Austin Avenue Brownfield Redevelopment II, LLC

Remedial Investigation Report
Lot 4 – Austin Avenue and Prior Place
Brownfield Cleanup Program Site
City of Yonkers, Westchester County, NY
BCP Site #C360116

August 2012

REMEDIAL INVESTIGATION REPORT
LOT 4 – AUSTIN AVENUE AND PRIOR PLACE
BROWNFIELD CLEANUP PROGRAM SITE
CITY OF YONKERS, WESTCHESTER COUNTY, NEW YORK
BCP SITE #C360116

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1 Introduction

1.1 Site Description

Austin Avenue Brownfield Redevelopment II, LLC has entered into a Brownfield Cleanup Agreement (BCA) (Site No. C360116, Agreement Index No. C360116-04-11) with the New York State Department of Environmental Conservation (NYSDEC). The subject Site occupies approximately 7.1 acres along the east side of Prior Place and south side of Austin Avenue in the City of Yonkers, Westchester County, New York (Figure 1-1). A Site survey is included in Appendix A.

Currently, the Lot 4 – Austin Avenue and Prior Place Site (the 'Site') is under a long term lease arrangement with Morris Industrial Builders, L.P. who intends to redevelop the Site under the Brownfield Cleanup Program (BCP). As identified in the BCP Application, the proposed future use of the Site is for a commercial development that will likely include retail commercial buildings, paved parking areas, and landscaped areas. The future development of the Site may be implemented concurrently with the remedial actions selected for the Site and as approved by the NYSDEC and the New York State Department of Health (NYSDOH).

The Site is currently vacant and consists of woodlands along the western portion and land that was cleared and graded as part of activities that occurred on the adjacent Site along the eastern portion. There is a large shot rock stock pile that runs from north to south in the middle and eastern portion of the Site. The Site is adjacent to a mixed residential/commercial area west of Prior Place and is bordered by Prior Place to the west, Austin Avenue to the north, vacant land (Lot 1, BCP Site #C360066) to the east, and Stew Leonard's Grocery Store parking lot to the south (Figure 1-2). The former Austin Avenue Landfill was located on the eastern portion of the Site and adjoining parcel (Lot 1).

A Remedial Investigation (RI) was completed at the Site, by GHD Consulting Engineers, LLC (GHD), during April 2012 pursuant to the BCP Agreement. The RI was conducted to provide a systematic assessment of environmental conditions on the property in accordance with the NYSDEC approved RI Work Plan (March 2012, GHD), NYSDEC's draft *Brownfield Cleanup Program Guide* (May 2004), 6 NYCRR Part 375-3, and the *Technical Guidance for Site Investigation and Remediation* (DER-10) (May 2010).

The objective of the RI was to define the nature and extent of contamination, identify contaminant source areas (if present), produce data of sufficient quantity and quality to complete an exposure assessment, and provide the basis to develop appropriate remedial action based on the Site's contemplated commercial use.

1.2 Investigation Objectives

The Remedial Investigation included soil, groundwater, and soil vapor sampling.

This RI Report presents the results of the RI that was conducted in accordance with the objectives of the RI Work Plan to:

- characterize the nature and extent of Site related contaminants;
- evaluate the transport potential, and fate of identified Site contaminants;
- assess the degree of exposure risk in connection with Site related contaminants; and

- provide a basis for implementing an appropriate remedy that effectively manages risk based on contemplated Site use, and which is protective of human health and the environment.

2 Site Background

2.1 Site Setting

The Westchester Industrial Development Agency (WIDA) currently owns the Site, which consists of approximately 7.1 acres of land located in the City of Yonkers, Westchester County, New York (Figure 1-1). The Site is operated by Morris Industrial Builders, L.P, who has a long-term lease arrangement that allows them to develop the Site for future uses.

The Site is currently vacant with wooded areas, cleared areas, and a large shot rock stock pile located in the center of the Site. The stockpile is reportedly a result of construction on the adjacent lots to the south (Lot 2 and Lot 3) and consists of blasted bedrock and soil. The Site includes a portion of the former Austin Avenue Landfill (approximately one half of the Site along the eastern boundary) which was formerly owned and operated by the City of Yonkers. The main portion of the former Austin Avenue Landfill lies to the east of the Site and has been remediated under a separate Brownfield Cleanup Agreement (BCP Site No. C360066). The former Austin Avenue Landfill associated with BCP Site No. C360066 consists of approximately 20-acres and, based on the Remedial Investigation of that Site, the underlying materials contain primarily incinerator ash and bulky waste, including tress, brush, and building debris. The landfill operated from at least the 1960s to the 1970s. The landfill had ceased operating by 1979. The landfill property was transferred to Westchester County in 1979, and is currently owned by WIDA. The Site and adjacent properties are serviced by a municipal water supply.

2.2 Local and Regional Geology

The Site is located in the New England physiographic province. The bedrock underlying the area is the Yonkers Gneiss, which is overlain by a thin layer of soil. Bedrock outcrops occur on the western portion of the site. Depth to bedrock increases greatly along the eastern portion of the site to a depth of 41-feet below ground surface in the northeastern corner of the property. The natural soil in the area of the Site primarily consists of the Chatfield-Hollis-Rock outcrop complex, with the northern most portion of the site consisting of the Chatfield-Charlton complex[1]. Natural soils on the eastern portion of the site are largely non-existent due to placement of fill in the former landfill.

2.3 Topography and Drainage

The Site is approximately 250 feet above mean sea level, according to a 1966 United States Geological Survey topographic map (Figure 1-1); however, elevation information obtained during a land survey identified elevations that ranged from 250 to 290 feet above mean sea level due to the shot rock stockpile. As a result of the site being located on top of a ridge, area topography dips steeply away from the Site to the east and west, gently towards the Site from the South, and steeply away from the Site to the north. The houses closest to the Site are located across Prior Place and are at a lower elevation than the Site, with bedrock outcrops occurring between the Site and the houses.

The central and eastern portions of the Site are generally flat to nearly flat (0 – 2% slopes), with the exception of the shot rock stockpile. The northern and western portions of the Site dip steeply away from the Site (5 – 20% slopes). The western portion of the Site has several bedrock outcrops.

[1] Soil information from the Web Soil Survey provided by the United States Department of Agriculture's Natural Resources Conservation Service (http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx).

The rock/soil stockpile in the central portion of the Site is greater than 35 feet high and covers 30 to 40 percent of the Site.

The principal surface water features in proximity to the Site are Sprain Brook (approximately 1,200 feet east) and Saw Mill River (approximately 1,200 feet west). Both Sprain Brook and the Saw Mill River flow from north to south.

The Site surface water drainage is currently influenced by the rock stockpile. As a result, the Site surface water drainage is generally to the west and northwest with the eastern most portion of the Site, a local plateau, draining to the east (towards Lot 1). There are no surface water bodies located on the Site. It is likely that groundwater flow generally follows surface topography. Since the Site is located on top of a ridge, it is probable that groundwater flows away from the Site towards the west and north, with a component that could flow to the east. Shallow groundwater that flows from the Site to the east likely discharges to Sprain Brook immediately east of the former Austin Avenue Landfill. Shallow groundwater that flows from the Site to the west or north likely discharges to the Saw Mill River west of the Site. Bedrock groundwater flow direction and point of discharge are unknown.

2.4 Climatology and Meteorology

The Site is located in Southeastern New York and is a part of the Greater New York City metropolitan area. This region is characterized by warm summers and relatively cold winters. The average temperature ranges from 32.6°F in January to 77.1°F in July[2]. During the summers temperatures can occasionally exceed 90°F. The average total snowfall for this region is approximately 27.1 inches[2] and the average annual rainfall is approximately 44.36 inches[2].

Remedial Investigation activities took place during April 2012. The average temperature during field activities was 50°F. Measurement from the Northeast Regional Climate Center indicated that 3.18-inches of rain fell on the Site during the month of April; however, no precipitation occurred during field activities.

2.5 Previous Investigations

A number of previous Site investigations have been conducted at the former Austin Avenue Landfill, which occupies the eastern portion of Lot 1 and a portion of Lot 4. These investigations were completed to characterize the nature of the waste material, the potential impacts on local groundwater quality, and the potential impacts on surface water quality. The following sections summarize the scope and findings of previous investigations associated with the former Austin Avenue Landfill and this BCP Site.

2.5.1 2007 Remedial Investigation Report, Austin Avenue Landfill BCP Site #C360066

A Remedial Investigation was completed at the adjacent BCP Site #C360066 (S&W Redevelopment of North America, LLC (SWRNA), August 2007, Attachment 1A) that further characterized the nature of the former Austin Avenue Landfill. The RI included: excavation of 23 test pits and the collection of soil samples from TP-01B, -06, -07, -17, and -23; installation of five groundwater monitoring wells and the collection of groundwater samples from each; and installation and sampling of eight explosive gas wells. The sampling locations are included in Attachment 1A.

[2] Information obtained from the Northeast Regional Climate Center (http://www.nrcc.cornell.edu/page_ccd.html) and is based on data recorded over the past 30 years.

The findings of the RI concluded that fill encountered at the Site generally consists of light orange-brown to black material, which contained bits of broken glass, broken porcelain, various types of metals, some car parts, and pieces of red brick. Fill material interpreted as incinerator material, which generally occurred in distinct layers made up of grey to black coarse sand-sized particles and light grey to orange platy particles, also included bits of broken glass, broken porcelain, and thin wires. Some test pits encountered fill material which contained small percentages of general refuse including glass bottles, porcelain tiles, metal wires, bedsprings, sheet metal, plastic bottles, and trash bags.

Laboratory analytical results of soil samples collected from five of the test pits identified:

- one toxicity characteristic leachate procedure (TCLP) volatile organic compound (VOC) was detected in the sample collected from TP-07 (trichloroethene (TCE) at 0.011 mg/L), however, the concentration was below the regulated level;
- four soil samples (TP-06, -07, -17, and -23) contained pesticides above Unrestricted Use Soil Cleanup Objectives (SCOs) including dieldrin, endrin, and 4,4'-DDT. None of these pesticides exceeded Restricted Residential Use SCOs, Protection of Ecological Resources SCOs, or Protection of Groundwater SCOs; and
- two soil samples (TP-07 and TP-17) contained total polychlorinated biphenyls (PCBs) at concentrations that exceeded Unrestricted Use SCOs, but were below Residential Use SCOs.

The RI concluded that groundwater flows to the east across the Site, towards Sprain Brook. Laboratory analytical results of groundwater samples taken from six groundwater monitoring wells identified:

- VOCs were not detected at concentrations that exceeded groundwater quality standards;
- SVOCs were not detected at concentrations that exceeded groundwater quality standards;
- one pesticide (dieldrin in the sample taken from SWR-MW-1) was detected at concentrations that exceeded groundwater quality standards;
- one PCB (Aroclor 1260 in the sample taken from SWR-MW-1) was detected at concentrations that exceeded groundwater quality standards for total PCBs; and
- metals, including iron, magnesium, manganese, and sodium, were detected at concentrations that exceeded standards in each groundwater sample taken from Site wells. Samples contained excessive turbidity which could contribute to elevated metals concentrations and the metals that were detected are naturally occurring elements.

The RI also concluded that no explosive gas was detected in the eight explosive gas wells that were surveyed.

BCP Site #360066 has since been remediated with a soil cover and institutional controls to allow for the future development of the Site for restricted residential uses.

Although this investigation was conducted on the adjacent Lot 1 Site, it is assumed that similar conditions could exist on the Lot 4 Site since the former Austin Avenue Landfill occupied a portion of Lot 4.

2.5.2 2000 Ash Fill and Methane Gas Study

In September 2000, an investigation was conducted to further characterize the chemical composition of the ash at the former landfill, and to define the potential for methane generation in the central portion of the landfill. Eight ash fill samples were collected from the landfill for the purpose of waste characterization. The samples were numbered HA-1 through HA-8 (Attachment 1B). The ash samples were collected from 0.5 and 2 feet below ground surface (bgs) except for sample HA-6, which was collected from the face of a

road cut, located between the Stew Leonard's parking lot and the Site. Laboratory analysis results are summarized on tables included in Attachment 1B.

In addition, 24 locations were monitored for the presence of methane gas, using a portable combustible gas indicator (CGI). The sampling locations are included in Attachment 1B. The monitoring was conducted by driving a steel rod to 3 ft bgs to create a pilot hole. A screen and riser were inserted into the hole and connected to the CGI to analyze for explosive gas.

Key findings of the 2000 study were that:

- The ash fill that currently exists at the Site was not a hazardous waste, based on analysis for total and leachable (TCLP) priority pollutant metals, and TCLP polycyclic aromatic hydrocarbons (PAHs). Although several leachable metals were detected by TCLP analysis, including cadmium, chromium, copper, lead, nickel, and zinc, their concentrations were well below applicable TCLP toxicity limits for hazardous waste; and
- Methane generation is not a significant problem in the former ash landfill. Only two of 24 sample locations (see tables in Attachment 1B) had methane levels above 10 percent lower explosive limit (LEL).

Although this investigation was conducted on the adjacent Lot 1 Site, it is assumed that similar conditions could exist on the Lot 4 Site since the former Austin Avenue Landfill occupied a portion of Lot 4.

2.5.3 1995 Groundwater/Surface Water Study

In 1995, Leggette, Brashears, & Graham, Inc. (LB&G) investigated surface water and groundwater quality at the former landfill, which included a review of previously collected data, the installation of four overburden and three bedrock groundwater monitoring wells, the collection of groundwater samples from the monitoring wells, and collection of surface water samples from Sprain Brook. The locations of the overburden and bedrock wells are shown in Attachment 1C.

Analytical results are summarized on tables included in Attachment 1C. Groundwater samples obtained from the overburden and bedrock monitoring wells did not contain polychlorinated biphenyls (PCBs) or volatile organic compounds (VOCs). Elevated levels of some naturally-occurring metals were detected in the groundwater samples, specifically iron, manganese and some trace metals. Surface water samples from Sprain Brook showed no evidence of significant landfill-related contamination. Overall, these findings are similar to those of the 1976 study.

2.5.4 1988 Soil and Foundation Investigations

In 1988, a geotechnical investigation of the Site was completed by Melick-Tully and Associates, P.C. (Soil and Foundation Investigations, December 1988). The investigation included soil borings and test pits to characterize the surface soils and local geology. The findings included the approximate delineation of the bedrock surface and the approximate extent of the former landfill fill material. Figure 2-1 shows the approximate elevations and contours of the bedrock surface and the approximate limits of the fill material as delineated during this investigation. Attachment 1D includes the applicable boring logs and corresponding findings from the report.

2.5.5 1976 Landfill Study

In 1976, the former landfill Site was investigated by Geraghty & Miller, Inc. (G&M) as part of a larger study of landfills in Westchester County. G&M utilized five temporary well points (W-1 through W-5) to measure groundwater elevations and collect groundwater samples, and collected water samples from Sprain Brook (Figure 2-1 and Attachment 1E). The investigation results were presented in a report dated June 1977. The section of the report that concerned the former Austin Avenue landfill indicated that groundwater impacts from the landfill were evidenced by elevated levels of iron, manganese, chloride and nitrate (Attachment 1E). Although the report suggested that low levels of organic compounds might be present, there was no quantitative evidence to support that suggestion; laboratory analysis indicated that if organic compounds were present, they were at concentrations too low to be measured. In addition, the overall findings and conclusions of the report stated that “Evidence of disposal of hazardous chemical wastes was not found at any landfill inspected”.

Ground water beneath the Lot 1 property was determined by G&M to flow to the east, eventually discharging to Sprain Brook. Samples collected from Sprain Brook showed no significant impact to surface water quality with respect to the constituents detected in the ground water (iron, manganese, chloride and nitrate).

The G&M report concluded that impact from the landfill on ground-water and surface-water quality was “not significant.”

2.6 Summary of Previous Findings

The findings of previous investigation indicate measurable, but subtle, groundwater impact with respect to inorganic constituents, including iron, manganese, chloride and nitrate, and little or no evidence of methane gas. These findings are consistent with inorganic material typical of an ash landfill. The leachate produced by ash landfills usually lacks soluble organic compounds, and the absence of putrescible waste material prevents the formation of methane gas. This means that the impacts from the former ash landfill, if any, are best measured in terms of the inorganic parameters present in the ash.

Based on groundwater data for inorganic parameters, it is apparent that landfill impacts were relatively isolated.

2.7 Data Gaps

Although previous investigations have identified the general nature of the former landfill fill material, data gaps exist at the Lot 4 Site with respect to evaluation of potential contaminants in groundwater, soil, and soil vapor and the extent of the potential contamination at the Site. Based on a review of the information reported above, these data gaps include the information needed to fully characterize the nature and extent of potential contamination in on-Site media. Specifically historical soil (fill material) data exists for this Site and the adjacent Site (BCP Site #C360066). However, the complete characterization of on-Site soils/fill material has not been completed. Groundwater, surface water and soil gas to the east of the Site are well characterized with data indicating that groundwater and soil contamination related to the former landfill material is limited and there are negligible impacts to surface water.

The Remedial Investigation Work Plan (RIWP) was developed to satisfy the requirements of the BCP, and proposed the collection of soil, groundwater and soil vapor samples to fill data gaps, fully characterize the

Site, and fully characterize the potential for off-Site migration to the west. The following sections present the findings of the RI.

3 Remedial Investigation Methods

The RI was completed during April 2012, consistent with the NYSDEC approved Work Plan. Investigation of potential soil, groundwater, and soil vapor impacts were completed by installing and collecting samples from soil borings, groundwater monitoring wells, and soil vapor wells.

During invasive (i.e. drilling) activities community air monitoring was performed in accordance with the approved Community Air Monitoring Plan (CAMP). A summary of air monitoring results can be found in Appendix B.

3.1 Subsurface Investigation

Eight (8) soil borings were completed at the Site during investigation activities. These borings were intended to facilitate the collection of representative soil samples and installation of groundwater and soil vapor monitoring wells. The borings included three (3) soil borings (SB-1, SB-4, and SB-5), three (3) soil boring completed as groundwater monitoring wells (MW-1/SB-2, MW-2A, and MW-2B/SB-3), and two (2) soil borings completed as soil vapor wells (SV-1 and SV-2). Three (3) surface soil samples (SS-6, SS-7, and SS-8) were also collected during investigation activities. Soil boring, monitoring well, soil vapor well, and surface soil sample locations are shown on Figure 3-1.

3.1.1 Subsurface Soil Sample Borings

Three soil borings were installed at the following locations (Figure 3-1):

- SB-1 in the southeastern portion of the Site to a depth of 12 feet;
- SB-4 in the northern portion of the Site to a depth of 28.5 feet; and
- SB-5 in the southwestern portion of the Site to a depth of 4 feet.

Soil borings SB-1 and SB-4 were completed using hollow stem auger drilling methods. Continuous soil samples were collected using a 2 inch inside diameter stainless steel split spoon sampler. Each soil sample was visually examined by GHD field personnel for physical characteristics (i.e. soil type, odors, and staining), and field screened for volatile organic vapors using a photoionization detector (PID). Soil boring SB-5 was completed with hand tools due to its location behind the shot rock stockpile and proximity to bedrock outcrops approximately 20 feet north. Soils were removed and visually examined by GHD field personnel for physical characteristics (i.e. soil type, odors, and staining). Field observations and PID readings were recorded in a field log, and are reported in subsurface boring logs included in Appendix C.

Soil samples were planned to be taken from three (3) intervals in each boring; 0-2 feet for a surface soil sample (designated A on Table 4-2); the interval that showed the greatest evidence of impacts based on photoionization detector readings or visual observation of ash fill (designated B on Table 4-2)); and the interval immediately above the water table, or bedrock surface if no water was encountered (designated C on Table 4-2). Soil boring SB-4 only had two (2) soil samples taken from it, a surface soil sample (designated as A on Table 4-2 and composited from 0 – 4' bgs due to poor sample recovery) and a bedrock interface sample (designated as B on Table 4-2 and composited from 24 – 28' bgs), because the middle intervals of the soil boring contained rock fragments with little to no fine grained soil since the boring was advanced through the shot rock stockpile. Soil boring SB-5 only had two (2) soil samples taken from it, a surface soil sample (designated A on Table 4-2 and composited from 0 – 1' bgs) and a sample of what appeared to be native soil (designated B on Table 4-2 and was a grab from 3' bgs), because it was only advanced to 4 feet bgs due to hand tool limitations.

The soil samples that were collected from each soil boring were placed in glass sample containers, packed in an ice filled cooler, and submitted to Alpha Analytical for analysis. Each soil sample was analyzed for target compound list (TCL) volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260, TCL semi-volatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, target analyte list (TAL) metals by EPA Methods 6010/7000, and pesticides by EPA Method 8081A. The laboratory analytical report for soil samples is included in Appendix D-1.

Soil cuttings generated from the borings were used to backfill the bore holes once soil samples were collected.

3.1.2 Surface Soil Samples

Three (3) surface soil samples (SS-6, SS-7, and SS-8) were taken independent of soil boring locations. These samples were located between the shot rock stockpile and western Site boundary. Samples were composited from the upper 1 foot of soil (excluding the root zone) using a hand trowel. The trowel was decontaminated with alconox and water between each sample location.

The soil samples were placed in glass sample containers, packed in an ice filled cooler, and submitted to Alpha Analytical for analysis. Each soil sample was analyzed for TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, PCBs by EPA Method 8082, TAL metals by EPA Methods 6010/7000, and pesticides by EPA Method 8081A. The laboratory analytical report for soil samples is included in Appendix D-1.

3.1.3 Groundwater Monitoring Well/Soil Sample Borings

Two (2) soil borings (SB-2 and SB-3) were completed to collect subsurface soil samples and to establish groundwater monitoring points. A third soil boring (SB-3A) was completed in proximity to soil boring SB-3 to install a groundwater monitoring well. As a result of the proximity to SB-3, no soil samples were taken from SB-3A. The monitoring wells were installed at the following depths and locations (Figure 3-1):

- MW-1 (SB-2) was completed as an overburden groundwater monitoring well with 10-feet of well screen installed to a depth of 26.5 feet along the eastern property boundary in the central portion of the Site;
- MW-2A (SB-3A) was completed as an overburden groundwater monitoring well with 10-feet of well screen installed to a depth of 35 feet near the northeastern corner of the Site; and
- MW-2B (SB-3) was completed as a bedrock groundwater monitoring well with 5-feet of well screen installed to a depth of 53.5 feet near the northeastern corner of the Site.

Soil borings SB-2, SB-3, and SB-3A were completed by hollow stem auger drilling techniques until bedrock refusal was encountered. Continuous soil samples were collected from SB-2 and SB-3 using a 2-inch inside diameter stainless steel split spoon sampler until bedrock refusal was encountered. Each soil sample was visually examined by GHD field personnel for physical characteristics (i.e. soil type, odors, and staining), and field screened for volatile organic vapors with a PID. Field observations and PID readings were recorded in a field log and are reported in subsurface boring logs in Appendix C.

Monitoring well MW-2B was completed as a bedrock groundwater monitoring well in soil boring SB-3. The overburden portion of the well was advanced as described above. Once bedrock refusal was encountered, at a depth of 41 feet bgs, a roller bit was advanced 2 feet into bedrock and a 4 inch inside

diameter surface casing was set at a depth of 43 feet bgs. The surface casing was grouted in place to the surface and allowed to cure overnight. The following day a 5 foot long 2 inch inside diameter HX core barrel was used to core the bedrock. Two 5 foot core runs were completed into bedrock and the bedrock groundwater monitoring well was installed to a final depth of 53.4 feet bgs.

Soil samples were taken from two (2) of these borings (SB-2 and SB-3) using the same methods as described in Section 3.1.1 above in order to characterize the Site soils. Soil boring SB-2 had three (3) soil samples taken from it, a surface soil sample (designated as A on Table 4-2 and composited from 0 – 4' bgs due to poor sample recovery), a most impacted interval sample (designated as B on Table 4-2 and composited from 11 – 13' bgs), and a soil-bedrock interface sample (designated C on Table 4-2 and composited from 21 – 25' bgs due to poor sample recovery). Soil boring SB-3 also had three (3) soil samples taken from it, a surface soil sample (designated as A on Table 4-2 and composited from 0 – 6' bgs due to poor sample recovery, a most impacted interval sample (designated B on Table 4-2 and composited from 12 – 16' bgs due to poor sample recovery), and a soil-groundwater interface sample (designated C on Table 4-2 and composited from 24 – 28' bgs due to poor sample recovery). The soil samples were placed in glass sample containers, packed in an ice filled cooler, and submitted to Alpha Analytical for analysis. Each soil sample was analyzed for TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, PCBs by EPA Method 8082, TAL metals by EPA Methods 6010/7000, and pesticides by EPA Method 8081A. The laboratory analytical report for soil samples is included in Appendix D-1. Soil samples were not collected from boring SB-3A since it is located within 10 feet of SB-3/MW-2B.

A 2-inch inside diameter PVC monitoring well was constructed within each boring. The two (2) overburden groundwater monitoring wells (MW-1 and MW-2A) were constructed with 10 feet of 0.01 inch slot well screen and PVC riser extending to approximately 2 feet above ground surface. The boring annular space was filled with a #0 silica sand pack, extending from the bottom of the borings to approximately 2 feet above the top of the well screen. Approximately 1.5 feet of bentonite pellets were placed on top of the sand filter pack, and hydrated. The remainder of the boring annular space was filled with a cement/bentonite grout mix to the surface. The bedrock groundwater monitoring well (MW-2B) was constructed with 5 feet of 0.01 inch slot well screen and PVC riser extending to approximately 2 feet above ground surface. The boring annular space was filled with a #0 silica sand pack, extending from the bottom of the boring to approximately 2 feet above the top of the well screen. Approximately 3 feet of bentonite pellets were place on top of the sand filter pack, and hydrated. The remainder of the boring annular space was filled with a cement/bentonite grout mix to the surface.

Each monitoring well was finished with a cement pad and locking steel stick-up protective casing set in concrete. Monitoring well construction diagrams are included with the subsurface boring logs (Appendix C).

The purpose of the monitoring wells was to provide groundwater samples to characterize Site groundwater in overburden (MW-1 and MW-2A) and bedrock (MW-2B) and to assess the potential for off-Site migration of contaminants in groundwater.

A. Monitoring Well Development. Following installation, each monitoring well was developed by continually surging and evacuating water and particulate using a submersible Whale® pump. Well development was continued until a minimum of 10 well volumes were removed. Dedicated well tubing was used at each well during development and the development pump was decontaminated with alconox and water between each well. Monitoring well MW-1 was not developed because it did not contain any water.

Well development logs are included in Appendix E.

B. Drilling and Well Development Materials. Soil cuttings generated during drilling activities were screened for evidence of potential impacts (i.e. staining, odors, elevated PID readings) and staged on, and covered by, poly sheeting to await analytical results of soil samples to determine necessary handling.

Well development water and drilling fluids were screened for evidence of potential impacts (i.e. odors, sheens) and disposed of at ground surface since no impacts were identified based on visual observations.

C. Drilling Equipment Decontamination. Drilling equipment was placed on pallets for decontamination. Decontamination water was allowed to infiltrate into the ground at the decontamination area since no significant signs of impacts were observed while advancing the borings.

D. Groundwater Sampling. Prior to purging, depth to water and total depth of well measurements were collected to determine groundwater elevations and well purge volumes. Wells were purged until three well volumes were removed, or until dry, using a dedicated disposable bailer at each well. Field parameters (temperature, conductivity, salinity, dissolved oxygen, pH, oxidation reduction potential (ORP), and turbidity) were recorded using a YSI 6820 water quality meter after groundwater samples were collected.

Groundwater samples were taken using dedicated disposable bailers from an existing groundwater monitoring well (SWR-MW-1) on the adjacent Lot 1 and two newly installed on-Site groundwater monitoring wells (MW-2A and MW-2B). Newly installed on-Site groundwater monitoring well MW-1 could not be sampled because it was dry. Samples were placed in containers provided by the laboratory, packed in ice filled coolers, and sent to Alpha Analytical to be analyzed for TCL VOCs by EPA Method 8260, TCL SVOCs by EPA Method 8270, TAL metals by EPA Methods 6010/7000, PCBs by EPA Method 8082, and pesticides by EPA Method 8081A. The laboratory analytical report for groundwater samples is included in Appendix D-3.

One duplicate sample and one MS/MSD sample were collected for quality control purposes.

3.1.4 Soil Vapor Well Soil Borings and Samples

Two (2) soil borings were completed at the following locations to install soil vapor wells (Figure 3-1):

- SV-1 along the eastern property boundary in the central portion of the Site near MW-1; and
- SV-2 near the northeastern corner of the property near MW-2A and MW-2B.

Soil vapor well borings were completed to 6 feet bgs by advancing a 2 inch inside diameter stainless steel split spoon to the final depth.

A soil vapor well was constructed within each boring and consists of a 6 inch long ½ inch diameter stainless steel well screen with ¼ inch diameter Teflon® tubing riser extending to approximately 1 foot above ground surface. The boring annular space was filled with a #0 silica sand pack to approximately 6 inches above the top of the screen. The remainder of the boring was filled with bentonite pellets, and hydrated. Each soil vapor monitoring well was completed with a flush mount bolt down cover set in a

concrete pad. Soil vapor monitoring well construction diagrams are included with the subsurface boring logs (Appendix C).

Soil vapor samples were taken from each soil vapor well by isolating the well from the atmosphere using bentonite, poly sheeting, and a metal dome. A tracer gas was introduced into the dome to verify that infiltration of outside air was not occurring. Three volumes of air were removed from the well, after which the tubing was tested for the presence of the tracer gas using a gas multimeter. Tracer gas was not detected in the well tubing (indicating no infiltration of outside air) so samples were taken using 1 liter summa canisters with regulators set to collect over a period of 8 hours.

Duplicate and MS/MSD samples were taken for quality control purposes. The summa canisters were sent to Centek Laboratories to be analyzed for VOCs including naphthalene by EPA Method TO-15. The laboratory analytical report for soil vapor samples is included in Appendix D-2.

3.2 Site Survey

The location and elevation of new groundwater monitoring wells, soil vapor monitoring wells, soil borings, and surface soil samples were surveyed by Contractors Line and Grade South, LLC of Elmsford, New York (Appendix A). Survey data was used to update a base map for the Site (Figure 3-1).

3.3 Data Usability Summary Report (DUSR)

A data usability summary report (DUSR) was completed by SGD Environmental Services for analytical results of on-Site and off-Site soil, groundwater, and soil vapor samples collected as part of this Remedial Investigation (Appendix F).

The objective of the DUSR was to provide an independent third-party evaluation of analytical data to determine if it is representative and usable in decision making. DUSR evaluation included the following:

- completeness (number of samples collected and analyzed compared to plans);
- chain of custody completeness and accuracy;
- holding times;
- instrument calibration;
- relative percent difference between field duplicates;
- reasonableness of data (e.g. relationship between total and soluble analytes); and
- blank contamination.

3.4 Fish and Wildlife Impact Analysis

GHD completed a Fish and Wildlife Impact Analysis (FWIA) for the Site, which described the Site's potential to affect the overall habitat value for the area, based on the Site's current condition and anticipated future use. The FWIA is included in Appendix G, and is summarized in Section 4 of this report.

3.5 Qualitative Human Health Exposure Assessment

A qualitative assessment of potential human exposure scenarios, both present and in the future, was conducted in the context of the Site's existing and future contemplated use. The assessment evaluated potential contaminant sources, routes of exposure, and human populations that may potentially come into

contact with Site-related contaminants. Specific contaminants of potential concern (COPCs) were identified. The Qualitative Human Health Exposure Assessment is discussed in Section 6.

3.6 Electronic Database Requirements (EQuIS)

The Department of Environmental Remediation (DER) is implementing an Environmental Information Management System (EIMS) to standardize and organize the storage of data generated from Site investigations. As a result, DER requires that all data be submitted in the correct DEC Electronic Data Deliverable (EDD) format.

The soil, groundwater, and soil vapor data generated during this Remedial Investigation was entered into DEC's EDD format and submitted.

4 Investigation Results

4.1 Site Hydrogeology

4.1.1 Soil Types

Soil types identified in borings consisted of rock fragments with fine to medium grained sand on the eastern portion of the Site from the surface to 2 to 5 feet bgs. SB-4 contained rock fragments with minor amounts of fine to medium grained sand from the surface to 24 feet bgs because it was advanced through the northern portion of the shot rock stockpile. SB-5, which was advanced on the western portion of the Site, contained red, black, brown fine to medium grained ash and cinders intermixed with metal and broken glass from the surface to 8 inches bgs. This material was interpreted as ash fill from the former Austin Avenue Landfill.

The material below the surface soils was fill consisting of black, red, orange, white, and brown fine to medium grained ash and cinders intermixed with brick fragments, glass, wood, and some general refuse. These soils were loose and dry and ranged in thickness from 3 feet to 22 feet. This material was interpreted as ash fill from the former Austin Avenue Landfill.

Fine grained, medium-stiff, moist, olive green, silty sand was found beneath the ash fill material (depth of 23 feet bgs) in boring MW-1 at a thickness of 3.5 feet. Fine to medium grained, loose, moist to wet with depth, brown-tan sand was found beneath the ash fill material (depth of 26.5 feet bgs) in boring MW-2B at a thickness of 14 feet. Fine grained, stiff, moist, rusty-brown clay with silt containing some rock fragments with depth was found beneath the ash fill material (depth of 0.8 feet bgs) in boring SB-5 at a thickness of greater than 3.5 feet. These soils, which were interpreted as native material, are assumed to be underlain by bedrock since a bedrock outcrop was observed approximately 20 feet north of this boring location.

Saturated soils were observed at a depth of 27 feet bgs, which was interpreted as the water table in MW-2B. Moisture was encountered at 23 feet bgs in MW-1, but it wasn't of sufficient quantity to produce groundwater in the monitoring well.

Logs of borings advanced during the RI are presented in Appendix C, and their locations are shown on Figure 3-1.

4.1.2 Surface Water and Groundwater Flow

Major surface water features near the Site include Sprain Brook, located approximately 1,200 feet east and Saw Mill River located approximately 1,200 feet west. Both Sprain Brook and the Saw Mill River flow from north to south.

The Site is an undeveloped area with grass and woodland cover types, so the majority of rainwater likely infiltrates into the subsurface. Any surface water drainage at the Site likely flows to the west and northwest except for the eastern most portion of the Site, a local plateau, which likely drains to the east (towards Lot 1).

Depth to water measurements were taken from monitoring wells during the RI. This information was used to calculate groundwater elevations and indicated that the water table is between 25 to 39 feet below ground surface, depending on the well location. Groundwater elevations could only be obtained from two wells since MW-1 was dry. As a result, direction of groundwater flow cannot be accurately determined.

However, since the site is located on top of a ridge, it is likely a groundwater recharge zone and groundwater flow will likely follow topography and flow away from the site to the east, west, and north. Groundwater likely discharges to the Saw Mill River west of the Site or Sprain Brook immediately east of the former Austin Avenue Landfill. Groundwater elevation data is provided on Table 4-1 and Figure 4-1 shows presumed groundwater flow direction.

4.2 Subsurface Soil Sample Results

Subsurface soil samples were collected to characterize Site soil quality. Laboratory results are compared to the Commercial Use and Unrestricted Use Soil Cleanup Objectives (SCOs) in Table 4-2. Figure 4-2 depicts subsurface soil sample locations and analytes that exceed Commercial Use SCOs. Figure 4-3 depicts subsurface soil sample locations and analytes that exceed Unrestricted Use SCOs. Laboratory analytical reports for soil samples are included in Appendix D-1.

Subsurface soil samples were collected from five (5) soil borings (SB-1, SB-2, SB-3, SB-4, and SB-5) for laboratory analysis. The following table summarizes the depth of the boring, depth of the soil samples, and analysis performed on each soil sample.

Soil Boring Identification	Soil Boring Depth (feet below ground surface)	Sample Identification	Sample Depth (feet below ground surface)	Sample Analysis
SB-1	12	SB-1A	Composite from 0 – 2	TCL VOCs, TCL SVOCs, TAL metals, PCBs, and Pesticides
		SB-1B	Composite from 2 – 4	
		SB-1C	Composite from 6 – 8	
SB-2	27	SB-2A	Composite from 0 – 4	TCL VOCs, TCL SVOCs, TAL metals, PCBs, and Pesticides
		SB-2B	Composite from 11 – 13	
		SB-2C	Composite from 21 – 25	
SB-3	41	SB-3A	Composite from 0 – 6	TCL VOCs, TCL SVOCs, TAL metals, PCBs, and Pesticides
		SB-3B	Composite from 12 – 16	
		SB-3C	Composite from 24 – 28	
SB-4	28.5	SB-4A	Composite from 0 – 4	TCL VOCs, TCL SVOCs, TAL metals, PCBs, and Pesticides
		SB-4B	Composite from 20 – 24	
SB-5	4	SB-5A	Composite from 0 – 1	TCL VOCs, TCL SVOCs, TAL metals, PCBs, and Pesticides
		SB-5B	Grab from 3	

The only Commercial Use SCOs that were exceeded in subsurface soil samples were metals in samples taken from soil borings SB-1 (SB-1B - barium) and SB-2 (SB-2C - lead and mercury). All other detected analytes were at concentrations below Unrestricted Use SCOs except:

- VOCs at concentrations above Unrestricted Use SCOs in samples SB-2B (acetone) and SB-2C (acetone);
- SVOCs at concentrations above Unrestricted Use SCOs in sample SB-3C (benzo(a)anthracene, benzo(b)fluoranthene, chrysene, and indeno(1,2,3-cd)pyrene);
- Metals at concentrations above Unrestricted Use SCOs as follows: barium (SB-1B), chromium (SB-1B, SB-1C, SB-2B, SB-3B, SB-4B, and SB-5B), copper (SB-1B, SB-1C, SB-2B, SB-2C, SB-3B, SB-3C, and SB-4B), lead (SB-1B, SB-1C, SB-2B, SB-3C, and SB-4B), mercury (SB-2B and SB-3C), nickel (SB-1B, SB-1C, SB-2B, SB-3B, SB-4B, and SB-5B), and zinc (SB-1B, SB-1C, SB-2B, SB-2C, and SB-4B);
- Total PCBs at concentrations above Unrestricted Use SCOs in samples SB-1B, SB-2B, and SB-3B; and
- Pesticides at concentrations above Unrestricted Use SCOs in samples SB-1B (chlordane), SB-2B (4,4'-DDD), and SB-3B (4,4'-DDT).

4.3 Surface Soil Sample Results

Surface soil samples were collected to characterize Site surface soil quality. Laboratory results are compared to the Commercial Use and Unrestricted Use Soil Cleanup Objectives (SCOs) in Table 4-3. Figure 4-4 depicts surface soil sample locations and analytes that exceed Commercial Use SCOs. Figure 4-5 depicts surface soil sample locations and analytes that exceed Unrestricted Use SCOs. Laboratory analytical reports for soil samples are included in Appendix D-1.

Surface soil samples were collected for laboratory analysis from eight (8) locations: five (5) soil borings (SB-1, SB-2, SB-3, SB-4, and SB-5) and three (3) independent surface soil locations (SS-6, SS-7, and SS-8). Surface soil samples taken from soil borings were composited from 0 to 2 feet bgs due to poor recovery in the split spoon. Independent surface soil samples were taken from the 0 to 1 foot interval by compositing grabs collected from the 0 to 2 inch, 6 inch, and 12 inch intervals. Each sample was analyzed for TCL VOCs, TCL SVOCs, TAL metals, PCBs, and pesticides.

The only Commercial Use SCO that was exceeded in surface soil samples was one metal in one sample taken from soil boring SB-5 (SB-5A - arsenic). All other detected analytes were at concentrations below Unrestricted Use SCOs except:

- Metals at concentrations above Unrestricted Use SCOs as follows: chromium (SB-1A, SB-2A, SB-3A, SB-4A, SB-5A, SS-6, SS-7, and SS-8), copper (SB-1A, SB-5A, SS-6, and SS-7), lead (SB-5A, SS-7, and SS-8), mercury (SB-5A, SS-7, and SS-8), nickel (SB-1A, SB-2A, SB-3A, SB-4A, SB-5A, SS-6, SS-7, and SS-8), and zinc (SB-5A, SS-6, SS-7, and SS-8); and
- Pesticides at concentrations above Unrestricted Use SCOs in samples SB-5A (dieldrin, 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, and chlordane), SS-6 (4,4'-DDE and 4,4'-DDT), SS-7 (dieldrin, 4,4'-DDE, and 4,4'-DDT), and SS-8 (4,4'-DDE and 4,4'-DDT).

4.4 Groundwater Sample Results

Groundwater samples were collected from two (2) on-Site groundwater monitoring wells (MW-2A and MW-2B) and one (1) off-Site groundwater monitoring well (SWR-MW-1). Each sample was analyzed for TCL

VOCs, TCL SVOCs, TAL metals, PCBs, and pesticides. Groundwater monitoring well MW-1 was dry during the sampling event, therefore, a sample could not be taken.

Groundwater samples collected from MW-2A and SWR-MW-1 had elevated turbidity levels due to low recharge rates during development and sampling. The increased turbidity would likely contribute to increased concentrations of metals since entrained soil particles, which contain naturally occurring metal analytes, are dissolved during sample preservation leading to elevated metals concentrations being detected during sample analysis.

Laboratory results for groundwater samples are discussed below. Field parameters (temperature, conductivity, salinity, dissolved oxygen, pH, ORP, and turbidity) are summarized in Table 4-4. Laboratory results are compared to the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) Class GA ambient water quality standards in Table 4-5. Figure 4-6 identifies analytes that exceed groundwater standards. Laboratory analytical reports can be found in Appendix D-3 and groundwater field sampling logs can be found in Appendix H.

4.4.1 Volatile Organic Compounds (VOCs)

Groundwater samples were taken from three (3) monitoring wells (MW-2A, MW-2B, and SWR-MW-1) and analyzed for TCL VOCs. Results are compared to Class GA water quality standards in Table 4-5. Results indicate that VOCs were not detected above laboratory detection limits.

4.4.2 Semi-Volatile Organic Compounds (SVOCs)

Groundwater samples were taken from three (3) monitoring wells (MW-2A, MW-2B, and SWR-MW-1) and analyzed for TCL SVOCs. Results are compared to Class GA water quality standards in Table 4-5.

SVOCs were detected in groundwater samples from two (2) monitoring wells. However, none of the analytes were detected above groundwater standards. The sample taken from MW-2B contained fluoranthene and phenanthrene at concentrations that were flagged as estimated values, and were below groundwater standards. The sample taken from SWR-MW-1 contained fluoranthene at a concentration that was flagged an estimated value, and was below groundwater standards.

4.4.3 Metals

Groundwater samples were taken from three (3) monitoring wells (MW-2A, MW-2B, and SWR-MW-1) and analyzed for TAL metals. SWR-MW-1 is a pre-existing well located off-Site to the east on Lot 1. Figure 4-6 identifies analytes that exceed standards and Table 4-5 provides a summary of results compared to Class GA water quality standards. As discussed previously, it is likely that the increased turbidity of the sample water could have effected metals concentrations.

Common naturally occurring elements including iron (MW-2A, MW-2B, SWR-MW-1, and Duplicate (MW-2A)), magnesium (MW-2A, MW-2B, and Duplicate (MW-2A)), manganese (MW-2A, MW-2B, SWR-MW-1, and Duplicate (MW-2A)), and sodium (MW-2A, MW-2B, SWR-MW-1, and Duplicate (MW-2A)) were detected above groundwater standards in samples taken from groundwater monitoring wells. Chromium (SWR-MW-1), lead (MW-2A, SWR-MW-1, and Duplicate (MW-2A)), and thallium (SWR-MW-1) were the only metals detected above groundwater quality standards, in samples taken from groundwater monitoring wells, that are not commonly occurring natural elements; however, all three of these analytes were detected in Site soil samples.

4.4.4 Polychlorinated Biphenyls (PCBs)

Groundwater samples were taken from three (3) monitoring wells (MW-2A, MW-2B, and SWR-MW-1) and analyzed for PCBs. Results are compared to Class GA water quality standards in Table 4-5. Results indicate that PCBs were not detected above laboratory detection limits.

4.4.5 Pesticides

Groundwater samples were taken from three (3) monitoring wells (MW-2A, MW-2B, and SWR-MW-1) and analyzed for pesticides. Results are compared to Class GA water quality standards in Table 4-5.

One (1) pesticide (Endosulfan 1) was detected in the sample taken from MW-2B. The concentration of the detected analyte was 0.025 ug/L; however, there is no groundwater standard established for Endosulfan 1. This analyte was also detected in the duplicate sample, which was collected from MW-2A, at a concentration of 0.121 ug/L.

4.5 Soil Vapor Sample Results

Soil vapor samples were taken from two (2) soil vapor wells and analyzed for VOCs using EPA Method TO-15. Results are included in Table 4-6. The laboratory analytical report is included in Appendix D-2.

Soil vapor sample analysis identified thirty-four (34) VOCs in the soil vapor samples. None of the VOCs detected in the soil vapor samples were detected in groundwater samples collected from the Site. Five (5) compounds, including acetone, benzene, carbon disulfide, and naphthalene, were detected in both soil vapor samples and soil samples. However, concentrations detected in soil samples were below Unrestricted Use SCOs, with the exception of acetone in soil samples SB-2B and SB-2C, which exceeded Unrestricted Use SCOs but were below Residential Use SCOs and were also flagged as estimated values.

4.6 Data Usability Summary Report

Remedial Investigation data quality was evaluated by SGD Environmental Services, an independent third party, to determine if it was representative and usable in decision making. The DUSR is included in Appendix F.

The DUSR reviewed data generated by Alpha Analytical, Inc. (Alpha) and Centek Laboratories, LLC (Centek). The data reviewed consisted of soil and groundwater samples collected by GHD on April 3, 5, 6, 12, and 19, 2012 and analyzed by Alpha for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, pesticides by EPA Method 8081A, PCBs by EPA Method 8082, and TAL metals by EPA Methods 6010B, 6020, and 7471A. The data reviewed also consisted of soil vapor samples collected by GHD on April 19 and analyzed by Centek for VOCs by EPA Method TO-15.

In general, all samples were received by Alpha in compliance and at less than $5^{o}C$ and soil vapor samples were received by Centek at the proper vacuum pressures. Holding times for sample receipt, preparation, and analysis were met for all analyses. Field duplicates were collected for samples SS-6 (soil), MW-2A (groundwater), and SV-2 (soil vapor).

The DUSR did not identify any major data usability issues and did not reject any laboratory analytical results. However, several soil, groundwater, and soil vapor samples were qualified with U or J flags. The results of the DUSR were used to update the laboratory analytical data summary tables that are included in this report (Tables 4-2, 4-3, 4-5, and 4-6).

4.7 Fish and Wildlife Impact Analysis

GHD completed a fish and wildlife impact analysis (FWIA). A copy of the FWIA is included in Appendix G.

The report concluded that the Site contains successional northern hardwood forest which provides suitable habitat for a variety of species to nest, forage, and seek cover. The size of the area may not be suitable as full-time habitat for larger species, but is large enough to support full-time use by smaller species. Given the proximity of the Site to otherwise heavily developed area, wildlife may seek out the Site for habitat that may not be abundant nearby. However, there is an approximately 25-acre successional northern hardwood forest located within 0.5-miles of the Site that would probably be more desirable and suitable for wildlife inhabitation. The Saw Mill River is also located within 0.5-miles of the Site and offers relatively valuable habitat and food sources.

It was also concluded that fish and wildlife resources at the Site that are of value to humans are limited due to the Site's small size and limited habitat. However, within 0.5-miles of the Site there are fish and wildlife resources that are of value to humans, including fishing, wildlife observation, education, and aesthetic appreciation, particularly within the Saw Mill River. There are more areas that provide value to humans within 2-miles of the Site, including the Hudson River, Hillside Park and Mount Hope, St. Andrews Golf Club, Grassy Sprain Reservoir, Untermyer Park, and Greystone Castle.

An exposure pathway analysis completed as part of the FWIA indicated that there is a potentially complete pathway with respect to animals contacting Site soil contamination. The exposure pathway with respect to groundwater contamination was determined to be possible but unlikely because of the fact that the groundwater at the Site occurred at an average depth of more than 20 feet below ground surface. Also, it is unknown how long, or at what point, groundwater is discharged to a surface water body. An exposure pathway with respect to soil vapor contamination was determined to exist; however, concentrations of soil vapor contamination are limited and would further disperse in an open air environment making impacts unlikely.

5 Contaminant Fate and Transport

This section provides a summary of the fate and transport of contaminants identified at the Lot 4 – Austin Avenue and Prior Place Site. *Contaminant fate* refers to various physical, chemical, and biological processes that naturally occur in environmental media (i.e. soil, groundwater, surface water), which potentially alter the contaminants and affect their existence in the media. Different contaminants may have different fates, depending on the physical characteristics of the contaminants and the processes that act on them.

Physical characteristics that may affect the fate of a contaminant include *density* (related to the molecular weight of the contaminant), *solubility* (how easily the contaminant dissolves in water), and *vapor pressure* (how readily the contaminant transforms to a gaseous phase).

The *processes* that affect contaminants may include *volatilization* (the process in which the contaminant becomes a vapor), *photolysis* (degradation caused by adsorption of light), *biodegradation* (biological activity that alters or consumes the contaminant), *sorption* (when a contaminant becomes "attached" to soil or sediment particles), and *chemical speciation* (the molecular form a contaminant assumes due to the surrounding chemical environment).

Contaminant transport is influenced by the characteristics of the media that contain the contaminants (i.e. the permeability of soil, surface water turbulence and turbidity, the groundwater flow velocity), as well as the physical characteristics of the contaminants. Transport pathways are defined in terms of contaminant sources and the media that are affected by those sources.

Conclusions regarding the migration paths and fate of contaminants can be drawn based on the distribution of contaminants and the potential contaminant sources discussed in Section 4.

Overall, there were no visual, olfactory, or field instrument-based (i.e. PID) evidence of contamination in any sample location at the Site, aside from the ash fill material encountered in soil borings SB-1, SB-2, SB-3, SB-4, and SB-5 (Sections 4.2 and 4.3).

5.1 Soil

In general, analytical data collected during the RI indicate that soil contamination is relatively minor. Laboratory analysis of sixteen (16) soil samples (sub-surface and surface soils) identified no samples that contained VOCs, SVOCs, PCBs, or pesticides at concentrations that exceed Commercial Use SCOs. Two (2) subsurface soil samples contained metals at concentrations that exceeded Commercial Use SCOs; barium in SB-1B and lead and mercury in SB-2C. One (1) surface soil sample contained metals at concentrations that exceeded Commercial Use SCOs; arsenic in SB-5A. Even though the Site is intended for commercial uses for the foreseeable future, results were also compared to the more restrictive Unrestricted Use SCOs. This comparison identified several analytes that marginally exceeded Unrestricted Use SCOs. The analytes that exceeded Unrestricted Use SCOs are:

Surface Soils	Subsurface Soils
Pesticides: Chlordane (SB-5A) Dieldrin (SB-5A and SS-7 4,4'-DDD (SB-5A) 4,4'-DDE (SB-5A, SS-6, SS-7, and SS-8) 4,4'-DDT (SB-5A, SS-6, SS-7, and SS-8)	Pesticides: Chlordane (SB-1B) 4,4'-DDD (SB-2B) 4,4'-DDT (SB-3B)
Metals: Chromium (SB-1A, SB-2A, SB-3A, SB-4A, SB-5A, SS-6, SS-7, and SS-8) Copper (SB-1A, SB-5A, SS-6, and SS-7) Lead (SB-5A, SS-7, and SS-8) Mercury (SB-5A, SS-7, and SS-8) Nickel (SB-1A, SB-2A, SB-3A, SB-4A, SB-5A, SS-6, SS-7, and SS-8 Zinc (SB-5A, SS-6, SS-7, and SS-8)	Metals: Barium (SB-1B) Chromium (SB-1B, SB-1C, SB-2B, SB-3B, SB-4B, and SB-5B) Copper (SB-1B, SB-1C, SB-2B, SB-2C, SB-3B, SB-3C, and SB-4B) Lead (SB-1B, SB-1C, SB-2B, SB-3C, and SB-4B) Mercury (SB-2B and SB-3C) Nickel (SB-1B, SB-1C, SB-2B, SB-3B, SB-4B, and SB-5B) Zinc (SB-1B, SB-1C, SB-2B, SB-2C, and SB-4B)
	PCBs: Total PCBs (SB-1B, SB-2B, and SB-3B)
	VOCs: Acetone (SB-2B and SB-2C)
	SVOCs: Benzo(a)anthracene (SB-3C) Benzo(b)fluoranthene (SB-3C) Chrysene (SB-3C) Indeno(1,2,3-cd)pyrene (SB-3C)

The above analytical results indicate that contaminant levels above Unrestricted Use SCOs with respect to metals occur across the Site, in both surface and subsurface soils. Results also indicate that contaminant level with respect to pesticides are highest in surface soil samples collected from the wooded area of the Site to the west of the shot rock stockpile.

Aside from metals and pesticides found in surface and subsurface soil samples from across the Site, the RI does not indicate the presence of potential discrete contaminant source areas at the Site. Evidence that contaminant mobility at the Site is limited agrees with observed Site characteristics; the dense vegetation covering the majority of the Site tends to limit soil mobility caused by potential wind and water erosion. Moreover, the generally low solubility for the metals and pesticides detected in soils usually reduces the potential for them to leach into the underlying groundwater. This seems to be supported by groundwater analytical data (see below).

5.2 Groundwater

Soluble contaminants that exist at or below the water table may potentially dissolve and produce groundwater plumes, which may migrate in the direction of groundwater flow. Contamination above the water table may also dissolve, as infiltration from rainfall and snowmelt percolates downward and through the contamination.

Groundwater sample results from on-Site and off-Site groundwater monitoring wells did not identify detectable VOCs or PCBs. SVOCs and pesticides were detected in several groundwater samples, both on-Site and off-Site, at concentrations below groundwater standards.

The groundwater sample results identified detectable concentrations of two (2) SVOCs (fluoranthene and phenanthrene) in groundwater. Both of these SVOCs were detected in on-Site monitoring well MW-2B (bedrock well) and only fluoranthene was detected in off-Site monitoring well SWR-MW-1. Neither compound was detected at a concentration that exceeded groundwater quality standards. Based on this data, SVOCs do not appear to have a significant impact on Site groundwater quality.

The groundwater sample results identified one (1) pesticide (Endosulfan 1) at a concentration of 0.025 ug/L. This pesticide was only detected in the groundwater sample taken from on-Site monitoring well MW-2B (bedrock well), and there is no standard established for Endosulfan 1. Based on this data, pesticides do not appear to have a significant impact on Site groundwater quality.

The groundwater sample results identified metals above groundwater standards in all of the samples taken, however, the majority of those detected (i.e. iron, magnesium, manganese, and sodium) are commonly occurring natural elements and were also detected is Site soil samples. The groundwater sample taken from MW-2B (bedrock well) had a low turbidity and did not contain any analytes above groundwater quality standards, other than the commonly occurring natural elements listed above.

Chromium, lead, and thallium were detected above standards in groundwater samples taken from monitoring well SWR-MW-1. Monitoring well SWR-MW-1 is off-Site (on Lot 1) and is considered to be cross gradient from the Site. These analytes are not commonly occurring natural elements, but they were detected in Site soil samples. Only one (1) metal, lead, was detected above groundwater standards in samples taken from on-Site groundwater monitoring well MW-2A and in the Duplicate sample, which was collected from MW-2A. Lead is not a commonly occurring natural element, but it was detected in Site soil samples. Impacts to Site groundwater due to metals appear to be widespread, based on the location of MW-2A and SWR-MW-1, which are separated by approximately 540 feet horizontally. However, groundwater samples collected from MW-2A, which is located near a bedrock trough that is assumed to be in the direction of groundwater flow, did not identify chromium or thallium at concentrations above groundwater standards, which suggests that mobility of contaminants in groundwater is limited. This is consistent with the chemical characteristics of the metals found in Site soil, which typically have a fairly low solubility and tend to adsorb to soils.

Groundwater impacts are likely due to the presence of incinerator ash that was disposed of in the former landfill area and may also be elevated due to the presence of elevated turbidity in the samples. Impacts due to groundwater contamination are further limited by the fact that the Site and adjacent properties are serviced by a municipal water supply.

5.3 Soil Vapor

Soil vapor may potentially form from volatile contaminants such as VOCs, which have high vapor pressures. Having a high vapor pressure means that there is a strong tendency for vapors to be emitted from solid or liquid forms of a contaminant.

Soil vapor samples taken from on-Site soil vapor monitoring wells identified multiple compounds. The detected concentrations in soil vapor samples ranged from 0.47 ug/m^3 (2,2,4-trimethylpentane in SV-2) to 240 ug/m^3 (toluene in SV-2). However, none of the detected compounds were identified in on-Site

groundwater samples. Five (5) compounds, including acetone, benzene, carbon disulfide, and naphthalene, were detected in on-Site soil vapor samples and on-Site soil samples. However, the concentrations detected in soil samples were below Unrestricted Use SCOs, with the exception of acetone in samples SB-2B and SB-2C, which were above Unrestricted Use SCOs but below Residential SCOs and were also flagged as estimated values.

Based on analytical data, it would appear that there is not a significant source of soil vapor contamination in on-Site groundwater or subsurface soils. However, due to the potential variable nature of the former Austin Avenue Landfill fill material, and the soil vapor data, there appears to be a potential for soil vapor impacts, but none of the detections exceeded NYSDOH target soil vapor compound standards. Furthermore, bedrock outcrops, which limit soil vapor migration, are present on the western portion of the Site and potential receptors are located at lower elevations to the west and higher elevations to the north.

5.4 Air

Airborne transport either from VOC emissions that escape into the atmosphere, or from contaminated surface soil “dust” that is lifted and transported by wind is also negligible for current conditions at the Site.

As previously noted, RI data indicated that minimal VOCs were detected in Site soil vapor samples, precluding significant VOC emissions. Airborne transport of soil particles, as “dust”, is greatly minimized by the vegetative cover at the Site. The extensive vegetation minimizes soil erosion for the majority of the Site, including that which may be caused by wind. However, discrete areas without vegetation along a pathway on the west side of the Site may generate “dust” during periodic use.

Rainfall is fairly evenly distributed throughout the year, and snow covers the ground for extended periods of time, which are conditions that tend to reduce “dust” emissions. Although there may be occasional dry periods in the summer when “dust” could potentially form, the vegetation effectively controls the potential for airborne transport.

6 Qualitative Human Health Exposure Assessment

A qualitative human health exposure assessment was completed in order to evaluate whether existing or proposed future Site conditions may result in exposure to Site related contaminants.

The presence of a contaminant does not, by itself, create a risk of exposure. Exposure is only a possibility if someone (i.e. a receptor) may potentially be exposed to a contaminant, and if a complete or potentially complete exposure pathway exists. An exposure pathway describes the means by which a potential receptor may be exposed to contaminants originating from the Site. An exposure pathway has five elements:

- a contaminant source;
- contaminant release and transport mechanisms;
- a point of exposure;
- a route of exposure; and
- a receptor population.

An exposure pathway is *complete* if all five elements of an exposure pathway are documented. An exposure pathway is *potentially complete* if none of the five elements can be refuted (i.e. no documentation exists, but the element cannot be ruled out). An exposure pathway is *incomplete*, and may be eliminated from further evaluation, when one of the five elements did not exist in the past, does not exist in the present, and is not likely to exist in the future.

The following qualitative exposure assessment identifies potentially sensitive human receptor populations for the Site, plausible exposure scenarios, and specific contaminants of potential concern (COPCs).

6.1 Receptor Populations

Receptors are people who may potentially be exposed to Site contamination. This may include both on-Site and off-Site exposure. Off-Site exposure may potentially occur if Site contamination migrates off-Site and affects neighboring properties and people on those particular properties come into contact with the contamination.

6.1.1 Current Conditions

A. On-Site. Under current conditions, hired contractors and persons trespassing are the principal on-Site receptors, due to the Site being vacant.

B. Off-Site. Where contamination may have migrated off-Site via groundwater, soil erosion, or soil vapor, the potential receptor population includes the occupants and visitors of the adjoining sites and hired contractors working on the adjoining sites. The Site is bordered by a similar vacant lot to the east, commercial property to the south, and residential properties to the west and north. The properties to the west are at a lower elevation and the properties to the north are at a higher elevation.

6.1.2 Future Conditions

A. On-Site. The anticipated future use of the Site is for commercial activities. Therefore, the principal potential receptor population in the future would be future Site employees, hired contractors, and Site visitors.

Additional potential future receptors include construction and utility workers who could be involved in Site activities related to Site construction and subsurface utilities.

B. Off-Site. Future occupants and/or visitors of adjoining properties noted above may also be potential future receptors.

Additional potential future receptors include construction and utility workers who could be involved in activities related to Site construction and subsurface utilities.

6.2 Determination of Exposure Points and Routes

6.2.1 Current Conditions

A. On-Site. Under current conditions there are a few situations whereby current on-Site receptors are brought into contact with contaminants that may exist at the Site. A hired contractor or Site trespasser could be exposed to surface soil via contact or ingestion at locations where surface soil is exposed, which is the entirety of the Site, except where bedrock outcrops occur or the current location of the shot rock stockpile.

Contact with subsurface soils is a more remote possibility, and will occur only occasionally as projects that require excavation arise. The reasonably anticipated future use of the Site is for commercial activities, which will effectively preclude exposure of Site occupants and visitors to subsurface soils, except for future construction and utility workers. The specific receptors may have the potential to be exposed to subsurface soils via contact or ingestions; however, their exposure would be limited in duration and limited by construction measures that would mitigate exposure risk.

Contact with groundwater does not occur at the Site since there are no existing supply wells. Area residents and businesses are serviced by a municipal water supply. However, it is possible that future excavations at the Site could cause contact with groundwater, but this scenario is unlikely due to the significant depth to groundwater.

B. Off-Site. For this Site, the most plausible off-Site migration mechanisms for contamination include:

- migration of contaminated groundwater;
- migration of contaminated soil; and
- migration of contaminated soil vapor.

Off-Site exposure scenarios take into account the possibility that contaminants may have migrated off-Site by one, or all, of the above mechanisms. Soil migration by erosion is limited due to current well established ground cover stabilizing soils. Migration of contaminated groundwater is possible but contact with contaminated groundwater migrating from the Site is not likely due to the

fact that the surrounding area is serviced by a municipal water supply. Migration of contaminated soil vapor is also possible but contact with contaminated soil vapor migrating from the Site is not likely due to the fact that properties to the west are located at a lower elevation and properties to the north are located at a higher elevation. There are also bedrock outcrops between the Site and adjacent properties that would likely limit soil vapor migration.

6.2.2 Future Conditions

A. On-Site. Because the anticipated future use of the Site will be for commercial purposes, potential exposure to groundwater will remain unlikely since the Site is serviced by a municipal water supply. Exposure to surface soil and subsurface soil will be similar to those previously discussed under current conditions (see Section 6.2.1.A), however, as the Site is developed for commercial uses the potential for exposure with soils should decrease due to increased ground cover (i.e. paved roadways and parking areas and buildings). Future conditions may integrate measures to reduce the exposure potentially relative to soil vapor intrusion (i.e. installation of a sub-slab depressurization system) if structures are constructed on-site.

B. Off-Site. Exposure scenarios discussed above under current conditions (see Section 6.2.1.B) may still exist in the future.

6.3 Determination of Contaminants of Potential Concern

The exposure concentration was estimated for each detected analyte in soil, groundwater, and soil vapor samples, in order to identify contaminants of potential concern (COPCs). The exposure concentration is the concentration of a particular contaminant to which a receptor may be potentially exposed. Representative exposure concentrations in the three media were determined based on the data. Since fewer than 20 analytical samples are available for each media there is no statistically valid way to compute the 95 percent upper confidence limit, so the maximum detected concentration was used as a default.

The result of the exposure point concentration is a conservative, worst case estimate of the contaminant concentrations that humans could be exposed to. The exposure point concentrations were then compared to applicable human health-based standards, criteria, and guidance (SCGs) values including Commercial Use SCOs (Table 6-1) and Class GA water quality standards for groundwater (Table 6-2). Analytes detected in soil and groundwater samples above applicable SCGs are considered COPCs. Compounds that were detected in soil vapor samples are considered COPCs since there are no standards to compare soil vapor concentrations against (Table 6-3).

6.3.1 Soil COPCs

The maximum concentration of each analyte detected in the sixteen (16) soil samples was used as the exposure point concentration, which was then compared to Commercial Use SCOs (Table 6-1). Based on this comparison, the following analytes are identified as COPCs for soil (Table 6-1):

Surface Soil	Subsurface Soil
Arsenic	Barium
	Lead
	Mercury

No VOCs, SVOCs, PCBs, or pesticides were detected at concentrations that exceeded Commercial Use SCOs in soil samples. Therefore, the principal COPCs for soil at the Lot 4 – Austin Avenue and Prior Place Site are metals.

6.3.2 Groundwater COPCs

The maximum concentration of each analyte detected in the three (3) groundwater samples was used as the exposure point concentration, which was then compared to Class GA water quality standards. SWR-MW-1 is located off-Site on Lot 1 cross-gradient from the other groundwater monitoring wells. The following parameters exceeded Class GA standards, and are therefore identified as COPCs for groundwater (Table 6-2):

On-Site Groundwater	Off-Site Groundwater
Iron	Chromium
Lead	Iron
Magnesium	Lead
Manganese	Manganese
Sodium	Sodium
	Thallium

No VOCs, SVOCs, PCBs, or pesticides were detected at concentrations that exceeded Class GA water quality standards in groundwater samples. Therefore, the principal COPCs for groundwater at the Lot 4 – Austin Avenue and Prior Place Site are metals.

6.3.3 Soil Vapor COPCs

The maximum concentration of each analyte detected in the two (2) soil vapor samples was used as the exposure point concentration (Table 6-3). Since soil vapor has no standards, the results cannot be compared to values to determine if they are COPCs. However, it is worth noting that the following VOCs were detected in the soil vapor samples (Table 6-3):

- 1,1,1-Trichloroethane;
- 1,2,4-Trimethylbenzene;
- 1,2-Dichlorobenzene;
- 1,3,5-Trimethylbenzene;
- 1,4-Dichlorobenzene;
- 2,2,4-Trimethylpentane;
- 4-Ethyltoluene;
- Acetone;
- Benzene;
- Carbon disulfide;
- Chlorobenzene;
- Chloroform;
- Chloromethane;
- cis-1,2-Dichloroethene;
- Ethyl acetate;
- Ethylbenzene;
- Freon 11;
- Freon 12;
- Heptane;
- Hexane;
- Isopropyl alcohol;
- m&p-Xylene;
- Methyl Ethyl Ketone;
- Methyl Isobutyl Ketone;
- Methylene chloride;
- Naphthalene;
- o-Xylene;
- Propylene;
- Styrene;
- Tetrachloroethylene;
- Tetrahydrofuran;
- Toluene;
- Trichloroethene; and
- Vinyl chloride.

None of the detected compounds were detected in on-Site or off-Site groundwater samples and are therefore unlikely to migrate off-Site via groundwater. Five (5) compounds, including acetone, benzene, carbon disulfide, and naphthalene, were detected in on-Site soil vapor samples and on-Site soil samples. However, concentrations detected in soil samples were below Unrestricted Use SCOs, with the exception of acetone in soil samples SB-2B and SB-2C, which exceeded Unrestricted Use SCOs but were below Residential Use SCOs and were also flagged as estimated values. Migration of soil vapor off-Site is also unlikely since the properties to the west are located at lower elevations and the properties to the north are located at higher elevations. Also, there are bedrock outcrops between the Site and adjacent properties, which would likely limit soil vapor migration.

6.4 Exposure Pathway Summary

Based on the analytical data from the RI, and the evaluation of potential human receptors, exposure points, exposure pathways, and media specific COPCs, the following exposure pathway summary is presented below:

Condition	Location	Exposure Medium	Exposure Pathway	COPCs
Current	On-Site	Soil	Potentially complete[1]	Metals
		Groundwater	Potentially complete[2]	Metals
		Soil Vapor	Incomplete[3]	VOCs
	Off-Site	Soil	Incomplete[3]	Metals
		Groundwater	Potentially complete[2,6]	Metals
		Soil Vapor	Incomplete[4]	VOCs
Future	On-Site	Soil	Potentially complete	Metals
		Groundwater	Incomplete[2]	Metals
		Soil Vapor	Potentially complete[5]	VOCs
	Off-Site	Soil	Incomplete[3]	Metals
		Groundwater	Potentially complete[2,6]	Metals
		Soil Vapor	Incomplete[4]	VOCs

Notes:

(1) Metals COPCs are isolated in extent and typically occur at depths greater than 2-feet bgs

(2) The Site and all adjacent properties are serviced by a public water supply. There are no supply wells on-Site or on adjacent properties that may allow for contact with groundwater. Contact with groundwater during construction activities is unlikely due to depth to groundwater of greater than 20 feet.

(3) No complete exposure route identified.

(4) Shallow bedrock, and bedrock outcrops on the western and northern portions of the Site, limit the potential for soil vapor migration. No VOCs were identified in groundwater above groundwater standards.

(5) Soil vapor exposure pathway is potentially complete on-Site in the future if structures are constructed on-Site.

(6) Potential exposure to off-Site groundwater at off-Site locations is potentially complete at the point of groundwater discharge.

7 Remedial Investigation Summary and Conclusions

A Remedial Investigation has been completed by Austin Avenue Brownfield Redevelopment II, LLC at the Lot 4 – Austin Avenue and Prior Place Site (BCP Site No. C360116). The Site occupies approximately 7.1 acres located along Austin Avenue and Prior Place in the City of Yonkers, Westchester County, New York. The proposed future use of the Site is for Commercial purposes.

Austin Avenue Brownfield Redevelopment II, LLC has entered into a BCA with the NYSDEC, under which this Remedial Investigation (RI) was completed. In general, the results of the RI indicate that soil is the principal medium of concern and that metals, including arsenic, barium, lead, and mercury, are the principal soil contaminants of concern.

7.1 Soil

Field observations identified incinerator ash and general refuse across the eastern half of the Site. This material is likely associated with the former Austin Avenue landfill that operated at the Site. Laboratory analytical results of soil samples taken from the Site did not identify VOCs, SVOCs, PCBs, or pesticides at concentrations that exceeded Commercial Use SCOs. However, four (4) metals (arsenic, barium, lead, and mercury) were detected at concentrations that exceeded Commercial Use SCOs at discrete locations. These exceedances were limited to discrete soil borings and occurred at depths greater than 2-feet bgs, with the exception of arsenic which exceeded Commercial Use SCOs in a single surface soil sample (SB-5A collected from soil boring SB-5).

Soil, specifically that which is interpreted as ash fill, appears to be the main source of contamination at the Site. However, as evidenced by groundwater samples and as discussed below, soil contamination does not appear to be significantly impacting on-Site groundwater quality.

7.2 Groundwater

The results of shallow (overburden) groundwater sampling indicated that the principal groundwater contaminants are metals, specifically iron, lead, magnesium, manganese, and sodium. These metals were identified in groundwater samples taken from monitoring wells located on-Site and off-Site. In addition, chromium and thallium were detected at concentrations above groundwater standards in groundwater samples taken from the off-Site groundwater monitoring well (SWR-MW-1) located to the east of the Site (on Lot 1). Four of the metals (iron, magnesium, manganese, and sodium) are common naturally occurring elements. Lead is not a naturally occurring element, but was detected in soil samples taken from the Site at concentrations that exceeded Commercial Use SCOs. Lead impacts could be the result of the material placed in the former landfill, and may also be elevated due to increased sample turbidity.

The results of deep (bedrock) groundwater sampling indicated that the principal groundwater contaminants are metals, specifically iron, magnesium, manganese, and sodium. Each of these metals are common naturally occurring elements. The results also identified one pesticide (endosulfan I), however, there is no standard established for this compound.

Groundwater impacts are minor and contact with groundwater, both on-Site and off-Site, is unlikely since the Site and adjacent properties are serviced by a municipal water supply.

7.3 Soil Vapor

Soil vapor is considered a potential exposure risk if it intrudes into a building and affects indoor air (i.e. soil vapor intrusion), or if there is a future potential for soil vapor intrusion to occur. Soil vapor concentrations alone cannot be used to predict COPCs since there are no standards for comparison. However, based on the known presence of VOC concentrations in soil vapor, it is a possibility that soil vapor intrusion could occur in any future structures constructed on-Site.

Off-Site migration of soil vapor is unlikely since adjacent properties to the west are at lower elevations and adjacent properties to the north are at higher elevations. Also, bedrock outcrops which occur between the Site and adjacent properties would limit the migration of soil vapor. Furthermore, VOC impacts were not identified in groundwater, which means that groundwater migration is not likely to contribute to soil vapor intrusion potential.

7.4 Human Health Exposure Assessment

The potential for human receptors to be exposed to contaminants that exist in Site soils is based on current and reasonable anticipated future uses. Commercial Use SCOs are considered an appropriate guidance value to apply to the human health exposure assessment for this Site.

Under existing Site conditions, a potentially complete exposure pathway exists for on-Site soils. The receptor population includes trespassers and hired contractors who may come into contact with Site soils. This route of exposure is generally minimized by vegetation that covers most of the Site, but discrete areas lacking vegetative cover exist along a path located on the western portion of the Site. The same potentially complete exposure path may apply to future Site trespassers or hired contractors who may come into contact with Site soils.

Under existing Site conditions, a potentially complete exposure pathway exists for on-Site and off-Site exposure to groundwater. This pathway is limited due to the fact that the Site and adjacent properties are all serviced by a municipal water supply. The same potentially complete exposure pathway may apply to future Site conditions and will be minimized by the fact that the Site and surrounding area will continue to be serviced by a municipal water supply.

Under existing Site conditions, an incomplete exposure pathway exists for on-Site and off-Site exposure to soil vapor. This pathway is incomplete because there are no structures built on-Site and bedrock outcrops and changes in elevation adjacent to the Site would limit soil vapor migration. The same incomplete exposure pathway may apply to future off-Site receptors. Under future Site conditions, a potentially complete exposure pathway exists for on-Site exposure to soil vapor if structures are built on-Site. This potentially complete exposure pathway could be mitigated by requiring the installation of a soil vapor mitigation system in any buildings constructed on-Site in the future.

7.5 Fish and Wildlife Impact Analysis

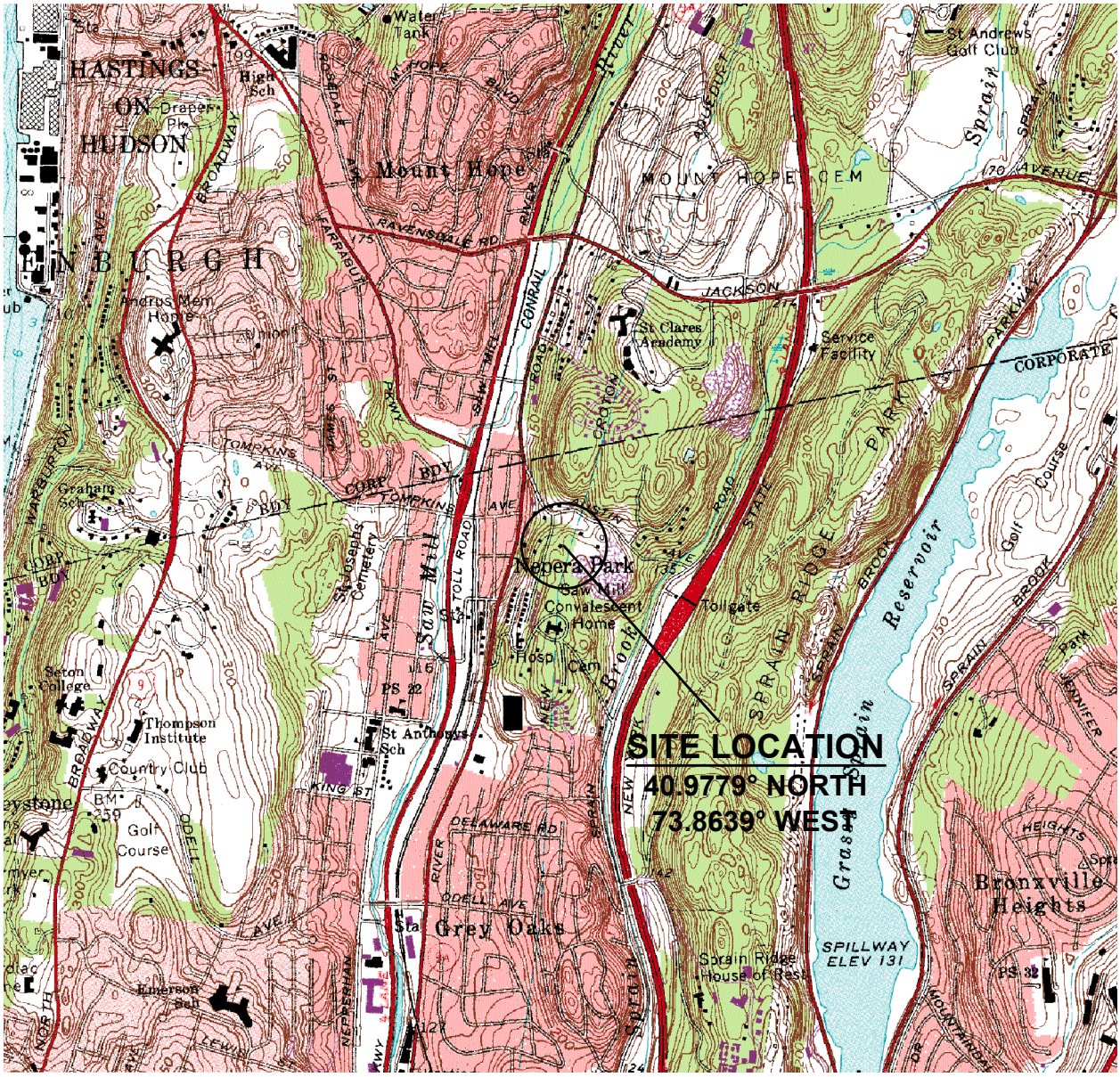
The Fish and Wildlife Impact Analysis (FWIA) report concluded that the Site contains successional northern hardwood forest which provides suitable habitat for a variety of species to nest, forage, and seek cover. The size of the area may not be suitable as full-time habitat for larger species, but is large enough to support full-time use by smaller species. The Saw Mill River is also located within 0.5-miles of the Site and offers relatively valuable habitat and food sources.

An exposure pathway analysis completed as part of the FWIA indicated that there is a potentially complete pathway with respect to animals contacting Site soil contamination. The exposure pathway with respect to groundwater contamination was determined to be possible but unlikely because of the fact that groundwater at the Site occurred at an average depth of more than 20 feet below ground surface. Also, it is unknown how long, or at what point, groundwater is discharged to a surface water body. An exposure pathway with respect to soil vapor contamination was determined to exist; however, concentrations of soil vapor contamination are limited and would further disperse in an open air environment making impacts unlikely.

7.6 Conclusions

The data collected during this RI have provided sufficient and adequate information on the nature and extent of Site contamination to develop a remedial approach and prepare a Remedial Work Plan. Although the Human Health Exposure Assessment identified COPCs in soil, groundwater, and soil vapor, the likelihood of human receptors being exposed is limited due to the fact that the Site is serviced by a public water supply and bedrock outcrops occur to the west and north of the Lot 4 Site. Due to the limited exposure to groundwater and limited potential for off-Site migration of soil vapor the remedial strategy should focus on potential soil exposure pathways and potential for soil vapor intrusion in any buildings constructed on-Site in the future. The goal would be to mitigate the potential for human exposure to soils contaminated with metals and to mitigate the potential for soil vapor intrusion risks.

Figures


SITE LOCATION
40.9779° NORTH
73.8639° WEST
HASTINGS ON HUDSON
Mount Hope
MOUNT HOPE CEM
Nepera Park
Grey Oaks
Bronxville Heights
Sprain Ridge
SPILLWAY ELEV 131
Tollgate
Service Facility
St Andrews Golf Club
St Clares Academy
Convalescent Home
Thompson Institute
Country Club
Golf Course
Grahams Sch
Seton College
St Anthonys Sch
Emerson Sch
PS 22
PS 32
Water Tank
Saw Mill
Grass Reservoir
Sprain Brook Reservoir
Sprain Brook Park
Sprain Brook Golf Course
BROADWAY
ASHBURTON AVE
TOMKINS AVE
SAW MILL RIVER ROAD
CROTON AQUEDUCT
CONRAIL
JACKSON AVE
CORPORATE PARK
DELAWARE RD
ODELL AVE
LEWIS AVE
NEPERA PARK
SAW MILL RIVER PKWY
SAW MILL RIVER
SPRAIN BROOK PKWY
SPRAIN BROOK
NEW YORK AVE
RAVENSDALE RD
MOUNTAINDALE DR
HEIGHTS
CONTOUR INTERVAL: 10 Feet
MAP TAKEN FROM: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLES:
MOUNT VERNON(1966, PHOTOREVISED 1979) &
YONKERS (1966, PHOTOREVISED 1979)
(www.nysgis.state.ny.us/quads/usgsdrg.htm)
NEW YORK
0 1000 2000 3000 4000'
SCALE 1"=2000' AT ORIGINAL SIZE
N
GHD
Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116
Site Location Map
Job Number 86-14908.00
Revision A
Date 05.10.12
Figure 1-1
One Remington Park Drive, Cazenovia NY 13035 USA T 1 315 679 5800 F 1 315 679 5853 E cazmail@ghd.com W www.ghd.com
Plot Date: 9 May 2012 - 11:55 AM
Cad File No: L:\Environment\Projects\86-14908 - Lot 4\Remedial Investigation\Figures\86-14908.00-D1-1.cadd.dwg

LEGEND:

- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

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Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Site Layout

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 1-2

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 1:50 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D1-2.cadd.dwg

LEGEND:

- MB-35 — SOIL SAMPLES LOCATION FROM LBGES, JANUARY 1997 (APPROXIMATE)
- EX-8 — TEST PIT LOCATION FROM LBGES, FEBRUARY 2000 (APPROXIMATE)
- TP-16 — TEST PIT LOCATION FROM LBGES, FEBRUARY 1999 (APPROXIMATE)
- 210 — BEDROCK CONTOURS (APPROXIMATE)
- EXTENT OF FILL (APPROXIMATE)
- SWP-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- EXTENT OF BCP SITE #C360066 (LOT 1)

NOTES:
LBGES - LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C.

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

N

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.
BEDROCK CONTOURS FROM ROCK CONTOUR MAP, PLATE 3, SOILS AND FOUNDATION INVESTIGATION, MELICK-TULLY AND ASSOCIATES, P.C. DECEMBER 8, 1988.
SAMPLE LOCATIONS AND EXTENT OF FILL FROM EXISTING CONDITIONS, PLATE 1, MORRIS WESTCHESTER CONSTRUCTION COMPANY, L.L.P. HISTORIC AUSTIN AVENUE LANDFILL CLOSURE PLAN, LEGGETTE, BRASHEARS, & GRAHAM ENGINEERING SERVICES, P.C. MARCH 8, 2000.

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Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Previous Investigation Sample Locations, Bedrock Contours, and Fill Extent

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 2-1

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 9 August 2012 - 10:12 AM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D2-1.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SS-6 — SURFACE SOIL SAMPLE LOCATION AND ID
- SB-1 — SOIL BORING SAMPLE AND SURFACE SOIL SAMPLE LOCATION AND ID
- SV-1 — SOIL VAPOR WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- UTILITY POLE

NOTES:
MONITORING WELL MW-1 WAS COMPLETED IN SOIL BORING SB-2 AND MONITORING WELL MW-2B WAS COMPLETED IN SOIL BORING SB-3.

SOIL SAMPLES WERE TAKEN AT MONITORING WELL LOCATIONS, AT SOIL BORING LOCATIONS, AND AT SURFACE SOIL LOCATIONS.

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

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Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Sample Locations

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 3-1

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 1:57 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D3-1.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 207.71' — GROUNDWATER ELEVATION (FEET)
- INTERPRETED GROUNDWATER FLOW DIRECTION
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)

NOTES:
INTERPRETED GROUNDWATER FLOW DIRECTION IS BASED ON BEDROCK CONTOURS AND SURFACE TOPOGRAPHY.

DUE TO LACK OF GROUNDWATER ELEVATION DATA, THE GROUNDWATER FLOW DIRECTION COULD NOT BE DETERMINED.

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

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Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Presumed Groundwater Flow Direction

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-1

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 1:58 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-1.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SS-6 — SURFACE SOIL SAMPLE LOCATION AND ID
- SB-1 — SOIL BORING SAMPLE AND SURFACE SOIL SAMPLE LOCATION AND ID
- SV-1 — SOIL VAPOR WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- UTILITY POLE
- Sample ID and Date / Analyte / Concentration (mg/kg) — SOIL RESULTS (ONLY ANALYTES EXCEEDING COMMERCIAL USE SCOs ARE SHOWN)

NOTES:
SEE TABLE 4-2 FOR A COMPLETE SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

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Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Subsurface Soils Exceeding Commercial Use SCOs

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-2

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 1:59 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-2.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SS-6 — SURFACE SOIL SAMPLE LOCATION AND ID
- SB-1 — SOIL BORING SAMPLE AND SURFACE SOIL SAMPLE LOCATION AND ID
- SV-1 — SOIL VAPOR WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- UTILITY POLE
- SOIL RESULTS (ONLY ANALYTES EXCEEDING UNRESTRICTED USE SCOs ARE SHOWN)

Sample ID and Date	
Analyte	Concentration (mg/kg)

NOTES:
SEE TABLE 4-2 FOR A COMPLETE SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

CLIENTS | PEOPLE | PERFORMANCE

Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Subsurface Soils Exceeding Unrestricted Use SCOs

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-3

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 2:00 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-3.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SS-6 — SURFACE SOIL SAMPLE LOCATION AND ID
- SB-1 — SOIL BORING SAMPLE AND SURFACE SOIL SAMPLE LOCATION AND ID
- SV-1 — SOIL VAPOR WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- UTILITY POLE
- Sample ID and Date / Analyte / Concentration (mg/kg) — SOIL RESULTS (ONLY ANALYTES EXCEEDING COMMERCIAL USE SCOs ARE SHOWN)

NOTES:
SEE TABLE 4-3 FOR A COMPLETE SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

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CLIENTS | PEOPLE | PERFORMANCE

Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

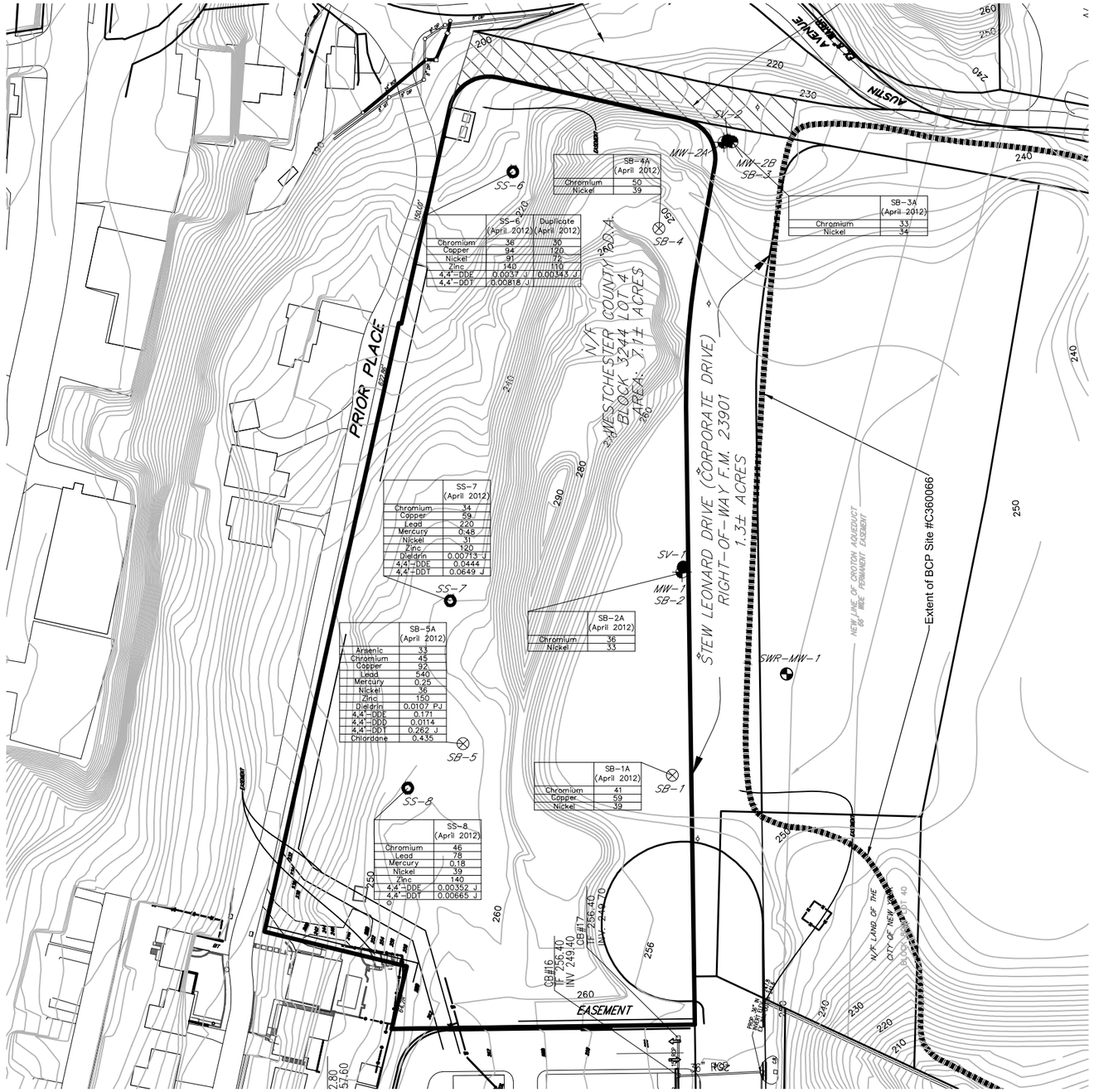
Surface Soils Exceeding Commercial Use SCOs

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-4

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 2:00 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-4.cadd.dwg



LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SS-6 — SURFACE SOIL SAMPLE LOCATION AND ID
- SB-1 — SOIL BORING SAMPLE AND SURFACE SOIL SAMPLE LOCATION AND ID
- SV-1 — SOIL VAPOR WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)
- UTILITY POLE
- SOIL RESULTS (ONLY ANALYTES EXCEEDING UNRESTRICTED USE SCOs ARE SHOWN)

Sample ID and Date	
Analyte	Concentration (mg/kg)

NOTES:
SEE TABLE 4-3 FOR A COMPLETE SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

GHD

CLIENTS | PEOPLE | PERFORMANCE

Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Surface Soils Exceeding Unrestricted Use SCOs

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-5

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 2:01 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-5.cadd.dwg

LEGEND:

- MW-1A — OVERBURDEN MONITORING WELL LOCATION AND ID
- MW-1B — BEDROCK MONITORING WELL LOCATION AND ID
- SWR-MW-1 — EXISTING GROUNDWATER MONITORING WELL (LOT 1)
- Well ID (Sample Date) / Analyte / Concentration (ug/L) — GROUNDWATER RESULTS (ONLY ANALYTES EXCEEDING STANDARDS ARE SHOWN)
- 260 — SURFACE CONTOURS (APPROXIMATE)
- PROPERTY BOUNDARY (APPROXIMATE)

NOTES:
SEE TABLE 4-4 FOR A COMPLETE SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

N

0 65 130 195 260'

SCALE 1"=130' AT ORIGINAL SIZE

BASE MAP FROM A FIELD SURVEY CONDUCTED BY JOHN MEYER CONSULTING, P.C. JUNE 30, 2011.

CLIENTS | PEOPLE | PERFORMANCE

Austin Avenue Brownfield Redevelopment II
Lot 4 - Austin Avenue and Prior Place
BCP Site # C360116

Groundwater Exceedances

Job Number 86-14908.00
Revision A
Date 05.10.12

Figure 4-6

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5853 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 22 June 2012 - 2:02 PM Cad File No: N:\US\Cazenovia\Projects\86\14908\Remedial.Investigation\RI Report\Figures\86-14908.00-D4-6.cadd.dwg

Tables

Table 4-1: (Page 1 of 1) Groundwater Elevation Data. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Monitoring Well I.D.	Date	Reference Point	Reference Elevation (feet)	DTW (feet)	DOW (feet)	Water Elevation (feet)	Volume (gal)
MW-1	4/19/2012	Top of PVC	253.30	Dry	28.42	Dry	Dry
MW-2A	4/19/2012	Top of PVC	233.03	25.32	35.95	207.71	1.70
MW-2B	4/19/2012	Top of PVC	232.96	25.93	55.05	207.03	4.66
SWR-MW-1	4/19/2012	Top of PVC	254.70	38.80	44.82	215.90	0.96

Table 4-2: (Page 1 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION			
	UNRESTRICTED USE	COMMERCIAL USE	SB-1B		SB-1C	
	SAMPLE DATE		4/5/2012		4/5/2012	
	SAMPLE DEPTH (ft. bgs)		(2 - 4)		(6 - 8)	
VOCs by EPA Method 8260				**R.L.**		**R.L.**
Methylene chloride	0.05	500	U	0.029	U	0.029
1,1-Dichloroethane	0.27	240	U	0.0044	U	0.0043
Chloroform	0.37	350	U	0.0044	U	0.0043
Carbon tetrachloride	0.76	22	U	0.0029	U	0.0029
1,2-Dichloropropane			U	0.01	U	0.01
Dibromochloromethane			U	0.0029	U	0.0029
1,1,2-Trichloroethane			U	0.0044	U	0.0043
Tetrachloroethene	1.3	150	U	0.0029	U	0.0029
Chlorobenzene	1.1	500	U	0.0029	U	0.0029
Trichlorofluoromethane			U	0.014	U	0.014
1,2-Dichloroethane	0.02	30	U	0.0029	U	0.0029
1,1,1-Trichloroethane	0.68	500	U	0.0029	U	0.0029
Bromodichloromethane			U	0.0029	U	0.0029
trans-1,3-Dichloropropene			UJ	0.0029	UJ	0.0029
cis-1,3-Dichloropropene			UJ	0.0029	UJ	0.0029
1,1-Dichloropropene			U	0.014	U	0.014
Bromoform			U	0.012	U	0.011
1,1,2,2-Tetrachloroethane			U	0.0029	U	0.0029
Benzene	0.06	44	U	0.0029	U	0.0029
Toluene	0.7	500	U	0.0044	U	0.0043
Ethylbenzene	1	390	U	0.0029	U	0.0029
Chloromethane			U	0.014	U	0.014
Bromomethane			U	0.0058	U	0.0057
Vinyl chloride	0.02	13	U	0.0058	U	0.0057
Chloroethane			U	0.0058	U	0.0057
1,1-Dichloroethene	0.33	500	U	0.0029	U	0.0029
trans-1,2-Dichloroethene	0.19	500	U	0.0044	U	0.0043
Trichloroethene	0.47	200	U	0.0029	U	0.0029
1,2-Dichlorobenzene	1.1	500	U	0.014	U	0.014
1,3-Dichlorobenzene	2.4	280	U	0.014	U	0.014
1,4-Dichlorobenzene	1.8	130	U	0.014	U	0.014
Methyl tert butyl ether	0.93	500	U	0.0058	U	0.0057
p/m-Xylene			U	0.0058	U	0.0057
o-Xylene			U	0.0058	U	0.0057
cis-1,2-Dichloroethene	0.25	500	U	0.0029	U	0.0029
Dibromomethane			U	0.029	U	0.029
Styrene			U	0.0058	U	0.0057
Dichlorodifluoromethane			U	0.029	UJ	0.029
Acetone	0.05	500	U	0.029	UJ	0.029
Carbon disulfide			0.0012	J	U	0.029
2-Butanone	0.12	500	U	0.029	UJ	0.029
Vinyl acetate			U	0.029	U	0.029
4-Methyl-2-pentanone			UJ	0.029	UJ	0.029
1,2,3-Trichloropropane			U	0.029	U	0.029
2-Hexanone			U	0.029	U	0.029
Bromochloromethane			U	0.014	U	0.014
2,2-Dichloropropane			UJ	0.014	U	0.014
1,2-Dibromoethane			U	0.012	U	0.011
1,3-Dichloropropane			U	0.014	U	0.014
1,1,1,2-Tetrachloroethane			U	0.0029	U	0.0029
Bromobenzene			U	0.014	U	0.014
n-Butylbenzene	12	500	U	0.0029	U	0.0029
sec-Butylbenzene	11	500	U	0.0029	U	0.0029
tert-Butylbenzene	5.9	500	U	0.014	U	0.014
o-Chlorotoluene			U	0.014	U	0.014
p-Chlorotoluene			U	0.014	U	0.014
1,2-Dibromo-3-chloropropane			U	0.014	U	0.014
Hexachlorobutadiene			U	0.014	U	0.014
Isopropylbenzene			U	0.0029	U	0.0029
p-Isopropyltoluene			U	0.0029	U	0.0029
Naphthalene	12	500	U	0.014	U	0.014
Acrylonitrile			U	0.029	U	0.029
n-Propylbenzene	3.9	500	U	0.0029	U	0.0029
1,2,3-Trichlorobenzene			U	0.014	U	0.014
1,2,4-Trichlorobenzene			U	0.014	U	0.014
1,3,5-Trimethylbenzene	8.4	190	U	0.014	U	0.014
1,2,4-Trimethylbenzene	3.6	190	U	0.014	U	0.014
1,4-Diethylbenzene			U	0.012	U	0.011
4-Ethyltoluene			U	0.012	U	0.011
1,2,4,5-Tetramethylbenzene			U	0.012	U	0.011
Ethyl ether			U	0.014	U	0.014
trans-1,4-Dichloro-2-butene			U	0.014	U	0.014

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 2 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1B			SB-1C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(2 - 4)			(6 - 8)		
SVOCs by EPA Methods 8270C/8270S					**R.L.**			**R.L.**
Acenaphthene	20	500		U	0.15		U	0.15
1,2,4-Trichlorobenzene				U	0.19		U	0.19
Hexachlorobenzene	0.33	6		U	0.12		U	0.11
Bis(2-chloroethyl)ether				U	0.17		U	0.17
2-Chloronaphthalene				U	0.19		U	0.19
1,2-Dichlorobenzene	1.1	500		U	0.19		U	0.19
1,3-Dichlorobenzene	2.4	280		U	0.19		U	0.19
1,4-Dichlorobenzene	1.8	130		U	0.19		U	0.19
3,3'-Dichlorobenzidine				U	0.19		U	0.19
2,4-Dinitrotoluene				U	0.19		U	0.19
2,6-Dinitrotoluene				U	0.19		U	0.19
Fluoranthene	100	500	0.086	J		0.069	J	
4-Chlorophenyl phenyl ether				U	0.19		U	0.19
4-Bromophenyl phenyl ether				U	0.19		U	0.19
Bis(2-chloroisopropyl)ether				U	0.23		U	0.22
Bis(2-chloroethoxy)methane				U	0.21		U	0.2
Hexachlorobutadiene				U	0.19		U	0.19
Hexachlorocyclopentadiene				UJ	0.55		U	0.54
Hexachloroethane				U	0.15		U	0.15
Isophorone				U	0.17		U	0.17
Naphthalene	12	500	0.061	J			U	0.19
Nitrobenzene		69		U	0.17		U	0.17
NitrosoDiPhenylAmine(NDPA)/DPA				U	0.15		U	0.15
n-Nitrosodi-n-propylamine				U	0.19		U	0.19
Bis(2-Ethylhexyl)phthalate			0.2			0.098	J	
Butyl benzyl phthalate				U	0.19		U	0.19
Di-n-butylphthalate			0.12	J			U	0.19
Di-n-octylphthalate				U	0.19		U	0.19
Diethyl phthalate			0.16	J		0.12	J	
Dimethyl phthalate				U	0.19		U	0.19
Benzo(a)anthracene	1	5.6	0.049	J			U	0.11
Benzo(a)pyrene	1	1		U	0.15		U	0.15
Benzo(b)fluoranthene	1	5.6	0.057	J			U	0.11
Benzo(k)fluoranthene	0.8	56		U	0.12		U	0.11
Chrysene	1	56	0.053	J			U	0.11
Acenaphthylene	100	500		U	0.15		U	0.15
Anthracene	100	500		U	0.12		U	0.11
Benzo(ghi)perylene	100	500		U	0.15		U	0.15
Fluorene	30	500		U	0.19		U	0.19
Phenanthrene	100	500	0.053	J		0.041	J	
Dibenzo(a,h)anthracene	0.33	0.56		U	0.12		U	0.11
Indeno(1,2,3-cd)Pyrene	0.5	5.6		U	0.15		U	0.15
Pyrene	100	500	0.072	J		0.062	J	
Biphenyl				U	0.44		U	0.43
4-Chloroaniline				U	0.19		U	0.19
2-Nitroaniline				U	0.19		U	0.19
3-Nitroaniline				U	0.19		U	0.19
4-Nitroaniline				U	0.19		U	0.19
Dibenzofuran	7	350		U	0.19		U	0.19
2-Methylnaphthalene				U	0.23		U	0.22
1,2,4,5-Tetrachlorobenzene				U	0.19		U	0.19
Acetophenone				U	0.19		U	0.19
2,4,6-Trichlorophenol				U	0.12		U	0.11
P-Chloro-M-Cresol				U	0.19		U	0.19
2-Chlorophenol				U	0.19		U	0.19
2,4-Dichlorophenol				U	0.17		U	0.17
2,4-Dimethylphenol				U	0.19		U	0.19
2-Nitrophenol				U	0.42		U	0.4
4-Nitrophenol				U	0.27		U	0.26
2,4-Dinitrophenol				U	0.93		U	0.9
4,6-Dinitro-o-cresol				U	0.5		U	0.49
Pentachlorophenol	0.8	6.7		U	0.15		U	0.15
Phenol	0.33	500		U	0.19		U	0.19
2-Methylphenol	0.33	500		U	0.19		U	0.19
3-Methylphenol/4-Methylphenol	0.33	500		U	0.28		U	0.27
2,4,5-Trichlorophenol				U	0.19		U	0.19
Benzoic Acid				U	0.62		U	0.61
Benzyl Alcohol				U	0.19		U	0.19
Carbazole				U	0.19		U	0.19

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 3 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1B			SB-1C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(2 - 4)			(6 - 8)		
Metals by EPA Methods 6010/7470					R.L.			R.L.
Aluminum, Total			21000			20000		
Antimony, Total			3.3	J		3.7	J	
Arsenic, Total	13	16	4			7.8		
Barium, Total	350	400	**920**			290		
Beryllium, Total	7.2	590	0.67			0.62		
Cadmium, Total	2.5	9.3		U	0.88		U	0.87
Calcium, Total			3300			4000		
Chromium, Total	30	1500	**51**			**38**		
Cobalt, Total			19			18		
Copper, Total	50	270	**58**			**53**		
Iron, Total			35000			35000		
Lead, Total	63	1000	**410**			**240**		
Magnesium, Total			12000			10000		
Manganese, Total	1600	10000	220			250		
Mercury, Total	0.18	2.8	0.16			0.09		
Nickel, Total	30	310	**77**			**140**		
Potassium, Total			10000			6900		
Selenium, Total	3.9	1500	0.38	J		0.8	J	
Silver, Total	2	1500	0.68	J		0.56	J	
Sodium, Total			540			400		
Thallium, Total			3.7			3.4		
Vanadium, Total			66			60		
Zinc, Total	109	10000	**1600**			**420**		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 4 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION				
	UNRESTRICTED USE	COMMERCIAL USE	SB-1B			SB-1C	
	SAMPLE DATE		4/5/2012			4/5/2012	
	SAMPLE DEPTH (ft. bgs)		(2 - 4)			(6 - 8)	
PCBs by EPA Method 8082					**R.L.**		**R.L.**
Aroclor 1016				U	0.184	U	0.191
Aroclor 1221				U	0.184	U	0.191
Aroclor 1232				U	0.184	U	0.191
Aroclor 1242				U	0.184	U	0.191
Aroclor 1248				U	0.184	U	0.191
Aroclor 1254			0.149	J		U	0.191
Aroclor 1260			0.451			U	0.191
Aroclor 1262				U	0.184	U	0.191
Aroclor 1268				U	0.184	U	0.191
Total PCBs	0.1	1	**0.6**			ND	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 5 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1B			SB-1C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(2 - 4)			(6 - 8)		
Pesticides by EPA Method 8081A					R.L.			R.L.
Delta-BHC	0.04	500		U	0.00922		U	0.00183
Lindane	0.1	9.2		U	0.00384		U	0.00076
Alpha-BHC	0.02	3.4		U	0.00384		UJ	0.00076
Beta-BHC	0.036	3		UJ	0.00922		U	0.00183
Heptachlor	0.042	15		U	0.00461		U	0.00092
Aldrin	0.005	0.68		U	0.00922		U	0.00183
Heptachlor epoxide				U	0.0173		U	0.00343
Endrin	0.014	89	0.0125				UJ	0.00076
Endrin ketone				U	0.00922		U	0.00183
Dieldrin	0.005	1.4		UJ	0.00576		UJ	0.00114
4,4'-DDE	0.0033	62		UJ	0.00922		UJ	0.00183
4,4'-DDD	0.0033	92		UJ	0.00922		UJ	0.00183
4,4'-DDT	0.0033	47		UJ	0.0173	0.0023	J	
Endosulfan I	2.4	200		U	0.00922		U	0.00183
Endosulfan II	2.4	200		U	0.00922		UJ	0.00183
Endosulfan sulfate	2.4	200		UJ	0.00384		UJ	0.00076
Methoxychlor				UJ	0.0173		UJ	0.00343
Toxaphene				U	0.173		U	0.0343
trans-Chlordane				U	0.0115		U	0.00229
Chlordane	0.094	24	**0.114**				U	0.0149

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 6 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-2B			SB-2C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(11 - 13)			(21 - 25)		
VOCs by EPA Method 8260					R.L.			R.L.
Methylene chloride	0.05	500		U	0.032		U	0.032
1,1-Dichloroethane	0.27	240		U	0.0048		U	0.0049
Chloroform	0.37	350		U	0.0048		U	0.0049
Carbon tetrachloride	0.76	22		U	0.0032		U	0.0032
1,2-Dichloropropane				U	0.011		U	0.011
Dibromochloromethane				U	0.0032		U	0.0032
1,1,2-Trichloroethane				U	0.0048		U	0.0049
Tetrachloroethene	1.3	150		U	0.0032		U	0.0032
Chlorobenzene	1.1	500		U	0.0032		U	0.0032
Trichlorofluoromethane				U	0.016		U	0.016
1,2-Dichloroethane	0.02	30		U	0.0032		U	0.0032
1,1,1-Trichloroethane	0.68	500		U	0.0032		U	0.0032
Bromodichloromethane				U	0.0032		U	0.0032
trans-1,3-Dichloropropene				UJ	0.0032		UJ	0.0032
cis-1,3-Dichloropropene				UJ	0.0032		UJ	0.0032
1,1-Dichloropropene				U	0.016		U	0.016
Bromoform				U	0.013		U	0.013
1,1,2,2-Tetrachloroethane				U	0.0032		U	0.0032
Benzene	0.06	44	0.0013	J			U	0.0032
Toluene	0.7	500		U	0.0048		U	0.0049
Ethylbenzene	1	390		U	0.0032		U	0.0032
Chloromethane				U	0.016		U	0.016
Bromomethane				U	0.0064		U	0.0065
Vinyl chloride	0.02	13		U	0.0064		U	0.0065
Chloroethane				U	0.0064		U	0.0065
1,1-Dichloroethene	0.33	500		U	0.0032		U	0.0032
trans-1,2-Dichloroethene	0.19	500		U	0.0048		U	0.0049
Trichloroethene	0.47	200		U	0.0032		U	0.0032
1,2-Dichlorobenzene	1.1	500		U	0.016		U	0.016
1,3-Dichlorobenzene	2.4	280		U	0.016		U	0.016
1,4-Dichlorobenzene	1.8	130		U	0.016		U	0.016
Methyl tert butyl ether	0.93	500		U	0.0064		U	0.0065
p/m-Xylene				U	0.0064		U	0.0065
o-Xylene				U	0.0064		U	0.0065
cis-1,2-Dichloroethene	0.25	500		U	0.0032		U	0.0032
Dibromomethane				U	0.032		U	0.032
Styrene				U	0.0064		U	0.0065
Dichlorodifluoromethane				UJ	0.032		UJ	0.032
Acetone	0.05	500	**0.27**	**J**		**0.13**	**J**	
Carbon disulfide				U	0.032	0.0018	J	
2-Butanone	0.12	500		UJ	0.032		UJ	0.032
Vinyl acetate				U	0.032		U	0.032
4-Methyl-2-pentanone				UJ	0.032		U	0.032
1,2,3-Trichloropropane				U	0.032		U	0.032
2-Hexanone				U	0.032		U	0.032
Bromochloromethane				U	0.016		U	0.016
2,2-Dichloropropane				U	0.016		UJ	0.016
1,2-Dibromoethane				U	0.013		U	0.013
1,3-Dichloropropane				U	0.016		U	0.016
1,1,1,2-Tetrachloroethane				U	0.0032		U	0.0032
Bromobenzene				U	0.016		U	0.016
n-Butylbenzene	12	500		U	0.0032		U	0.0032
sec-Butylbenzene	11	500		U	0.0032		U	0.0032
tert-Butylbenzene	5.9	500		U	0.016		U	0.016
o-Chlorotoluene				U	0.016		U	0.016
p-Chlorotoluene				U	0.016		U	0.016
1,2-Dibromo-3-chloropropane				U	0.016		U	0.016
Hexachlorobutadiene				U	0.016		U	0.016
Isopropylbenzene				U	0.0032		U	0.0032
p-Isopropyltoluene				U	0.0032		U	0.0032
Naphthalene	12	500		U	0.016		UJ	0.016
Acrylonitrile				U	0.032		U	0.032
n-Propylbenzene	3.9	500		U	0.0032		U	0.0032
1,2,3-Trichlorobenzene				U	0.016		UJ	0.016
1,2,4-Trichlorobenzene				U	0.016		UJ	0.016
1,3,5-Trimethylbenzene	8.4	190		U	0.016		U	0.016
1,2,4-Trimethylbenzene	3.6	190		U	0.016		U	0.016
1,4-Diethylbenzene				U	0.013		U	0.013
4-Ethyltoluene				U	0.013		U	0.013
1,2,4,5-Tetramethylbenzene				U	0.013		U	0.013
Ethyl ether				U	0.016		U	0.016
trans-1,4-Dichloro-2-butene				U	0.016		U	0.016

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 7 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-2B			SB-2C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(11 - 13)			(21 - 25)		
SVOCs by EPA Methods 8270C/8270S				R.L.			R.L.	
Acenaphthene	20	500	U	8.5		U	0.17	
1,2,4-Trichlorobenzene			U	11		U	0.22	
Hexachlorobenzene	0.33	6	U	6.4		U	0.13	
Bis(2-chloroethyl)ether			U	9.6		U	0.19	
2-Chloronaphthalene			U	11		U	0.22	
1,2-Dichlorobenzene	1.1	500	U	11		U	0.22	
1,3-Dichlorobenzene	2.4	280	U	11		U	0.22	
1,4-Dichlorobenzene	1.8	130	U	11		U	0.22	
3,3'-Dichlorobenzidine			U	11		U	0.22	
2,4-Dinitrotoluene			U	11		U	0.22	
2,6-Dinitrotoluene			U	11		U	0.22	
Fluoranthene	100	500	U	6.4		U	0.13	
4-Chlorophenyl phenyl ether			U	11		U	0.22	
4-Bromophenyl phenyl ether			U	11		U	0.22	
Bis(2-chloroisopropyl)ether			U	13		U	0.26	
Bis(2-chloroethoxy)methane			U	12		U	0.23	
Hexachlorobutadiene			U	11		U	0.22	
Hexachlorocyclopentadiene			UJ	30		UJ	0.62	
Hexachloroethane			U	8.5		U	0.17	
Isophorone			U	9.6		U	0.19	
Naphthalene	12	500	U	11		U	0.22	
Nitrobenzene		69	U	9.6		U	0.19	
NitrosoDiPhenylAmine(NDPA)/DPA			U	8.5		U	0.17	
n-Nitrosodi-n-propylamine			U	11		U	0.22	
Bis(2-Ethylhexyl)phthalate			U	11	0.2	J		
Butyl benzyl phthalate			U	11		U	0.22	
Di-n-butylphthalate			U	11		U	0.22	
Di-n-octylphthalate			U	11		U	0.22	
Diethyl phthalate			U	11		U	0.22	
Dimethyl phthalate			U	11		U	0.22	
Benzo(a)anthracene	1	5.6	U	6.4		U	0.13	
Benzo(a)pyrene	1	1	U	8.5		U	0.17	
Benzo(b)fluoranthene	1	5.6	U	6.4		U	0.13	
Benzo(k)fluoranthene	0.8	56	U	6.4		U	0.13	
Chrysene	1	56	U	6.4		U	0.13	
Acenaphthylene	100	500	U	8.5		U	0.17	
Anthracene	100	500	U	6.4		U	0.13	
Benzo(ghi)perylene	100	500	U	8.5		U	0.17	
Fluorene	30	500	U	11		U	0.22	
Phenanthrene	100	500	U	6.4		U	0.13	
Dibenzo(a,h)anthracene	0.33	0.56	U	6.4		U	0.13	
Indeno(1,2,3-cd)Pyrene	0.5	5.6	U	8.5		U	0.17	
Pyrene	100	500	U	6.4		U	0.13	
Biphenyl			U	24		U	0.49	
4-Chloroaniline			U	11		U	0.22	
2-Nitroaniline			U	11		U	0.22	
3-Nitroaniline			U	11		U	0.22	
4-Nitroaniline			U	11		U	0.22	
Dibenzofuran	7	350	U	11		U	0.22	
2-Methylnaphthalene			U	13		U	0.26	
1,2,4,5-Tetrachlorobenzene			U	11		U	0.22	
Acetophenone			U	11		U	0.22	
2,4,6-Trichlorophenol			U	6.4		U	0.13	
P-Chloro-M-Cresol			U	11		U	0.22	
2-Chlorophenol			U	11		U	0.22	
2,4-Dichlorophenol			U	9.6		U	0.19	
2,4-Dimethylphenol			U	11		U	0.22	
2-Nitrophenol			U	23		U	0.46	
4-Nitrophenol			U	15		U	0.3	
2,4-Dinitrophenol			U	51		UJ	1	
4,6-Dinitro-o-cresol			U	28		UJ	0.56	
Pentachlorophenol	0.8	6.7	U	8.5		U	0.17	
Phenol	0.33	500	U	11		U	0.22	
2-Methylphenol	0.33	500	U	11		U	0.22	
3-Methylphenol/4-Methylphenol	0.33	500	U	15		U	0.31	
2,4,5-Trichlorophenol			U	11		U	0.22	
Benzoic Acid			U	34		U	0.7	
Benzyl Alcohol			U	11		U	0.22	
Carbazole			U	11		U	0.22	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 8 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION				
	UNRESTRICTED USE	COMMERCIAL USE	SB-2B			SB-2C		
	SAMPLE DATE		4/5/2012			4/5/2012	
	SAMPLE DEPTH (ft. bgs)		(11 - 13)			(21 - 25)	
Metals by EPA Methods 6010/7470					R.L.			R.L.
Aluminum, Total			8100			13000		
Antimony, Total			14				R	
Arsenic, Total	13	16	12			8.7		
Barium, Total	350	400	**360**			180	J	
Beryllium, Total	7.2	590	0.59			0.61		
Cadmium, Total	2.5	9.3	1.4			0.34	J	
Calcium, Total			4700			6400		
Chromium, Total	30	1500	**33**			29		
Cobalt, Total			9.8			9.5		
Copper, Total	50	270	**130**			**57**	**J**	
Iron, Total			46000			29000		
Lead, Total	63	1000	**470**			**1000**	**J**	
Magnesium, Total			1700			2800	J	
Manganese, Total	1600	10000	230			300		
Mercury, Total	0.18	2.8	**1.5**			**7.2**		
Nickel, Total	30	310	**54**			24		
Potassium, Total			1600			1400	J	
Selenium, Total	3.9	1500	1.4	J		1.7	J	
Silver, Total	2	1500	1.6			0.82	J	
Sodium, Total			670			360		
Thallium, Total			3.9			2.2		
Vanadium, Total			37			32		
Zinc, Total	109	10000	**660**			**260**		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R - Rejected by DUSR because MS/MSD results were outside the control limits

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 9 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-2B			SB-2C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(11 - 13)			(21 - 25)		
PCBs by EPA Method 8082					**R.L.**			**R.L.**
Aroclor 1016				U	0.207		U	0.215
Aroclor 1221				U	0.207		U	0.215
Aroclor 1232				U	0.207		U	0.215
Aroclor 1242				U	0.207		U	0.215
Aroclor 1248				U	0.207		U	0.215
Aroclor 1254				U	0.207		U	0.215
Aroclor 1260			0.0734	J		0.0828	J	
Aroclor 1262				U	0.207		U	0.215
Aroclor 1268			0.066	J			U	0.215
Total PCBs	0.1	1	**0.1394**			0.0828		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 10 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-2B			SB-2C		
	SAMPLE DATE		4/5/2012			4/5/2012		
	SAMPLE DEPTH (ft. bgs)		(11 - 13)			(21 - 25)		
Pesticides by EPA Method 8081A					R.L.			R.L.
Delta-BHC	0.04	500		U	0.00962		U	0.002
Lindane	0.1	9.2		U	0.00401		U	0.00084
Alpha-BHC	0.02	3.4		U	0.00401		U	0.00084
Beta-BHC	0.036	3		U	0.00962		U	0.002
Heptachlor	0.042	15		U	0.00481		U	0.001
Aldrin	0.005	0.68		U	0.00962		U	0.002
Heptachlor epoxide				U	0.018		U	0.00376
Endrin	0.014	89		U	0.00401		U	0.00084
Endrin ketone				UJ	0.00962		UJ	0.002
Dieldrin	0.005	1.4		UJ	0.00601		UJ	0.00125
4,4'-DDE	0.0033	62		UJ	0.00962		UJ	0.002
4,4'-DDD	0.0033	92	**0.00822**	**J**		0.00252	J	
4,4'-DDT	0.0033	47		UJ	0.018		UJ	0.00376
Endosulfan I	2.4	200		U	0.00962		U	0.002
Endosulfan II	2.4	200		UJ	0.00962		UJ	0.002
Endosulfan sulfate	2.4	200		U	0.00401		U	0.00084
Methoxychlor				UJ	0.018		UJ	0.00376
Toxaphene				U	0.18		U	0.0376
trans-Chlordane				UJ	0.012		UJ	0.00251
Chlordane	0.094	24		U	0.0782		U	0.0163

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 11 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION			
	UNRESTRICTED USE	COMMERCIAL USE	SB-3B		SB-3C	
	SAMPLE DATE		4/3/2012		4/3/2012	
	SAMPLE DEPTH (ft. bgs)		(12 - 16)		(24 - 28)	
VOCs by EPA Method 8260				**R.L.**		**R.L.**
Methylene chloride	0.05	500	U	0.027	U	0.03
1,1-Dichloroethane	0.27	240	U	0.004	U	0.0045
Chloroform	0.37	350	U	0.004	U	0.0045
Carbon tetrachloride	0.76	22	U	0.0027	U	0.003
1,2-Dichloropropane			U	0.0094	U	0.01
Dibromochloromethane			U	0.0027	U	0.003
1,1,2-Trichloroethane			U	0.004	U	0.0045
Tetrachloroethene	1.3	150	U	0.0027	U	0.003
Chlorobenzene	1.1	500	U	0.0027	U	0.003
Trichlorofluoromethane			U	0.013	U	0.015
1,2-Dichloroethane	0.02	30	U	0.0027	U	0.003
1,1,1-Trichloroethane	0.68	500	U	0.0027	U	0.003
Bromodichloromethane			U	0.0027	U	0.003
trans-1,3-Dichloropropene			UJ	0.0027	UJ	0.003
cis-1,3-Dichloropropene			UJ	0.0027	UJ	0.003
1,1-Dichloropropene			U	0.013	U	0.015
Bromoform			U	0.011	U	0.012
1,1,2,2-Tetrachloroethane			U	0.0027	U	0.003
Benzene	0.06	44	U	0.0027	U	0.003
Toluene	0.7	500	U	0.004	U	0.0045
Ethylbenzene	1	390	U	0.0027	U	0.003
Chloromethane			U	0.013	U	0.015
Bromomethane			U	0.0054	U	0.006
Vinyl chloride	0.02	13	U	0.0054	U	0.006
Chloroethane			U	0.0054	U	0.006
1,1-Dichloroethene	0.33	500	U	0.0027	U	0.003
trans-1,2-Dichloroethene	0.19	500	U	0.004	U	0.0045
Trichloroethene	0.47	200	U	0.0027	U	0.003
1,2-Dichlorobenzene	1.1	500	U	0.013	U	0.015
1,3-Dichlorobenzene	2.4	280	U	0.013	U	0.015
1,4-Dichlorobenzene	1.8	130	U	0.013	U	0.015
Methyl tert butyl ether	0.93	500	U	0.0054	U	0.006
p/m-Xylene			U	0.0054	U	0.006
o-Xylene			U	0.0054	U	0.006
cis-1,2-Dichloroethene	0.25	500	U	0.0027	U	0.003
Dibromomethane			U	0.027	U	0.03
Styrene			U	0.0054	U	0.006
Dichlorodifluoromethane			U	0.027	U	0.03
Acetone	0.05	500	UJ	0.027	UJ	0.03
Carbon disulfide			U	0.027	U	0.03
2-Butanone	0.12	500	U	0.027	U	0.03
Vinyl acetate			U	0.027	U	0.03
4-Methyl-2-pentanone			UJ	0.027	UJ	0.03
1,2,3-Trichloropropane			U	0.027	U	0.03
2-Hexanone			U	0.027	U	0.03
Bromochloromethane			U	0.013	U	0.015
2,2-Dichloropropane			UJ	0.013	UJ	0.015
1,2-Dibromoethane			U	0.011	U	0.012
1,3-Dichloropropane			U	0.013	U	0.015
1,1,1,2-Tetrachloroethane			U	0.0027	U	0.003
Bromobenzene			U	0.013	U	0.015
n-Butylbenzene	12	500	U	0.0027	U	0.003
sec-Butylbenzene	11	500	U	0.0027	U	0.003
tert-Butylbenzene	5.9	500	U	0.013	U	0.015
o-Chlorotoluene			U	0.013	U	0.015
p-Chlorotoluene			U	0.013	U	0.015
1,2-Dibromo-3-chloropropane			U	0.013	U	0.015
Hexachlorobutadiene			U	0.013	U	0.015
Isopropylbenzene			U	0.0027	U	0.003
p-Isopropyltoluene			U	0.0027	U	0.003
Naphthalene	12	500	U	0.013	0.0064	J
Acrylonitrile			U	0.027	U	0.03
n-Propylbenzene	3.9	500	U	0.0027	U	0.003
1,2,3-Trichlorobenzene			U	0.013	U	0.015
1,2,4-Trichlorobenzene			U	0.013	U	0.015
1,3,5-Trimethylbenzene	8.4	190	U	0.013	U	0.015
1,2,4-Trimethylbenzene	3.6	190	U	0.013	U	0.015
1,4-Diethylbenzene			U	0.011	U	0.012
4-Ethyltoluene			U	0.011	U	0.012
1,2,4,5-Tetramethylbenzene			U	0.011	U	0.012
Ethyl ether			U	0.013	U	0.015
trans-1,4-Dichloro-2-butene			U	0.013	U	0.015

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 12 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-3B			SB-3C		
	SAMPLE DATE		4/3/2012			4/3/2012		
	SAMPLE DEPTH (ft. bgs)		(12 - 16)			(24 - 28)		
SVOCs by EPA Methods 8270C/8270S					R.L.			R.L.
Acenaphthene	20	500		U	0.7		U	2.4
1,2,4-Trichlorobenzene				U	0.88		U	3
Hexachlorobenzene	0.33	6		U	0.53		U	1.8
Bis(2-chloroethyl)ether				U	0.79		U	2.7
2-Chloronaphthalene				U	0.88		U	3
1,2-Dichlorobenzene	1.1	500		U	0.88		U	3
1,3-Dichlorobenzene	2.4	280		U	0.88		U	3
1,4-Dichlorobenzene	1.8	130		U	0.88		U	3
3,3'-Dichlorobenzidine				U	0.88		U	3
2,4-Dinitrotoluene				U	0.88		U	3
2,6-Dinitrotoluene				U	0.88		U	3
Fluoranthene	100	500	1.3			4.3		
4-Chlorophenyl phenyl ether				U	0.88		U	3
4-Bromophenyl phenyl ether				U	0.88		U	3
Bis(2-chloroisopropyl)ether				U	1		U	3.6
Bis(2-chloroethoxy)methane				U	0.95		U	3.2
Hexachlorobutadiene				U	0.88		U	3
Hexachlorocyclopentadiene				U	2.5		U	8.5
Hexachloroethane				U	0.7		U	2.4
Isophorone				U	0.79		U	2.7
Naphthalene	12	500		U	0.88		U	3
Nitrobenzene		69		U	0.79		U	2.7
NitrosoDiPhenylAmine(NDPA)/DPA				U	0.7		U	2.4
n-Nitrosodi-n-propylamine				U	0.88		U	3
Bis(2-Ethylhexyl)phthalate			1.4				U	3
Butyl benzyl phthalate				U	0.88		U	3
Di-n-butylphthalate				U	0.88		U	3
Di-n-octylphthalate				U	0.88		U	3
Diethyl phthalate				U	0.88		U	3
Dimethyl phthalate				U	0.88		U	3
Benzo(a)anthracene	1	5.6	0.58			**1.2**	**J**	
Benzo(a)pyrene	1	1	0.46	J		0.94	J	
Benzo(b)fluoranthene	1	5.6	0.57			**1.1**	**J**	
Benzo(k)fluoranthene	0.8	56	0.22	J			U	1.8
Chrysene	1	56	0.56			**1.1**	**J**	
Acenaphthylene	100	500		U	0.7	1.2	J	
Anthracene	100	500	0.23	J		1	J	
Benzo(ghi)perylene	100	500	0.33	J			U	2.4
Fluorene	30	500		U	0.88	0.65	J	
Phenanthrene	100	500	0.8			4.9		
Dibenzo(a,h)anthracene	0.33	0.56		U	0.53		U	1.8
Indeno(1,2,3-cd)Pyrene	0.5	5.6	0.36	J		**0.81**	**J**	
Pyrene	100	500	1.1			2.8		
Biphenyl				U	2		U	6.8
4-Chloroaniline				U	0.88		U	3
2-Nitroaniline				U	0.88		U	3
3-Nitroaniline				U	0.88		U	3
4-Nitroaniline				U	0.88		U	3
Dibenzofuran	7	350		U	0.88		U	3
2-Methylnaphthalene				U	1		U	3.6
1,2,4,5-Tetrachlorobenzene				U	0.88		U	3
Acetophenone				U	0.88		U	3
2,4,6-Trichlorophenol				U	0.53		U	1.8
P-Chloro-M-Cresol				U	0.88		U	3
2-Chlorophenol				U	0.88		U	3
2,4-Dichlorophenol				U	0.79		U	2.7
2,4-Dimethylphenol				U	0.88		U	3
2-Nitrophenol				U	1.9		U	6.4
4-Nitrophenol				U	1.2		U	4.2
2,4-Dinitrophenol				U	4.2		U	14
4,6-Dinitro-o-cresol				U	2.3		U	7.7
Pentachlorophenol	0.8	6.7		U	0.7		U	2.4
Phenol	0.33	500		U	0.88		U	3
2-Methylphenol	0.33	500		U	0.88		U	3
3-Methylphenol/4-Methylphenol	0.33	500		U	1.3		U	4.3
2,4,5-Trichlorophenol				U	0.88		U	3
Benzoic Acid				U	2.8		U	9.6
Benzyl Alcohol				U	0.88		U	3
Carbazole				U	0.88	0.66	J	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 13 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-3B			SB-3C		
	SAMPLE DATE		4/3/2012			4/3/2012		
	SAMPLE DEPTH (ft. bgs)		(12 - 16)			(24 - 28)		
Metals by EPA Methods 6010/7470					R.L.			R.L.
Aluminum, Total			22000			12000		
Antimony, Total			3.3	J		2.8	J	
Arsenic, Total	13	16	0.73	J		2.5		
Barium, Total	350	400	240			74		
Beryllium, Total	7.2	590	0.53			0.4	J	
Cadmium, Total	2.5	9.3		U	0.82		U	0.91
Calcium, Total			6200			1800		
Chromium, Total	30	1500	**59**			24		
Cobalt, Total			21			6.8		
Copper, Total	50	270	**95**			**78**		
Iron, Total			33000			17000		
Lead, Total	63	1000	32			**80**		
Magnesium, Total			11000			3600		
Manganese, Total	1600	10000	210			140		
Mercury, Total	0.18	2.8	0.04	J		**0.28**		
Nickel, Total	30	310	**44**			26		
Potassium, Total			10000			1900		
Selenium, Total	3.9	1500	0.29	J			U	1.8
Silver, Total	2	1500		U	0.82	0.5	J	
Sodium, Total			400			300		
Thallium, Total			3			1.6	J	
Vanadium, Total			75			29		
Zinc, Total	109	10000	94			85		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 14 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION				
	UNRESTRICTED USE	COMMERCIAL USE	SB-3B			SB-3C	
	SAMPLE DATE		4/3/2012			4/3/2012	
	SAMPLE DEPTH (ft. bgs)		(12 - 16)			(24 - 28)	
PCBs by EPA Method 8082					**R.L.**		**R.L.**
Aroclor 1016				U	0.178	U	0.193
Aroclor 1221				U	0.178	U	0.193
Aroclor 1232				U	0.178	U	0.193
Aroclor 1242				U	0.178	U	0.193
Aroclor 1248				U	0.178	U	0.193
Aroclor 1254			0.16	J		U	0.193
Aroclor 1260				U	0.178	U	0.193
Aroclor 1262				U	0.178	U	0.193
Aroclor 1268				U	0.178	U	0.193
Total PCBs	0.1	1	**0.16**			ND	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 15 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION				
	UNRESTRICTED USE	COMMERCIAL USE	SB-3B			SB-3C	
	SAMPLE DATE		4/3/2012			4/3/2012	
	SAMPLE DEPTH (ft. bgs)		(12 - 16)			(24 - 28)	
Pesticides by EPA Method 8081A					R.L.		R.L.
Delta-BHC	0.04	500		U	0.00842	U	0.0364
Lindane	0.1	9.2		U	0.00351	U	0.0152
Alpha-BHC	0.02	3.4		U	0.00351	UJ	0.0152
Beta-BHC	0.036	3		U	0.00842	U	0.0364
Heptachlor	0.042	15		U	0.00421	U	0.0182
Aldrin	0.005	0.68		U	0.00842	U	0.0364
Heptachlor epoxide				U	0.0158	U	0.0683
Endrin	0.014	89		U	0.00351	UJ	0.0152
Endrin ketone				UJ	0.00842	U	0.0364
Dieldrin	0.005	1.4	0.00316	J		UJ	0.0228
4,4'-DDE	0.0033	62		UJ	0.00842	UJ	0.0364
4,4'-DDD	0.0033	92		UJ	0.00842	UJ	0.0364
4,4'-DDT	0.0033	47	**0.00681**	**J**		UJ	0.0683
Endosulfan I	2.4	200		U	0.00842	U	0.0364
Endosulfan II	2.4	200		UJ	0.00842	UJ	0.0364
Endosulfan sulfate	2.4	200		UJ	0.00351	UJ	0.0152
Methoxychlor				UJ	0.0158	UJ	0.0683
Toxaphene				U	0.158	U	0.683
trans-Chlordane				UJ	0.0105	U	0.0456
Chlordane	0.094	24		U	0.0684	U	0.296

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 16 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-4B	
	SAMPLE DATE		4/6/2012	
	SAMPLE DEPTH (ft. bgs)		(20 - 24)	
VOCs by EPA Method 8260				R.L.
Methylene chloride	0.05	500	U	0.0022
1,1-Dichloroethane	0.27	240	U	0.004
Chloroform	0.37	350	U	0.004
Carbon tetrachloride	0.76	22	U	0.0027
1,2-Dichloropropane			U	0.0094
Dibromochloromethane			U	0.0027
1,1,2-Trichloroethane			U	0.004
Tetrachloroethene	1.3	150	U	0.0027
Chlorobenzene	1.1	500	U	0.0027
Trichlorofluoromethane			UJ	0.013
1,2-Dichloroethane	0.02	30	U	0.0027
1,1,1-Trichloroethane	0.68	500	U	0.0027
Bromodichloromethane			U	0.0027
trans-1,3-Dichloropropene			U	0.0027
cis-1,3-Dichloropropene			U	0.0027
1,1-Dichloropropene			U	0.013
Bromoform			UJ	0.011
1,1,2,2-Tetrachloroethane			U	0.0027
Benzene	0.06	44	U	0.0027
Toluene	0.7	500	U	0.004
Ethylbenzene	1	390	U	0.0027
Chloromethane			U	0.013
Bromomethane			U	0.0054
Vinyl chloride	0.02	13	U	0.0054
Chloroethane			U	0.0054
1,1-Dichloroethene	0.33	500	U	0.0027
trans-1,2-Dichloroethene	0.19	500	U	0.004
Trichloroethene	0.47	200	U	0.0027
1,2-Dichlorobenzene	1.1	500	U	0.013
1,3-Dichlorobenzene	2.4	280	U	0.013
1,4-Dichlorobenzene	1.8	130	U	0.013
Methyl tert butyl ether	0.93	500	UJ	0.0054
p/m-Xylene			U	0.0054
o-Xylene			U	0.0054
cis-1,2-Dichloroethene	0.25	500	U	0.0027
Dibromomethane			UJ	0.027
Styrene			U	0.0054
Dichlorodifluoromethane			U	0.027
Acetone	0.05	500	UJ	0.027
Carbon disulfide			UJ	0.027
2-Butanone	0.12	500	UJ	0.027
Vinyl acetate			U	0.027
4-Methyl-2-pentanone			UJ	0.027
1,2,3-Trichloropropane			U	0.027
2-Hexanone			U	0.027
Bromochloromethane			U	0.013
2,2-Dichloropropane			U	0.013
1,2-Dibromoethane			UJ	0.011
1,3-Dichloropropane			U	0.013
1,1,1,2-Tetrachloroethane			UJ	0.0027
Bromobenzene			U	0.013
n-Butylbenzene	12	500	U	0.0027
sec-Butylbenzene	11	500	U	0.0027
tert-Butylbenzene	5.9	500	U	0.013
o-Chlorotoluene			U	0.013
p-Chlorotoluene			U	0.013
1,2-Dibromo-3-chloropropane			U	0.013
Hexachlorobutadiene			U	0.013
Isopropylbenzene			U	0.0027
p-Isopropyltoluene			UJ	0.0027
Naphthalene	12	500	U	0.013
Acrylonitrile			UJ	0.027
n-Propylbenzene	3.9	500	U	0.0027
1,2,3-Trichlorobenzene			U	0.013
1,2,4-Trichlorobenzene			U	0.013
1,3,5-Trimethylbenzene	8.4	190	U	0.013
1,2,4-Trimethylbenzene	3.6	190	U	0.013
1,4-Diethylbenzene			U	0.011
4-Ethyltoluene			U	0.011
1,2,4,5-Tetramethylbenzene			U	0.011
Ethyl ether			UJ	0.013
trans-1,4-Dichloro-2-butene			U	0.013

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

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R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 17 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION		
	UNRESTRICTED USE	COMMERCIAL USE	SB-4B		
	SAMPLE DATE		4/6/2012		
	SAMPLE DEPTH (ft. bgs)		(20 - 24)		
SVOCs by EPA Methods 8270C/8270S					**R.L.**
Acenaphthene	20	500		U	0.14
1,2,4-Trichlorobenzene				U	0.18
Hexachlorobenzene	0.33	6		U	0.11
Bis(2-chloroethyl)ether				U	0.16
2-Chloronaphthalene				U	0.18
1,2-Dichlorobenzene	1.1	500		U	0.18
1,3-Dichlorobenzene	2.4	280		U	0.18
1,4-Dichlorobenzene	1.8	130		U	0.18
3,3'-Dichlorobenzidine				U	0.18
2,4-Dinitrotoluene				U	0.18
2,6-Dinitrotoluene				U	0.18
Fluoranthene	100	500		U	0.11
4-Chlorophenyl phenyl ether				U	0.18
4-Bromophenyl phenyl ether				U	0.18
Bis(2-chloroisopropyl)ether				U	0.21
Bis(2-chloroethoxy)methane				U	0.19
Hexachlorobutadiene				U	0.18
Hexachlorocyclopentadiene				UJ	0.51
Hexachloroethane				U	0.14
Isophorone				U	0.16
Naphthalene	12	500		U	0.18
Nitrobenzene		69		U	0.16
NitrosoDiPhenylAmine(NDPA)/DPA				U	0.14
n-Nitrosodi-n-propylamine				U	0.18
Bis(2-Ethylhexyl)phthalate			0.15	J	
Butyl benzyl phthalate				U	0.18
Di-n-butylphthalate				U	0.18
Di-n-octylphthalate				U	0.18
Diethyl phthalate				U	0.18
Dimethyl phthalate				U	0.18
Benzo(a)anthracene	1	5.6		U	0.11
Benzo(a)pyrene	1	1		U	0.14
Benzo(b)fluoranthene	1	5.6		U	0.11
Benzo(k)fluoranthene	0.8	56		U	0.11
Chrysene	1	56		U	0.11
Acenaphthylene	100	500		U	0.14
Anthracene	100	500		U	0.11
Benzo(ghi)perylene	100	500		U	0.14
Fluorene	30	500		U	0.18
Phenanthrene	100	500		U	0.11
Dibenzo(a,h)anthracene	0.33	0.56		U	0.11
Indeno(1,2,3-cd)Pyrene	0.5	5.6		U	0.14
Pyrene	100	500		U	0.11
Biphenyl				U	0.4
4-Chloroaniline				U	0.18
2-Nitroaniline				UJ	0.18
3-Nitroaniline				U	0.18
4-Nitroaniline				U	0.18
Dibenzofuran	7	350		U	0.18
2-Methylnaphthalene				U	0.21
1,2,4,5-Tetrachlorobenzene				U	0.18
Acetophenone				U	0.18
2,4,6-Trichlorophenol				U	0.11
P-Chloro-M-Cresol				U	0.18
2-Chlorophenol				U	0.18
2,4-Dichlorophenol				U	0.16
2,4-Dimethylphenol				U	0.18
2-Nitrophenol				U	0.38
4-Nitrophenol				UJ	0.25
2,4-Dinitrophenol				U	0.85
4,6-Dinitro-o-cresol				U	0.46
Pentachlorophenol	0.8	6.7		U	0.14
Phenol	0.33	500		U	0.18
2-Methylphenol	0.33	500		U	0.18
3-Methylphenol/4-Methylphenol	0.33	500		U	0.26
2,4,5-Trichlorophenol				U	0.18
Benzoic Acid				U	0.58
Benzyl Alcohol				U	0.18
Carbazole				U	0.18

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

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ft. bgs - Feet below ground surface

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Table 4-2: (Page 18 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION		
	UNRESTRICTED USE	COMMERCIAL USE	SB-4B		
	SAMPLE DATE		4/6/2012		
	SAMPLE DEPTH (ft. bgs)		(20 - 24)		
Metals by EPA Methods 6010/7470					R.L.
Aluminum, Total			21000		
Antimony, Total			4.4		
Arsenic, Total	13	16	1.6		
Barium, Total	350	400	200		
Beryllium, Total	7.2	590	0.47		
Cadmium, Total	2.5	9.3		U	0.81
Calcium, Total			2200		
Chromium, Total	30	1500	**33**		
Cobalt, Total			22		
Copper, Total	50	270	**77**		
Iron, Total			39000		
Lead, Total	63	1000	**79**		
Magnesium, Total			11000		
Manganese, Total	1600	10000	200		
Mercury, Total	0.18	2.8		U	0.07
Nickel, Total	30	310	**45**		
Potassium, Total			9800		
Selenium, Total	3.9	1500	1.7		
Silver, Total	2	1500		U	0.81
Sodium, Total			540		
Thallium, Total			1.6		
Vanadium, Total			52		
Zinc, Total	109	10000	**390**		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 19 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-4B	
	SAMPLE DATE		4/6/2012	
	SAMPLE DEPTH (ft. bgs)		(20 - 24)	
PCBs by EPA Method 8082				**R.L.**
Aroclor 1016			U	0.0347
Aroclor 1221			U	0.0347
Aroclor 1232			U	0.0347
Aroclor 1242			U	0.0347
Aroclor 1248			U	0.0347
Aroclor 1254			U	0.0347
Aroclor 1260			U	0.0347
Aroclor 1262			U	0.0347
Aroclor 1268			U	0.0347
Total PCBs	0.1	1	ND	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 20 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-4B	
	SAMPLE DATE		4/6/2012	
	SAMPLE DEPTH (ft. bgs)		(20 - 24)	
Pesticides by EPA Method 8081A				**R.L.**
Delta-BHC	0.04	500	U	0.0017
Lindane	0.1	9.2	U	0.00071
Alpha-BHC	0.02	3.4	U	0.00071
Beta-BHC	0.036	3	UJ	0.0017
Heptachlor	0.042	15	U	0.00085
Aldrin	0.005	0.68	U	0.0017
Heptachlor epoxide			U	0.00319
Endrin	0.014	89	U	0.00071
Endrin ketone			U	0.0017
Dieldrin	0.005	1.4	U	0.00106
4,4'-DDE	0.0033	62	UJ	0.0017
4,4'-DDD	0.0033	92	UJ	0.0017
4,4'-DDT	0.0033	47	U	0.00319
Endosulfan I	2.4	200	U	0.0017
Endosulfan II	2.4	200	UJ	0.0017
Endosulfan sulfate	2.4	200	UJ	0.00071
Methoxychlor			U	0.00319
Toxaphene			U	0.0319
trans-Chlordane			U	0.00212
Chlordane	0.094	24	U	0.0138

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 21 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-5B	
	SAMPLE DATE		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(3)	
VOCs by EPA Method 8260				**R.L.**
Methylene chloride	0.05	500	U	0.0024
1,1-Dichloroethane	0.27	240	U	0.0045
Chloroform	0.37	350	U	0.0045
Carbon tetrachloride	0.76	22	U	0.003
1,2-Dichloropropane			U	0.01
Dibromochloromethane			U	0.003
1,1,2-Trichloroethane			U	0.0045
Tetrachloroethene	1.3	150	U	0.003
Chlorobenzene	1.1	500	U	0.003
Trichlorofluoromethane			U	0.015
1,2-Dichloroethane	0.02	30	U	0.003
1,1,1-Trichloroethane	0.68	500	U	0.003
Bromodichloromethane			U	0.003
trans-1,3-Dichloropropene			UJ	0.003
cis-1,3-Dichloropropene			UJ	0.003
1,1-Dichloropropene			U	0.015
Bromoform			U	0.012
1,1,2,2-Tetrachloroethane			U	0.003
Benzene	0.06	44	U	0.003
Toluene	0.7	500	U	0.0045
Ethylbenzene	1	390	U	0.003
Chloromethane			U	0.015
Bromomethane			U	0.006
Vinyl chloride	0.02	13	U	0.006
Chloroethane			U	0.006
1,1-Dichloroethene	0.33	500	U	0.003
trans-1,2-Dichloroethene	0.19	500	U	0.0045
Trichloroethene	0.47	200	U	0.003
1,2-Dichlorobenzene	1.1	500	U	0.015
1,3-Dichlorobenzene	2.4	280	U	0.015
1,4-Dichlorobenzene	1.8	130	U	0.015
Methyl tert butyl ether	0.93	500	U	0.006
p/m-Xylene			U	0.006
o-Xylene			U	0.006
cis-1,2-Dichloroethene	0.25	500	U	0.003
Dibromomethane			U	0.03
Styrene			U	0.006
Dichlorodifluoromethane			UJ	0.03
Acetone	0.05	500	UJ	0.03
Carbon disulfide			UJ	0.03
2-Butanone	0.12	500	UJ	0.03
Vinyl acetate			U	0.03
4-Methyl-2-pentanone			UJ	0.03
1,2,3-Trichloropropane			U	0.03
2-Hexanone			U	0.03
Bromochloromethane			U	0.015
2,2-Dichloropropane			U	0.015
1,2-Dibromoethane			U	0.012
1,3-Dichloropropane			U	0.015
1,1,1,2-Tetrachloroethane			U	0.003
Bromobenzene			U	0.015
n-Butylbenzene	12	500	U	0.003
sec-Butylbenzene	11	500	U	0.003
tert-Butylbenzene	5.9	500	U	0.015
o-Chlorotoluene			U	0.015
p-Chlorotoluene			U	0.015
1,2-Dibromo-3-chloropropane			U	0.015
Hexachlorobutadiene			U	0.015
Isopropylbenzene			U	0.003
p-Isopropyltoluene			U	0.003
Naphthalene	12	500	UJ	0.015
Acrylonitrile			UJ	0.03
n-Propylbenzene	3.9	500	U	0.003
1,2,3-Trichlorobenzene			U	0.015
1,2,4-Trichlorobenzene			U	0.015
1,3,5-Trimethylbenzene	8.4	190	U	0.015
1,2,4-Trimethylbenzene	3.6	190	U	0.015
1,4-Diethylbenzene			U	0.012
4-Ethyltoluene			U	0.012
1,2,4,5-Tetramethylbenzene			U	0.012
Ethyl ether			U	0.015
trans-1,4-Dichloro-2-butene			U	0.015

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 22 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-5B	
	SAMPLE DATE		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(3)	
SVOCs by EPA Methods 8270C/8270S				**R.L.**
Acenaphthene	20	500	U	0.16
1,2,4-Trichlorobenzene			U	0.19
Hexachlorobenzene	0.33	6	U	0.12
Bis(2-chloroethyl)ether			U	0.17
2-Chloronaphthalene			U	0.19
1,2-Dichlorobenzene	1.1	500	U	0.19
1,3-Dichlorobenzene	2.4	280	U	0.19
1,4-Dichlorobenzene	1.8	130	U	0.19
3,3'-Dichlorobenzidine			U	0.19
2,4-Dinitrotoluene			U	0.19
2,6-Dinitrotoluene			U	0.19
Fluoranthene	100	500	U	0.12
4-Chlorophenyl phenyl ether			U	0.19
4-Bromophenyl phenyl ether			U	0.19
Bis(2-chloroisopropyl)ether			U	0.23
Bis(2-chloroethoxy)methane			U	0.21
Hexachlorobutadiene			U	0.19
Hexachlorocyclopentadiene			U	0.56
Hexachloroethane			U	0.16
Isophorone			U	0.17
Naphthalene	12	500	U	0.19
Nitrobenzene		69	U	0.17
NitrosoDiPhenylAmine(NDPA)/DPA			U	0.16
n-Nitrosodi-n-propylamine			U	0.19
Bis(2-Ethylhexyl)phthalate			U	0.19
Butyl benzyl phthalate			U	0.19
Di-n-butylphthalate			U	0.19
Di-n-octylphthalate			U	0.19
Diethyl phthalate			U	0.19
Dimethyl phthalate			U	0.19
Benzo(a)anthracene	1	5.6	U	0.12
Benzo(a)pyrene	1	1	U	0.16
Benzo(b)fluoranthene	1	5.6	U	0.12
Benzo(k)fluoranthene	0.8	56	U	0.12
Chrysene	1	56	U	0.12
Acenaphthylene	100	500	U	0.16
Anthracene	100	500	U	0.12
Benzo(ghi)perylene	100	500	U	0.16
Fluorene	30	500	U	0.19
Phenanthrene	100	500	U	0.12
Dibenzo(a,h)anthracene	0.33	0.56	U	0.12
Indeno(1,2,3-cd)Pyrene	0.5	5.6	U	0.16
Pyrene	100	500	U	0.12
Biphenyl			U	0.44
4-Chloroaniline			U	0.19
2-Nitroaniline			U	0.19
3-Nitroaniline			U	0.19
4-Nitroaniline			U	0.19
Dibenzofuran	7	350	U	0.19
2-Methylnaphthalene			U	0.23
1,2,4,5-Tetrachlorobenzene			U	0.19
Acetophenone			U	0.19
2,4,6-Trichlorophenol			U	0.12
P-Chloro-M-Cresol			U	0.19
2-Chlorophenol			U	0.19
2,4-Dichlorophenol			U	0.17
2,4-Dimethylphenol			UJ	0.19
2-Nitrophenol			U	0.42
4-Nitrophenol			U	0.27
2,4-Dinitrophenol			U	0.93
4,6-Dinitro-o-cresol			U	0.5
Pentachlorophenol	0.8	6.7	U	0.16
Phenol	0.33	500	U	0.19
2-Methylphenol	0.33	500	U	0.19
3-Methylphenol/4-Methylphenol	0.33	500	U	0.28
2,4,5-Trichlorophenol			U	0.19
Benzoic Acid			U	0.63
Benzyl Alcohol			U	0.19
Carbazole			U	0.19

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 23 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION		
	UNRESTRICTED USE	COMMERCIAL USE	SB-5B		
	SAMPLE DATE		4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(3)		
Metals by EPA Methods 6010/7470					R.L.
Aluminum, Total			24000		
Antimony, Total			2.6	J	
Arsenic, Total	13	16	3.5		
Barium, Total	350	400	59		
Beryllium, Total	7.2	590	0.71		
Cadmium, Total	2.5	9.3		U	0.89
Calcium, Total			480		
Chromium, Total	30	1500	**33**		
Cobalt, Total			15		
Copper, Total	50	270	26		
Iron, Total			27000		
Lead, Total	63	1000	12		
Magnesium, Total			5600		
Manganese, Total	1600	10000	290		
Mercury, Total	0.18	2.8		U	0.08
Nickel, Total	30	310	**40**		
Potassium, Total			1300		
Selenium, Total	3.9	1500		U	1.8
Silver, Total	2	1500		U	0.89
Sodium, Total			84	J	
Thallium, Total			1.4	J	
Vanadium, Total			44		
Zinc, Total	109	10000	69		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 24 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION	
	UNRESTRICTED USE	COMMERCIAL USE	SB-5B	
	SAMPLE DATE		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(3)	
PCBs by EPA Method 8082				**R.L.**
Aroclor 1016			U	0.0374
Aroclor 1221			U	0.0374
Aroclor 1232			U	0.0374
Aroclor 1242			U	0.0374
Aroclor 1248			U	0.0374
Aroclor 1254			U	0.0374
Aroclor 1260			U	0.0374
Aroclor 1262			U	0.0374
Aroclor 1268			U	0.0374
Total PCBs	0.1	1	ND	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-2: (Page 25 of 25) Summary of Sub-Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION		
	UNRESTRICTED USE	COMMERCIAL USE	SB-5B		
	SAMPLE DATE		4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(3)		
Pesticides by EPA Method 8081A					R.L.
Delta-BHC	0.04	500		U	0.00183
Lindane	0.1	9.2		U	0.00076
Alpha-BHC	0.02	3.4		U	0.00076
Beta-BHC	0.036	3		U	0.00183
Heptachlor	0.042	15		U	0.00091
Aldrin	0.005	0.68		U	0.00183
Heptachlor epoxide				U	0.00343
Endrin	0.014	89		U	0.00076
Endrin ketone				U	0.00183
Dieldrin	0.005	1.4		U	0.00114
4,4'-DDE	0.0033	62	0.000762	J	
4,4'-DDD	0.0033	92		U	0.00183
4,4'-DDT	0.0033	47		UJ	0.00343
Endosulfan I	2.4	200		U	0.00183
Endosulfan II	2.4	200		U	0.00183
Endosulfan sulfate	2.4	200		UJ	0.00076
Methoxychlor				UJ	0.00343
Toxaphene				U	0.0343
trans-Chlordane				U	0.00228
Chlordane	0.094	24		U	0.0148

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 1 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A		SB-2A		SB-3A	
	SAMPLE DATE		4/5/2012		4/5/2012		4/3/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 2)		(0 - 4)		(0 - 6)	
VOCs by EPA Method 8260				**R.L.**		**R.L.**		**R.L.**
Methylene chloride	0.05	500	U	0.028	U	0.027	U	0.027
1,1-Dichloroethane	0.27	240	U	0.0042	U	0.004	U	0.0041
Chloroform	0.37	350	U	0.0042	U	0.004	U	0.0041
Carbon tetrachloride	0.76	22	U	0.0028	U	0.0027	U	0.0027
1,2-Dichloropropane			U	0.0097	U	0.0094	U	0.0096
Dibromochloromethane			U	0.0028	U	0.0027	U	0.0027
1,1,2-Trichloroethane			U	0.0042	U	0.004	U	0.0041
Tetrachloroethene	1.3	150	U	0.0028	U	0.0027	U	0.0027
Chlorobenzene	1.1	500	U	0.0028	U	0.0027	U	0.0027
Trichlorofluoromethane			U	0.014	U	0.013	U	0.014
1,2-Dichloroethane	0.02	30	U	0.0028	U	0.0027	U	0.0027
1,1,1-Trichloroethane	0.68	500	U	0.0028	U	0.0027	U	0.0027
Bromodichloromethane			U	0.0028	U	0.0027	U	0.0027
trans-1,3-Dichloropropene			UJ	0.0028	UJ	0.0027	U	0.0027
cis-1,3-Dichloropropene			UJ	0.0028	UJ	0.0027	UJ	0.0027
1,1-Dichloropropene			U	0.014	U	0.013	UJ	0.014
Bromoform			U	0.011	U	0.011	U	0.011
1,1,2,2-Tetrachloroethane			U	0.0028	U	0.0027	U	0.0027
Benzene	0.06	44	U	0.0028	U	0.0027	U	0.0027
Toluene	0.7	500	U	0.0042	U	0.004	U	0.0041
Ethylbenzene	1	390	U	0.0028	U	0.0027	U	0.0027
Chloromethane			U	0.014	U	0.013	U	0.014
Bromomethane			U	0.0056	U	0.0054	U	0.0055
Vinyl chloride	0.02	13	U	0.0056	U	0.0054	U	0.0055
Chloroethane			U	0.0056	U	0.0054	U	0.0055
1,1-Dichloroethene	0.33	500	U	0.0028	U	0.0027	U	0.0027
trans-1,2-Dichloroethene	0.19	500	U	0.0042	U	0.004	U	0.0041
Trichloroethene	0.47	200	U	0.0028	U	0.0027	U	0.0027
1,2-Dichlorobenzene	1.1	500	U	0.014	U	0.013	U	0.014
1,3-Dichlorobenzene	2.4	280	U	0.014	U	0.013	U	0.014
1,4-Dichlorobenzene	1.8	130	U	0.014	U	0.013	U	0.014
Methyl tert butyl ether	0.93	500	U	0.0056	U	0.0054	U	0.0055
p/m-Xylene			U	0.0056	U	0.0054	U	0.0055
o-Xylene			U	0.0056	U	0.0054	U	0.0055
cis-1,2-Dichloroethene	0.25	500	U	0.0028	U	0.0027	U	0.0027
Dibromomethane			U	0.028	U	0.027	U	0.027
Styrene			U	0.0056	U	0.0054	U	0.0055
Dichlorodifluoromethane			U	0.028	UJ	0.027	U	0.027
Acetone	0.05	500	UJ	0.028	UJ	0.027	UJ	0.027
Carbon disulfide			U	0.028	U	0.027	U	0.027
2-Butanone	0.12	500	U	0.028	UJ	0.027	U	0.027
Vinyl acetate			U	0.028	U	0.027	U	0.027
4-Methyl-2-pentanone			UJ	0.028	UJ	0.027	UJ	0.027
1,2,3-Trichloropropane			U	0.028	U	0.027	U	0.027
2-Hexanone			U	0.028	U	0.027	U	0.027
Bromochloromethane			U	0.014	U	0.013	U	0.014
2,2-Dichloropropane			UJ	0.014	U	0.013	UJ	0.014
1,2-Dibromoethane			U	0.011	U	0.011	U	0.011
1,3-Dichloropropane			U	0.014	U	0.013	U	0.014
1,1,1,2-Tetrachloroethane			U	0.0028	U	0.0027	U	0.0027
Bromobenzene			U	0.014	U	0.013	U	0.014
n-Butylbenzene	12	500	U	0.0028	U	0.0027	U	0.0027
sec-Butylbenzene	11	500	U	0.0028	U	0.0027	U	0.0027
tert-Butylbenzene	5.9	500	U	0.014	U	0.013	U	0.014
o-Chlorotoluene			U	0.014	U	0.013	U	0.014
p-Chlorotoluene			U	0.014	U	0.013	U	0.014
1,2-Dibromo-3-chloropropane			U	0.014	U	0.013	U	0.014
Hexachlorobutadiene			U	0.014	U	0.013	U	0.014
Isopropylbenzene			U	0.0028	U	0.0027	U	0.0027
p-Isopropyltoluene			U	0.0028	U	0.0027	U	0.0027
Naphthalene	12	500	U	0.014	U	0.013	U	0.014
Acrylonitrile			U	0.028	U	0.027	U	0.027
n-Propylbenzene	3.9	500	U	0.0028	U	0.0027	U	0.0027
1,2,3-Trichlorobenzene			U	0.014	U	0.013	U	0.014
1,2,4-Trichlorobenzene			U	0.014	U	0.013	U	0.014
1,3,5-Trimethylbenzene	8.4	190	U	0.014	U	0.013	U	0.014
1,2,4-Trimethylbenzene	3.6	190	U	0.014	U	0.013	U	0.014
1,4-Diethylbenzene			U	0.011	U	0.011	U	0.011
4-Ethyltoluene			U	0.011	U	0.011	U	0.011
1,2,4,5-Tetramethylbenzene			U	0.011	U	0.011	U	0.011
Ethyl ether			U	0.014	U	0.013	U	0.014
trans-1,4-Dichloro-2-butene			U	0.014	U	0.013	U	0.014

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 2 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A			SB-2A			SB-3A		
	SAMPLE DATE		4/5/2012			4/5/2012			4/3/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 2)			(0 - 4)			(0 - 6)		
SVOCs by EPA Methods 8270C/8270S					R.L.			R.L.			R.L.
Acenaphthene	20	500		U	0.29	U	14		U	0.71	
1,2,4-Trichlorobenzene				U	0.37	U	18		U	0.89	
Hexachlorobenzene	0.33	6		U	0.22	U	11		U	0.53	
Bis(2-chloroethyl)ether				U	0.33	U	16		U	0.8	
2-Chloronaphthalene				U	0.37	U	18		U	0.89	
1,2-Dichlorobenzene	1.1	500		U	0.37	U	18		U	0.89	
1,3-Dichlorobenzene	2.4	280		U	0.37	U	18		U	0.89	
1,4-Dichlorobenzene	1.8	130		U	0.37	U	18		U	0.89	
3,3'-Dichlorobenzidine				U	0.37	U	18		U	0.89	
2,4-Dinitrotoluene				U	0.37	U	18		U	0.89	
2,6-Dinitrotoluene				U	0.37	U	18		U	0.89	
Fluoranthene	100	500	0.2	J		U	11		0.74		
4-Chlorophenyl phenyl ether				U	0.37	U	18		U	0.89	
4-Bromophenyl phenyl ether				U	0.37	U	18		U	0.89	
Bis(2-chloroisopropyl)ether				U	0.44	U	21		U	1.1	
Bis(2-chloroethoxy)methane				U	0.4	U	19		U	0.96	
Hexachlorobutadiene				U	0.37	U	18		U	0.89	
Hexachlorocyclopentadiene				U	1	UJ	51		U	2.6	
Hexachloroethane				U	0.29	U	14		U	0.71	
Isophorone				U	0.33	U	16		U	0.8	
Naphthalene	12	500		U	0.37	U	18		U	0.89	
Nitrobenzene		69		U	0.33	U	16		U	0.8	
NitrosoDiPhenylAmine(NDPA)/DPA				U	0.29	U	14		U	0.71	
n-Nitrosodi-n-propylamine				U	0.37	U	18		U	0.89	
Bis(2-Ethylhexyl)phthalate				U	0.37	U	18		0.34	J	
Butyl benzyl phthalate				U	0.37	U	18		U	0.89	
Di-n-butylphthalate				U	0.37	U	18		U	0.89	
Di-n-octylphthalate				U	0.37	U	18		U	0.89	
Diethyl phthalate				U	0.37	U	18		U	0.89	
Dimethyl phthalate				U	0.37	U	18		U	0.89	
Benzo(a)anthracene	1	5.6	0.11	J		U	11		0.36	J	
Benzo(a)pyrene	1	1	0.089	J		U	14		0.34	J	
Benzo(b)fluoranthene	1	5.6	0.12	J		U	11		0.43	J	
Benzo(k)fluoranthene	0.8	56	0.058	J		U	11		0.15	J	
Chrysene	1	56	0.13	J		U	11		0.33	J	
Acenaphthylene	100	500		U	0.29	U	14		U	0.71	
Anthracene	100	500		U	0.22	U	11		0.12	J	
Benzo(ghi)perylene	100	500		U	0.29	U	14		0.22	J	
Fluorene	30	500		U	0.37	U	18		U	0.89	
Phenanthrene	100	500	0.13	J		U	11		0.54		
Dibenzo(a,h)anthracene	0.33	0.56		U	0.22	U	11		U	0.53	
Indeno(1,2,3-cd)Pyrene	0.5	5.6		U	0.29	U	14		0.23	J	
Pyrene	100	500	0.21	J		U	11		0.63		
Biphenyl				U	0.84	U	41		U	2	
4-Chloroaniline				U	0.37	U	18		U	0.89	
2-Nitroaniline				U	0.37	U	18		U	0.89	
3-Nitroaniline				U	0.37	U	18		U	0.89	
4-Nitroaniline				U	0.37	U	18		U	0.89	
Dibenzofuran	7	350		U	0.37	U	18		U	0.89	
2-Methylnaphthalene				U	0.44	U	21		U	1.1	
1,2,4,5-Tetrachlorobenzene				U	0.37	U	18		U	0.89	
Acetophenone				U	0.37	U	18		U	0.89	
2,4,6-Trichlorophenol				U	0.22	U	11		U	0.53	
P-Chloro-M-Cresol				U	0.37	U	18		U	0.89	
2-Chlorophenol				U	0.37	U	18		U	0.89	
2,4-Dichlorophenol				U	0.33	U	16		U	0.8	
2,4-Dimethylphenol				U	0.37	U	18		U	0.89	
2-Nitrophenol				U	0.79	U	39		U	1.9	
4-Nitrophenol				U	0.51	U	25		U	1.2	
2,4-Dinitrophenol				U	1.8	U	86		U	4.3	
4,6-Dinitro-o-cresol				U	0.96	U	46		U	2.3	
Pentachlorophenol	0.8	6.7		U	0.29	U	14		U	0.71	
Phenol	0.33	500		U	0.37	U	18		U	0.89	
2-Methylphenol	0.33	500		U	0.37	U	18		U	0.89	
3-Methylphenol/4-Methylphenol	0.33	500		U	0.53	U	26		U	1.3	
2,4,5-Trichlorophenol				U	0.37	U	18		U	0.89	
Benzoic Acid				U	1.2	U	58		U	2.9	
Benzyl Alcohol				U	0.37	U	18		U	0.89	
Carbazole				U	0.37	U	18		U	0.89	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 3 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A			SB-2A			SB-3A		
	SAMPLE DATE		4/5/2012			4/5/2012			4/3/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 2)			(0 - 4)			(0 - 6)		
Metals by EPA Methods 6010/7470					**R.L.**			**R.L.**			**R.L.**
Aluminum, Total			22000			18000			18000		
Antimony, Total			2.8	J		2.5	J		3	J	
Arsenic, Total	13	16	0.54	J		0.51	J		1.2		
Barium, Total	350	400	190			160			200		
Beryllium, Total	7.2	590	0.6			0.48			0.59		
Cadmium, Total	2.5	9.3		U	0.83		U	0.81		U	0.83
Calcium, Total			1800			3900			12000		
Chromium, Total	30	1500	**41**			**36**			**33**		
Cobalt, Total			20			19			17		
Copper, Total	50	270	**59**			44			44		
Iron, Total			34000			30000			27000		
Lead, Total	63	1000	22			13			33		
Magnesium, Total			11000			9700			9500		
Manganese, Total	1600	10000	180			190			270		
Mercury, Total	0.18	2.8	0.05	J			U	0.08	0.03	J	
Nickel, Total	30	310	**39**			**33**			**34**		
Potassium, Total			9900			9200			9200		
Selenium, Total	3.9	1500		U	1.7	0.26	J		0.27	J	
Silver, Total	2	1500		U	0.83	0.14	J		0.21	J	
Sodium, Total			320			380			530		
Thallium, Total			2.8			2.8			2.9		
Vanadium, Total			68			57			51		
Zinc, Total	109	10000	96			71			100		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

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ft. bgs - Feet below ground surface

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Table 4-3: (Page 4 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A		SB-2A		SB-3A	
	SAMPLE DATE		4/5/2012		4/5/2012		4/3/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 2)		(0 - 4)		(0 - 6)	
PCBs by EPA Method 8082				**R.L.**		**R.L.**		**R.L.**
Aroclor 1016			U	0.174	U	0.174	U	0.173
Aroclor 1221			U	0.174	U	0.174	U	0.173
Aroclor 1232			U	0.174	U	0.174	U	0.173
Aroclor 1242			U	0.174	U	0.174	U	0.173
Aroclor 1248			U	0.174	U	0.174	U	0.173
Aroclor 1254			U	0.174	U	0.174	U	0.173
Aroclor 1260			U	0.174	U	0.174	U	0.173
Aroclor 1262			U	0.174	U	0.174	U	0.173
Aroclor 1268			U	0.174	U	0.174	U	0.173
Total PCBs	0.1	1	ND		ND		ND	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 5 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A			SB-2A			SB-3A		
	SAMPLE DATE		4/5/2012			4/5/2012			4/3/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 2)			(0 - 4)			(0 - 6)		
Pesticides by EPA Method 8081A					R.L.			R.L.			R.L.
Delta-BHC	0.04	500		U	0.00171		U	0.0823		U	0.00825
Lindane	0.1	9.2		U	0.00071		U	0.0343		U	0.00344
Alpha-BHC	0.02	3.4		U	0.00071		UJ	0.0343		UJ	0.00344
Beta-BHC	0.036	3		U	0.00171		U	0.0823		U	0.00825
Heptachlor	0.042	15		U	0.00086		U	0.0411		U	0.00413
Aldrin	0.005	0.68		U	0.00171		U	0.0823		U	0.00825
Heptachlor epoxide				U	0.00321		U	0.154		U	0.0155
Endrin	0.014	89		U	0.00071		UJ	0.0343		UJ	0.00344
Endrin ketone				UJ	0.00171		U	0.0823		U	0.00825
Dieldrin	0.005	1.4		UJ	0.00107		UJ	0.0514	0.00382	J	
4,4'-DDE	0.0033	62	0.00168	JP			UJ	0.0823		UJ	0.00825
4,4'-DDD	0.0033	92	0.00128	J			UJ	0.0823		UJ	0.00825
4,4'-DDT	0.0033	47	0.00196	JP			UJ	0.154		UJ	0.0155
Endosulfan I	2.4	200		U	0.00171		U	0.0823		U	0.00825
Endosulfan II	2.4	200		UJ	0.00171		UJ	0.0823		UJ	0.00825
Endosulfan sulfate	2.4	200		U	0.00071		UJ	0.0343		UJ	0.00344
Methoxychlor				UJ	0.00321		UJ	0.154		UJ	0.0155
Toxaphene				U	0.0321		U	1.54		U	0.155
trans-Chlordane				UJ	0.00214		U	0.103		U	0.0103
Chlordane	0.094	24		U	0.0139		U	0.669		U	0.067

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

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Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 6 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-4A		SB-5A		SS-6	
	SAMPLE DATE		4/6/2012		4/12/2012		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 4)		(0 - 1)		(0 - 1)	
VOCs by EPA Method 8260				R.L.		R.L.		R.L.
Methylene chloride	0.05	500	U	0.0022	U	0.031	U	0.029
1,1-Dichloroethane	0.27	240	U	0.004	U	0.0046	U	0.0044
Chloroform	0.37	350	U	0.004	U	0.0046	U	0.0044
Carbon tetrachloride	0.76	22	U	0.0027	U	0.0031	U	0.0029
1,2-Dichloropropane			U	0.0094	U	0.011	U	0.01
Dibromochloromethane			U	0.0027	U	0.0031	U	0.0029
1,1,2-Trichloroethane			U	0.004	U	0.0046	U	0.0044
Tetrachloroethene	1.3	150	U	0.0027	U	0.0031	U	0.0029
Chlorobenzene	1.1	500	U	0.0027	U	0.0031	U	0.0029
Trichlorofluoromethane			UJ	0.013	U	0.015	U	0.015
1,2-Dichloroethane	0.02	30	U	0.0027	U	0.0031	U	0.0029
1,1,1-Trichloroethane	0.68	500	U	0.0027	U	0.0031	U	0.0029
Bromodichloromethane			U	0.0027	U	0.0031	U	0.0029
trans-1,3-Dichloropropene			U	0.0027	UJ	0.0031	UJ	0.0029
cis-1,3-Dichloropropene			U	0.0027	UJ	0.0031	UJ	0.0029
1,1-Dichloropropene			U	0.013	U	0.015	U	0.015
Bromoform			UJ	0.011	U	0.012	U	0.012
1,1,2,2-Tetrachloroethane			U	0.0027	U	0.0031	U	0.0029
Benzene	0.06	44	U	0.0027	U	0.0031	U	0.0029
Toluene	0.7	500	U	0.004	U	0.0046	U	0.0044
Ethylbenzene	1	390	U	0.0027	U	0.0031	U	0.0029
Chloromethane			U	0.013	U	0.015	U	0.015
Bromomethane			U	0.0054	U	0.0062	U	0.0059
Vinyl chloride	0.02	13	U	0.0054	U	0.0062	U	0.0059
Chloroethane			U	0.0054	U	0.0062	U	0.0059
1,1-Dichloroethene	0.33	500	U	0.0027	U	0.0031	U	0.0029
trans-1,2-Dichloroethene	0.19	500	U	0.004	U	0.0046	U	0.0044
Trichloroethene	0.47	200	U	0.0027	U	0.0031	U	0.0029
1,2-Dichlorobenzene	1.1	500	U	0.013	U	0.015	U	0.015
1,3-Dichlorobenzene	2.4	280	U	0.013	U	0.015	U	0.015
1,4-Dichlorobenzene	1.8	130	U	0.013	U	0.015	U	0.015
Methyl tert butyl ether	0.93	500	UJ	0.0054	U	0.0062	U	0.0059
p/m-Xylene			U	0.0054	U	0.0062	U	0.0059
o-Xylene			U	0.0054	U	0.0062	U	0.0059
cis-1,2-Dichloroethene	0.25	500	U	0.0027	U	0.0031	U	0.0029
Dibromomethane			UJ	0.027	U	0.031	U	0.029
Styrene			U	0.0054	U	0.0062	U	0.0059
Dichlorodifluoromethane			U	0.027	UJ	0.031	UJ	0.029
Acetone	0.05	500	UJ	0.027	UJ	0.031	UJ	0.029
Carbon disulfide			UJ	0.027	UJ	0.031	UJ	0.029
2-Butanone	0.12	500	UJ	0.027	UJ	0.031	UJ	0.029
Vinyl acetate			U	0.027	U	0.031	U	0.029
4-Methyl-2-pentanone			UJ	0.027	UJ	0.031	UJ	0.029
1,2,3-Trichloropropane			U	0.027	U	0.031	U	0.029
2-Hexanone			U	0.027	U	0.031	U	0.029
Bromochloromethane			U	0.013	U	0.015	U	0.015
2,2-Dichloropropane			U	0.013	U	0.015	U	0.015
1,2-Dibromoethane			UJ	0.011	U	0.012	U	0.012
1,3-Dichloropropane			U	0.013	U	0.015	U	0.015
1,1,1,2-Tetrachloroethane			UJ	0.0027	U	0.0031	U	0.0029
Bromobenzene			U	0.013	U	0.015	U	0.015
n-Butylbenzene	12	500	U	0.0027	U	0.0031	U	0.0029
sec-Butylbenzene	11	500	U	0.0027	U	0.0031	U	0.0029
tert-Butylbenzene	5.9	500	U	0.013	U	0.015	U	0.015
o-Chlorotoluene			U	0.013	U	0.015	U	0.015
p-Chlorotoluene			U	0.013	U	0.015	U	0.015
1,2-Dibromo-3-chloropropane			U	0.013	U	0.015	U	0.015
Hexachlorobutadiene			U	0.013	U	0.015	U	0.015
Isopropylbenzene			U	0.0027	U	0.0031	U	0.0029
p-Isopropyltoluene			UJ	0.0027	U	0.0031	U	0.0029
Naphthalene	12	500	0.0044	J	UJ	0.015	UJ	0.015
Acrylonitrile			UJ	0.027	UJ	0.031	UJ	0.029
n-Propylbenzene	3.9	500	U	0.0027	U	0.0031	U	0.0029
1,2,3-Trichlorobenzene			U	0.013	U	0.015	U	0.015
1,2,4-Trichlorobenzene			U	0.013	U	0.015	U	0.015
1,3,5-Trimethylbenzene	8.4	190	U	0.013	U	0.015	U	0.015
1,2,4-Trimethylbenzene	3.6	190	U	0.013	U	0.015	U	0.015
1,4-Diethylbenzene			U	0.011	U	0.012	U	0.012
4-Ethyltoluene			U	0.011	U	0.012	U	0.012
1,2,4,5-Tetramethylbenzene			U	0.011	U	0.012	U	0.012
Ethyl ether			UJ	0.013	U	0.015	U	0.015
trans-1,4-Dichloro-2-butene			U	0.013	U	0.015	U	0.015

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

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Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 7 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION							
	UNRESTRICTED USE	COMMERCIAL USE	SB-4A			SB-5A			SS-6	
	SAMPLE DATE		4/6/2012			4/12/2012			4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 4)			(0 - 1)			(0 - 1)	
SVOCs by EPA Methods 8270C/8270S					R.L.			R.L.		R.L.
Acenaphthene	20	500		U	0.14		U	1.6	U	1.5
1,2,4-Trichlorobenzene				U	0.17		U	2	U	1.9
Hexachlorobenzene	0.33	6		U	0.1		U	1.2	U	1.1
Bis(2-chloroethyl)ether				U	0.16		U	1.8	U	1.7
2-Chloronaphthalene				U	0.17		U	2	U	1.9
1,2-Dichlorobenzene	1.1	500		U	0.17		U	2	U	1.9
1,3-Dichlorobenzene	2.4	280		U	0.17		U	2	U	1.9
1,4-Dichlorobenzene	1.8	130		U	0.17		U	2	U	1.9
3,3'-Dichlorobenzidine				U	0.17		U	2	U	1.9
2,4-Dinitrotoluene				U	0.17		U	2	U	1.9
2,6-Dinitrotoluene				U	0.17		U	2	U	1.9
Fluoranthene	100	500		U	0.1	0.5	J		U	1.1
4-Chlorophenyl phenyl ether				U	0.17		U	2	U	1.9
4-Bromophenyl phenyl ether				U	0.17		U	2	U	1.9
Bis(2-chloroisopropyl)ether				U	0.21		U	2.5	U	2.3
Bis(2-chloroethoxy)methane				U	0.19		U	2.2	U	2
Hexachlorobutadiene				U	0.17		U	2	U	1.9
Hexachlorocyclopentadiene				UJ	0.5		U	5.9	U	5.5
Hexachloroethane				U	0.14		U	1.6	U	1.5
Isophorone				U	0.16		U	1.8	U	1.7
Naphthalene	12	500		U	0.17		U	2	U	1.9
Nitrobenzene		69		U	0.16		U	1.8	U	1.7
NitrosoDiPhenylAmine(NDPA)/DPA				U	0.14		U	1.6	U	1.5
n-Nitrosodi-n-propylamine				U	0.17		U	2	U	1.9
Bis(2-Ethylhexyl)phthalate			0.15	J		6.1			U	1.9
Butyl benzyl phthalate				U	0.17		U	2	U	1.9
Di-n-butylphthalate				U	0.17	1.6	J		U	1.9
Di-n-octylphthalate				U	0.17		U	2	U	1.9
Diethyl phthalate				U	0.17		U	2	U	1.9
Dimethyl phthalate				U	0.17		U	2	U	1.9
Benzo(a)anthracene	1	5.6		U	0.1		U	1.2	U	1.1
Benzo(a)pyrene	1	1		U	0.14		U	1.6	U	1.5
Benzo(b)fluoranthene	1	5.6		U	0.1		U	1.2	U	1.1
Benzo(k)fluoranthene	0.8	56		U	0.1		U	1.2	U	1.1
Chrysene	1	56		U	0.1		U	1.2	U	1.1
Acenaphthylene	100	500		U	0.14		U	1.6	U	1.5
Anthracene	100	500		U	0.1		U	1.2	U	1.1
Benzo(ghi)perylene	100	500		U	0.14		U	1.6	U	1.5
Fluorene	30	500		U	0.17		U	2	U	1.9
Phenanthrene	100	500		U	0.1		U	1.2	U	1.1
Dibenzo(a,h)anthracene	0.33	0.56		U	0.1		U	1.2	U	1.1
Indeno(1,2,3-cd)Pyrene	0.5	5.6		U	0.14		U	1.6	U	1.5
Pyrene	100	500		U	0.1	0.41	J		U	1.1
Biphenyl				U	0.4		U	4.7	U	4.3
4-Chloroaniline				U	0.17		U	2	U	1.9
2-Nitroaniline				UJ	0.17		U	2	U	1.9
3-Nitroaniline				U	0.17		U	2	U	1.9
4-Nitroaniline				U	0.17		U	2	U	1.9
Dibenzofuran	7	350		U	0.17		U	2	U	1.9
2-Methylnaphthalene				U	0.21		U	2.5	U	2.3
1,2,4,5-Tetrachlorobenzene				U	0.17		U	2	U	1.9
Acetophenone				U	0.17		U	2	U	1.9
2,4,6-Trichlorophenol				U	0.1		U	1.2	U	1.1
P-Chloro-M-Cresol				U	0.17		U	2	U	1.9
2-Chlorophenol				U	0.17		U	2	U	1.9
2,4-Dichlorophenol				U	0.16		U	1.8	U	1.7
2,4-Dimethylphenol				U	0.17		UJ	2	UJ	1.9
2-Nitrophenol				U	0.38		U	4.4	U	4.1
4-Nitrophenol				UJ	0.24		U	2.9	U	2.7
2,4-Dinitrophenol				U	0.83		U	9.8	U	9.2
4,6-Dinitro-o-cresol				U	0.45		U	5.3	U	5
Pentachlorophenol	0.8	6.7		U	0.14		U	1.6	U	1.5
Phenol	0.33	500		U	0.17		U	2	U	1.9
2-Methylphenol	0.33	500		U	0.17		U	2	U	1.9
3-Methylphenol/4-Methylphenol	0.33	500		U	0.25		U	3	U	2.7
2,4,5-Trichlorophenol				U	0.17		U	2	U	1.9
Benzoic Acid				U	0.56		U	6.6	U	6.2
Benzyl Alcohol				U	0.17		U	2	U	1.9
Carbazole				U	0.17		U	2	U	1.9

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 8 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SB-4A			SB-5A			SS-6		
	SAMPLE DATE		4/6/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 4)			(0 - 1)			(0 - 1)		
Metals by EPA Methods 6010/7470					R.L.			R.L.			R.L.
Aluminum, Total			26000			23000			20000		
Antimony, Total			4.6			3.8	J		6.2	J	
Arsenic, Total	13	16	0.3	J		**33**			1.7		
Barium, Total	350	400	200			130			180		
Beryllium, Total	7.2	590	0.79			0.9			0.61		
Cadmium, Total	2.5	9.3		U	0.82		U	0.94		U	0.9
Calcium, Total			1300			1100			2000		
Chromium, Total	30	1500	**50**			**45**			**36**		
Cobalt, Total			23			14			30		
Copper, Total	50	270	47			**92**			**94**		
Iron, Total			35000			28000			29000		
Lead, Total	63	1000	8			**540**			55		
Magnesium, Total			11000			4800			8000		
Manganese, Total	1600	10000	200			920			280		
Mercury, Total	0.18	2.8	0.04	J		**0.25**			0.05	J	
Nickel, Total	30	310	**39**			**36**			**91**		
Potassium, Total			11000			1400			7900		
Selenium, Total	3.9	1500	1.7			2.8				U	1.8
Silver, Total	2	1500		U	0.82	0.52	J			U	0.9
Sodium, Total			540				U	190	260	J	
Thallium, Total			2.3			1.6	J		2.1		
Vanadium, Total			85			75			52		
Zinc, Total	109	10000	97			**150**			**140**		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 9 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-4A		SB-5A		SS-6	
	SAMPLE DATE		4/6/2012		4/12/2012		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 4)		(0 - 1)		(0 - 1)	
PCBs by EPA Method 8082				**R.L.**		**R.L.**		**R.L.**
Aroclor 1016			U	0.0338	U	0.0398	U	0.0371
Aroclor 1221			U	0.0338	U	0.0398	U	0.0371
Aroclor 1232			U	0.0338	U	0.0398	U	0.0371
Aroclor 1242			U	0.0338	U	0.0398	U	0.0371
Aroclor 1248			U	0.0338	U	0.0398	U	0.0371
Aroclor 1254			U	0.0338	U	0.0398	U	0.0371
Aroclor 1260			U	0.0338	U	0.0398	0.0139 J	
Aroclor 1262			U	0.0338	U	0.0398	U	0.0371
Aroclor 1268			U	0.0338	U	0.0398	U	0.0371
Total PCBs	0.1	1	ND		ND		0.0139	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 10 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SB-4A			SB-5A			SS-6		
	SAMPLE DATE		4/6/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 4)			(0 - 1)			(0 - 1)		
Pesticides by EPA Method 8081A					R.L.			R.L.			R.L.
Delta-BHC	0.04	500		U	0.00167		U	0.00984		U	0.00896
Lindane	0.1	9.2		U	0.00069		U	0.0041		U	0.00373
Alpha-BHC	0.02	3.4		U	0.00069		U	0.0041		U	0.00373
Beta-BHC	0.036	3		UJ	0.00167		U	0.00984		U	0.00896
Heptachlor	0.042	15		U	0.00083		U	0.00492		U	0.00448
Aldrin	0.005	0.68		U	0.00167		U	0.00984		U	0.00896
Heptachlor epoxide				U	0.00312	0.0152	J			U	0.0168
Endrin	0.014	89		U	0.00069		U	0.0041		U	0.00373
Endrin ketone				U	0.00167		U	0.00984		U	0.00896
Dieldrin	0.005	1.4		U	0.00104	**0.0107**	**PJ**			U	0.0056
4,4'-DDE	0.0033	62	0.000812	J		**0.171**			**0.0037**	**J**	
4,4'-DDD	0.0033	92		UJ	0.00167	**0.0114**				U	0.00896
4,4'-DDT	0.0033	47	0.00149	J		**0.262**	**J**		**0.00818**	**J**	
Endosulfan I	2.4	200		U	0.00167		U	0.00984		U	0.00896
Endosulfan II	2.4	200		UJ	0.00167		U	0.00984		U	0.00896
Endosulfan sulfate	2.4	200		UJ	0.00069		UJ	0.0041		UJ	0.00373
Methoxychlor				U	0.00312		UJ	0.0184		UJ	0.0168
Toxaphene				U	0.0312		U	0.184		U	0.168
trans-Chlordane				U	0.00208	0.0427				U	0.0112
Chlordane	0.094	24		U	0.0135	**0.435**				U	0.0728

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 11 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SS-7		SS-8		DUPLICATE	
	SAMPLE DATE		4/12/2012		4/12/2012		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 1)		(0 - 1)		(0 - 1 from SS-6)	
VOCs by EPA Method 8260				R.L.		R.L.		R.L.
Methylene chloride	0.05	500	U	0.038	U	0.038	U	0.0024
1,1-Dichloroethane	0.27	240	U	0.0057	U	0.0058	U	0.0045
Chloroform	0.37	350	U	0.0057	U	0.0058	U	0.0045
Carbon tetrachloride	0.76	22	U	0.0038	U	0.0038	U	0.003
1,2-Dichloropropane			U	0.013	U	0.013	U	0.01
Dibromochloromethane			U	0.0038	U	0.0038	U	0.003
1,1,2-Trichloroethane			U	0.0057	U	0.0058	U	0.0045
Tetrachloroethene	1.3	150	U	0.0038	U	0.0038	U	0.003
Chlorobenzene	1.1	500	U	0.0038	U	0.0038	U	0.003
Trichlorofluoromethane			U	0.019	U	0.019	U	0.015
1,2-Dichloroethane	0.02	30	U	0.0038	U	0.0038	U	0.003
1,1,1-Trichloroethane	0.68	500	U	0.0038	U	0.0038	U	0.003
Bromodichloromethane			U	0.0038	U	0.0038	U	0.003
trans-1,3-Dichloropropene			UJ	0.0038	UJ	0.0038	UJ	0.003
cis-1,3-Dichloropropene			UJ	0.0038	UJ	0.0038	UJ	0.003
1,1-Dichloropropene			U	0.019	U	0.019	U	0.015
Bromoform			U	0.015	U	0.015	U	0.012
1,1,2,2-Tetrachloroethane			U	0.0038	U	0.0038	U	0.003
Benzene	0.06	44	U	0.0038	U	0.0038	U	0.003
Toluene	0.7	500	U	0.0057	U	0.0058	U	0.0045
Ethylbenzene	1	390	U	0.0038	U	0.0038	U	0.003
Chloromethane			U	0.019	U	0.019	U	0.015
Bromomethane			U	0.0076	U	0.0077	U	0.006
Vinyl chloride	0.02	13	U	0.0076	U	0.0077	U	0.006
Chloroethane			U	0.0076	U	0.0077	U	0.006
1,1-Dichloroethene	0.33	500	U	0.0038	U	0.0038	U	0.003
trans-1,2-Dichloroethene	0.19	500	U	0.0057	U	0.0058	U	0.0045
Trichloroethene	0.47	200	U	0.0038	U	0.0038	U	0.003
1,2-Dichlorobenzene	1.1	500	U	0.019	U	0.019	U	0.015
1,3-Dichlorobenzene	2.4	280	U	0.019	U	0.019	U	0.015
1,4-Dichlorobenzene	1.8	130	U	0.019	U	0.019	U	0.015
Methyl tert butyl ether	0.93	500	U	0.0076	U	0.0077	U	0.006
p/m-Xylene			U	0.0076	U	0.0077	U	0.006
o-Xylene			U	0.0076	U	0.0077	U	0.006
cis-1,2-Dichloroethene	0.25	500	U	0.0038	U	0.0038	U	0.003
Dibromomethane			U	0.038	U	0.038	U	0.03
Styrene			U	0.0076	U	0.0077	U	0.006
Dichlorodifluoromethane			UJ	0.038	UJ	0.038	UJ	0.03
Acetone	0.05	500	UJ	0.038	UJ	0.038	UJ	0.03
Carbon disulfide			UJ	0.038	UJ	0.038	UJ	0.03
2-Butanone	0.12	500	UJ	0.038	UJ	0.038	UJ	0.03
Vinyl acetate			U	0.038	U	0.038	U	0.03
4-Methyl-2-pentanone			UJ	0.038	UJ	0.038	UJ	0.03
1,2,3-Trichloropropane			U	0.038	U	0.038	U	0.03
2-Hexanone			U	0.038	U	0.038	U	0.03
Bromochloromethane			U	0.019	U	0.019	U	0.015
2,2-Dichloropropane			U	0.019	U	0.019	U	0.015
1,2-Dibromoethane			U	0.015	U	0.015	U	0.012
1,3-Dichloropropane			U	0.019	U	0.019	U	0.015
1,1,1,2-Tetrachloroethane			U	0.0038	U	0.0038	U	0.003
Bromobenzene			U	0.019	U	0.019	U	0.015
n-Butylbenzene	12	500	U	0.0038	U	0.0038	U	0.003
sec-Butylbenzene	11	500	U	0.0038	U	0.0038	U	0.003
tert-Butylbenzene	5.9	500	U	0.019	U	0.019	U	0.015
o-Chlorotoluene			U	0.019	U	0.019	U	0.015
p-Chlorotoluene			U	0.019	U	0.019	U	0.015
1,2-Dibromo-3-chloropropane			U	0.019	U	0.019	U	0.015
Hexachlorobutadiene			U	0.019	U	0.019	U	0.015
Isopropylbenzene			U	0.0038	U	0.0038	U	0.003
p-Isopropyltoluene			U	0.0038	U	0.0038	U	0.003
Naphthalene	12	500	UJ	0.019	UJ	0.019	UJ	0.015
Acrylonitrile			UJ	0.038	UJ	0.038	UJ	0.03
n-Propylbenzene	3.9	500	U	0.0038	U	0.0038	U	0.003
1,2,3-Trichlorobenzene			U	0.019	U	0.019	U	0.015
1,2,4-Trichlorobenzene			U	0.019	U	0.019	U	0.015
1,3,5-Trimethylbenzene	8.4	190	U	0.019	U	0.019	U	0.015
1,2,4-Trimethylbenzene	3.6	190	U	0.019	U	0.019	U	0.015
1,4-Diethylbenzene			U	0.015	U	0.015	U	0.012
4-Ethyltoluene			U	0.015	U	0.015	U	0.012
1,2,4,5-Tetramethylbenzene			U	0.015	U	0.015	U	0.012
Ethyl ether			U	0.019	U	0.019	U	0.015
trans-1,4-Dichloro-2-butene			U	0.019	U	0.019	U	0.015

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 12 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SS-7			SS-8			DUPLICATE		
	SAMPLE DATE		4/12/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 1)			(0 - 1)			(0 - 1 from SS-6)		
SVOCs by EPA Methods 8270C/8270S					R.L.			R.L.			R.L.
Acenaphthene	20	500		U	1		U	0.41		U	0.32
1,2,4-Trichlorobenzene				U	1.2		U	0.51		U	0.4
Hexachlorobenzene	0.33	6		U	0.75		U	0.3		U	0.24
Bis(2-chloroethyl)ether				U	1.1		U	0.46		U	0.36
2-Chloronaphthalene				U	1.2		U	0.51		U	0.4
1,2-Dichlorobenzene	1.1	500		U	1.2		U	0.51		U	0.4
1,3-Dichlorobenzene	2.4	280		U	1.2		U	0.51		U	0.4
1,4-Dichlorobenzene	1.8	130		U	1.2		U	0.51		U	0.4
3,3'-Dichlorobenzidine				U	1.2		U	0.51		U	0.4
2,4-Dinitrotoluene				U	1.2		U	0.51		U	0.4
2,6-Dinitrotoluene				U	1.2		U	0.51		U	0.4
Fluoranthene	100	500	0.3	J		0.12	J		0.26		
4-Chlorophenyl phenyl ether				U	1.2		U	0.51		U	0.4
4-Bromophenyl phenyl ether				U	1.2		U	0.51		U	0.4
Bis(2-chloroisopropyl)ether				U	1.5		U	0.61		U	0.48
Bis(2-chloroethoxy)methane				U	1.3		U	0.55		U	0.43
Hexachlorobutadiene				U	1.2		U	0.51		U	0.4
Hexachlorocyclopentadiene				U	3.6		U	1.4		U	1.1
Hexachloroethane				U	1		U	0.41		U	0.32
Isophorone				U	1.1		U	0.46		U	0.36
Naphthalene	12	500		U	1.2		U	0.51		U	0.4
Nitrobenzene		69		U	1.1		U	0.46		U	0.36
NitrosoDiPhenylAmine(NDPA)/DPA				U	1		U	0.41		U	0.32
n-Nitrosodi-n-propylamine				U	1.2		U	0.51		U	0.4
Bis(2-Ethylhexyl)phthalate				U	1.2		U	0.51	0.086	J	
Butyl benzyl phthalate				U	1.2		U	0.51		U	0.4
Di-n-butylphthalate				U	1.2		U	0.51		U	0.4
Di-n-octylphthalate				U	1.2		U	0.51		U	0.4
Diethyl phthalate				U	1.2		U	0.51		U	0.4
Dimethyl phthalate				U	1.2		U	0.51		U	0.4
Benzo(a)anthracene	1	5.6		U	0.75		U	0.3	0.14	J	
Benzo(a)pyrene	1	1		U	1		U	0.41	0.14	J	
Benzo(b)fluoranthene	1	5.6		U	0.75		U	0.3	0.18	J	
Benzo(k)fluoranthene	0.8	56		U	0.75		U	0.3	0.062	J	
Chrysene	1	56		U	0.75		U	0.3	0.13	J	
Acenaphthylene	100	500		U	1		U	0.41		U	0.32
Anthracene	100	500		U	0.75		U	0.3		U	0.24
Benzo(ghi)perylene	100	500		U	1		U	0.41	0.12	J	
Fluorene	30	500		U	1.2		U	0.51		U	0.4
Phenanthrene	100	500		U	0.75		U	0.3	0.16	J	
Dibenzo(a,h)anthracene	0.33	0.56		U	0.75		U	0.3		U	0.24
Indeno(1,2,3-cd)Pyrene	0.5	5.6		U	1		U	0.41	0.12	J	
Pyrene	100	500	0.26	J		0.098	J		0.23	J	
Biphenyl				U	2.8		U	1.2		U	0.91
4-Chloroaniline				U	1.2		U	0.51		U	0.4
2-Nitroaniline				U	1.2		U	0.51		U	0.4
3-Nitroaniline				U	1.2		U	0.51		U	0.4
4-Nitroaniline				U	1.2		U	0.51		U	0.4
Dibenzofuran	7	350		U	1.2		U	0.51		U	0.4
2-Methylnaphthalene				U	1.5		U	0.61		U	0.48
1,2,4,5-Tetrachlorobenzene				U	1.2		U	0.51		U	0.4
Acetophenone				U	1.2		U	0.51		U	0.4
2,4,6-Trichlorophenol				U	0.75		U	0.3		U	0.24
P-Chloro-M-Cresol				U	1.2		U	0.51		U	0.4
2-Chlorophenol				U	1.2		U	0.51		U	0.4
2,4-Dichlorophenol				U	1.1		U	0.46		U	0.36
2,4-Dimethylphenol				UJ	1.2		UJ	0.51		UJ	0.4
2-Nitrophenol				U	2.7		U	1.1		U	0.86
4-Nitrophenol				U	1.7		U	0.71		U	0.56
2,4-Dinitrophenol				U	6		U	2.4		U	1.9
4,6-Dinitro-o-cresol				U	3.2		U	1.3		U	1
Pentachlorophenol	0.8	6.7		U	1		U	0.41		U	0.32
Phenol	0.33	500		U	1.2		U	0.51		U	0.4
2-Methylphenol	0.33	500		U	1.2		U	0.51		U	0.4
3-Methylphenol/4-Methylphenol	0.33	500		U	1.8		U	0.73		U	0.57
2,4,5-Trichlorophenol				U	1.2		U	0.51		U	0.4
Benzoic Acid			1	J		0.9	J			U	1.3
Benzyl Alcohol				U	1.2		U	0.51		U	0.4
Carbazole				U	1.2		U	0.51		U	0.4

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 13 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SS-7			SS-8			DUPLICATE		
	SAMPLE DATE		4/12/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 1)			(0 - 1)			(0 - 1 from SS-6)		
Metals by EPA Methods 6010/7470					**R.L.**			**R.L.**			**R.L.**
Aluminum, Total			30000			36000			16000		
Antimony, Total			4.3	J		4.9	J		2.3	J	
Arsenic, Total	13	16	9.9			5.8			1.8		
Barium, Total	350	400	130			140			140		
Beryllium, Total	7.2	590	1.1			1.3			0.51		
Cadmium, Total	2.5	9.3	0.1	J			U	1.2		U	0.91
Calcium, Total			740			780			2400		
Chromium, Total	30	1500	**34**			**46**			**30**		
Cobalt, Total			12			17			26		
Copper, Total	50	270	**59**			47			**120**		
Iron, Total			32000			40000			27000		
Lead, Total	63	1000	**220**			**78**			41		
Magnesium, Total			5900			8800			6700		
Manganese, Total	1600	10000	620			690			230		
Mercury, Total	0.18	2.8	**0.48**			**0.18**			0.06	J	
Nickel, Total	30	310	**31**			**39**			**72**		
Potassium, Total			2400			4800			6600		
Selenium, Total	3.9	1500	3.7			3.1				U	1.8
Silver, Total	2	1500	0.45	J			U	1.2		U	0.91
Sodium, Total			150	J		160	J		150	J	
Thallium, Total			2	J		2.7			1.9		
Vanadium, Total			88			85			55		
Zinc, Total	109	10000	**120**			**140**			**110**		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 14 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION									
	UNRESTRICTED USE	COMMERCIAL USE	SS-7			SS-8			DUPLICATE		
	SAMPLE DATE		4/12/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 1)			(0 - 1)			(0 - 1 from SS-6)		
PCBs by EPA Method 8082					**R.L.**			**R.L.**			**R.L.**
Aroclor 1016				U	0.0484		U	0.0484		U	0.039
Aroclor 1221				U	0.0484		U	0.0484		U	0.039
Aroclor 1232				U	0.0484		U	0.0484		U	0.039
Aroclor 1242				U	0.0484		U	0.0484		U	0.039
Aroclor 1248				U	0.0484		U	0.0484		U	0.039
Aroclor 1254				U	0.0484		U	0.0484	0.0175	J	
Aroclor 1260			0.037	J			U	0.0484	0.0175	J	
Aroclor 1262				U	0.0484		U	0.0484		U	0.039
Aroclor 1268				U	0.0484		U	0.0484		U	0.039
Total PCBs	0.1	1	0.037			ND			0.035		

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-3: (Page 15 of 15) Summary of Surface Soil Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION								
	UNRESTRICTED USE	COMMERCIAL USE	SS-7			SS-8			DUPLICATE		
	SAMPLE DATE		4/12/2012			4/12/2012			4/12/2012		
	SAMPLE DEPTH (ft. bgs)		(0 - 1)			(0 - 1)			(0 - 1 from SS-6)		
Pesticides by EPA Method 8081A					R.L.			R.L.			R.L.
Delta-BHC	0.04	500		U	0.0115		U	0.00245		U	0.00915
Lindane	0.1	9.2		U	0.00478		U	0.00102		U	0.00381
Alpha-BHC	0.02	3.4		U	0.00478		U	0.00102		U	0.00381
Beta-BHC	0.036	3		U	0.0115		U	0.00245		U	0.00915
Heptachlor	0.042	15		U	0.00574		U	0.00123		U	0.00458
Aldrin	0.005	0.68		U	0.0115		U	0.00245		U	0.00915
Heptachlor epoxide				U	0.0215		U	0.0046		U	0.0172
Endrin	0.014	89		U	0.00478		U	0.00102		U	0.00381
Endrin ketone				U	0.0115		U	0.00245		U	0.00915
Dieldrin	0.005	1.4	**0.00713**	**J**			U	0.00153		U	0.00572
4,4'-DDE	0.0033	62	**0.0444**			**0.00352**	**J**		**0.00343**	**J**	
4,4'-DDD	0.0033	92		U	0.0115		U	0.00245		U	0.00915
4,4'-DDT	0.0033	47	**0.0649**	**J**		**0.00665**	**J**			UJ	0.0172
Endosulfan I	2.4	200		U	0.0115		U	0.00245		U	0.00915
Endosulfan II	2.4	200		U	0.0115		U	0.00245		U	0.00915
Endosulfan sulfate	2.4	200	0.00522	PJ			UJ	0.00102		UJ	0.00381
Methoxychlor				UJ	0.0215		UJ	0.0046		UJ	0.0172
Toxaphene				U	0.215		U	0.046		U	0.172
trans-Chlordane			0.00565	J			U	0.00307		U	0.0114
Chlordane	0.094	24		U	0.0933	0.013	J			U	0.0743

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

P - The RPD between the results for the two columns exceeds the method-specified criteria.

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 4-4: (Page 1 of 1) Groundwater Field Parameter Data. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Monitoring Well I.D.	Date	Time	Temp (°C)	Conductivity (mmhos/cm)	Salinity (%)	Dissolved Oxygen (%)	pH (units)	ORP (mV)	Turbidity (NTU)	Amount Purged (gal)	Comments
MW-1	4/19/2012	13:00	-	-	-	-	-	-	-	-	Well was dry, no sample or parameters collected
MW-2A	4/19/2012	11:05	13.50	1.140	0.74	4.49	6.64	113.7	533.1	5.25	Water turbid, brown, some very fine sand, no sheen, no odor
MW-2B	4/19/2012	12:45	13.51	1.268	0.83	4.37	6.42	-8.7	4.1	14.00	Water clear, slight yellowish-green cloudiness, no sediment, no sheen, no odor
SWR-MW-1	4/19/2012	15:30	-	-	-	-	-	-	-	-	Insufficient volume for parameters since well had to be sampled with a microbailer

Field parameters collected using a YSI 6820 water quality meter after sample was collected

(-) - No field parameters collected, so comments for explanation

Table 4-5: (Page 1 of 5) Summary of Groundwater Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	GW Std^ (ug/L)	Sample Identification									
		MW-1	MW-2A		MW-2B		SWR-MW-1		DUPLICATE	
Date Sampled		Apr-12	Apr-12		Apr-12		Apr-12		Apr-12 (MW-2A)	
VOCs by EPA Method 8260B		R.L.		R.L.		R.L.		R.L.		R.L.
Methylene chloride	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,1-Dichloroethane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Chloroform	7	-	U	2.5	U	2.5	U	2.5	U	2.5
Carbon tetrachloride	5	-	U	0.5	U	0.5	U	0.5	U	0.5
1,2-Dichloropropane	1	-	U	1	U	1	U	1	U	1
Dibromochloromethane	50	-	U	0.5	U	0.5	U	0.5	U	0.5
1,1,2-Trichloroethane	1	-	U	1.5	U	1.5	U	1.5	U	1.5
Tetrachloroethene	5	-	U	0.5	U	0.5	U	0.5	U	0.5
Chlorobenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Trichlorofluoromethane	5	-	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5
1,2-Dichloroethane	0.6	-	U	0.5	U	0.5	U	0.5	U	0.5
1,1,1-Trichloroethane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Bromodichloromethane	50	-	U	0.5	U	0.5	U	0.5	U	0.5
trans-1,3-Dichloropropene	0.4	-	U	0.5	U	0.5	U	0.5	U	0.5
cis-1,3-Dichloropropene	0.4	-	U	0.5	U	0.5	U	0.5	U	0.5
1,1-Dichloropropene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Bromoform	50	-	U	2	U	2	U	2	U	2
1,1,2,2-Tetrachloroethane	5	-	U	0.5	U	0.5	U	0.5	U	0.5
Benzene	1	-	U	0.5	U	0.5	U	0.5	U	0.5
Toluene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Ethylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Chloromethane		-	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5
Bromomethane	5	-	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5
Vinyl chloride	2	-	U	1	U	1	U	1	U	1
Chloroethane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,1-Dichloroethene	5	-	U	0.5	U	0.5	U	0.5	U	0.5
trans-1,2-Dichloroethene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Trichloroethene	5	-	U	0.5	U	0.5	U	0.5	U	0.5
1,2-Dichlorobenzene	3	-	U	2.5	U	2.5	U	2.5	U	2.5
1,3-Dichlorobenzene	3	-	U	2.5	U	2.5	U	2.5	U	2.5
1,4-Dichlorobenzene	3	-	U	2.5	U	2.5	U	2.5	U	2.5
Methyl tert butyl ether	10	-	U	2.5	U	2.5	U	2.5	U	2.5
p/m-Xylene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
o-Xylene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
cis-1,2-Dichloroethene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Dibromomethane	5	-	U	5	U	5	U	5	U	5
1,2,3-Trichloropropane	0.04	-	U	2.5	U	2.5	U	2.5	U	2.5
Acrylonitrile	5	-	U	5	U	5	U	5	U	5
Styrene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Dichlorodifluoromethane	5	-	U	5	U	5	U	5	U	5
Acetone	50	-	UJ	5	UJ	5	UJ	5	UJ	5
Carbon disulfide	60	-	U	5	U	5	U	5	U	5
2-Butanone	50	-	U	5	U	5	U	5	U	5
Vinyl acetate		-	UJ	5	UJ	5	UJ	5	UJ	5
4-Methyl-2-pentanone		-	UJ	5	UJ	5	UJ	5	UJ	5
2-Hexanone	50	-	U	5	U	5	U	5	U	5
Bromochloromethane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
2,2-Dichloropropane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,2-Dibromoethane	0.0006	-	U	2	U	2	U	2	U	2
1,3-Dichloropropane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,1,1,2-Tetrachloroethane	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Bromobenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
n-Butylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
sec-Butylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
tert-Butylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
o-Chlorotoluene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
p-Chlorotoluene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,2-Dibromo-3-chloropropane	0.04	-	U	2.5	U	2.5	U	2.5	U	2.5
Hexachlorobutadiene	0.5	-	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5
Isopropylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
p-Isopropyltoluene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
Naphthalene	10	-	U	2.5	U	2.5	U	2.5	U	2.5
n-Propylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,2,3-Trichlorobenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,2,4-Trichlorobenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,3,5-Trimethylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,2,4-Trimethylbenzene	5	-	U	2.5	U	2.5	U	2.5	U	2.5
1,4-Diethylbenzene		-	U	2	U	2	U	2	U	2
4-Ethyltoluene		-	U	2	U	2	U	2	U	2
1,2,4,5-Tetramethylbenzene		-	U	2	U	2	U	2	U	2
Ethyl ether		-	UJ	2.5	UJ	2.5	UJ	2.5	UJ	2.5
trans-1,4-Dichloro-2-butene	5	-	U	2.5	U	2.5	U	2.5	U	2.5

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 4-5: (Page 2 of 5) Summary of Groundwater Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	GW Std^ (ug/L)	Sample Identification									
		MW-1		MW-2A		MW-2B		SWR-MW-1		DUPLICATE	
Date Sampled		Apr-12		Apr-12		Apr-12		Apr-12		Apr-12 (MW-2A)	
SVOCs by EPA Method 8270C			R.L.		R.L.		R.L.		R.L.		R.L.
1,2,4-Trichlorobenzene	5	-		U	5	U	5	U	5	U	5
Bis(2-chloroethyl)ether	1	-		U	2	U	2	U	2	U	2
1,2-Dichlorobenzene	3	-		U	2	U	2	U	2	U	2
1,3-Dichlorobenzene	3	-		U	2	U	2	U	2	U	2
1,4-Dichlorobenzene	3	-		U	2	U	2	U	2	U	2
3,3'-Dichlorobenzidine	5	-		U	5	U	5	U	5	U	5
2,4-Dinitrotoluene	5	-		U	5	U	5	U	5	U	5
2,6-Dinitrotoluene	5	-		U	5	U	5	U	5	U	5
4-Chlorophenyl phenyl ether		-		U	2	U	2	U	2	U	2
4-Bromophenyl phenyl ether		-		U	2	U	2	U	2	U	2
Bis(2-chloroisopropyl)ether	5	-		U	2	U	2	U	2	U	2
Bis(2-chloroethoxy)methane	5	-		U	5	U	5	U	5	U	5
Hexachlorocyclopentadiene	5	-		U	20	U	20	U	20	U	20
Isophorone	50	-		U	5	U	5	U	5	U	5
Nitrobenzene	0.4	-		U	2	U	2	U	2	U	2
NitrosoDiPhenylAmine(NDPA)/DPA	50	-		U	2	U	2	U	2	U	2
n-Nitrosodi-n-propylamine		-		U	5	U	5	U	5	U	5
Bis(2-Ethylhexyl)phthalate	5	-		U	3	U	3	U	3	U	3
Butyl benzyl phthalate	50	-		U	5	U	5	U	5	U	5
Di-n-butylphthalate	50	-		U	5	U	5	U	5	U	5
Di-n-octylphthalate	50	-		U	5	U	5	U	5	U	5
Diethyl phthalate	50	-		U	5	U	5	U	5	U	5
Dimethyl phthalate	50	-		U	5	U	5	U	5	U	5
Biphenyl		-		U	2	U	2	U	2	U	2
4-Chloroaniline	5	-		U	5	U	5	U	5	U	5
2-Nitroaniline	5	-		U	5	U	5	U	5	U	5
3-Nitroaniline	5	-		U	5	U	5	U	5	U	5
4-Nitroaniline	5	-		U	5	U	5	U	5	U	5
Dibenzofuran		-		U	2	U	2	U	2	U	2
1,2,4,5-Tetrachlorobenzene	5	-		U	10	U	10	U	10	U	10
Acetophenone		-		U	5	U	5	U	5	U	5
2,4,6-Trichlorophenol		-		U	5	U	5	U	5	U	5
P-Chloro-M-Cresol		-		U	2	U	2	U	2	U	2
2-Chlorophenol		-		U	2	U	2	U	2	U	2
2,4-Dichlorophenol	1	-		U	5	U	5	U	5	U	5
2,4-Dimethylphenol	50	-		U	5	U	5	U	5	U	5
2-Nitrophenol		-		U	10	U	10	U	10	U	10
4-Nitrophenol		-		U	10	U	10	U	10	U	10
2,4-Dinitrophenol	10	-		U	20	U	20	U	20	U	20
4,6-Dinitro-o-cresol		-		U	10	U	10	U	10	U	10
Phenol	1	-		U	5	U	5	U	5	U	5
2-Methylphenol		-		U	5	U	5	U	5	U	5
3-Methylphenol/4-Methylphenol		-		U	5	U	5	U	5	U	5
2,4,5-Trichlorophenol		-		U	5	U	5	U	5	U	5
Benzoic Acid		-		U	50	U	50	U	50	U	50
Benzyl Alcohol		-		U	2	U	2	U	2	U	2
Carbazole		-		U	2	U	2	U	2	U	2
Acenaphthene	20	-		U	0.2	U	0.2	U	0.2	U	0.2
2-Chloronaphthalene	10	-		U	0.2	U	0.2	U	0.2	U	0.2
Fluoranthene	50	-		U	0.2	0.08	J	0.05	J	U	0.2
Hexachlorobutadiene	0.5	-		U	0.5	U	0.5	U	0.5	U	0.5
Naphthalene	10	-		U	0.2	U	0.2	U	0.2	U	0.2
Benzo(a)anthracene		-		U	0.2	U	0.2	U	0.2	U	0.2
Benzo(a)pyrene	0	-		U	0.2	U	0.2	U	0.2	U	0.2
Benzo(b)fluoranthene	0.002	-		U	0.2	U	0.2	U	0.2	U	0.2
Benzo(k)fluoranthene	0.002	-		U	0.2	U	0.2	U	0.2	U	0.2
Chrysene	0.002	-		U	0.2	U	0.2	U	0.2	U	0.2
Acenaphthylene		-		U	0.2	U	0.2	U	0.2	U	0.2
Anthracene	50	-		U	0.2	U	0.2	U	0.2	U	0.2
Benzo(ghi)perylene		-		U	0.2	U	0.2	U	0.2	U	0.2
Fluorene	50	-		U	0.2	U	0.2	U	0.2	U	0.2
Phenanthrene	50	-		U	0.2	0.16	J	U	0.2	U	0.2
Dibenzo(a,h)anthracene		-		U	0.2	U	0.2	U	0.2	U	0.2
Indeno(1,2,3-cd)Pyrene	0.002	-		U	0.2	U	0.2	U	0.2	U	0.2
Pyrene	50	-		U	0.2	U	0.2	U	0.2	U	0.2
2-Methylnaphthalene		-		U	0.2	U	0.2	U	0.2	U	0.2
Pentachlorophenol	1	-		U	0.8	U	0.8	U	0.8	U	0.8
Hexachlorobenzene	0.04	-		U	0.8	U	0.8	U	0.8	U	0.8
Hexachloroethane	5	-		U	0.8	U	0.8	U	0.8	U	0.8

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 4-5: (Page 3 of 5) Summary of Groundwater Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	GW Std^ (ug/L)	Sample Identification											
		MW-1		MW-2A			MW-2B			SWR-MW-1		DUPLICATE	
Date Sampled		Apr-12		Apr-12			Apr-12			Apr-12		Apr-12 (MW-2A)	
Metals by EPA Methods 6010/7470			R.L.			R.L.			R.L.		R.L.		R.L.
Aluminum, Total		-		11000			400			25000		11000	
Antimony, Total	3	-		1.5			0.6			0.6		1.5	
Arsenic, Total	25	-			U	5		U	5		U 5		U 5
Barium, Total	1000	-		151			81			424		164	
Beryllium, Total	3	-		0.3	J			U	0.5	0.7		0.3	J
Cadmium, Total	5	-			U	5		U	5		U 5		U 5
Calcium, Total		-		250000			260000			120000		300000	
Chromium, Total	50	-		30				U	10	**70**		30	
Cobalt, Total		-		25			6	J		26		28	
Copper, Total	200	-		81				U	10	89		94	
Iron, Total	300	-		**16000**			**8300**			**80000**		**16000**	
Lead, Total	25	-		**44**				U	10	**54**		**49**	
Magnesium, Total	35000	-		**52000**			**65000**			24000		**61000**	
Manganese, Total	300	-		**2530**			**3040**			**1600**		**3020**	
Mercury, Total	0.7	-			U	0.2		U	0.2	0.2			U 0.2
Nickel, Total	100	-		34			17	J		52		37	
Potassium, Total		-		26000			37000			40000		30000	
Selenium, Total	10	-		5	J			U	10		U 10	5	J
Silver, Total	50	-			U	7		U	7		U 7		U 7
Sodium, Total	20000	-		**43000**			**46000**			**88000**		**51000**	
Thallium, Total	0.5	-		0.2	J			U	0.5	**0.6**		0.2	J
Vanadium, Total		-		35				U	10	74		35	
Zinc, Total	2000	-		95			16	J		155		104	

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 4-5: (Page 4 of 5) Summary of Groundwater Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	GW Std^ (ug/L)	Sample Identification									
		MW-1		MW-2A		MW-2B		SWR-MW-1		DUPLICATE	
Date Sampled		Apr-12		Apr-12		Apr-12		Apr-12		Apr-12 (MW-2A)	
PCBs by EPA Methods 8082			R.L.		R.L.		R.L.		R.L.		R.L.
Aroclor 1016		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1221		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1232		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1242		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1248		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1254		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1260		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1262		-		U	0.083	U	0.083	U	0.083	U	0.083
Aroclor 1268		-		U	0.083	U	0.083	U	0.083	U	0.083
Total PCBs	0.09	-		ND		ND		ND		ND	

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

ND - Not detected

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 4-5: (Page 5 of 5) Summary of Groundwater Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	GW Std^ (ug/L)	Sample Identification									
		MW-1		MW-2A		MW-2B		SWR-MW-1		DUPLICATE	
Date Sampled		Apr-12		Apr-12		Apr-12		Apr-12		Apr-12 (MW-2A)	
Pesticides by EPA Methods 8081			R.L.		R.L.		R.L.		R.L.		R.L.
Delta-BHC	0.04	-		U	0.02	U	0.02	U	0.02	U	0.02
Lindane	0.05	-		U	0.02	U	0.02	UJ	0.02	U	0.02
Alpha-BHC	0.01	-		U	0.02	U	0.02	UJ	0.02	U	0.02
Beta-BHC	0.04	-		U	0.02	U	0.02	U	0.02	U	0.02
Heptachlor	0.04	-		UJ	0.02	UJ	0.02	U	0.02	UJ	0.02
Aldrin	0	-		U	0.02	U	0.02	UJ	0.02	U	0.02
Heptachlor epoxide	0.03	-		U	0.02	U	0.02	UJ	0.02	U	0.02
Endrin	0	-		U	0.04	U	0.04	U	0.04	U	0.04
Endrin ketone	5	-		U	0.04	U	0.04	UJ	0.04	U	0.04
Dieldrin	0.004	-		U	0.04	U	0.04	UJ	0.04	U	0.04
4,4'-DDE	0.2	-		U	0.04	U	0.04	UJ	0.04	U	0.04
4,4'-DDD	0.3	-		U	0.04	U	0.04	UJ	0.04	U	0.04
4,4'-DDT	0.2	-		UJ	0.04	UJ	0.04	U	0.04	UJ	0.04
Endosulfan I		-		U	0.02	0.025		UJ	0.02	0.121	
Endosulfan II		-		U	0.04	U	0.04	UJ	0.04	U	0.04
Endosulfan sulfate		-		UJ	0.04	UJ	0.04	UJ	0.04	UJ	0.04
Methoxychlor	35	-		UJ	0.2	UJ	0.2	U	0.2	UJ	0.2
Toxaphene	0.06	-		U	0.2	U	0.2	U	0.2	U	0.2
trans-Chlordane		-		U	0.02	U	0.02	U	0.02	U	0.02
Chlordane	0.05	-		UJ	0.2	UJ	0.2	U	0.2	UJ	0.2

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 4-6: (Page 1 of 1) Summary of Soil Vapor Analytical Results. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte	Sample Identification								
(ug/m^3)	SV-1			SV-2			DUPLICATE		
Date Sampled	Apr-12			Apr-12			Apr-12 (SV-2)		
VOCs by Method TO-15			**R.L.**			**R.L.**			**R.L.**
1,1,1-Trichloroethane		U	0.83	0.89			0.89		
1,1,2,2-Tetrachloroethane		U	1		U	1		U	1
1,1,2-Trichloroethane		U	0.83		U	0.83		U	0.83
1,1-Dichloroethane		U	0.62		U	0.62		U	0.62
1,1-Dichloroethene		U	0.6		U	0.6		U	0.6
1,2,4-Trichlorobenzene		UJ	1.1		UJ	1.1		UJ	1.1
1,2,4-Trimethylbenzene	6.3			4.7	J		4.6	J	
1,2-Dibromoethane		U	1.2		U	1.2		U	1.2
1,2-Dichlorobenzene	3.9			2.7	J		2.6	J	
1,2-Dichloroethane		U	0.62		U	0.62		U	0.62
1,2-Dichloropropane		U	0.7		U	0.7		U	0.7
1,3,5-Trimethylbenzene	1.8			1.4	J		1.4	J	
1,3-butadiene		U	0.34		U	0.34		U	0.34
1,3-Dichlorobenzene		U	0.92		U	0.92		U	0.92
1,4-Dichlorobenzene	7			5.2	J		4.9	J	
1,4-Dioxane		U	1.1		U	1.1		U	1.1
2,2,4-trimethylpentane	4.9			0.47	J			UJ	0.71
4-ethyltoluene	2.4			1.5	J		1.4	J	
Acetone		U	0.72	42			42		
Allyl chloride		U	0.48		U	0.48		U	0.48
Benzene	54			16			14		
Benzyl chloride		U	0.88		U	0.88		UJ	0.88
Bromodichloromethane		U	1		U	1		U	1
Bromoform		U	1.6		U	1.6		U	1.6
Bromomethane		U	0.59		U	0.59		U	0.59
Carbon disulfide	3.8			1.3			1.3		
Carbon tetrachloride		U	0.26		U	0.26		U	0.26
Chlorobenzene	43			56			50		
Chloroethane		U	0.4		U	0.4		U	0.4
Chloroform		U	0.74	0.69	J		0.69	J	
Chloromethane		U	0.31	0.52	J			UJ	0.31
cis-1,2-Dichloroethene		U	0.6	0.89				U	0.6
cis-1,3-Dichloropropene		U	0.69		U	0.69		U	0.69
Cyclohexane		U	0.52		U	0.52		U	0.52
Dibromochloromethane		U	1.3		U	1.3		U	1.3
Ethyl acetate		U	0.92	0.73	J		0.62	J	
Ethylbenzene	6.2	J		4.8	J		3.5	J	
Freon 11		U	0.86	3			2.9		
Freon 113		U	1.2		U	1.2		U	1.2
Freon 114		U	1.1		U	1.1		U	1.1
Freon 12		U	0.75	22			19		
Heptane	70			2.4	J		1	J	
Hexachloro-1,3-butadiene		UJ	1.6		UJ	1.6		UJ	1.6
Hexane	110				U	0.54		U	0.54
Isopropyl alcohol		U	0.37	44			37		
m&p-Xylene	9.7	J		7.1			7.2	J	
Methyl Butyl Ketone		UJ	1.2		U	1.2		UJ	1.2
Methyl Ethyl Ketone		UJ	0.9	12	J		7.5	J	
Methyl Isobutyl Ketone		U	1.2	0.83			0.75	J	
Methyl tert-butyl ether		U	0.55		U	0.55		U	0.55
Methylene chloride	4.4			2.7			2.3		
Naphthalene	0.85	J		0.8	J		0.8	J	
o-Xylene	76			29			24		
Propylene		U	0.26	13	J		7.2	J	
Styrene	9			4.8	J		4.6	J	
Tetrachloroethylene	1.2			2.6	J		2.3	J	
Tetrahydrofuran	6.2				U	0.45		U	0.45
Toluene	170			240			230		
trans-1,2-Dichloroethene		U	0.6		U	0.6		U	0.6
trans-1,3-Dichloropropene		U	0.69		U	0.69		U	0.69
Trichloroethene		U	0.22	1.1			0.76		
Vinyl acetate		U	0.54		U	0.54		U	0.54
Vinyl Bromide		U	0.67		U	0.67		U	0.67
Vinyl chloride		U	0.1	0.65	J			UJ	0.1

All values reported as ug/m^3

U - Analyzed for but not detected above laboratory detection limits

J - Estimated value

R.L. - Laboratory reporting limit

Table 6-1: (Page 1 of 1) Soil Contaminants of Potential Concern. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-1A		SB-1B		SB-1C	
	SAMPLE DATE		4/5/2012		4/5/2012		4/5/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 2)		(2 - 4)		(6 - 8)	
Metals by EPA Methods 6010/7470				R.L.		R.L.		R.L.
Barium, Total	350	400	190		**920**		290	

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION					
	UNRESTRICTED USE	COMMERCIAL USE	SB-2A		SB-2B		SB-2C	
	SAMPLE DATE		4/5/2012		4/5/2012		4/5/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 4)		(11 - 13)		(21 - 25)	
Metals by EPA Methods 6010/7470				R.L.		R.L.		R.L.
Lead, Total	63	1000	13		**470**		**1000 J**	
Mercury, Total	0.18	2.8	U	0.08	**1.5**		**7.2**	

ANALYTE (mg/kg)	SOIL CLEANUP OBJECTIVES		SAMPLE IDENTIFICATION			
	UNRESTRICTED USE	COMMERCIAL USE	SB-5A		SB-5B	
	SAMPLE DATE		4/12/2012		4/12/2012	
	SAMPLE DEPTH (ft. bgs)		(0 - 1)		(3)	
Metals by EPA Methods 6010/7470				R.L.		R.L.
Arsenic, Total	13	16	**33**		3.5	

All values reported as mg/kg (parts per million)

Soil Cleanup Objectives from 6 NYCRR Part 375-6.8(b) (December 2006) and Supplemental Soil Cleanup Objectives (October 2010)

U - Analyzed for but not detected above the laboratory reporting limit

J - Estimated value

R.L. - Reporting Limit

ft. bgs - Feet below ground surface

Bold and thick outlined cells indicate an exceedance of Unrestricted Use Soil Cleanup Objectives

Bold, thick outlined, and shaded cells indicate an exceedance of Commercial Use Soil Cleanup Objectives

Table 6-2: (Page 1 of 1) Groundwater Contaminants of Potential Concern. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/L)	**GW Std^** (ug/L)	**Sample Identification**									
		MW-1		**MW-2A**		**MW-2B**		**SWR-MW-1**		**DUPLICATE**	
Date Sampled		Apr-12		Apr-12		Apr-12		Apr-12		Apr-12 (MW-2B)	
Metals by EPA Methods 6010/7470			**R.L.**		**R.L.**		**R.L.**		**R.L.**		**R.L.**
Chromium, Total	50	-		30		U	10	**70**		30	
Iron, Total	300	-		**16000**		**8300**		**80000**		**16000**	
Lead, Total	25	-		**44**		U	10	**54**		**49**	
Magnesium, Total	35000	-		**52000**		**65000**		24000		**61000**	
Manganese, Total	300	-		**2530**		**3040**		**1600**		**3020**	
Sodium, Total	20000	-		**43000**		**46000**		**88000**		**51000**	
Thallium, Total	0.5	-		0.2 J		U	0.5	**0.6**		0.2 J	

All values reported as ug/L (parts per billion)

^ - New York TOGS 111 Ambient Water Quality Standards (reflects all addendum to criteria through June 2004)

(-) - No sample collected because well was dry during sampling event

R.L. - Laboratory reporting limit

U - Analyzed for but not detected above laboratory detection limit

J - Estimated value

Bold and thick outlined cells indicate an exceedance of applicable standards

Table 6-3: (Page 1 of 1) Soil Vapor Contaminants of Potential Concern. Lot 4 - Austin Avenue and Prior Place. Remedial Investigation. GHD, 2012.

Analyte (ug/m^3)	Sample Identification								
	SV-1			SV-2			DUPLICATE		
Date Sampled	Apr-12			Apr-12			Apr-12 (SV-2)		
VOCs by Method TO-15			**R.L.**			**R.L.**			**R.L.**
1,1,1-Trichloroethane		U	0.83	0.89			0.89		
1,2,4-Trimethylbenzene	6.3			4.7	J		4.6	J	
1,2-Dichlorobenzene	3.9			2.7	J		2.6	J	
1,3,5-Trimethylbenzene	1.8			1.4	J		1.4	J	
1,4-Dichlorobenzene	7			5.2	J		4.9	J	
2,2,4-trimethylpentane	4.9			0.47	J			UJ	0.71
4-ethyltoluene	2.4			1.5	J		1.4	J	
Acetone		U	0.72	42			42		
Benzene	54			16			14		
Carbon disulfide	3.8			1.3			1.3		
Chlorobenzene	43			56			50		
Chloroform		U	0.74	0.69	J		0.69	J	
Chloromethane		U	0.31	0.52	J			UJ	0.31
cis-1,2-Dichloroethene		U	0.6	0.89				U	0.6
Ethyl acetate		U	0.92	0.73	J		0.62	J	
Ethylbenzene	6.2	J		4.8	J		3.5	J	
Freon 11		U	0.86	3			2.9		
Freon 12		U	0.75	22			19		
Heptane	70			2.4	J		1	J	
Hexane	110				U	0.54		U	0.54
Isopropyl alcohol		U	0.37	44			37		
m&p-Xylene	9.7	J		7.1			7.2	J	
Methyl Ethyl Ketone		UJ	0.9	12	J		7.5	J	
Methyl Isobutyl Ketone		U	1.2	0.83			0.75	J	
Methylene chloride	4.4			2.7			2.3		
Naphthalene	0.85	J		0.8	J		0.8	J	
o-Xylene	76			29			24		
Propylene		U	0.26	13	J		7.2	J	
Styrene	9			4.8	J		4.6	J	
Tetrachloroethylene	1.2			2.6	J		2.3	J	
Tetrahydrofuran	6.2				U	0.45		U	0.45
Toluene	170			240			230		
Trichloroethene		U	0.22	1.1			0.76		
Vinyl chloride		U	0.1	0.65	J			UJ	0.1

All values reported as ug/m^3

U - Analyzed for but not detected above laboratory detection limits

J - Estimated value

R.L. - Laboratory reporting limit

Appendices

Appendix A

Site Survey Map

TOPOGRAPHIC MAP LEGEND

ADJACENT PROPERTY LINE	
BENCHMARK	⊕
COMBINATION INLET	CI
CONTOUR	283
CURB	
CURB CUT	
DRAIN INLET	DI
DRAIN MANHOLE	DMH
FENCE	
GUY WIRE	
HYDRANT	
LEDGE STONE	
LIGHT POLE	
MANHOLE	MH
OVERHEAD WIRES	
PROPERTY CORNER	
PROPERTY LINE	
SANITARY SEWER MANHOLE	SMH
SPOT GRADE	× 238.4
TELEPHONE MANHOLE	TMH
UTILITY POLE	
UTILITY POLE WITH LIGHT	
WATER VALVE	

ABBREVIATIONS

CONC	CONCRETE
FNC	CHAIN LINK FENCE
FNPK	PICKET FENCE
HDPE	HIGH DENSITY POLY ETHYLENE
RCP	REINFORCED CONCRETE PIPE
TBX	TELEPHONE BOX
TRAN	TRANSFORMER
UBX	UTILITY BOX

PRIOR PLACE

STEW LEONARD DRIVE
(CORPORATE DRIVE)

RELOCATED AUSTIN AVENUE

OLD AUSTIN AVENUE

BLOCK 3244
LOT 3

BLOCK 3244
LOT 4

BLOCK 3244
LOT 7

BLOCK 8001
LOT 40

EASEMENT

WOODED

SOIL PILE

BENCHMARK
MAG NAIL IN ASPHALT
ELEVATION: 228.66

BENCHMARK
DOCK SPIKE
ELEVATION: 213.93

BENCHMARK
DOCK SPIKE IN UTILITY POLE
ELEVATION: 256.28

BENCHMARK
DOCK SPIKE
ELEVATION: 226.63

NOTES & REFERENCES:

1) THIS MAP IS BASED ON A FIELD SURVEY COMPLETED JUNE 30, 2011.

2) CONTOUR INTERVAL IS (1) ONE FOOT. VERTICAL DATUM IS REFERENCED TO NGVD 1929 AS TRANSFERED FOR A BENCHMARK LOCATED ON THE SOUTHWESTERLY CORNER OF THE SITE. FURTHER DESCRIBED AS A DOCK SPIKE LOCATED ON THE EASTERLY SIDE OF AN UTILITY POLE ELEVATION: 256.28.

3) SUBSURFACE UTILITIES ARE NOT LOCATED OR SHOWN. THE LOCATION OR COMPLETENESS OF UNDERGROUND INFORMATION CANNOT BE GUARANTEED. VERIFY THE ACTUAL LOCATION OF ALL UTILITIES PRIOR TO EXCAVATION OR CONSTRUCTION.

4) THIS MAP IS PREPARED TO DEPICT THE TOPOGRAPHY AS SHOWN. THE PROPERTY LINE IS AS SHOWN ON A MAP TITLED "ALTA/ACSM LAND TITLE SURVEY PREPARED FOR MORRIS BUILDERS, L.P." PREPARED BY CONTRACTORS' LINE & GRADE SOUTH AND DATED JANUARY 6, 2000.

5) UNAUTHORIZED ALTERATION OR ADDITION TO A MAP BEARING THE SEAL OF A PROFESSIONAL ENGINEER OR A LICENSED LAND SURVEYOR IS A VIOLATION OF SECTION 7209 OF THE NEW STATE EDUCATION LAW, EXCEPT AS PER SECTION 7209, SUB-DIVISION 2.

6) ONLY COPIES FROM THE ORIGINAL OF THIS SURVEY, MARKED WITH AN ORIGINAL OF THE LAND SURVEYOR'S EMBOSSED SEAL SHALL BE CONSIDERED TO BE VALID TRUE COPIES. UNAUTHORIZED REPRODUCTION OF THIS MAP IS A VIOLATION APPLICABLE LAWS.

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

THOMAS M. SCHMIDT NY LIC. NO. 50221

DATE

NO.	REVISION	DATE	BY
	Previous Editions Obsolete		

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

APPLICANT: THE MORRIS COMPANIES
350 VETERANS BLVD.
RUTHERFORD, NJ 07070

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TOPOGRAPHIC MAP

AUSTIN AVENUE REDEVELOPMENT
STEW LEONARD DRIVE AND AUSTIN AVENUE
CITY OF YONKERS, WESTCHESTER COUNTY, NEW YORK

DRAWN: JA	APPROVED: TS
SCALE:	1"=40'
DATE:	07/07/2011
PROJECT No:	11091-S
9129/TS-1.dwg	TS-1.tab
DRAWING No:	TS-1