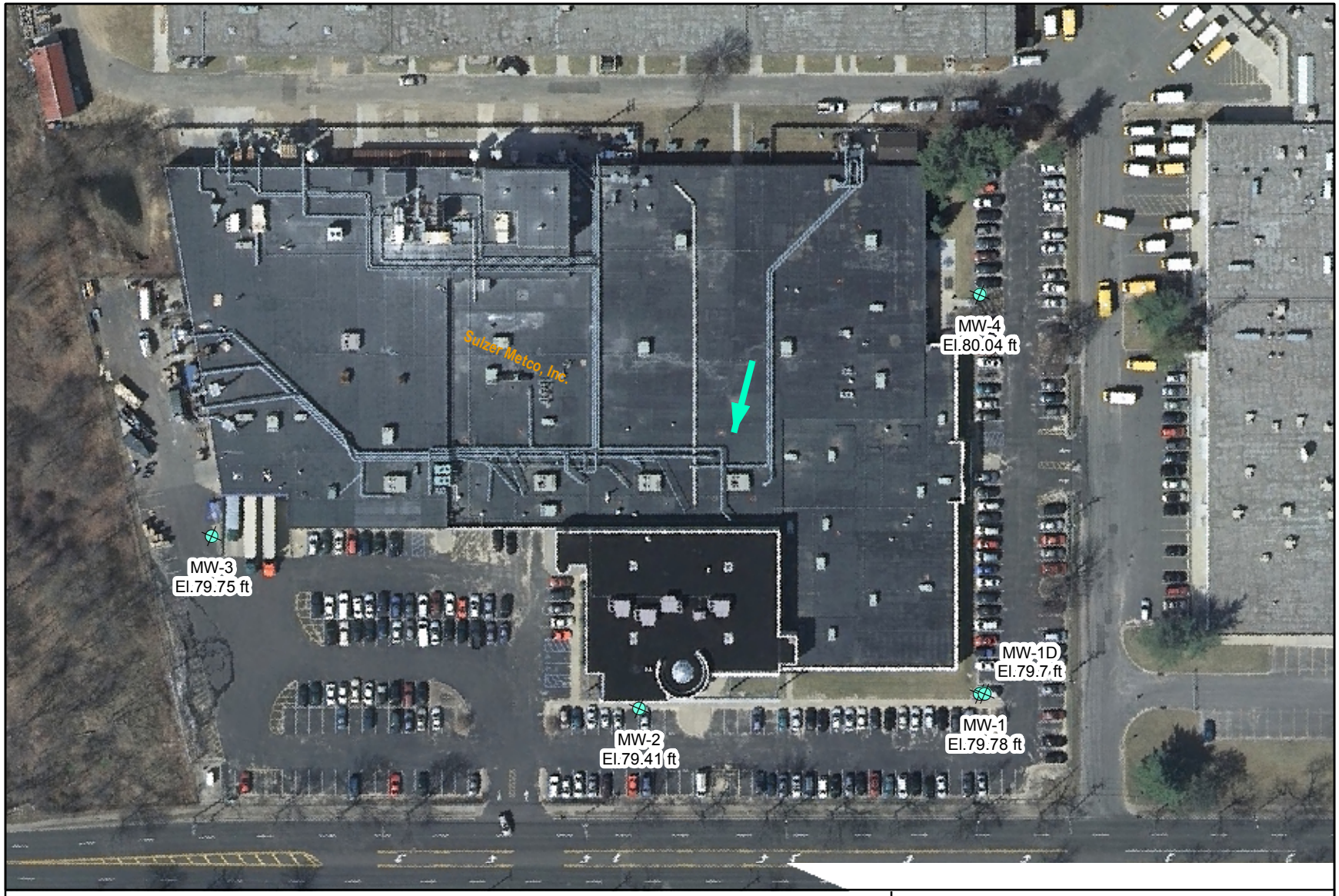
Site Location Map

Sulzer Metco, Inc. Westbury, NY

Figure 2

Site Layout


Sulzer Metco, Inc.
BOC-C | VOCs | Metals
110ft | All ND | No Analysis
90ft | No Exc. | Fe 4,700
70ft | All ND | No Analysis
MW-4 | VOCs | Metals
60-70 ft | All ND | Fe 2,500 Na 27,000
MW-3 | VOCs | Metals
60-70ft | All ND | Fe 2,000
MW-1 | VOCs | Metals
60-70ft | All ND | Fe 1,900 Mn 820 Na 140,000
MW-1D | VOCs | Metals
80-90ft | All ND | Fe 4,500 Mn 440 Na 31,000
MW-2 | VOCs | Metals
60-70ft | All ND | Fe 2,500 Mn 620 Na 37,000
DPW-W | VOCs | Metals
130ft | No Exc. | No Analysis
110ft | All ND | No Analysis
90ft | All ND | Fe 5,400 Na 24,000
70ft | All ND | No Analysis
DPW-C | VOCs | Metals
130ft | All ND | No Analysis
110ft | All ND | No Analysis
90ft | All ND | Fe 1,900 Na 60,000
70ft | All ND | No Analysis
DPW-E | VOCs | Metals
130ft | PCE 8.8 TCE 40 | No Analysis
110ft | All ND | No Analysis
90ft | All ND | Fe 2,500 Na 93,000
70ft | All ND | No Analysis
NORTH
100 50 0 Feet
Permanent Monitoring Well
Downgradient Location
Upgradient Location
Units: µg/L
Groundwater sample results exceeding the NYS Class GA groundwater criteria are identified on the figure.
ND - Non-detect
bgs- Below ground surface
No Exc. - No Exceedances of criteria
FE - Iron, Na - Sodium, Mn - Manganene
Depths are feet below ground surface
Sulzer Metco, Inc. Westbury, NY
Figure 3
Groundwater Sample Results



Sulzer Metco, Inc. Westbury, NY

Figure 4

Groundwater Elevations

May 2012


SB-2
SB-2 | VOCs | PCBs | Metals
0-0.5ft | All ND | All ND | Hg 0.43, Ar 20, Ni 87, Zn 130
17-17.5 ft | All ND | All ND | No Exc.
SB-1
SB-1 | VOCs | PCBs | Metals
0-0.5ft | All ND | All ND | Ni 51
19.5-20ft | All ND | All ND | No Exc.
SB-3
SB-3 | VOCs | PCBs | Metals
0-0.5ft | All ND | All ND | Hg 0.48, Ar 16, Ni 36
19.5-20ft | All ND | All ND | No Exc.
SB-6
SB-6 | VOCs | PCBs | Metals
0-0.5ft | All ND | All ND | No Exc.
19.5-20ft | All ND | All ND | No Exc.
Sulzer Metco, Inc.
SB-5
SB-5 | VOCs | PCBs | Metals
0-0.5ft | All ND | All ND | No Exc.
19.5-20ft | All ND | All ND | No Exc.
SB-4
SB-4 | VOCs | PCBs | Metals
0-0.5ft | No Exc. | All ND | Hg 0.24, Ar 14
19.5-20ft | All ND | All ND | No Exc.
NORTH
100 50 0 Feet
Soil Boring
Units: mg/kg
Soil sample results exceeding the NYS Part 375 unrestricted criteria are identified on the figure.
ND - Non-detect
No Exc. - No Exceedances of criteria
Hg-Mercury, Ar-Arsenic, Ni-Nickel, Zn-Zinc.
Depths are feet below ground surface.
Sulzer Metco, Inc. Westbury, NY
Figure 5
Soil Sampling Results

NORTH

100 50 0 Feet

Soil Vapor Sample

Units: µg/m3

Tetrachloroethene (PCE) soil vapor sample results are identified on the figure. Other VOC detections are shown In Table 7.
Depths are feet below ground surface.

Sulzer Metco, Inc. Westbury, NY
Figure 6
Soil Vapor Sampling Results

Tables

Table 1
Monitoring Well Information
Sulzer Metco, Inc. Site

Well ID	Well Depth (ft bgs)	Screen Interval Depth (ft bgs)	Screen Interval Elevation (ft amsl)	Top of Casing (ft amsl)	Depth to Water 5/19/2012	Groundwater Elevation 5/19/2012
MW-1	70	60-70	116.61-106.61	136.61	56.83	79.78
MW-1D	90	80-90	136.55-136.55	136.55	56.85	79.70
MW-2	70	60-70	116.05-106.05	136.05	56.64	79.41
MW-3	70	60-70	110.52-100.52	135.52	55.77	79.75
MW-4	70	60-70	111.42-101.42	136.42	56.38	80.04

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	MW-1 U	MW-1D U	MW-2 U	MW-52 U	MW-3 U
	LAB ID:	AC66018-005	AC66018-003	AC66018-009	AC66018-011	AC66018-007
	COLLECTION DATE:	5/19/2012	5/19/2012	5/19/2012	5/19/2012	5/19/2012
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Sample Duplicate	Env. Sample
Units: µg/L	NY Class GA Standards	MW-1 Unfiltered	MW-1D Unfiltered	MW-2 Unfiltered	MW-2 Unfiltered	MW-3 Unfiltered
1,1,1-Trichloroethane	5	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
1,2-Dichloroethane	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
1,3-Dichloropropane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
1,4-Dioxane	NA	R	R	R	R	R
2-Butanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethylvinylether	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Isopropyltoluene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
4-Methyl-2-pentanone	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	50	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Acrolein	5	R	R	R	R	R
Acrylonitrile	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
m&p-Xylenes	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Methylene chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-t-butyl ether	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	MW-1 U	MW-1D U	MW-2 U	MW-52 U	MW-3 U
	LAB ID:	AC66018-005	AC66018-003	AC66018-009	AC66018-011	AC66018-007
	COLLECTION DATE:	5/19/2012	5/19/2012	5/19/2012	5/19/2012	5/19/2012
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Sample Duplicate	Env. Sample
Units: µg/L	NY Class GA Standards	MW-1 Unfiltered	MW-1D Unfiltered	MW-2 Unfiltered	MW-2 Unfiltered	MW-3 Unfiltered
n-Butylbenzene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
n-Propylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
sec-Butylbenzene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
t-Butyl Alcohol	NA	R	R	R	R	R
t-Butylbenzene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Tetrachloroethene	5	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Exceeds Criterion

U - Not detected

J - Estimated

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	MW-4 U	130178DPW-C130	130178DPW-C110	130178DPW-C090	130178DPW-C090D
	LAB ID:	AC66018-001	AC49166-002	AC49166-003	AC49166-005	AC49166-006
	COLLECTION DATE:	5/19/2012	12/28/2009	12/28/2009	12/28/2009	12/28/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Sample Duplicate
Units: µg/L	NY Class GA Standards	MW-4 Unfiltered	DPW-C 130 ft	DPW-C 110 ft	DPW-C 90 ft	DPW-C 90 ft
1,1,1-Trichloroethane	5	1 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	NA	R	50 U	50 U	50 U	50 U
2-Butanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethylvinylether	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Isopropyltoluene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	50	10.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrolein	5	R	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	1	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-t-butyl ether	10	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	MW-4 U	130178DPW-C130	130178DPW-C110	130178DPW-C090	130178DPW-C090D
	LAB ID:	AC66018-001	AC49166-002	AC49166-003	AC49166-005	AC49166-006
	COLLECTION DATE:	5/19/2012	12/28/2009	12/28/2009	12/28/2009	12/28/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Sample Duplicate
Units: µg/L	NY Class GA Standards	MW-4 Unfiltered	DPW-C 130 ft	DPW-C 110 ft	DPW-C 90 ft	DPW-C 90 ft
n-Butylbenzene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
t-Butyl Alcohol	NA	R	5.0 U	5.0 U	5.0 U	5.0 U
t-Butylbenzene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Exceeds Criterion
U - Not detected
J - Estimated

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178DPW-C070	130178DPW-E130	130178DPW-E110	130178DPW-E090	130178DPW-E070
	LAB ID:	AC49166-004	AC49166-014	AC49166-015	AC49166-016	AC49166-018
	COLLECTION DATE:	12/28/2009	12/29/2009	12/29/2009	12/29/2009	12/29/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	DPW-C 70 ft	DPW-E 130 ft	DPW-E 110 ft	DPW-E 90 ft	DPW-E 70 ft
1,1,1-Trichloroethane	5	1.0 U	1.6	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	3.8	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	NA	50 U	50 U	50 U	50 U	50 U
2-Butanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethylvinylether	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Isopropyltoluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrolein	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	1	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-t-butyl ether	10	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178DPW-C070	130178DPW-E130	130178DPW-E110	130178DPW-E090	130178DPW-E070
	LAB ID:	AC49166-004	AC49166-014	AC49166-015	AC49166-016	AC49166-018
	COLLECTION DATE:	12/28/2009	12/29/2009	12/29/2009	12/29/2009	12/29/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	DPW-C 70 ft	DPW-E 130 ft	DPW-E 110 ft	DPW-E 90 ft	DPW-E 70 ft
n-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
t-Butyl Alcohol	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
t-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	**8.8**	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	**40**	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Exceeds Criterion
U - Not detected
J - Estimated

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178DPW-W130	130178DPW-W110	130178DPW-W090	130178DPW-W070	130178BOC-C110
	LAB ID:	AC49175-001	AC49175-002	AC49175-003	AC49175-004	AC49166-019
	COLLECTION DATE:	1/4/2010	1/4/2010	1/4/2010	1/4/2010	12/30/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	DPW-W 130 ft	DPW-W 110 ft	DPW-W 90 ft	DPW-W 70 ft	BOC-C 110 ft
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	NA	50 U	50 U	50 U	50 U	50 U
2-Butanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chloroethylvinylether	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Isopropyltoluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-pentanone	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Acetone	50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrolein	5	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	5	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Benzene	1	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	60	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m&p-Xylenes	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl-t-butyl ether	10	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178DPW-W130	130178DPW-W110	130178DPW-W090	130178DPW-W070	130178BOC-C110
	LAB ID:	AC49175-001	AC49175-002	AC49175-003	AC49175-004	AC49166-019
	COLLECTION DATE:	1/4/2010	1/4/2010	1/4/2010	1/4/2010	12/30/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	DPW-W 130 ft	DPW-W 110 ft	DPW-W 90 ft	DPW-W 70 ft	BOC-C 110 ft
n-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
n-Propylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
sec-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
t-Butyl Alcohol	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
t-Butylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.1	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Exceeds Criterion

U - Not detected

J - Estimated

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178BOC-C090	130178BOC-C070
	LAB ID:	AC49166-020	AC49166-022
	COLLECTION DATE:	12/30/2009	12/30/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	BOC-C 90 ft	BOC-C 70 ft
1,1,1-Trichloroethane	5	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5	5.0 U	5.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U
1,2,3-Trichloropropane	0.04	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U
1,2-Dichloroethane	0.6	0.50 U	0.50 U
1,2-Dichloropropane	1	1.0 U	1.0 U
1,3,5-Trimethylbenzene	5	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U
1,3-Dichloropropane	5	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U
1,4-Dioxane	NA	50 U	50 U
2-Butanone	50	1.0 U	1.0 U
2-Chloroethylvinylether	NA	1.0 U	1.0 U
2-Hexanone	50	1.0 U	1.0 U
4-Isopropyltoluene	5	1.0 U	1.0 U
4-Methyl-2-pentanone	NA	1.0 U	1.0 U
Acetone	50	5.0 U	5.0 U
Acrolein	5	5.0 U	5.0 U
Acrylonitrile	5	2.0 U	2.0 U
Benzene	1	0.50 U	0.50 U
Bromodichloromethane	50	1.0 U	1.0 U
Bromoform	50	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U
Carbon disulfide	60	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U
Chloroform	7	1.5	1.0 U
Chloromethane	5	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U
cis-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U
Isopropylbenzene	5	1.0 U	1.0 U
m&p-Xylenes	5	1.0 U	1.0 U
Methylene chloride	5	1.0 U	1.0 U
Methyl-t-butyl ether	10	0.50 U	0.50 U

Table 2
VOCs in Groundwater
Sulzer Metco, Inc. Site

	CLIENT ID:	130178BOC-C090	130178BOC-C070
	LAB ID:	AC49166-020	AC49166-022
	COLLECTION DATE:	12/30/2009	12/30/2009
	SAMPLE TYPE:	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	BOC-C 90 ft	BOC-C 70 ft
n-Butylbenzene	5	1.0 U	1.0 U
n-Propylbenzene	5	1.0 U	1.0 U
o-Xylene	5	1.0 U	1.0 U
sec-Butylbenzene	5	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U
t-Butyl Alcohol	NA	5.0 U	5.0 U
t-Butylbenzene	5	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U
Toluene	5	1.5	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U
trans-1,3-Dichloropropene	cis+trans =0.4	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U

Exceeds Criterion
U - Not detected
J - Estimated

Table 3
Metals in Groundwater
Sulzer Metco, Inc. Site

CLIENT ID:		MW-1 F	MW-1D F	MW-2 F	MW-52 F	MW-3 F	MW-4 F
LAB ID:		AC66018-006	AC66018-004	AC66018-010	AC66018-012	AC66018-008	AC66018-002
COLLECTION DATE:		5/19/2012	5/19/2012	5/19/2012	5/19/2012	5/19/2012	5/19/2012
SAMPLE TYPE:		Env. Sample	Env. Sample	Env. Sample	Sample Duplicate	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	MW-1 Filtered	MW-1D Filtered	MW-2 Filtered	MW-2 Filtered	MW-3 Filtered	MW-4 Filtered
Mercury	0.7	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
Aluminum	NA	180 U	180 U	180 U	180 U	640	180 U
Antimony	3	12 U	12 U	12 U	12 U	12 U	12 U
Arsenic	25	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Barium	1,000	71	50 U	130	120	50 U	50 U
Beryllium	3	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Cadmium	5	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Calcium	NA	34,000	19,000	29,000	29,000	6,500	6,800
Chromium	50	50 U	50 U	50 U	50 U	50 U	50 U
Cobalt	NA	20 U	20 U	20 U	20 U	20 U	20 U
Copper	200	50 U	50 U	50 U	50 U	50 U	50 U
Iron	300	**1,900**	**4,500**	**2,500**	**2,400**	**2,000**	**2,500**
Lead	25	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Magnesium	35,000	3,600	2,800	4,600	4,600	2000 U	2000 U
Manganese	300	**820**	**440**	**620**	**610**	100	230
Nickel	100	50 U	50 U	50 U	50 U	50 U	50 U
Potassium	NA	5000 U	5000 U	5000 U	5000 U	5000 U	5000 U
Selenium	10	40 U	40 U	40 U	40 U	40 U	40 U
Silver	50	20 U	20 U	20 U	20 U	20 U	20 U
Sodium	20,000	**140,000**	**31,000**	**37,000**	**36,000**	18,000	**27,000**
Thallium	NA	10 U	10 U	10 U	10 U	10 U	10 U
Vanadium	NA	50 U	50 U	50 U	50 U	50 U	50 U
Zinc	NA	190	50 U	50 U	50 U	50 U	50 U

Exceeds Criterion
U - Not detected

Table 3
Metals in Groundwater
Sulzer Metco, Inc. Site

CLIENT ID:		130178DPW-C090F	130178DPW-C090DF	130178DPW-E090F	130178DPW-W090F	130178BOC-C090F
LAB ID:		AC49166-009	AC49166-010	AC49166-017	AC49175-005	AC49166-021
COLLECTION DATE:		12/28/2009	12/28/2009	12/29/2009	1/4/2010	12/30/2009
SAMPLE TYPE:		Env. Sample	Sample Duplicate	Env. Sample	Env. Sample	Env. Sample
Units: µg/L	NY Class GA Standards	DPW-C, 90 ft Filtered	DPW-C, 90 ft Filtered	DPW-E, 90 ft Filtered	DPW-W, 90 ft Filtered	BOC-C, 90 ft Filtered
Mercury	0.7	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
Aluminum	NA	180 U	180 U	380	180 U	180 U
Antimony	3	12 U	12 U	12 U	12 U	12 U
Arsenic	25	7.5 U	7.5 U	7.5 U	7.5 U	7.5 U
Barium	1,000	50 U	50 U	200	210	62
Beryllium	3	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Cadmium	5	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U
Calcium	NA	10,000	10,000	26,000	20,000	13,000
Chromium	50	50 U	50 U	50 U	50 U	50 U
Cobalt	NA	20 U	20 U	20 U	20 U	20 U
Copper	200	50 U	50 U	50 U	50 U	50 U
Iron	300	**1,900**	**1,900**	**2,500**	**5,400**	**4,700**
Lead	25	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
Magnesium	35,000	2,000 U	2,000 U	6,100	3,200	3,700
Manganese	300	290	280	240	170	280
Nickel	100	50 U	50 U	50 U	50 U	50 U
Potassium	NA	5,000 U	5,000 U	5,000 U	5,000 U	5,000 U
Selenium	10	40 U	40 U	40 U	40 U	40 U
Silver	50	20 U	20 U	20 U	20 U	20 U
Sodium	20,000	14,000	14,000	**93,000**	**24,000**	18,000
Thallium	NA	10 U	10 U	10 U	10 U	10 U
Vanadium	NA	50 U	50 U	50 U	50 U	50 U
Zinc	NA	50 U	50 U	150	160	120

Exceeds Criterion
U - Not detected

Table 4
VOCs in Soil
Sulzer Metco, Inc. Site

	CLIENT ID:	SB-1-0-0.5	SB-51-0-0.5	SB-1-19.5-20	SB-2-0-0.5	SB-2-17-17.5	SB-3-0-0.5	SB-3-19.5-20
	COLLECTION DATE:	5/1/2012	5/1/2012	5/1/2012	5/2/2012	5/2/2012	5/1/2012	5/1/2012
	SAMPLE MATRIX:	Env. Sample	Sample Duplicate	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: mg/kg	Part 375 Unrestricted	SB-1 0 - 0.5 ft	SB-1 0 - 0.5 ft	SB-1 19.5 - 20 ft	SB-2 0 - 0.5 ft	SB-2 17 - 17.5 ft	SB-3 0 - 0.5 ft	SB-3 19.5 - 20 ft
1,1,1-Trichloroethane	0.68	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
1,1,2,2-Tetrachloroethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
1,1,2-Trichloroethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
1,1-Dichloroethane	0.27	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
1,1-Dichloroethene	0.33	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
1,2,3-Trichloropropane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,2,4-Trimethylbenzene	3.6	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
1,2-Dichlorobenzene	1.1	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,2-Dichloroethane	0.02	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,2-Dichloropropane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
1,3,5-Trimethylbenzene	8.4	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 UJ	0.001 U
1,3-Dichlorobenzene	2.4	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,3-Dichloropropane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
1,4-Dichlorobenzene	1.8	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 U
1,4-Dioxane	0.1	R	R	R	R	R	R	R
2-Butanone	0.12	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
2-Chloroethylvinylether	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
2-Hexanone	NA	0.002 UJ	0.0021 UJ	0.002 UJ	0.0022 UJ	0.002 UJ	0.0023 U	0.002 U
4-Isopropyltoluene	NA	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
4-Methyl-2-pentanone	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Acetone	0.05	0.0099 U	0.01 U	0.01 U	0.011 U	0.01 U	0.012 U	0.01 U
Acrolein	NA	R	R	R	R	R	R	R
Acrylonitrile	NA	0.005 U	0.0051 U	0.0051 U	0.0055 U	0.005 U	0.0059 U	0.0051 U
Benzene	0.06	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
Bromodichloromethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
Bromoform	NA	0.002 UJ	0.0021 UJ	0.002 UJ	0.0022 UJ	0.002 UJ	0.0023 U	0.002 U
Bromomethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Carbon disulfide	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 UJ	0.002 UJ
Carbon tetrachloride	0.76	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
Chlorobenzene	1.1	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
Chloroethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Chloroform	0.37	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U

Table 4
VOCs in Soil
Sulzer Metco, Inc. Site

	CLIENT ID:	SB-1-0-0.5	SB-51-0-0.5	SB-1-19.5-20	SB-2-0-0.5	SB-2-17-17.5	SB-3-0-0.5	SB-3-19.5-20
	COLLECTION DATE:	5/1/2012	5/1/2012	5/1/2012	5/2/2012	5/2/2012	5/1/2012	5/1/2012
	SAMPLE MATRIX:	Env. Sample	Sample Duplicate	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
	Part 375	SB-1	SB-1	SB-1	SB-2	SB-2	SB-3	SB-3
Units: mg/kg	Unrestricted	0 - 0.5 ft	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	17 - 17.5 ft	0 - 0.5 ft	19.5 - 20 ft
Chloromethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
cis-1,2-Dichloroethene	0.25	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
cis-1,3-Dichloropropene	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Dibromochloromethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Dichlorodifluoromethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Ethylbenzene	1	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
Isopropylbenzene	NA	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
m&p-Xylenes	NA	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
Methylene chloride	0.05	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Methyl-t-butyl ether	0.93	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 UJ
n-Butylbenzene	12	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
n-Propylbenzene	3.9	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
o-Xylene	NA	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 UJ	0.001 U
sec-Butylbenzene	11	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
Styrene	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
t-Butyl Alcohol	NA	R	R	R	R	R	R	R
t-Butylbenzene	5.9	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
Tetrachloroethene	1.3	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Toluene	0.7	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U
trans-1,2-Dichloroethene	0.19	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
trans-1,3-Dichloropropene	NA	0.002 UJ	0.0021 UJ	0.002 UJ	0.0022 UJ	0.002 UJ	0.0023 U	0.002 U
Trichloroethene	0.47	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Trichlorofluoromethane	NA	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 UJ
Vinyl chloride	0.02	0.002 U	0.0021 U	0.002 U	0.0022 U	0.002 U	0.0023 U	0.002 U
Xylenes (Total)	0.26	0.00099 U	0.001 U	0.001 U	0.0011 U	0.001 U	0.0012 U	0.001 U

U - Not detected
J - Estimated
R - Rejected

Table 4
VOCs in Soil
Sulzer Metco, Inc. Site

	CLIENT ID:	SB-4-0-0.5	SB-4-19.5-20	SB-5-0-0.5	SB-5-19.5-20	SB-6-0-0.5	SB-6-19.5-20
	COLLECTION DATE:	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012
	SAMPLE MATRIX:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
	Part 375	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6
Units: mg/kg	Unrestricted	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft
1,1,1-Trichloroethane	0.68	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
1,1,2,2-Tetrachloroethane	NA	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
1,1,2-Trichloroethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
1,1-Dichloroethane	0.27	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
1,1-Dichloroethene	0.33	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
1,2,3-Trichloropropane	NA	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,2,4-Trimethylbenzene	3.6	0.0021	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	1.1	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,2-Dichloroethane	0.02	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,2-Dichloropropane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
1,3,5-Trimethylbenzene	8.4	0.0011 U	0.001 U	0.0011 UJ	0.001 UJ	0.001 UJ	0.001 UJ
1,3-Dichlorobenzene	2.4	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,3-Dichloropropane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
1,4-Dichlorobenzene	1.8	0.0022 U	0.0021 U	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
1,4-Dioxane	0.1	R	R	R	R	R	R
2-Butanone	0.12	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
2-Chloroethylvinylether	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
2-Hexanone	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
4-Isopropyltoluene	NA	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
4-Methyl-2-pentanone	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Acetone	0.05	0.011 U	0.01 U	0.011 U	0.01 U	0.01 U	0.01 U
Acrolein	NA	R	R	R	R	R	R
Acrylonitrile	NA	0.0056 U	0.0052 U	0.0053 U	0.0051 U	0.0051 U	0.0051 U
Benzene	0.06	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
Bromodichloromethane	NA	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
Bromoform	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Bromomethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Carbon disulfide	NA	0.0022 UJ	0.0021 UJ	0.0021 UJ	0.0021 UJ	0.002 UJ	0.002 UJ
Carbon tetrachloride	0.76	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
Chlorobenzene	1.1	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
Chloroethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Chloroform	0.37	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U

Table 4
VOCs in Soil
Sulzer Metco, Inc. Site

	CLIENT ID:	SB-4-0-0.5	SB-4-19.5-20	SB-5-0-0.5	SB-5-19.5-20	SB-6-0-0.5	SB-6-19.5-20
	COLLECTION DATE:	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012
	SAMPLE MATRIX:	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
	Part 375	SB-4	SB-4	SB-5	SB-5	SB-6	SB-6
Units: mg/kg	Unrestricted	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft
Chloromethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
cis-1,2-Dichloroethene	0.25	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
cis-1,3-Dichloropropene	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Dibromochloromethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Dichlorodifluoromethane	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Ethylbenzene	1	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
Isopropylbenzene	NA	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
m&p-Xylenes	NA	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.05	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Methyl-t-butyl ether	0.93	0.0011 UJ	0.001 UJ	0.0011 U	0.001 U	0.001 U	0.001 U
n-Butylbenzene	12	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
n-Propylbenzene	3.9	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
o-Xylene	NA	0.0011 U	0.001 U	0.0011 UJ	0.001 UJ	0.001 UJ	0.001 UJ
sec-Butylbenzene	11	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
Styrene	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
t-Butyl Alcohol	NA	R	R	R	R	R	R
t-Butylbenzene	5.9	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
Tetrachloroethene	1.3	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Toluene	0.7	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	0.19	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
trans-1,3-Dichloropropene	NA	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Trichloroethene	0.47	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Trichlorofluoromethane	NA	0.0022 UJ	0.0021 UJ	0.0021 U	0.0021 U	0.002 U	0.002 U
Vinyl chloride	0.02	0.0022 U	0.0021 U	0.0021 U	0.0021 U	0.002 U	0.002 U
Xylenes (Total)	0.26	0.0011 U	0.001 U	0.0011 U	0.001 U	0.001 U	0.001 U

U - Not detected
J - Estimated
R - Rejected

Table 5
PCBs in Soil
Sulzer Metco, Inc. Site

	CLIENT ID:	SB-1-0-0.5	SB-51-0-0.5	SB-2-0-0.5	SB-3-0-0.5	SB-4-0-0.5	SB-5-0-0.5	SB-6-0-0.5
	COLLECTION DATE:	5/1/2012	5/1/2012	5/2/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012
	SAMPLE MATRIX:	Env. Sample	Sample Duplicate	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
Units: mg/kg	Part 375 Unrestricted	SB-1 0 - 0.5 ft	SB-1 0 - 0.5 ft	SB-2 0 - 0.5 ft	SB-3 0 - 0.5 ft	SB-4 0 - 0.5 ft	SB-5 0 - 0.5 ft	SB-6 0 - 0.5 ft
Aroclor (Total)	0.1	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1016	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1221	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1232	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1242	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1248	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1254	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1260	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1262	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U
Aroclor-1268	NA	0.026 U	0.026 U	0.028 U	0.029 U	0.028 U	0.027 U	0.026 U

U - Not detected

Table 6
Metals in Soil
Sulzer Metco, Inc. Site

CLIENT ID:		SB-1-0-0.5	SB-51-0-0.5	SB-1-19.5-20	SB-2-0-0.5	SB-2-17-17.5	SB-3-0-0.5	SB-3-19.5-20	SB-4-0-0.5	SB-4-19.5-20
COLLECTION DATE:		5/1/2012	5/1/2012	5/1/2012	5/2/2012	5/2/2012	5/1/2012	5/1/2012	5/1/2012	5/1/2012
SAMPLE MATRIX:		Env. Sample	Sample Duplicate	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample	Env. Sample
	Part375	SB-1	SB-1	SB-1	SB-2	SB-2	SB-3	SB-3	SB-4	SB-4
Units: mg/kg	Unrestricted	0 - 0.5 ft	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	17 - 17.5 ft	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft
Mercury	0.18	0.086 U	0.11	0.087 U	**0.43**	0.085 U	**0.48**	0.086 U	**0.24**	0.087 U
Aluminum	NA	3,200	3,400	1,200	7,800	1,300	7,400	1,200	6,100	1,900
Antimony	NA	2.1 UJ	2.1 UJ	2.1 UJ	2.2 UJ	2 UJ	2.4 UJ	2.1 UJ	2.2 UJ	2.1 UJ
Arsenic	13	3.6	4.1	2.1 U	**20**	2 U	**16**	2.1 U	**14**	2.1 U
Barium	350	12	14	10 U	29	10 U	27	10 U	21	10 U
Beryllium	7.2	0.62 U	0.62 U	0.62 U	0.67 U	0.61 U	0.71 U	0.62 U	0.67 U	0.62 U
Cadmium	2.5	0.62 U	0.62 U	0.62 U	0.67 U	0.61 U	1.2	0.62 U	0.67 U	0.62 U
Calcium	NA	7,000 J	6,400 J	1000 U	2,500 J	1000 U	3,700 J	1000 U	2,700 J	1000 U
Chromium	30	6.7	9.8	7.5	20	7.6	24	5.2 U	9.6	13
Cobalt	NA	5	6.1	2.6 U	35	2.6 U	6.9	2.6 U	2.9	2.6 U
Copper	50	10	13	6.5	41	5.1 U	46	5.2 U	18	5.7
Iron	NA	5,100	7,100	3,300	10,000	3,700	9,100	3,600	8,500	6,600
Lead	63	7.1	9.3	5.2 U	40	5.1 U	32	5.2 U	19	5.2 U
Magnesium	NA	3,600	3,200	520 U	880	510 U	1,800	520 U	1,100	540
Manganese	1600	58 J	68 J	30 J	93 J	47 J	110 J	34 J	160 J	67 J
Nickel	30	23	**51**	16	**87**	5.1 U	**36**	5.2 U	8.8	5.2 U
Potassium	NA	520 U	520 U	520 U	560 U	510 U	590 U	520 U	560 U	520 U
Selenium	3.9	1.9 U	1.9 U	1.9 U	2 U	1.8 U	2.1 U	1.9 U	2 U	1.9 U
Silver	2	1.5 U	1.6 U	1.6 U	1.7 U	1.5 U	1.8 U	1.5 U	1.7 U	1.6 U
Sodium	NA	260 U	260 U	260 U	280 U	260 U	290 U	260 U	280 U	260 U
Thallium	NA	1.2 U	1.2 U	1.2 U	1.3 U	1.2 U	1.4 U	1.2 U	1.3 U	1.2 U
Vanadium	NA	10 U	10 U	10 U	16	10 U	15	10 U	12	10 U
Zinc	109	19	25	11	**130**	10 U	41	10 U	23	16

Exceeds Criterion
U - Not detected
J - Estimated

Table 6
Metals in Soil
Sulzer Metco, Inc. Site

CLIENT ID:		SB-5-0-0.5	SB-5-19.5-20	SB-6-0-0.5	SB-6-19.5-20
COLLECTION DATE:		5/1/2012	5/1/2012	5/1/2012	5/1/2012
SAMPLE MATRIX:		Env. Sample	Env. Sample	Env. Sample	Env. Sample
	Part375	SB-5	SB-5	SB-6	SB-6
Units: mg/kg	Unrestricted	0 - 0.5 ft	19.5 - 20 ft	0 - 0.5 ft	19.5 - 20 ft
Mercury	0.18	0.089 U	0.085 U	0.085 U	0.086 U
Aluminum	NA	5,100	1,100	3,100	1,400
Antimony	NA	2.1 UJ	2 UJ	2 UJ	2.1 UJ
Arsenic	13	3.2	2 U	2.5	2.1 U
Barium	350	18	13	10 U	10 U
Beryllium	7.2	0.64 U	0.61 U	0.61 U	0.62 U
Cadmium	2.5	0.64 U	0.61 U	0.61 U	0.62 U
Calcium	NA	1,600 J	1000 U	1000 U	1000 U
Chromium	30	11	5.1 U	21	5.5
Cobalt	NA	4.1	2.6 U	2.6 U	2.6 U
Copper	50	19	5.1 U	5.4	5.2 U
Iron	NA	7,000	2,900	5,700	3,400
Lead	63	8.9	5.1 U	5.1 U	5.2 U
Magnesium	NA	1,300	510 U	550	520 U
Manganese	1600	87 J	76 J	58 J	29 J
Nickel	30	30	5.1 U	5.1 U	5.2 U
Potassium	NA	530 U	510 U	510 U	520 U
Selenium	3.9	1.9 U	1.8 U	1.8 U	1.9 U
Silver	2	1.6 U	1.5 U	1.5 U	1.5 U
Sodium	NA	270 U	260 U	260 U	260 U
Thallium	NA	1.3 U	1.2 U	1.2 U	1.2 U
Vanadium	NA	11 U	10 U	10 U	10 U
Zinc	109	21	10 U	10 U	10 U

Exceeds Criterion

U - Not detected

J - Estimated

Table 7
VOCs in Soil Vapor
Sulzer Metco, Inc. Site

CLIENT ID:	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6
LAB ID:	200-10762-6	200-10762-5	200-10762-4	200-10762-2	200-10762-3	200-10762-1
COLLECTION DATE:	5/4/2012	5/4/2012	5/4/2012	5/4/2012	5/4/2012	5/4/2012
	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6
Units: µg/m3	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft
1,1,1-Trichloroethane	1.1 U	5.1 U	6.2 U	5.7 U	7.5 U	9.1 U
1,1,2,2-Tetrachloroethane	1.4 U	6.4 U	7.8 U	7.2 U	9.5 U	11 U
1,1,2-Trichloroethane	1.1 U	5.1 U	6.2 U	5.7 U	7.5 U	9.1 U
1,1-Dichloroethane	0.81 U	3.8 U	4.6 U	4.3 U	5.6 U	6.7 U
1,1-Dichloroethene	0.79 U	3.7 U	4.5 U	4.2 U	5.5 U	6.6 U
1,2-Dibromoethane	1.5 U	7.1 U	8.8 U	8.1 U	11 U	13 U
1,2-Dichloroethane	0.81 U	3.8 U	4.6 U	4.3 U	5.6 U	6.7 U
1,2-Dichloroethene, Total	0.79 U	3.7 U	4.5 U	4.2 U	5.5 U	6.6 U
1,2-Dichloropropane	0.92 U	4.3 U	5.3 U	4.9 U	6.4 U	7.7 U
1,2-Dichlorotetrafluoroethane	1.4 U	6.5 U	8 U	7.4 U	9.6 U	12 U
1,3,5-Trimethylbenzene	0.98 U	10	12	12	14	14
1,3-Butadiene	0.44 U	2.1 U	2.5 U	2.3 U	3.1 U	3.7 U
2,2,4-Trimethylpentane	4.9	4.3 U	5.3 U	4.9 U	6.4 U	7.8 U
3-Chloropropene	1.6 U	7.3 U	8.9 U	8.2 U	11 U	13 U
4-Ethyltoluene	1.3	9.5	13	13	15	14
Benzene	3.9	3.1	5.9	3.4 U	4.5	5.3 U
Bromodichloromethane	1.3 U	6.2 U	7.7 U	7 U	9.2 U	11 U
Bromoethene(Vinyl Bromide)	0.87 U	4.1 U	5 U	4.6 U	6 U	7.3 U
Bromoform	2.1 U	9.6 U	12 U	11 U	14 U	17 U
Bromomethane	0.78 U	3.6 U	4.4 U	4.1 U	5.4 U	6.5 U
Carbon tetrachloride	1.3 U	5.9 U	7.2 U	6.6 U	8.7 U	10 U
Chloroethane	1.3 U	6.1 U	7.5 U	6.9 U	9.1 U	11 U
Chloroform	0.98 U	4.5 U	5.6 U	5.1 U	6.7 U	8.1 U
cis-1,2-Dichloroethene	0.79 U	3.7 U	4.5 U	4.2 U	5.5 U	6.6 U
cis-1,3-Dichloropropene	0.91 U	4.2 U	5.2 U	4.8 U	6.3 U	7.6 U
Cyclohexane	1.2	3.2 U	3.9 U	3.6 U	4.8 U	5.7 U
Dibromochloromethane	1.7 U	7.9 U	9.7 U	9 U	12 U	14 U
Dichlorodifluoromethane	3	11 U	14 U	13 U	17 U	21 U
Ethylbenzene	8.9	12	14	13	15	14
m,p-Xylene	32	47	54	55	60	55
Methyl tert-butyl ether	0.72 U	3.4 U	4.1 U	3.8 U	5 U	6 U
Methylene Chloride	6.5	8.1 U	9.9 U	9.1 U	12 U	14 U
n-Heptane	16	9.7	11	6.8	18	6.8 U
n-Hexane	11	6.1	13	8.5	8.6	5.9 U
Tetrachloroethene	14	720	790	780	1000	880
Toluene	20	38	46	41	51	46
trans-1,2-Dichloroethene	0.79 U	3.7 U	4.5 U	4.2 U	5.5 U	6.6 U
trans-1,3-Dichloropropene	0.91 U	4.2 U	5.2 U	4.8 U	6.3 U	7.6 U
Trichloroethene	1.1 U	5 U	6.1 U	5.7 U	7.4 U	9 U

Table 7
VOCs in Soil Vapor
Sulzer Metco, Inc. Site

CLIENT ID:	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6
LAB ID:	200-10762-6	200-10762-5	200-10762-4	200-10762-2	200-10762-3	200-10762-1
COLLECTION DATE:	5/4/2012	5/4/2012	5/4/2012	5/4/2012	5/4/2012	5/4/2012
	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6
Units: µg/m3	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft	7.5-8 ft
Trichlorofluoromethane	4.2	7.2	6.4 U	5.9 U	7.8 U	9.4 U
Vinyl chloride	0.51 U	2.4 U	2.9 U	2.7 U	3.5 U	4.3 U
Xylene (total)	41	63	72	74	80	74
Xylene, o-	8	16	18	18	20	19

U - Not detected

Table 8
VOCs in Soil Vapor Comparison to USEPA Draft Guidance Values
Sulzer Metco, Inc. Site

	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1								
Units: µg/m3	Risk = 1 x 10-4	Risk = 1 x 10-5	Risk = 1 x 10-6	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6
1,3,5-Trimethylbenzene	60	60	60	0.98 U	10	12	12	14	14
2,2,4-Trimethylpentane	NC	NC	NC	4.9	4.3 U	5.3 U	4.9 U	6.4 U	7.8 U
4-Ethyltoluene	NC	NC	NC	1.3	9.5	13	13	15	14
Benzene	310	31	3	3.9	3.1	5.9	3.4 U	4.5	5.3 U
Cyclohexane	NC	NC	NC	1.2	3.2 U	3.9 U	3.6 U	4.8 U	5.7 U
Dichlorodifluoromethane	2000	2000	2000	3	11 U	14 U	13 U	17 U	21 U
Ethylbenzene	2200	220	22	8.9	12	14	13	15	14
m,p-Xylene	70000	70000	70000	32	47	54	55	60	55
Methylene Chloride	5200	520	52	6.5	8.1 U	9.9 U	9.1 U	12 U	14 U
n-Heptane	NC	NC	NC	16	9.7	11	6.8	18	6.8 U
n-Hexane	2000	2000	2000	11	6.1	13	8.5	8.6	5.9 U
Tetrachloroethene	810	81	8.1	**14**	**720**	**790**	**780**	**1000**	**880**
Toluene	4000	4000	4000	20	38	46	41	51	46
Trichlorofluoromethane	7000	7000	7000	4.2	7.2	6.4 U	5.9 U	7.8 U	9.4 U
Xylene, o-	70000	70000	70000	8	16	18	18	20	19

Detected VOCs are shown.

Exceeds one or more guidance values

U - Not detected

NC - No criterion

Appendices

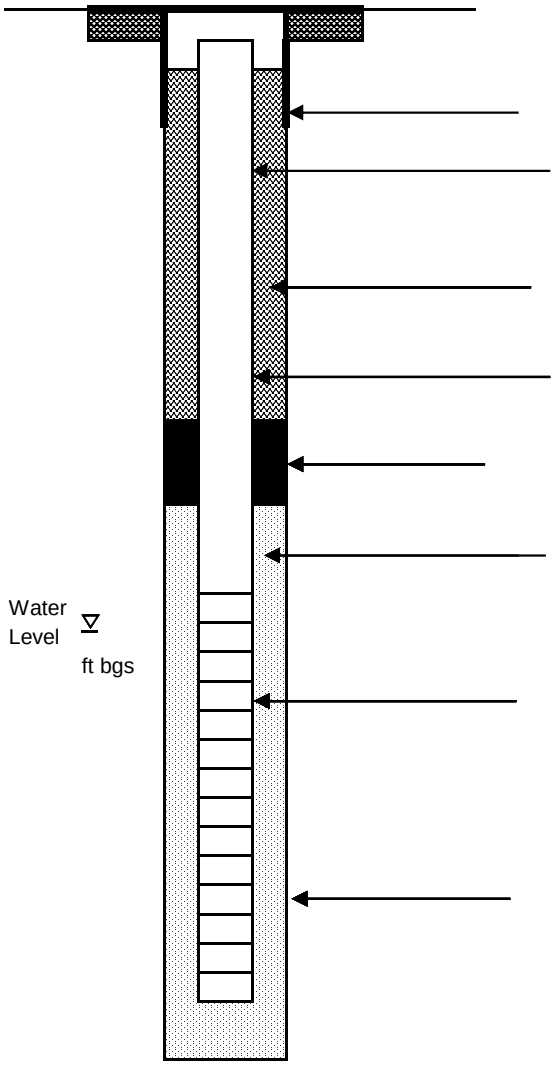
Appendix A Field Forms

AECOM

Well No. MW-1

Project: Sulzer Metco	**Location:** Westbury, NY	**Page 1 of 1**		
AECOM Project No.: 60133564	**Subcontractor:** Zebra	**Water Levels**		
Surface Elevation: Ft	**Driller:** Evan Moraitis	**Date**	**Time**	**Depth**
Top of PVC Casing Elevation: Ft	**AECOM Rep.:** Celeste Foster			
Datum: NGVD 1988	**Date of Completion:** 05/03/12			

Locking protective flushmount with concrete pad



Ground Surface	0.0	**ft**	
Well casing	+0.5	**ft bgs**	
Borehole diameter	3 1/4	**inches**	
Riser Pipe from	60.0	**ft to**	0.5 ft
Diameter	1.5	**inches**	
Type	PVC		
Riser Pipe from	60.0	**ft to**	0.5 ft
Bentonite seal from	58.0	**ft to**	0.5 ft
Pre-pack Sand from	70.0	**ft to**	58 ft
Sand Size	2		
Well screen from	70.0	**ft to**	60 ft
Diameter	1.5	**inches**	
Slot size	10	**inches**	
Type	PVC		
Borehole diameter	3 1/4	**inches**	
Bottom Cap at	70.0	**ft**	
Bottom of Borehole at	70.0	**ft**	

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

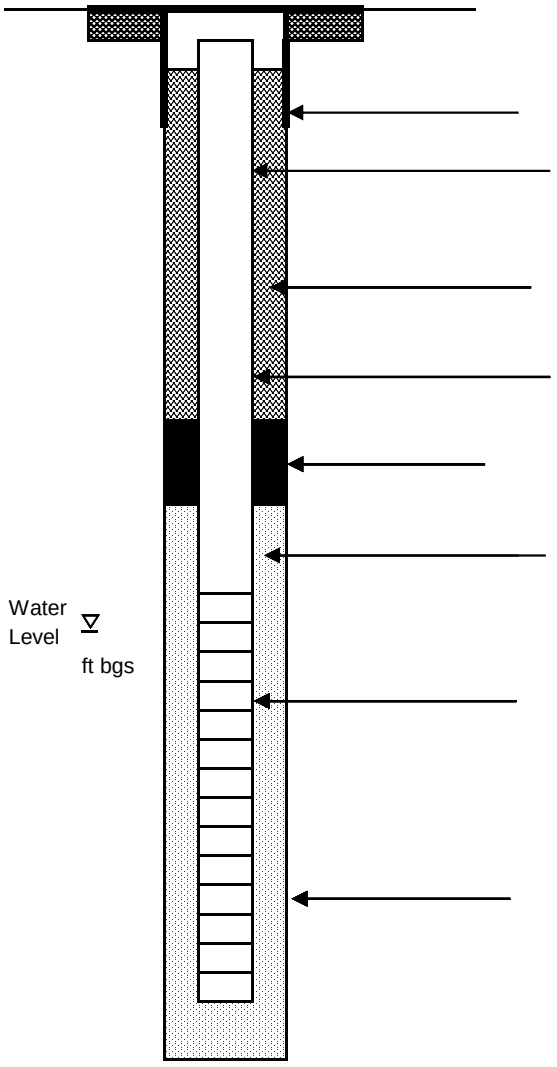
(NOT TO SCALE)

AECOM

Well No. MW-1D

Project: Sulzer Metco	**Location:** Westbury, NY	**Page 1 of 1**		
AECOM Project No.: 60133564	**Subcontractor:** Zebra	**Water Levels**		
Surface Elevation: Ft	**Driller:** Evan Moraitis	**Date**	**Time**	**Depth**
Top of PVC Casing Elevation: Ft	**AECOM Rep.:** Celeste Foster			
Datum: NGVD 1988	**Date of Completion:** 05/03/12			

Locking protective flushmount with concrete pad



Ground Surface	0.0	**ft**	
Well casing	+0.5	**ft bgs**	
Borehole diameter	3 1/4	**inches**	
Riser Pipe from	80.0	**ft to**	0.5 ft
Diameter	1.5	**inches**	
Type	PVC		
Riser Pipe from	80.0	**ft to**	0.5 ft
Bentonite seal from	78.0	**ft to**	0.5 ft
Pre-pack Sand from	90.0	**ft to**	78 ft
Sand Size	2		
Well screen from	90.0	**ft to**	80 ft
Diameter	1.5	**inches**	
Slot size	10	**inches**	
Type	PVC		
Borehole diameter	3 1/4	**inches**	
Bottom Cap at	90.0	**ft**	
Bottom of Borehole at	90.0	**ft**	

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

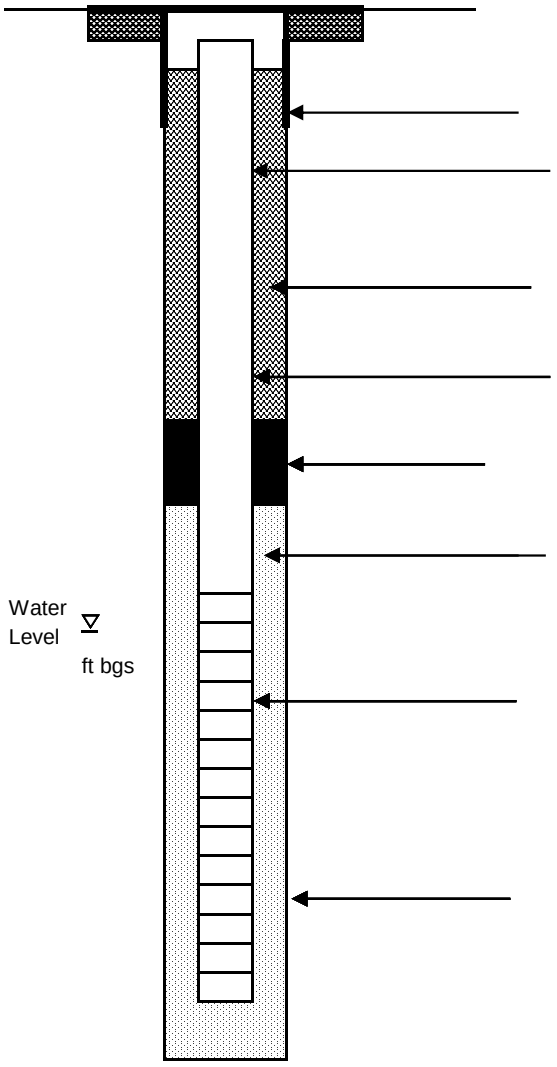
(NOT TO SCALE)

AECOM

Well No. MW-2

Project: Sulzer Metco	**Location:** Westbury, NY	**Page 1 of 1**		
AECOM Project No.: 60133564	**Subcontractor:** Zebra	**Water Levels**		
Surface Elevation: Ft	**Driller:** Evan Moraitis	**Date**	**Time**	**Depth**
Top of PVC Casing Elevation: Ft	**AECOM Rep.:** Celeste Foster			
Datum: NGVD 1988	**Date of Completion:** 05/03/12			

Locking protective flushmount with concrete pad



Ground Surface	0.0	**ft**	
Well casing	+0.5	**ft bgs**	
Borehole diameter	3 1/4	**inches**	
Riser Pipe from	60.0	**ft to**	0.5 ft
Diameter	1.5	**inches**	
Type	PVC		
Riser Pipe from	60.0	**ft to**	0.5 ft
Bentonite seal from	58.0	**ft to**	0.5 ft
Pre-pack Sand from	70.0	**ft to**	58 ft
Sand Size	2		
Well screen from	70.0	**ft to**	60 ft
Diameter	1.5	**inches**	
Slot size	10	**inches**	
Type	PVC		
Borehole diameter	3 1/4	**inches**	
Bottom Cap at	70.0	**ft**	
Bottom of Borehole at	70.0	**ft**	

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

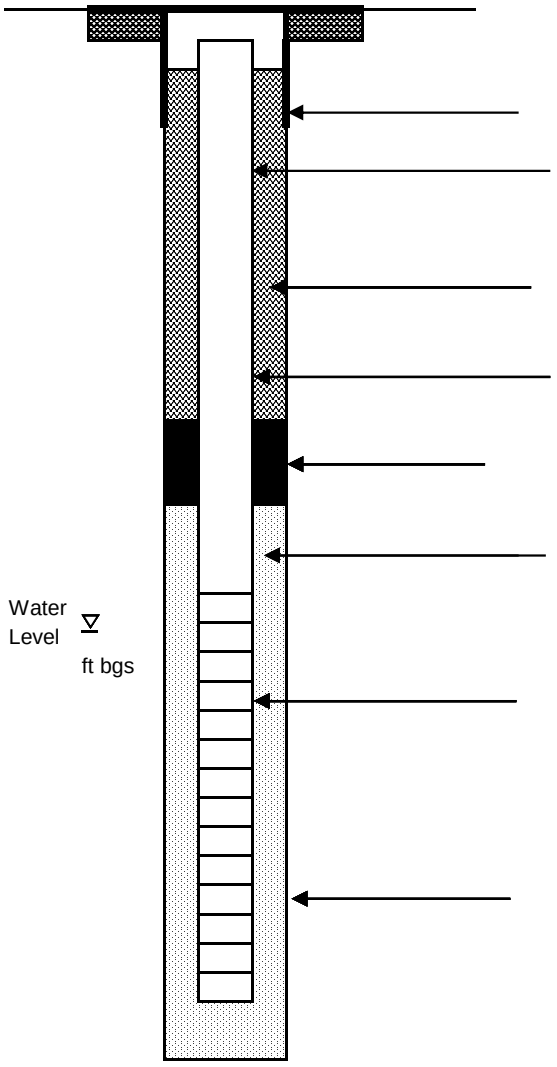
(NOT TO SCALE)

AECOM

Well No. MW-3

Project: Sulzer Metco	**Location:** Westbury, NY	**Page 1 of 1**		
AECOM Project No.: 60133564	**Subcontractor:** Zebra	**Water Levels**		
Surface Elevation: Ft	**Driller:** Evan Moraitis	**Date**	**Time**	**Depth**
Top of PVC Casing Elevation: Ft	**AECOM Rep.:** Brian Cacciopoli			
Datum: NGVD 1988	**Date of Completion:** 05/04/12			

Locking protective flushmount with concrete pad



Ground Surface	0.0	**ft**	
Well casing	+0.5	**ft bgs**	
Borehole diameter	3 1/4	**inches**	
Riser Pipe from	60.0	**ft to**	0.5 ft
Diameter	1.5	**inches**	
Type	PVC		
Riser Pipe from	60.0	**ft to**	0.5 ft
Bentonite seal from	58.0	**ft to**	0.5 ft
Pre-pack Sand from	70.0	**ft to**	58 ft
Sand Size	2		
Well screen from	70.0	**ft to**	60 ft
Diameter	1.5	**inches**	
Slot size	10	**inches**	
Type	PVC		
Borehole diameter	3 1/4	**inches**	
Bottom Cap at	70.0	**ft**	
Bottom of Borehole at	70.0	**ft**	

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

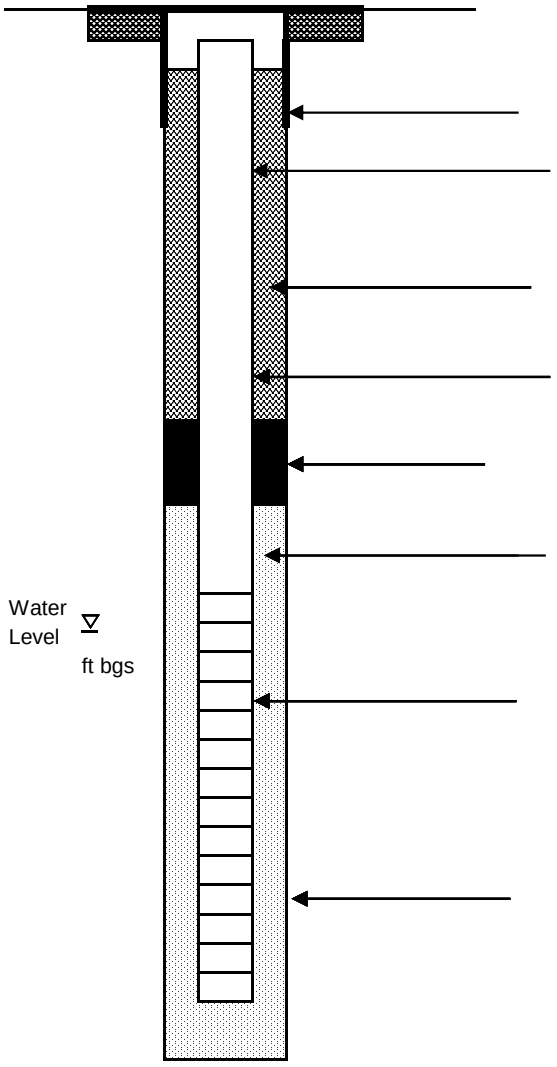
(NOT TO SCALE)

AECOM

Well No. MW-4

Project: Sulzer Metco	**Location:** Westbury, NY	**Page 1 of 1**		
AECOM Project No.: 60133564	**Subcontractor:** Zebra	**Water Levels**		
Surface Elevation: Ft	**Driller:** Evan Moraitis	**Date**	**Time**	**Depth**
Top of PVC Casing Elevation: Ft	**AECOM Rep.:** Brian Cacciopoli			
Datum: NGVD 1988	**Date of Completion:** 05/02/12			

Locking protective flushmount with concrete pad



Ground Surface	0.0	**ft**	
Well casing	+0.5	**ft bgs**	
Borehole diameter	3 1/4	**inches**	
Riser Pipe from	60.0	**ft to**	0.5 ft
Diameter	1.5	**inches**	
Type	PVC		
Riser Pipe from	60.0	**ft to**	0.5 ft
Bentonite seal from	58.0	**ft to**	0.5 ft
Pre-pack Sand from	70.0	**ft to**	58 ft
Sand Size	2		
Well screen from	70.0	**ft to**	60 ft
Diameter	1.5	**inches**	
Slot size	10	**inches**	
Type	PVC		
Borehole diameter	3 1/4	**inches**	
Bottom Cap at	70.0	**ft**	
Bottom of Borehole at	70.0	**ft**	

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

AECOM

WELL NO. MW-1

WELL DEVELOPMENT FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
1. LOCATION: Westbury, NY	4. DATE WELL STARTED: 5/4/2012		5. DATE WELL COMPLETED:
2. CLIENT: NYSDEC	6. NAME OF INSPECTOR: Brian Cacciopoli/Celeste Foster		
3. DRILLING COMPANY: Zebra	7. SIGNATURE OF INSPECTOR:		

ONE WELL VOLUME : 1.3 gal WELL TD: 69.92 ft PUMP INTAKE: 65 ft

Time	Depth to Water (ft)	Purge Rate (gal/min)	FIELD MEASUREMENTS: Temp. (C)	Conduct. (ms/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	REMARKS
17:20	56.70								Static water level
17:21								>1000	pump on
17:45								1350	5 gallons
18:00								964	5 gallons
18:10								765	
18:15								131	5 gallons
18:35								145	5 gallons
18:42								137	
18:51								128	5 gallons
19:15								1158	Repositioned pump - 5 gallons
19:21									Pump off 2 gallons

Pump Type: Wattera

AECOM

WELL NO. MW-1D

WELL DEVELOPMENT FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
1. LOCATION: Westbury, NY	4. DATE WELL STARTED: 5/5/2012		5. DATE WELL COMPLETED:
2. CLIENT: NYSDEC	6. NAME OF INSPECTOR: Brian Cacciopoli		
3. DRILLING COMPANY: Zebra	7. SIGNATURE OF INSPECTOR:		

ONE WELL VOLUME : 3.1 gal WELL TD: 89.52 PUMP INTAKE: 85 ft

Time	Depth to Water (ft)	Purge Rate (gal/min)	FIELD MEASUREMENTS: Temp. (C)	Conduct. (ms/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	REMARKS
7:20	56.71								Static water level
7:37									pump on
7:55								over range	5 gallons
8:11								1155	5 gallons
8:22								123	5 gallons
8:34								114	5 gallons
9:12								866	5 gallons
9:20								848	5 gallons
9:37								926	2 gallons
9:40	56.94								

Pump Type: Wattera

AECOM

WELL NO. MW-2

WELL DEVELOPMENT FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
1. LOCATION: Westbury, NY	4. DATE WELL STARTED: 5/5/2012		5. DATE WELL COMPLETED:
2. CLIENT: NYSDEC	6. NAME OF INSPECTOR: Brian Cacciopoli/Celeste Foster		
3. DRILLING COMPANY: Zebra	7. SIGNATURE OF INSPECTOR:		

ONE WELL VOLUME : 1.3 gal WELL TD: 70.25 ft PUMP INTAKE: 65 ft

Time	Depth to Water (ft)	Purge Rate (gal/min)	FIELD MEASUREMENTS: Temp. (C)	Conduct. (ms/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	REMARKS
9:35	56.57								Static water level
9:40									pump on
9:57								over range	5 gallons
10:07								2065	5 gallons
10:26								1161	5 gallons
10:33								780	5 gallons
10:52								760	5 gallons
11:09								775	5 gallons
11:20								172	5 gallons
11:24								152	5 gallons
11:36								98.3	5 gallons
11:40								73.8	3 gallons
	56.65								

Pump Type: Waterra

AECOM

WELL NO. MW-3

WELL DEVELOPMENT FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
1. LOCATION: Westbury, NY	4. DATE WELL STARTED: 5/5/2012		5. DATE WELL COMPLETED:
2. CLIENT: NYSDEC	6. NAME OF INSPECTOR: Brian Cacciopoli/Celeste Foster		
3. DRILLING COMPANY: Zebra	7. SIGNATURE OF INSPECTOR:		

ONE WELL VOLUME : 1.4 gal WELL TD: 70.28 ft PUMP INTAKE: 65 ft

Time	Depth to Water (ft)	Purge Rate (gal/min)	FIELD MEASUREMENTS: Temp. (C)	Conduct. (ms/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	REMARKS
11:35	55.26								Static water level
11:43									pump on
11:58								632	5 gallons
12:06								129	5 gallons
12:14								111	5 gallons
12:22								76.8	5 gallons
12:31								68.7	5 gallons
12:39								68.9	5 gallons
12:50								47.8	5 gallons
12:56	55.65								

Pump Type: Wattera

AECOM

WELL NO. MW-4

WELL DEVELOPMENT FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
1. LOCATION: Westbury, NY	4. DATE WELL STARTED: 5/4/2012		5. DATE WELL COMPLETED:
2. CLIENT: NYSDEC	6. NAME OF INSPECTOR: Brian Cacciopoli/Celeste Foster		
3. DRILLING COMPANY: Zebra	7. SIGNATURE OF INSPECTOR:		

ONE WELL VOLUME : 1.3 gal WELL TD: 70.01 ft PUMP INTAKE: 65 ft

Time	Depth to Water (ft)	Purge Rate (gal/min)	FIELD MEASUREMENTS: Temp. (C)	Conduct. (ms/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	REMARKS
15:02	56.23								Static water level
15:18									pump on
15:28								over range	
16:30								over range	5 gallons
16:40								3293	
16:50								2497	
17:00								1810	5 gallons
								1571.00	
17:18	56.23							1378.00	3 gallons

Pump Type: Wattera

AECOM

WELL NO. MW-1

WELL SAMPLING FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF 1
LOCATION: Westbury, NY		DATE WELL STARTED: 05/19/12	DATE WELL COMPLETED:
CLIENT: NYSDEC		NAME OF INSPECTOR: Celeste Foster/D. Robinson	
DRILLING COMPANY: Zebra		SIGNATURE OF INSPECTOR:	

ONE WELL VOLUME : **1.3 gal** WELL TD: **70.25 ft** PUMP INTAKE DEPTH: **65.25 ft**

Time	Depth to Water (ft)	Purge Rate (mL/min)	FIELD MEASUREMENTS						REMARKS
			Temp. (°C)	Conduct. (µs/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	
9:00	56.83								Static water level
9:30									pump on
10:12	56.85	120	23.11	1.19	8.16	6.34	-17	333	
10:32	56.86		23.7	1.13	12.65	6.63	36	206	
10:45									pump pulled to change bladder
11:00									Still contains bubbles,pull again
11:15	56.82	120	23.14	1.17	12.04	6.1	-124	213	Pump returned
11:30	56.40	120	22.2	1.13	8.69	5.91	-133	115	
11:52	56.7	120	-22.37	1.08	7.48	5.77	-114	80.8	
12:15	56.8	90	24.01	1.05	7.63	5.80	-109	55	
12:18									Sampled

Pump Type: Bladder pump 0.75 inch

Analytical Parameters: VOCs & Filtered Metals

AECOM

WELL NO. MW-1D

WELL SAMPLING FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF 1
LOCATION: Westbury, NY		DATE WELL STARTED: 05/19/12	DATE WELL COMPLETED:
CLIENT: NYSDEC		NAME OF INSPECTOR: Celeste Foster/D. Robinson	
DRILLING COMPANY: Zebra		SIGNATURE OF INSPECTOR:	

ONE WELL VOLUME : **3.2 gal** WELL TD: **90.2 ft** PUMP INTAKE DEPTH: **85.2 ft**

Time	Depth to Water (ft)	Purge Rate (mL/min)	FIELD MEASUREMENTS						REMARKS
			Temp. (°C)	Conduct. (µs/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	
9:00	56.85								Static water level
9:40									pump on
10:10	57.16	120	18.98	0.469	5.55	6.80	-56	64.1	
10:30	57.20	120	19.62	0.418	4.01	6.76	-65	45.9	
10:45	57.17	120	19.82	0.406	5.69	6.77	-68	46.6	
11:00	57.18	120	20.07	0.409	2.98	6.74	-72	48.0	
11:15	57.19	120	20.24	0.402	3.4	6.73	-69	57.3	
11:30	57.19	120	20.41	0.396	2.41	6.61	-58	114	
11:50	57.13	120	20.65	0.399	2.53	6.64	-53	36.7	
11:55									Sampled
12:20	56.85								

Pump Type: Bladder pump 0.75 inch

Analytical Parameters: VOCs & Filtered Metals

AECOM

WELL NO. MW-2

WELL SAMPLING FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF SHEETS: 1
LOCATION: Westbury, NY		DATE WELL STARTED: 05/19/12	DATE WELL COMPLETED:
CLIENT: NYSDEC		NAME OF INSPECTOR: Celeste Foster/D. Robinson	
DRILLING COMPANY: Zebra		SIGNATURE OF INSPECTOR:	

ONE WELL VOLUME : **1.3 gal** WELL TD: **70.3 ft** PUMP INTAKE DEPTH: **65 ft**

Time	Depth to Water (ft)	Purge Rate (mL/min)	FIELD MEASUREMENTS						REMARKS
			Temp. (°C)	Conduct. (µs/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	
10:00	56.64								Static water level
12:25									pump on
12:40									pump off, no water
13:00									checked pump, back on
13:20									pump off, no water
13:40									pump on
14:00									pump off, no water-refit pump
	56.67								pump on, water
14:56	56.68	20	26.96	0.520	3.06	6.76	-30	379.0	
15:10	56.68	100	23.45	0.485	2.59	6.71	-34	239	
15:25	56.68	100	21.91	0.488	2.53	6.63	-28	176	
15:40	56.68	100	21.14	0.490	2.94	6.50	-11	102	
15:55	56.68	100	20.56	0.500	2.86	6.36	4	47.3	
16:10	56.68	100	20.20	0.502	3.15	6.32	11	36.8	
16:25	56.68	110	19.89	0.502	3.03	6.28	16	28.1	
16:30									Sampled collected
16:40									Duplicate collected (MW-52)

Pump Type: Bladder pump 0.75 inch

Analytical Parameters: VOCs & Filtered Metals

AECOM

WELL NO. MW-3

WELL SAMPLING FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF 1
LOCATION: Westbury, NY		DATE WELL STARTED: 05/19/12	DATE WELL COMPLETED:
CLIENT: NYSDEC		NAME OF INSPECTOR: Celeste Foster/D. Robinson	
DRILLING COMPANY: Zebra		SIGNATURE OF INSPECTOR:	

ONE WELL VOLUME : **1.4 gal** WELL TD: **70.75 ft** PUMP INTAKE DEPTH: **65 ft**

Time	Depth to Water (ft)	Purge Rate (mL/min)	FIELD MEASUREMENTS						REMARKS
			Temp. (°C)	Conduct. (µs/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	
13:00	55.77								Static water level
13:43									pump on
									pump off to change out bladder
15:08	53.50	90	32.12	0.17	5.38	7.24	15	---	
15:25	52.90	90	29.78	0.168	8.81	7.55	-9	---	
15:40	52.50	90	24.79	0.150	10.17	7.22	6	---	
15:55	52.60	90	24.37	0.145	8.29	7.20	9	---	
16:00									Sampled

Pump Type: Bladder pump 0.75 inch

Analytical Parameters: VOCs & Filtered Metals

AECOM

WELL NO. MW-4

WELL SAMPLING FORM	PROJECT: Sulzer Metco	PROJECT No.: 60133564	SHEET: 1 OF 1
LOCATION: Westbury, NY		DATE WELL STARTED: 05/19/12	DATE WELL COMPLETED:
CLIENT: NYSDEC		NAME OF INSPECTOR: Celeste Foster/D. Robinson	
DRILLING COMPANY: Zebra		SIGNATURE OF INSPECTOR:	

ONE WELL VOLUME : **1.3 gal** WELL TD: **70.05 ft** PUMP INTAKE DEPTH: **65 ft**

Time	Depth to Water (ft)	Purge Rate (mL/min)	FIELD MEASUREMENTS						REMARKS
			Temp. (°C)	Conduct. (µs/cm)	DO (mg/L)	pH	ORP	Turbidity (ntu)	
7:20	56.38								Static water level
7:40									pump on
8:31	56.21	100	20.27		16.21		430	257	
8:45	56.31	100	18.84	0.199	4.15	6.56	-494	800	
9:00	56.34	100	18.33	0.191	4.60	6.84	-446	503	
9:15	56.36	100	18.37	0.195	3.39	6.85	-366	213	
9:30	56.36	100	18.75	0.201	3.47	6.86	-300	153	
9:42	56.38	100	19.41	0.201	3.35	6.85	-288	132	
9:45									Sampled
10:00									

Pump Type: Bladder pump 0.75 inch

Analytical Parameters: VOCs & Filtered Metals

AECOM	HYDROPUNCH BORING LOG	Boring No.: DPW-E
PROJECT: Suzler Metco , Inc.	CONTRACTOR: Zebra Environmetal Corp.	PAGE 1 OF 1
PROJECT No.: 102014	DRILLERS NAME: Jan and Jose	DATE: 12/29/09
LOCATION: Westbury, NY	DESIGNATION OF DRILL RIG:	AECOM REP.: Claire Hunt
	SIZE AND TYPE OF EQUIPMENT: Geoprobe	
	REFERENCE ELEVATION: GS	
	DEPTH OF BOREHOLE: 130ft	
LABORATORY ANALYSES:		

Depth (ft)	Hydropunch GW Sample Number &Time	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
10		
20		
30		
40		
50		
60		▼
70	VOCs: 130178DPW-E070 Metals: 130178DPW-E070F	
80		
90	VOCs: 130178DPW-E090 Metals: 130178DPW-E090F	
100		
110	VOCs: 130178DPW-E110 Metals: 130178DPW-E110F	
120		
130	VOCs: 130178DPW-E130 Metals: 130178DPW-E130F	End of the Hydropunch Boring
140		
150		
160		
170		
180		
190		
200		

AECOM	HYDROPUNCH BORING LOG	Boring No.: DPW-C
PROJECT: Suzler Metco , Inc.	CONTRACTOR: Zebra Environmetal Corp.	PAGE 1 OF 1
PROJECT No.: 102014	DRILLERS NAME: Jan and Jose	DATE: 12/30/09
LOCATION: Westbury, NY	DESIGNATION OF DRILL RIG:	AECOM REP.: Claire Hunt
	SIZE AND TYPE OF EQUIPMENT: Geoprobe	
	REFERENCE ELEVATION: GS	
	DEPTH OF BOREHOLE: 130ft	
LABORATORY ANALYSES:		

Depth (ft)	Hydropunch GW Sample Number &Time	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
10		
20		
30		
40		
50		
60		▼
70	VOCs: 130178DPW-C070 Metals: 130178DPW-C070F	
80		
90	VOCs: 130178DPW-C090 Metals: 130178DPW-C090F	
100		
110	VOCs: 130178DPW-C110 Metals: 130178DPW-C110F	
120		
130	VOCs: 130178DPW-C130 Metals: 130178DPW-C130F	End of the Hydropunch Boring
140		
150		
160		
170		
180		
190		
200		

AECOM	HYDROPUNCH BORING LOG	Boring No.: DPW-W
PROJECT: Suzler Metco , Inc.	CONTRACTOR: Zebra Environmetal Corp.	PAGE 1 OF 1
PROJECT No.: 102014	DRILLERS NAME: Jan and Jose	DATE: 01/04/10
LOCATION: Westbury, NY	DESIGNATION OF DRILL RIG:	AECOM REP.: Claire Hunt
	SIZE AND TYPE OF EQUIPMENT: Geoprobe	
	REFERENCE ELEVATION: GS	
	DEPTH OF BOREHOLE: 130ft	
LABORATORY ANALYSES:		

Depth (ft)	Hydropunch GW Sample Number &Time	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
10		
20		
30		
40		
50		
60		▼
70	VOCs: 130178DPW-W070 Metals: 130178DPW-W070F	
80		
90	VOCs: 130178DPW-W090 Metals: 130178DPW-W090F	
100		
110	VOCs: 130178DPW-W110 Metals: 130178DPW-W110F	
120		
130	VOCs: 130178DPW-W130 Metals: 130178DPW-W130F	End of the Hydropunch Boring
140		
150		
160		
170		
180		
190		
200		

AECOM	HYDROPUNCH BORING LOG	Boring No.: BOC-C
PROJECT: Suzler Metco , Inc.	CONTRACTOR: Zebra Environmetal Corp.	PAGE 1 OF 1
PROJECT No.: 102014	DRILLERS NAME: Jan and Jose	DATE: 12/28/09
LOCATION: Westbury, NY	DESIGNATION OF DRILL RIG:	AECOM REP.: Claire Hunt
	SIZE AND TYPE OF EQUIPMENT: Geoprobe	
	REFERENCE ELEVATION: GS	
	DEPTH OF BOREHOLE: 130ft	
LABORATORY ANALYSES:		

Depth (ft)	Hydropunch GW Sample Number &Time	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
10		
20		
30		
40		
50		
60		▼
70	VOCs: 130178BOC-C070 Metals: 130178BOC-C070F	
80		
90	VOCs: 130178BOC-C090 Metals: 130178BOC-C090F	
100		
110	VOCs: 130178BOC-C110 Metals: 130178BOC-C110F	End of the Hydropunch Boring
120		
130		
140		
150		
160		
170		
180		
190		
200		

AECOM

BORING LOG

Boring No.: SB-1 (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133564	LOCATION: Westbury, NY	DATE: 5-1-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles / Matt	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING				
DATE	TIME	DEPTH		CASING	SAMPLER	CORE	TUBE
			TYPE	Steel	split spoon		
			I.D.	6-inch	1 3/8 inch		
			WT./Fall	--	140 lbs.		

Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-1-0-0.5 @1610 (Duplicate) SB-51-0-0.5 @1615		0'	0.0	Hand cleared; No recovery
2					
3					
4					
5			3'7"	0.0	Tan (C.) SAND GRAVEL; (subangular, 2-6 cm); no odor, no staining. Dry.
6				0.0	
7				0.0	
8					Tan (F.) SAND with Silt and some Gravel (angular >2 cm); no odor, staining
9				0.0	Tan (C.) SAND GRAVEL
10				0.0	
11			2'8"	0.0	Tan (M.) to (C.) SAND with Gravel (subrounded, 1-4 cm); no odor, staining. Dry.
12				0.0	
13					
14				0.0	
15					
16			2'8"	0.0	
17				0.0	
18					
19	SB-1-19.5-20			0.0	
20	@1600			0.0	

AECOM

BORING LOG

Boring No.: SB-2 (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133564	LOCATION: Westbury, NY	DATE: 5-2-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles/Evan	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING			
DATE	TIME	DEPTH	CASING	SAMPLER	CORE	TUBE
			TYPE: Steel	split spoon		
			I.D.: 6-inch	1 3/8 inch		
			WT./Fall: --	140 lbs.		

Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-2 -0-0.5 @0930		0'	0.0	Hand cleared; No recovery
2					
3					
4					
5					
6			3'	0.0	Tan (C.) SAND some Gravel (subrounded, <2 cm); no odor or staining. Dry.
7				0.0	
8				0.0	
9				0.0	
10				0.0	
11			4'8"	0.0	
12				0.0	Dark Brown SILT with some Gravel (angular, 1-4 cm); no odor or staining. Dry.
13				0.0	Light Brown Clayey SILT; Not plastic nor compactable. Trace Gravel (subangular, <2 cm).
14				0.0	Tan (C.) SAND with Gravel (subangular, 1-3 cm); no odor, staining. Dry.
15				0.0	
16				0.0	
17	SB-2- 17-17.5			0.8	Small PID hit. ~0.8 ppm. No odor or visible staining. Additional boring for sampling 6" interval. (17'-17.5')
18	@1115			0.0	
19				0.0	
20					

AECOM

BORING LOG

Boring No.: SB-3 (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133504	LOCATION: Westbury, NY	DATE: 5-1-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles/Matt	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING				
DATE	TIME	DEPTH		CASING	SAMPLER	CORE	TUBE
			TYPE	Steel	split spoon		
			I.D.	6-inch	1 3/8 inch		
			WT./Fall	--	140 lbs.		

Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-3-0-0.5 @0900		0'	0.0	Hand cleared; No recovery.
2					
3					
4					
5					
6			~8" *	0.0	Brown (M.) SAND with Gravel (subrounded, 1-2cm); no odor or staining.
7					*Sleeve stuck in Macro core; recovered material estimated.
8					
9					Light brown (C.) SAND some Gravel (angular 1-3cm)-dry, no odor or staining
10					
11			~0'8" *	0.0	*Sleeve stuck in Macro core; recovered material estimated.
12					
13					
14					
15					
16			2'6"	0.0	
17				0.0	
18				0.0	
19				0.0	
20	SB-3-19.5-20 @1120			0.0	

AECOM

BORING LOG

Boring No.: SB-4 (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133564	LOCATION: Westbury, NY	DATE: 5-1-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles / Matt	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING				
DATE	TIME	DEPTH		CASING	SAMPLER	CORE	TUBE
			TYPE	Steel	split spoon		
			I.D.	6-inch	1 3/8 inch		
			WT./Fall	--	140 lbs.		

Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-4-0-0.5 @1325		0'	0.0	Hard cleared; No recovery
2					
3					
4					
5					
6			4'	0.0	Light Brown (C.) SAND with Gravel (angular to subrounded, 1-2cm); some Gravel >4cm. No odor or staining
7				0.0	
8				0.0	
9				0.0	
10				0.0	
11			4'	0.0	
12				0.0	Tan (F.) SAND trace Gravel (subangular, 1cm) No odor no staining. Dry.
13				0.0	
14				0.0	Tan (M.) to (C.) SAND with Gravel (subangular, 1-2cm); no odor or staining; Dry.
15				0.0	
16			2'9"	0.0	
17				0.0	
18				0.0	
19				0.0	
20	SB-4-19.5-20 @1315			0.0	

AECOM

BORING LOG

Boring No.: SB-S (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133564	LOCATION: Westbury, NY	DATE: 5-1-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles / Matt	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING				
DATE	TIME	DEPTH		CASING	SAMPLER	CORE	TUBE
			TYPE	Steel	split spoon		
			I.D.	6-inch	1 3/8 inch		
			WT./Fall	--	140 lbs.		

Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-S-0-0.5 @1425		0'	0.0	Hand cleared; No recovery
2					
3					
4					
5					
6			11"	0.0	Dark brown (F.) to (C.) SAND some Silt trace Gravel (subrounded, 1-4 cm). Moist; no odor or staining
7				0.0	
8					
9					
10				0.0	
11			2'	0.0	
12					
13				0.0	Light brown (M.) to (C.) SAND with Gravel (subrounded) 1-3 cm); no odor or staining; Dry.
14					
15				0.0	
16			3' 2"	0.0	
17				0.0	
18				0.0	
19				0.0	
20	SB-S-19.5-20 @1420			0.0	

AECOM

BORING LOG

SB-6

Boring No.: (MW-)

PROJECT: Sulzer Metco	CONTRACTOR: Zebra	PAGE 1 OF 4
PROJECT No.: 60133564	LOCATION: Westbury, NY	DATE: 5-1-12
SURFACE ELEVATION:	DATUM: DRILLER: Charles / Matt	AECOM REP.: Brian C.

WATER LEVELS			DRILLING AND SAMPLING				
DATE	TIME	DEPTH		CASING	SAMPLER	CORE	TUBE
			TYPE	Steel	split spoon		
			I.D.	6-inch	1 3/8 inch		
			WT./Fall	--	140 lbs.		

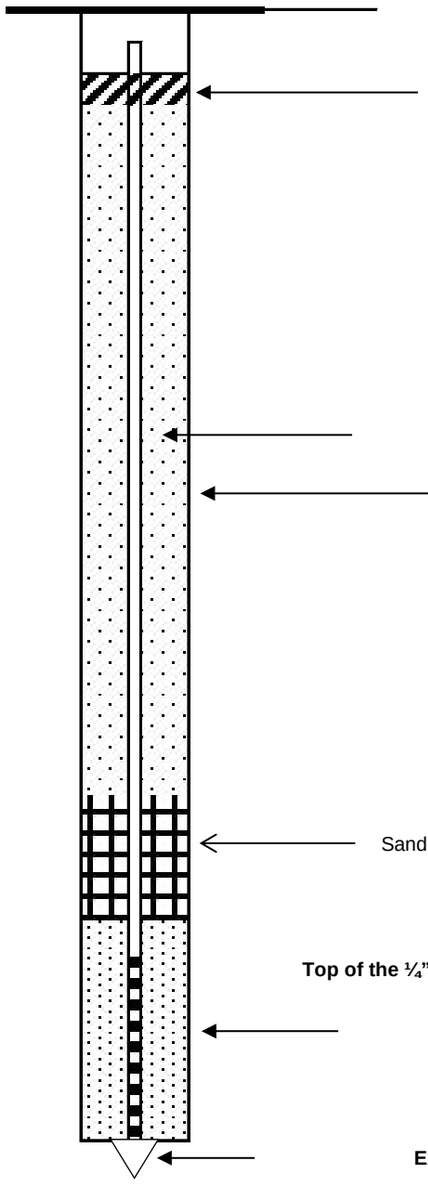
Depth (ft)	Sample Number & Time	Blows per/6"	Rec. (feet)	PID Readings (ppm)	SAMPLE DESCRIPTION, REMARKS, AND STRATUM CHANGES
1	SB-6-0-0.5 @1520		0'	0.0	Hand cleared; no recovery
2					
3					
4					
5			3'	0.0	Tan (M.) to (C.) SAND some Gravel (subrounded, 1-6 cm); no odor or staining; Larger clasts towards bottom (>2cm)
6					
7				0.0	
8					
9					
10				0.0	
11			3'4"	0.0	
12					
13				0.0	
14					Light Brown (F.) to (C.) SAND with Gravel (subangular); no odor or staining. Dry.
15				0.0	
16			3'3"	0.0	
17					
18				0.0	
19	SB-6-19.5-20				
20	@1515			0.0	

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV-1

Project: 60133546	**Location:** Westbury NY	**Page 1 of 1**
Project No.: Sulzer Metco	**Subcontractor:** Zebra	
	Driller: Evan Moraitis/Charles Green	
	Rep.: Brian Cacciopoli	
	Date of Construction: 5/2/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

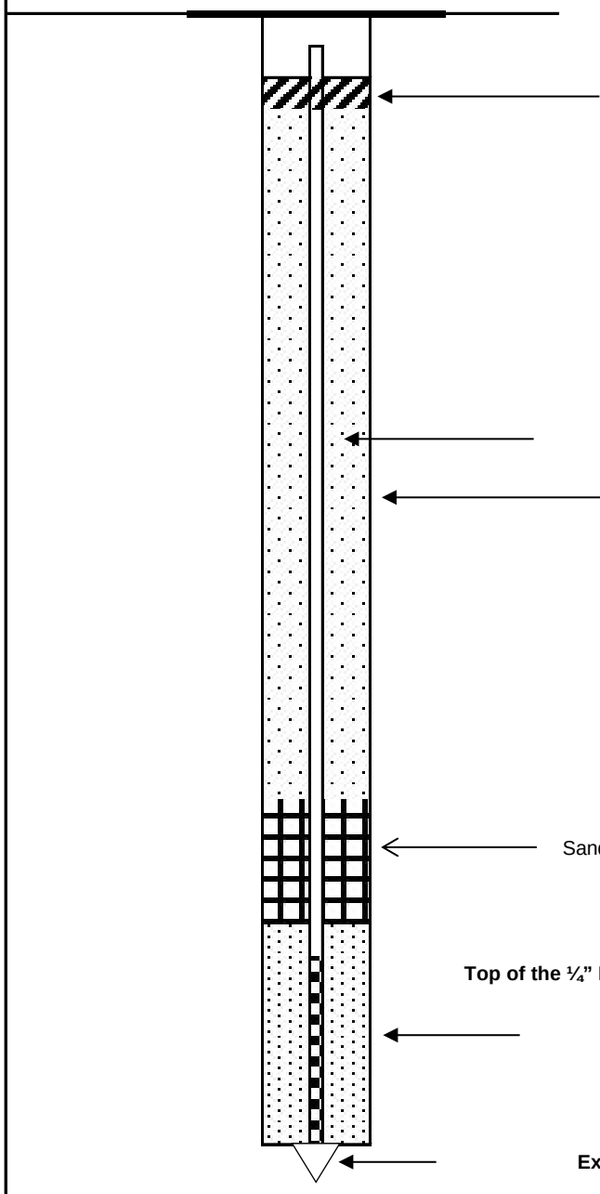
(NOT TO SCALE)

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV-2

Project:	60133546	**Location:**	Westbury NY	**Page 1 of 1**
Project No.:	Sulzer Metco	**Subcontractor:**	Zebra	
		Driller:	Evan Moraitis/Charles Green	
		Rep.:	Celeste Foster	
		Date of Construction:	4/30/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

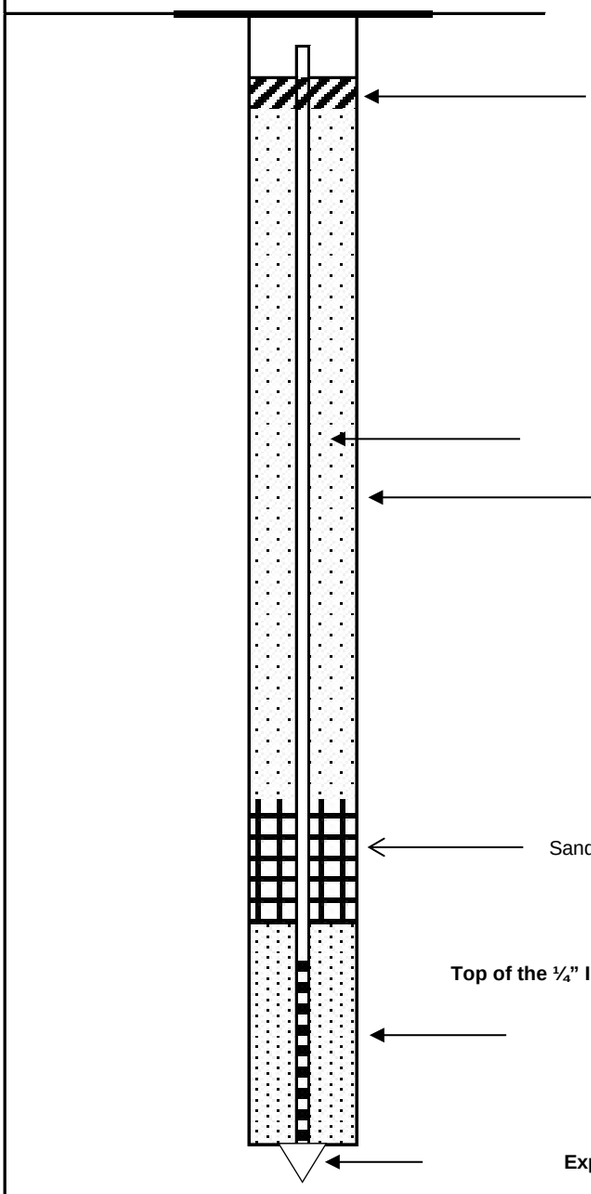
(NOT TO SCALE)

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV-3

Project: 60133546	**Location:** Westbury NY	**Page 1 of 1**
Project No.: Sulzer Metco	**Subcontractor:** Zebra	
	Driller: Evan Moraitis/Charles Green	
	Rep.: Celeste Foster	
	Date of Construction: 4/30/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

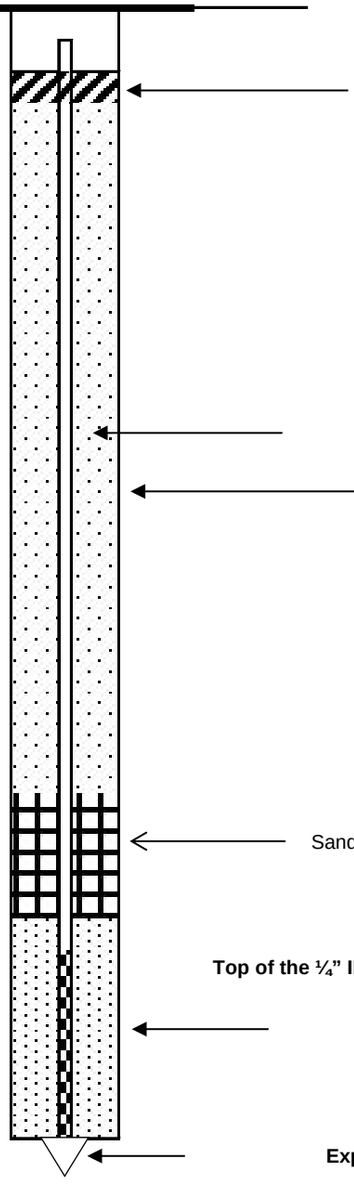
(NOT TO SCALE)

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV- 4

Project: 60133546	**Location:** Westbury NY	**Page 1 of 1**
Project No.: Sulzer Metco	**Subcontractor:** Zebra	
	Driller: Evan Moraitis/Charles Green	
	Rep.: Celeste Foster	
	Date of Construction: 4/30/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

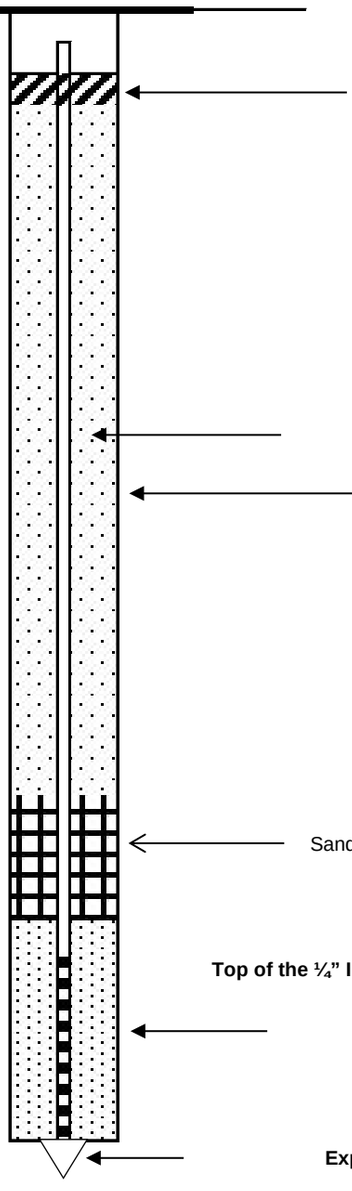
(NOT TO SCALE)

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV- 5

Project: 60133546	**Location:** Westbury NY	**Page 1 of 1**
Project No.: Sulzer Metco	**Subcontractor:** Zebra	
	Driller: Evan Moraitis/Charles Green	
	Rep.: Celeste Foster	
	Date of Construction: 4/30/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

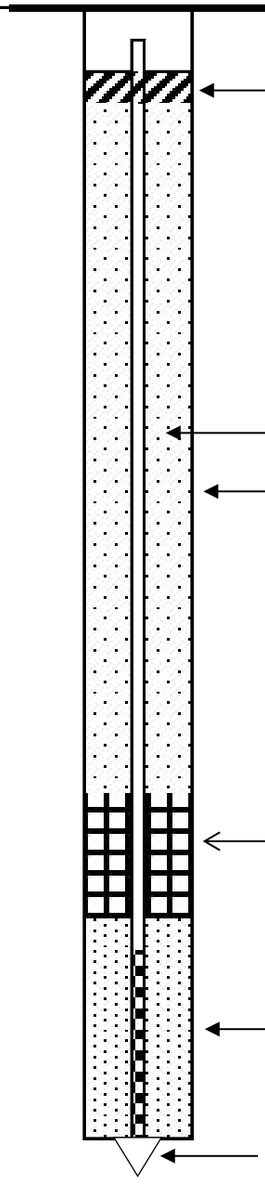
(NOT TO SCALE)

AECOM

SOIL VAPOR CONSTRUCTION LOG

Boring No. SV- 6

Project: 60133546	**Location:** Westbury NY	**Page 1 of 1**
Project No.: Sulzer Metco	**Subcontractor:** Zebra	
	Driller: Evan Moraitis/Charles Green	
	Rep.: Celeste Foster	
	Date of Construction: 4/30/2012	



Ground Surface 0.0 ft

Surface Depth 0.25 to 0.4 ft bgs

Surface Material Sand

Inert Sampling Tube Material Teflon lined 1/4 IDX 3/8 OD

Backfill Material 0.4 ft to -7.0 ft bgs

Backfill Material Bentonite

Sand -8.00 ft to -7.0 ft bgs

Sand to 7.0 ft

Top of the ¼" ID x 6" Long Stainless Steel Screen -7.5 ft bgs

Porous Backfill Material Sand size #2

Bottom of Borehole at -8.0 ft bgs

Expendable Anchor Point Connected to Implant with an O-ring

Note: All measurements based on ground surface at 0.0 feet. (+) above grade. (-) below grade.

(NOT TO SCALE)

Summa Canister Sampling Field Data Sheet

Site: Sulzer Metco
Samplers: Celeste Foster (AECOM)
Date: 5-4-12

Sample#	SV-6	SV-4	SV-5	SV-3	SV-2	SV-1	
Location	asphalt West of bay building by door	South of building west side of parking space	front of building line of parking spaces	SE side of building grass	E side of building grass	N of building dirt	
Summa Canister ID	3483	5031	2851	2789	4092	3285	
Flow Controler ID	3937	4198	4024	3480	3132	4259	
Additional Tubing Added How much (ft)?	3	3	3	3	3	3	
Purge Time (Start)	1053	1054	1113	1131	1204	1248	
Purge Time (Stop)	1058	1059	1118	1136	1209	1253	
Total Purge Time (min)	5	5	5	5	5	5	
Purge Volume (L)	1L	1L	1	1	1	1	
Purge PID (ppm)	0.7	0.8	0.9	1.6	2.2	0.9	
Pressure Gauge - Before Sampling (" Hg)	-30	-30	-30	-30	-30	-29	
Sample Time (Start)	~~1055~~ 1041	1103	1121	1140	1211	1254	
Sample Time (Stop)	1234	1300	1320	1340	1411	1451	
Total Sample Time (min)							
Pressure Gauge - After Sampling (" Hg)	-6	-2	-6	-8	-7	-6	
Background PID (ppm)	0.0	0.0	0.0	0.0	0.0	0.0	
Sample Volume							
Canitster Pressure Went to Ambient Pressure?	—	—	—	—	—	—	
Tracer Gas Results	16.5% 0.0	13.8% 10.75	16.5% 0.0	12.5% 0.0	21.6% 625	20.1% 0.0	
Weather 24 hours before and during sampling							

General Comments
"Candy Cane" w/ Flow controller 3480; Before turning on can (SV-3); Pressure at -3

Appendix B Photo Log

Hydropunch Well Installation at Sample Location BOC-C

Geoprobe 8040 Rig for Hydropunch Well Installation

Hydropunch Well Installation at Sample Location DPW-W

VOC Samples and Field Filtering for Metals Analysis

Hand Clearing Borings on Sulzer Metco, Inc. Property

Permanent Well Installation with Direct Push Rig

Soil Vapor Sampling – Sulzer Metco, Inc. Split Sample Collected with Tee

Soil Boring Samples Collected in Macrocores (SB-5. 5 ft to 10 ft shown)

Appendix C Land Survey Results

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
			(FT)	
1001	218051.8	1107580.8	135.8	MONITORING WELL - 3
1002	218051.9	1107580.7	135.5	TOP OF PIPE - 3
1003	218057.3	1107892.5	136.5	MONITORING WELL - 2
1004	218057.5	1107892.5	136.1	TOP OF PIPE - 2
1005	218156.9	1108101.0	136.9	MONITORING WELL - 1D
1007	218156.9	1108100.9	136.6	TOP OF PIPE - 1D
1006	218158.1	1108104.0	136.9	MONITORING WELL - 1
1008	218158.1	1108104.0	136.6	TOP OF PIPE - 1
1009	218405.7	1107995.4	136.7	MONITORING WELL - 4
1010	218405.7	1107995.5	136.4	TOP OF PIPE - 4

HORIZONTAL DATUM: NAD83
VERTICAL DATUM: NGVD88

FIELD DATE: 5/14/2012

Appendix D Lab Data and DUSRs (on CD)