Remedial Investigation/ Alternatives Analysis/ Interim Remedial Measures (RI/AA/IRM) Report

Former Brainerd Manufacturing Facility
East Rochester, New York
NYSDEC Site No. V00519-8

December 2009
Revised May 2010

0040-002-400

Prepared For:

Despatch Industries, Inc.

Prepared By:

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REMEDIAL INVESTIGATION / ALTERNATIVES ANALYSIS/ INTERIM REMEDIAL MEASURES REPORT

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(NYSDEC SITE #V00519-8)

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1.0 INTRODUCTION

This Remedial Investigation and Alternatives Analysis Report (RI/AAR) has been prepared for the Former Brainerd Manufacturing Facility Site in East Rochester, New York (see Figure 1). Benchmark Environmental Engineering & Science, PLLC (Benchmark) implemented the RI activities and has prepared this report on behalf of Despatch Industries, Inc.

1.1 Purpose

This RI/AAR describes and presents the findings and conclusions of the Remedial Investigation (July-August 2006) and four supplemental off-site investigations. The following off-site media were investigated: residential indoor air (December 2006 through March 2009); soil gas (August 2007 through July 2008); and groundwater (August 2006 through September 2009, and January 2010). The RI/AAR also provides a summary of the interim remedial measures (IRM) conducted at the Site, with an evaluation of the IRM as the final remedial alternative for the Site.

1.2 Background

1.2.1 Site Description

The former Brainerd Manufacturing Facility is situated at the intersection of North Washington and Monroe Streets in the City of East Rochester, New York (see Figure 2). The property is comprised of two parcels: an approximately 3.0-acre parcel located at 115 North Washington Street (Tax Map 139.69-1-17) improved with a 73,400 square foot industrial/manufacturing building and offices; and an approximately 0.3-acre parcel (Tax Map 139.69-1-19) that is an asphalt parking area. An open gravel lot comprises the western side of the larger parcel, with the former manufacturing building situated on the eastern side of the parcel adjacent to North Washington Street. Surrounding property is mixed use, primarily characterized by light industrial and railroad properties, and residential properties to the north/northeast. A Rochester Gas and Electric (RG&E) substation and a pre-cast concrete product manufacturing building owned by E.J. Delmonte border the property to the northwest. Monroe Street, Rochester Lumber Company and A.J. Interiors are located south of the property, adjacent to the asphalt parking lot parcel.

The property was operated as an industrial facility for nearly 100 years prior to relocation of Brainerd's operations in 1998. Historic uses of the facility included the manufacture of hardware and decorative metal products using various metal finishing processes. The property has been operated under lease since January 2004 by an office furniture reconditioning and sales company.

In May 2002, Despatch Industries, Inc. signed a voluntary agreement with the New York State Department of Environmental Conservation (NYSDEC) to investigate and cleanup the Site. The investigation is being conducted through New York State's voluntary cleanup program (Index #B8-0609-02-02).

1.2.2 Site Topography and Drainage

The Site is generally flat lying and primarily occupied by buildings and asphalt. A relatively small area at the western end of the Site is covered by grass and brush. Precipitation (i.e., rain or melting snow) either infiltrates into the soil or moves via overland flow to the storm drains present in the roadways. Surface and shallow groundwater flow are likely impacted by various cycles of development and filling, as well as utility lines and foundations.

1.2.3 Geology

According to the U.S. Department of Agriculture (USDA), surficial soils at the Site have been identified as Urban Land (Ub) because they "have been so altered or obscured by urban works and structures that identification of the soils was not feasible" (Ref. 1). Upon further examination of the USDA soil maps, several surface soil types surrounding the Site have been identified as something other than Urban Land, some of which are similar in composition to subsurface soils observed during this investigation. Although USDA soil-type classification was not performed, the Site soils may be classified as one or more of the following surrounding USDA soil types:

- The **Arkport Series** consists of deep, well-drained, medium-textured soils formed in deltaic, glacial lake deposits of very fine sand and fine sand that occur primarily east of the Genesee River and are associated with the Irondequoit Creek and Fairport Channel drainage areas. The Arkport soils formed in the same kind of material as the Galen, Minoa, and Colonie soils, although better drained than the Galen and Minoa soils and finer textured than the Colonie.

- The **Colonie Series** consists of deep, well-drained to excessively drained, coarse-textured soils formed in water-laid or windblown deposits of fine sand on beaches, sandbars, or deltaic positions in association with old postglacial lakebeds or outflow channels of the lakes. The Colonie soils are most commonly associated geographically with the Elnora soils that formed in similar material, the Arkport soils that formed in material with a higher proportion of very fine sand and silt, and the Claverack soils that formed in moderately deep sand deposits over clay.
- The **Elnora Series** are deep, moderately well-drained, level to gently sloping, sandy soils formed in water-laid or windblown deposits of fine sand on areas that were formerly deltas, sandbars, or beaches in old glacial lakes. Elnora soils formed in material similar to the excessively drained Colonie soils. Elnora soils are similar to the Galen soils and the Minoa soils, but are coarser in texture.
- The **Galen Series** is composed of deep, moderately well-drained, medium-textured soils formed in high-lime or slightly acid, water-deposited fine sand and very fine sand and some silt. Galen soils formed in the same kind of material as the Arkport, Minoa, and Lamson soils. The Elnora and Claverack soils also formed in material similar to that giving rise to the Galen soils.

Based on the Geologic Map of New York, the bedrock geology at the Site appears to be the Silurian age (440 to 410 million years ago) (NYSMSS 1970, NYSMGS 1986), Vernon Formation consisting of shale and dolostone. The Silurian Vernon Formation (Sv) consists primarily of redbeds with intercalated thin units of black and green shales and dolomitic mudstone. The formation is most noted for its shales and fine-grained dolostones and is part of the Akron Dolostone & Cobleskill Limestone & Salina Group, known for Eurypterids – fossils of swimming creatures.

1.2.4 Hydrogeology

Water level data measured from newly installed and existing wells indicate groundwater levels at approximately 18.0 to 55.5 feet below ground surface (fbgs). Water level data and geologic descriptions of the subsurface lithology indicate the shallow water-bearing unit at the Site is an unconfined aquifer. The shallow water-bearing zone was first detected during boring advancement approximately 23 fbgs within a Poorly Graded Sand (SP) unit and fully penetrated to a depth of 68 fbgs.

Horizontal hydraulic gradients calculated from water elevations at monitoring wells MW-3 and MW-5 range from 0.007 to 0.009 ft/ft. These hydraulic gradients are very low and are reflective of the low topographic relief and the relatively high hydraulic conductivity.

Vertical hydraulic gradients calculated from water elevations at monitoring wells OW-1 and MW-5 range from 0.004 to 0.025 ft/ft. Calculated vertical gradients indicate a slight vertically upward gradient. A comparison of the horizontal and vertical hydraulic gradients indicates that groundwater flow at the Site is essentially horizontal and generally in a northwest direction

1.2.5 Climate

Western New York has a cold continental climate, with moisture from Lakes Erie and Ontario causing increased precipitation. In the Rochester Area (Ref. 2), average annual precipitation is reportedly 33.98 inches and snowfall is 93.3 inches. Average monthly temperatures in the Rochester Area range from 23.9 degrees Fahrenheit in January to 70.7 degrees Fahrenheit in July. The ground and lakes typically remain frozen from late December to March. Winds are generally from the southwest (240 degrees) with a mean velocity of 9.6 miles per hour.

1.2.6 Population and Land Use

The City of East Rochester, encompassing 1.4 square miles, has an estimated 2005 population of 6,366 persons (Ref. 3), a decrease of 281 from the 2000 U.S. census. Based on these data, the average population density in the city is 4,547 people per square mile. East Rochester is primarily zoned residential with commercial and industrial use mixed in along major roads. The Site is located in an area of the city zoned industrial/commercial and is surrounded primarily by a mix of commercial and light industrial properties. Land use beyond the Site boundaries includes mixed commercial/industrial/retail as well as residential.

1.2.7 Utilities and Groundwater Use

The subject property has access to major public and private utilities, including water (Monroe County Water Authority); sanitary and storm sewers (Monroe County Division of Pure Waters); and electric and natural gas (Rochester Gas & Electric).

Groundwater at the Site is assigned Class "GA" by 6NYCRR Part 701.15. Ten environmental monitoring wells exist on or adjacent to the Site. According to Mr. Dave Bussey, Monroe County Superintendent of Public Works, the potable wells formerly owned and operated by the City of East Rochester were properly abandoned per NYSDOH

specifications. Mr. Bussey also stated that, to the best of his knowledge, the privately owned wells in the city have not been used for approximately 25 years.

1.2.8 Wetlands and Floodplains

The Monroe County Graphic Information System (GIS) Services Division (Ref. 4) freshwater wetlands map shows that State or Federal wetlands do not exist on the subject property. A Class 1 freshwater wetland is present approximately 0.5 miles east of the Site along Irondequoit Creek. The Monroe County GIS flood hazard area map indicates that the 100-year floodplain is located approximately 0.5 miles east of the Site along Irondequoit Creek.

1.3 Site History

The property was operated as an industrial facility for nearly 100 years prior to relocation of Brainerd's operations in 1998 (Ref. 5). Historic operations conducted at the facility included the manufacture of hardware and decorative metal products. Production of these products involved stamping, cutting, drilling, burnishing, deburring, degreasing, lacquering, and electroplating. Figure 2 is a site schematic showing the current building configuration and former manufacturing operations within the facility. The equipment formerly used in the production process has been removed from the premises. The property has been operated under lease since January 2004 by DeskSet, Ltd., an office furniture reconditioning and sales company.

1.4 Previous Investigations

Previous investigations conducted at the Site include Phase I and Phase II investigations of soil and groundwater, an interim remedial measure (IRM) investigation, and a sub-slab vapor investigation. Copies of the referenced reports discussed in this section have been previously submitted to the NYSDEC, and are therefore not repeated in their entirety. Rather, the summaries and findings presented herein are intended to document the progressive investigative history of the Site. All historic boring, monitoring well, soil core, and surface soil locations for each investigation are shown on Figure 2 for reference.

1.4.1 February 2000 - Phase I Environmental Site Assessment (ESA) & Limited Phase II (Ref. 5)

Investigation Summary:

- Three interior soil cores (identified as GP-101, GP-102, and GP-103) and three outdoor temporary wells (identified as MW-201, MW-202, and MW-203) were advanced/installed on the south side of plant to depths of 20-25 fbgs. The monitoring wells were destroyed during paving activities performed by others.
- Soil samples were collected the three coring locations and analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) and select metals (chromium, nickel, copper, and zinc) and cyanide.
- A composite surface soil sample SS-1 (0 to 0.5 fbgs) was prepared from four grab samples SS-1A, 1B, 1C, and 1D in the open lot located on the west side of the property. The composite soil sample was analyzed for TCL semi-VOCs (SVOCs), RCRA metals, and nickel, copper, zinc, and cyanide.
- Groundwater samples were collected from the three temporary wells and analyzed for TCL VOCs and select metals (chromium, nickel, copper, and zinc) and cyanide.

Investigation Findings:

- Soil samples collected from the cores showed the presence of trichloroethene (TCE), tetrachloroethene (PCE), chromium, copper, nickel, and zinc in the vicinity of GP-103. Other soil core sample results were generally below the range of Technical and Administrative Guidance Memorandum (TAGM) 4046 background and VOC cleanup objectives.
- Surface soil sample results indicated no exceedance of TAGM 4046 criteria, except zinc, which was slightly elevated.
- Groundwater analytical results indicated detections in the parts per billion (ppb) range for TCE and PCE, primarily near well MW-202. Trace concentrations of xylene were also detected at this location.

1.4.2 April/May 2001 - Supplemental Phase II Investigation (Ref. 6)

Investigation Summary:

- Five interior soil cores, identified as SC-1 through SC-5, were advanced near Phase I/Limited Phase II soil core location GP-103. Four soil core samples were selected for analysis of TCL VOCs and RCRA metals.

- Three flush-mount wells, identified as MW-1, MW-2, and MW-3, were installed on the south side of the plant. Well MW-1 was installed to 71 fbgs, immediately above a described confining layer. Wells MW-2 and MW-3 were installed to 30 and 35 fbgs, respectively. One soil sample was collected and submitted from each well boring for TCL VOC and RCRA metal analyses. Groundwater from each well was also sampled and analyzed for TCL VOCs.

Investigation Findings:

- Interior soil cores located near Phase I/Limited Phase II soil core location GP-103 indicated the presence of TCE and PCE from 2 to 8 parts per million (ppm).
- Soil samples collected from well borings were all within TAGM 4046 criteria.
- Groundwater results at well MW-1 indicated no Class "GA" exceedances and no evidence of dense non-aqueous phase liquid (DNAPL). Groundwater results from wells MW-2 and MW-3 indicated slightly elevated concentrations of PCE (<10 ppb) and TCE (11 - 48 ppb).

1.4.3 August 2001 – Follow-up Phase II Activities (Ref. 7)

Investigation Summary:

- Trench drain test was performed to determine floor drain discharge point.
- Twelve additional interior soil core samples, identified as SC-6 through SC-17, were collected within the building. Eighteen soil samples were collected from these 12 locations at various 2-foot depth intervals ranging from 1 to 4 fbgs. All soil samples were analyzed for TCL VOCs and select metals (chromium, nickel, copper, and zinc) and cyanide.
- Two flush-mount wells were installed on the north side of the plant, identified as MW-4 and MW-5. Well MW-4 was installed to 28 fbgs and well MW-5 was installed to 30 fbgs. A soil sample was collected at each well boring from two intervals: 0.5 to 2 fbgs and 20 to 22 fbgs. Both soil samples were analyzed for TCL VOCs and select metals (chromium, nickel, copper, and zinc). Groundwater samples were collected from all 3 existing (MW-1, MW-2, and MW-3) and 2 newly installed wells (MW-4 and MW-5) and analyzed for TCL VOCs. Hydraulic conductivity testing was also performed on all wells.

Investigation Findings:

- Trench drain test confirmed discharge to the sump within former water treatment area of the facility; no outlet was located.

- Interior soil core samples SC-7, SC-8, SC-10, SC-11, SC-13, SC-14, SC-16, and SC-17 indicated PCE concentrations from 0.5 to 20 ppm and TCE concentrations from 1.4 to 8 ppm. VOCs were not detected above TAGM 4046 criteria in the deeper borings. Soil core samples also indicated copper and zinc concentrations above TAGM 4046 criteria, as well as sporadic nickel concentrations above TAGM 4046 criteria. Chromium concentrations were reported below TAGM 4046 criteria with two exceptions where levels were detected slightly above background. Cyanide was not detected in any of the soil core samples. Soil from wells MW-4 and MW-5 were all within TAGM 4046 criteria for inorganic compounds.
- Groundwater results for MW-1 through MW-3 were very similar to the June 2001 findings. PCE was detected in wells MW-4 and MW-5 at concentrations of 28 ppb and 1200 ppb, respectively. TCE was detected in wells MW-4 and MW-5 at concentrations of 190 ppb and 1100 ppb, respectively.
- Groundwater was determined to flow in a north/northwest direction with an average hydraulic conductivity of 7.9 x 10^{-4} cm/s.

1.4.4 March 2003 – Interim Remedial Measures Investigation (Ref. 8)

Investigation Summary:

- Installed one pumping well, designated PW-1, and two observation wells, designated OW-1 and OW-2, in the former Plating and Assembly Rooms of the facility.
- Performed an aquifer pump test to determine the characteristics of the unconfined aquifer at the Site (i.e., hydraulic conductivity) as well as to estimate the radial capture zone from a single pumping well. The aquifer pump test also determined the vertical and horizontal gradients that exist at the Site.
- Upon completion of the aquifer pump test, two groundwater samples were collected from pumping well PW-1 and observation well OW-1; both samples were submitted for laboratory analysis of TCL VOCs. The groundwater from PW-1 was also analyzed for inorganic compounds and wet chemistry parameters to facilitate the interim remedial measure (IRM) design.

Investigation Findings:

- Based on the pump and recovery test results, the estimated unconfined aquifer characteristics at the Site are as follows:
  - An approximate average hydraulic conductivity of 2.05 x 10^{-3} cm/sec.

- An approximate average transmissivity of 1.33 x 10^{-1} ft^2/min.
- A coefficient of storage of 4.78 x 10^{-2}.
- An estimated porosity of 0.25 based on a sandy soil type aquifer (Driscoll, 1986).
- A specific capacity of 0.40 gpm/ft.
- Average yield of 5.9 gpm.
- Maximum drawdown during pumping of 28.42 feet.

o Horizontal hydraulic gradients calculated from water elevations at monitoring wells MW-3 and MW-5, approximately 262 feet apart, range from 0.007 to 0.009 ft/ft depending on the date. The very low hydraulic gradients are reflective of the low topographic relief and the relatively high hydraulic conductivity. Vertical hydraulic gradients calculated from water elevations at monitoring wells OW-1 and MW-5, approximately 10 feet apart, range from 0.004 to 0.025 depending on the date. Calculated gradients indicate a slight vertically upward gradient. A comparison of the horizontal and vertical hydraulic gradients indicates that groundwater flow at the Site is essentially horizontal and generally in a northwest direction.

o Laboratory analytical results for deep overburden groundwater observation well OW-1 detected the presence of three chlorinated organic compounds: PCE (110 µg/L); 1,1,1-TCA (32 µg/L); and TCE (210 µg/L).

o Laboratory analytical results for pumping well PW-1 detected the presence of three chlorinated organic compounds: PCE (190 µg/L); 1,1,1-TCA (1.2 µg/L); and trichloroethene (230 µg/L). The laboratory results indicate chlorinated organics in exceedance of the Class "GA" Standard for each elevated compound except 1,1,1-TCA, which was detected below the standard value.

o The findings of the pump test supported construction of an IRM comprised of a groundwater pump-and-treat system with air stripping as the treatment technology. The IRM was constructed in August 2004. Collected groundwater from PW-1 is treated via low profile air stripping and discharged to the Monroe County Pure Waters sanitary sewer via gravity flow. Section 7.0 discusses the IRM further.

1.4.5 January 2004 – Sub-Slab Vapor Investigation (Ref. 9)

Investigation Summary:

o Eleven air samples were collected via Summa Canister fitted with a 24-hour regulator: one sub-slab sample and one ambient indoor sample were collected at each of five on-site locations, and one additional ambient outdoor air

sample was collected on the high point of the building roof. All air samples were analyzed for chlorinated aliphatic volatiles in accordance with USEPA Method TO-15.

- The Johnson and Ettinger (1991) (JEM) model, a widely accepted tool for determining potential health risks due to VOC migration to indoor air, was used to analyze the air sample data in accordance with recommendations presented in USEPA's 2002 "OSWER Draft Guidance For Evaluating Vapor Intrusion to Indoor Air Pathway From Groundwater and Soils."

Investigation Findings:

- All reported concentrations were well below the Occupational Safety and Health Administration's (OSHA) Permissive Exposure Limits (PELs). Thus, both the sub-slab vapors and indoor air comply with these regulatory limits for work place exposure. The outdoor air sample contained only a slightly elevated concentration of toluene, also at a concentration well below the OSHA PEL.
- Based on the laboratory analytical and JEM results, the potential for excess risk due to vapor intrusion was determined to be insignificant at the Site; therefore, no further action was recommended toward addressing this pathway.
- NYSDEC comments regarding the sub-slab vapor investigation findings indicated that recent NYSDOH guidance on sub-slab vapor intrusion suggested a need for further evaluation of this issue. However, it was agreed that IRM construction could proceed with further evaluation of sub-slab vapors deferred to the RI/AAR. Section 8.1.3 discusses the data in terms of the October 2006 NYSDOH Guidance for Evaluating Soil Vapor Intrusion.

1.5 Constituents of Primary Concern (COPCs)

Based on the historic and recent remedial investigations, the constituents of primary concern (COPCs) are within the groundwater. COPCs identified include trichloroethene (TCE), tetrachloroethene (PCE), and to a lesser extent 1,1,1-tichloroethane (1,1,1-TCA). The investigative approach described in the SI/RAS Work Plan (Ref. 10) focused on these COPCs.

2.0 INVESTIGATION APPROACH

The following investigation describes activities undertaken during the 2006 RI as well as one supplemental on-site and three supplemental off-site investigations. Section 2.1 describes the RI, and Section 2.2 describes the supplemental investigations.

2.1 Site Investigation (SI)

In July and August 2006, the following activities were performed in accordance with the SI/RAS Work Plan to delineate on-site and off-site impacts at the Site:

- **Soil Characterization**: Visual/olfactory/PID characterization of surface and subsurface soil; collection and analysis of on-site surface soil samples; and advancement of four off-site, downgradient borings completed as groundwater monitoring wells.
- **Groundwater Characterization**: Advancement of one on-site, source area boring, and four off-site borings completed as groundwater monitoring wells; and collection and analysis of groundwater samples from existing and newly installed monitoring wells.

2.1.1 Soil Characterization

2.1.1.1 Boring Advancement

Five borings were advanced, per the SI/RAS Work Plan, using hollow stem auger technology at the locations designated on Figure 2 to facilitate installation of one on-site (MW-6) and four off-site groundwater monitoring wells (MW-7 through MW-10). Prior to initiation of off-site work, access approvals were secured from the City of East Rochester (MW-10) and E.J. DelMonte (MW-7 through MW-9). Appendix A includes field borehole and monitoring well installation logs for these wells.

2.1.1.2 Surface Soil Sampling and Analysis

Five surface soil samples, designated as SS-2 through SS-6, were collected from the open gravel lot on the western portion of the Site (see Figure 2). Composite sample SS-1, composed of four subsamples (SS-1A through D), was previously collected in this area during the February 2000 investigation. Samples were collected using dedicated stainless steel sample collection equipment. Surface soil samples were analyzed for Target Compound List (TCL) VOCs, SVOCs, PCBs, pesticides, TAL metals, and cyanide.

2.1.2 Groundwater Characterization

2.1.2.1 Monitoring Well Construction

Groundwater monitoring wells MW-6 through MW-10 were installed at the locations identified on Figure 2. The wells were constructed as 2-inch diameter, flush-joint Schedule 40 PVC with 10-foot, 0.010-inch machine slotted well screens, lockable J-plugs, and 8-inch diameter steel flush mounted road boxes. Appendix A includes the well construction logs. Table 1 summarizes the construction details for newly installed and existing groundwater monitoring wells.

All existing and newly installed monitoring wells were surveyed to provide location information and allow for accurate site map preparation. PVC risers were surveyed against a fixed vertical datum to provide a reference point for groundwater elevation measurements.

2.1.2.2 Monitoring Well Development

The newly installed monitoring wells were developed with dedicated disposable polyethylene bailers via surge and purge methodology per the approved SI/RAS Work Plan. Field parameters including pH, temperature, turbidity and specific conductance were measured until they became relatively stable. Development water was contained and processed through the on-site IRM treatment system.

2.1.2.3 Groundwater Elevation Measurements

Groundwater elevations were measured in all existing and newly installed monitoring, observation, and pumping wells on July 7 and October 14, 2009. Groundwater elevation data from these dates were used to prepare isopotential maps representing temporal variations at the Site (see Figures 3 and 4). Groundwater elevations were measured using an electric water level meter to the nearest 0.01 feet in accordance with Benchmark's FOPs. Table 1 presents a summary of the groundwater elevations collected on July 7 (seasonal groundwater high) and October 14, 2009 (seasonal groundwater low). Examination of both isopotential maps indicates that groundwater at the Site flows north-northwest toward Irondequoit Creek, and that there is little temporal and spatial variability throughout the year.

2.1.2.4 Groundwater Sample Collection and Analysis

Groundwater samples were collected from the wells identified on Figure 2. With the exception of IRM pumping well PW-1, all samples were collected using a non-dedicated Grundfos® submersible pump and dedicated pump tubing following low-flow purge and sample collection procedures. PW-1 is continuously pumped via active IRM collection and treatment and, therefore, was sampled from the groundwater treatment system influent sample port.

Prior to and immediately following collection of groundwater samples, field measurements for pH, specific conductance, temperature, turbidity, Eh, and water level as well as visual and olfactory field observations were recorded.

Groundwater samples were analyzed for TCL VOCs. In addition, samples from MW-2, MW-9, and PW-1 were analyzed for TCL SVOCs, cyanide, and TAL metals. Samples from MW-6 were also analyzed for total and dissolved iron and manganese, as well as chemical oxygen demand (COD), nitrate, and sulfate for evaluation of enhanced in-situ biodegradation.

2.2 Supplemental Investigations

The supplemental investigation work involved an on-site sub-slab investigation and the three off-site investigations (residential indoor air, soil gas, and groundwater), which were conducted in accordance with their respective NYSDEC-approved work plans referenced within each section below. Investigation analytical results are summarized and presented by media type in Section 3.0 of this report.

2.2.1 On-Site Sub-Slab Soil Vapor Investigation

Prior to the issuance of the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York by the New York State Department of Health (NYSDOH) in October 2006 (Ref. 11), and pre-dating the issuance of the draft Guidance in February 2005, discussions between the NYSDOH, NYSDEC, and the property owner pertaining to indoor air at the Site were underway. More specifically, NYSDEC stated in their November 18, 2002 letter, commenting on the draft IRM Work Plan (March 2002), that indoor air quality characterization should be performed as part of the IRM. Following numerous discussions,

the IRM Work Plan was revised and re-submitted to the NYSDEC in November 2002 incorporating indoor air characterization.

Following submittal of the Voluntary Cleanup IRM Investigation Report (March 2003), the NYSDEC stated in its August 11, 2003 comment letter that it was unable to approve the proposed IRM without a commitment to evaluate potential sub-slab vapor and future migration into indoor air. In response, Benchmark prepared a Work Plan for Sub-Slab Vapor Sampling (September 30, 2003) to avoid further delay in implementing the proposed IRM. Following response to NYSDEC comments, the revised Work Plan for Sub-Slab Soil Vapor Sampling was submitted on October 26, 2003 and approved by the NYSDEC.

Per NYSDEC's request, all available historic construction drawings for the former Brainerd Manufacturing building were reviewed in order to identify areas where building additions or construction techniques may have posed the potential for preferential sub-slab vapor accumulation or segregation. NYSDEC indicated the need to target the investigation sample locations toward these areas. Upon review, the available plans indicated that the former Brainerd facility was expanded by several additions over the past 35 years as follows:

- **1966 –** Additions to construct Shipping No. 1 area, as well as the offices on the eastern side of the building.
- **Post-1966 (unknown) –** Addition to construct Buffing Line and Clair Room area.
- **1969 –** Addition to construct the Maintenance Area.
- **1971 –** Addition to construct Shipping No. 2.
- **1973 –** Addition to construct area housed by the Metal Room, Blanking Room and Antique Room.
- **1974 –** Addition to construct the Water Treatment Room.
- **1976 –** Addition to construct the Assembly Room.
- **1977 –** Addition to construct the Warehouse.
- **1981 –** Addition to construct Shipping No. 3.

The plans indicated that the additions were typically constructed as slab-on-grade structures with shallow (4 fbgs) perimeter trench footings. Spread column footings were used for intermediate support columns in larger areas. Slabs were typically constructed of 4 to 6 inches of concrete with 6-inch by 6-inch No. 10 wire mesh reinforcing over a 6-inch

gravel sub-base, and were set at the same elevations as adjoining building sections. The exceptions are the shipping areas, which contain basements approximately 9 fbgs.

On December 3-4, 2003, Benchmark conducted sub-slab vapor sampling field activities at the Site in accordance with the NYSDEC-approved October 2003 Sub-Slab Soil Vapor Sampling Work Plan. Sample locations included one sub-slab and one indoor air sample collected within the assembly room, warehouse, offices, shipping 1, and blanking room. In addition, one outdoor sample located on the high point of the building roof away from the influences of HVAC equipment or exhaust was collected for a total of 11 air samples. The 11 sample locations shown on Figure 2 include:

- **Offices**: V-1 office floor, V-1 office ambient
- **Warehouse**: V-2 warehouse floor, V-2 warehouse ambient
- **Assembly Room**: V-3 assembly floor, V-3 assembly ambient
- **Shipping 1**: V-4 shipping floor, V-4 shipping ambient
- **Blanking Room**: V-5 blanking room floor, V-5 blanking room ambient
- **Roof**: Roof (i.e., outdoor air) sample

At each location, Benchmark used a hand-held hammer drill to advance a ¾-inch diameter hole through the concrete floor slab (approximately 6-inches thick). Following advancement through the concrete, approximately 8 inches of sub-slab soil were removed from the hole. An appropriately sized silicone stopper fitted with a ¼-inch hollow Teflon tube was immediately inserted into the concrete core hole upon completion and secured. A Summa Canister fitted with a 24-hour regulator was attached to the opposite end of the Teflon tubing. Concurrent with each sub-slab sample location, an indoor ambient air sample was prepared by staging a second Summa Canister on a ladder (approximately 5 feet above ground surface) adjacent to the sub-slab sample location. The roof sample location was assembled similar to the other ambient air samples.

All Summa Canister valves remained closed until the borings were complete and all the canisters were in their respective positions. The valves were then opened for the required 24-hour collection period. Because the building was vacant and sealed for over a year, the building ventilation system was not fully functional at the time of the sampling. Doors and windows were also shut, further assuring conservative sampling conditions throughout the event. It should be noted that during air monitoring activities the current tenant was using

lacquer thinner and cleaning solvents to clean office shelving within the assembly room, potentially creating biased ambient air results. The Material Safety Data Sheet for the lacquer thinner and cleaning solvent indicated the presence of aromatic VOCs, including toluene and xylene that likely contributed to detections of these constituents in the samples.

Following sample collection, Benchmark personnel closed and capped each canister valve. The air samples were shipped to Severn Trent Laboratories (STL) located in Burlington, Vermont under chain-of-custody command for VOC analysis in accordance with USEPA Method TO-15. All concrete openings were repaired with a cement patch.

2.2.2 Off-Site Residential Indoor Air Investigation

The initial off-site residential indoor air investigation was conducted in two rounds as described below.

- **Round 1** was conducted on December 13, 2006; January 18, 2007; and February 1, 2007. The scope of the Residential Indoor Air Investigation called for collecting sub-slab, basement indoor air, and first floor indoor air samples at seven residential properties adjacent to the Despatch Site, each identified by street address as [redacted], [redacted], [redacted], and [redacted], [redacted] and [redacted], and [redacted] Streets (see Figure 5). In addition, one outdoor air sample was to be collected concurrent with indoor air samples during each event. Access was denied or no response was received from [redacted] and [redacted]. [redacted] and [redacted] Street were sampled in December 2006, [redacted] and [redacted] were sampled in January 2007, and [redacted] Street (with a re-sampling of the basement indoor air sample at [redacted] Street) was undertaken in February 2007.
- **Round 2** was performed on January 17, 2008 at [redacted]. Based on the results of the first round of sampling, additional monitoring was recommended for both [redacted] and [redacted], however the owners of [redacted] did not agree to this second round of sampling. Residents/owners of [redacted] and [redacted] Streets did not grant permission for sampling during either round even after several attempts were made to contact them for approval.

Prior to each sampling event, a pre-sampling inspection was conducted at each residential location to identify and minimize conditions that would have interfered with the testing, in accordance with Section 2.11 of the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (Ref. 11). An inspection checklist was used during each event to evaluate the type of structure, floor layout, air flows, and physical conditions of the building(s) being studied. The residents/owners completed Section 8 of

the questionnaire to identify factors that may have influenced the indoor air quality within their home.

Air sampling activities during both rounds were conducted in accordance with the NYSDOH guidance (Ref. 11). Summa Canisters fitted with 24-hour regulators were used to obtain sub-slab vapor, indoor air, and basement air samples. Concurrent with indoor air sample collection, outdoor air samples were collected near the subject properties as well.

At each sub-slab sampling location, Benchmark used a hand-held hammer drill to advance a ¾-inch diameter hole through the concrete floor slab. Following advancement through the concrete, approximately 8 inches of sub-slab soil was removed from the hole. A ¼-inch hollow Teflon tube was immediately inserted into the concrete core hole and sealed at the surface with modeling clay. A minimum of 3 tubing volumes were evacuated from the tubing, discharged into a Tedlar bag, and a Summa Canister was then attached to the opposite end of the tubing. The contents of the Tedlar bag were discharged outside of each residential dwelling to avoid impacting the indoor air results with purged sub-slab air. A Summa Canister was also left in each basement and on the first floor; both placed within the breathing zone (approximately 4 feet above the floor). Approximately 24 hours later the canisters were retrieved, repackaged, and submitted under chain-of-custody command to CENTEK Laboratories, LLC located in Syracuse, New York for analysis of chlorinated solvents via EPA Method TO-15. Section 3.3 summarizes the analytical data from Rounds 1 and 2.

Based on the results of the investigations described under Sections 2.2.3 and 2.2.4 below, NYSDEC requested a supplemental off-site residential soil vapor investigation in the neighborhood north of the former Brainerd Manufacturing Site. Benchmark prepared and NYSDEC approved an Off-Site Soil Vapor Intrusion Investigation Work Plan in February 2009. The intent of the soil vapor investigation was to characterize subsurface soil vapor and indoor air in the following off-site residences (see Figure 5) proposed by the NYSDEC:

[redacted]

A certified letter was sent to the owner/resident at each of the above addresses requesting permission to collect the indoor air and subsurface soil vapor samples. The following residences participated in the sampling event:

[redacted]

The sampling was conducted between March 2 and March 31, 2009 (i.e., end of winter 2009 heating season). The results of this sampling event are summarized in Section 3.3.

2.2.3 Off-Site Soil Vapor Surveys

In accordance with the Off-Site Soil Gas Investigation Work Plan (letter to NYSDEC dated July 24, 2007), a soil gas survey was performed on the adjacent [redacted] property located northwest of the Site. The investigation focused on the area near monitoring well MW-9 (see Figure 5), which previously exhibited concentrations of VOCs in excess of groundwater quality standards. The intent of the soil gas survey was to determine the extent of off-site VOC migration downgradient of MW-9 and the need for additional off-site monitoring wells (see Section 2.2.4).

The off-site soil gas investigation employed Gore-Sorber® sampling modules, which are passive soil gas samplers consisting of several separate sorbent collection units deemed "sorbers." Each sorber contains sorbent materials specific to the range of target VOCs and hydrophobic characteristics, and is sheathed in a vapor permeable insertion. The retrieval cord is constructed of inert, hydrophobic material that allows vapors to move freely across a membrane and onto the sorbent material. Gore-Sorber® sampling modules were provided by the manufacturer based on the list of target analytes.

On August 29, 2007, 20 Gore-Sorber® soil gas sampling modules were inserted, installed, and corked in a 50-foot grid on the [redacted] property [redacted]. On September 12, 2007, exactly 15 days later per the manufacturer's recommendation, each module was located and identified. Upon inspection, Benchmark's field crew determined that six Gore-Sorber® Modules were vandalized (SG-9, 11, 13, 14, 15, 16) and two (SG-13 and SG-14) could be analyzed but the results would be flagged as estimated. For the remaining locations, the cork and module were removed; checked against the installation map and Installation/Retrieval Log entry; placed in the laboratory provided containers; and transported under chain-of-custody command to Screening Modules Laboratory located in Elkton, Maryland for chlorinated VOC analysis per USEPA Method 8260. The laboratory

reported the soil gas results by target compound desorbed from the module in units of micrograms (mass).

The October 2007 Off-Site Soil Gas Investigation Report (Ref. 12), submitted to the NYSDEC, describes the off-site soil gas investigation approach and findings, and presents recommendations for additional monitoring well locations to supplement off-site groundwater characterization. A summary of the findings is presented in Section 3.0.

In accordance with the Off-Site Soil Vapor Investigation Work Plan (letter to NYSDEC dated July 8, 2008), a supplemental soil gas survey was performed on the northern side of the [redacted] property northwest of the Site. On July 9, 2008 two semi-permanent soil gas sampling wells, identified as SV-1 and SV-2, were installed to approximately five feet below ground surface (fbgs) with a direct-push drill rig using ¾-inch inside diameter steel [redacted]. The two soil vapor wells were constructed in accordance with our July 8, 2008 work plan. Sampling was initiated on the following day no sooner than 24-hours following vapor well installation. Initially, helium tracer gas injected into a temporary surface shroud was used to check the integrity of the bentonite surface seal of each vapor point. Upon charging the surface shroud, helium gas concentration was measured and compared to a three tubing-volume-purge (TVP) of subsurface vapor withdrawn from the sample tubing and injected into a Tedlar bag from each point. Unfortunately, due to meter malfunction the pre-sampling helium gas results could not be accurately measured. Therefore, further confirmation via a post-sample assessment was conducted immediately following soil vapor sample collection (approximately 8-hours later). The post-sampling TVP helium concentrations at both soil vapor locations were less than 10% of the shroud concentration, confirming the integrity of each surface seal. Soil vapor sample collection field forms are presented in Attachment 1.

Sample tubing from both vapor points (SV-1 and SV-2) and one concurrently collected ambient air sample (Outdoor Air #1) were connected to dedicated 6-liter Summa canisters each equipped with 8-hour regulators. The outdoor air sample was collected to establish background ambient air concentrations during soil vapor collection. Sample duration for each sample was approximately 8-hours and final canister vacuums measured at or below -6 pounds per square inch gauge (psig) and greater than 0 psig. Upon completion of the sampling, canister valves were closed and shipped under chain-of-custody command

to TestAmerica Laboratories, Inc., a NYSDOH certified laboratory, for VOC analysis in accordance with USEPA Method TO-15.

2.2.4 Off-Site Groundwater Investigation

On September 12, 2007, concurrent with the supplemental off-site soil vapor investigation, a groundwater sample was collected from well MW-9 following low-flow purge and sample collection procedures. The sample was analyzed by TestAmerica (formerly Severn Trent Laboratories) for TCL VOCs per USEPA Method 8260.

An off-site groundwater investigation began on March 5 and 6, 2008 with the installation of groundwater monitoring wells MW-11 and MW-12. These off-site wells were installed hydraulically downgradient of MW-9 based on the October 2007 off-site soil gas survey results.

On August 5, 2008, an additional off-site monitoring well (MW-13) was installed north of MW-12 on the south side of Linden Avenue within the Monroe County Department of Transportation right-of-way (ROW). MW-13 was sampled August 7, 2008.

On August 4-5, 2009, monitoring wells MW-14 and MW-15 were installed west and east of MW-13 along Linden Avenue to determine the extent of off-site impacts. In addition, Benchmark installed monitoring well MW-16 on the downgradient side of the New York State Department of Transportation (NYSDOT) property at 938 Linden Ave. on September 11, 2009. The wells were sampled following development, with MW-14 and MW-15 sampled on August 11, 2009 and MW-16 sampled on September 12, 2009.

On January 19, 2010, monitoring wells MW-14 through MW-16 were re-sampled and analyzed for TCL VOCs. The NYSDEC requested this additional sampling due to concern over the presence of trihalomethane compounds and turbidity measured during the 2009 sampling event.

Well construction was performed in accordance with Section 2.2 of the October 2009 SI/RAS Work Plan. Following installation and development, the wells were sampled via low flow sampling techniques, and collected groundwater was analyzed for TCL VOCs per USEPA Method 8260. Off-site groundwater analytical results are discussed in Section 3.2.

3.0 INVESTIGATION RESULTS BY MEDIA

The sampling programs presented in Section 2.0 describe investigation of Site media to assess chemical presence on-site and off-site. The following subsections describe pertinent field observations and chemical analytical results in surface soil, groundwater, indoor air, and soil gas. Section 1.4.5 summarizes the on-site soil vapor intrusion sampling performed in January 2004. Appendix B presents the analytical results by media.

3.1 Surface Soil

Table 2 summarizes the chemical data for surface soil samples collected during the RI. Two soil cleanup criteria are presented for comparison: the restricted use Soil Cleanup Objectives (SCOs) for protection of public health on commercial and industrial properties per 6NYCRR Part 375-6 (December 2006). These values are deemed protective of public health, in the absence of other controls, at sites where current and future use will be restricted to commercial or industrial activities. Based on the current and reasonably anticipated future use of the Site for commercial or industrial purposes, the following discussions of the soil sampling results are limited to the commercial and industrial SCOs.

3.1.1 Volatile Organic Compounds

No VOCs were detected above commercial or industrial SCOs. Trichloroethene (TCE) was detected at only one location (SS-4) but at an estimated (below laboratory quantitation limits) concentration slightly above the method detection limit.

3.1.2 Semi-Volatile Organic Compounds

SVOC detections were generally limited to trace levels of polyaromatic hydrocarbons (PAHs), which are products of incomplete combustion and hence ubiquitous in urban areas. The majority of the reported PAHs were qualified as estimated (below laboratory quantitation limits). No PAHs were detected above the commercial or industrial SCOs.

3.1.3 Metals and Cyanide

None of the detected metals exceeded industrial SCOs. Only barium and lead, both detected at surface soil location SS-2, were detected at concentrations slightly above the commercial SCOs. Cyanide was not detected at any of the sample locations and, therefore, is not presented on Table 2.

3.1.4 Pesticides

No pesticides were detected in any soil samples and, therefore, are not presented on Table 2.

3.1.5 PCBs

PCBs were not detected or were present near or below the sample quantitation limit at all locations. All sample results were well below the corresponding SCO for commercial and industrial soils.

3.1.6 Summary

All surficial soil data conform to commercial and industrial SCOs at all sample locations, with the exception of barium and lead detected in sample SS-2 at concentrations that exceeded the commercial SCO but were well below industrial SCOs. Detections of PAHs and metals reflect ubiquitous constituents typically encountered in urban areas.

3.2 Groundwater

Groundwater samples were collected during the RI from on-site monitoring wells (MW-1 through MW-6, OW-1, OW-2, and PW-1) and off-site monitoring wells (MW-7 through MW-10) identified on Figure 2. Table 3 summarizes the results for the constituents detected during the August 2006 and September 2007 RI monitoring events. Table 4 summarizes the supplemental off-site groundwater sampling results from monitoring wells MW-11 and MW-12 conducted March 10, 2008; MW-13 conducted August 7, 2008; MW-14 and MW-15 conducted August 11, 2009; MW-16 conducted September 12, 2009; and MW-14 through MW-16 conducted January 19, 2010. NYSDEC Class GA Groundwater Quality Standards/ Guidance Values (GWQS/GV) are presented for comparison. The results for on-site and off-site wells are discussed below.

3.2.1 Field Parameters

Field parameters measured at the time of sample collection included pH, temperature, specific conductance, turbidity, dissolved oxygen (DO), and oxidation/reduction potential (ORP). For on-site wells, all pH values were within the range of allowable levels per the Class GA GWQS. At off-site well MW-15, the pH was measured at 6.36, which is slightly below the range (6.5 to 8.5) of allowable levels per the Class GA GWQS.

3.2.2 Volatile Organic Compounds

For the on-site wells, tetrachloroethene (PCE) and trichloroethene (TCE) were detected above their respective Class GA GWQS/GV in monitoring wells MW-2, MW-4, MW-5, and MW-6; observation well OW-1, and pumping well PW-1. TCE was also detected above the Class GA GWQS/GV at monitoring well MW-3 and observation well OW-2. In addition, 1,1,1-trichloroethane was detected above the Class GA GWQS/GV in monitoring wells MW-5 and MW-6; and observation well OW-1 while 1,1,2-trichloroethane slightly exceeded the Class GA GWQS/GV in monitoring well MW-5.

For off-site wells, PCE and TCE were detected above their respective Class GA GWQS/GV in monitoring wells MW-8, MW-9, MW-10, MW-12 and MW-13. TCE was also detected above the Class GA GWQS/GV at monitoring well MW-7. In addition, 1,1,1-trichloroethane and 1,1,2-trichloroethane were detected above their respective Class GA GWQS/GV in monitoring well MW-9. Trichlorofluoromethane was detected above the Class GA GWQS/GV at monitoring well MW-11. No VOCs were detected above Class GA GWQS/GV in monitoring wells MW-14 through MW-16, with the exception of acetone (a common laboratory contaminant) that slightly exceeded the GWQS/GV in MW-16 in September 2009. No VOCs were detected in MW-14 through MW-16 during the January 2010 sampling event.

3.2.3 Semi-Volatile Organic Compounds

The only samples analyzed for SVOCs were collected from MW-2, MW-9, and OW-1. SVOCs were initially reported as non-detectable with the exception of di-n-butyl phthalate, which was reported at trace (estimated) concentrations below laboratory detection limits at MW-9 and the associated blind duplicate. However, this result was further qualified by the validator as non-detectable on the basis of laboratory blank contamination.

3.2.4 Metals and Cyanide

Metals were generally reported below Class GA GWQS/GV. Exceptions primarily include various naturally occurring minerals (e.g., sodium, magnesium, iron, etc.), total aluminum, chromium, and selenium in well MW-9, and total aluminum in well MW-2. Cyanide was not detected in any of the monitoring wells sampled.

3.2.5 Other Wet Chemistry

Other wet chemistry included chemical oxygen demand, nitrate, and sulfate, which were limited to analysis at MW-6 to aid in evaluation of enhanced in-situ bioremediation in the vicinity of this well. As indicated on Table 3, sulfate was elevated relative to its Class GA GWQS/GV.

3.2.6 Summary

Based on the groundwater analytical results, the area proximate to the floor drain within the former maintenance shop and monitoring well MW-6 appears to be the source area for the observed on-site and downgradient chlorinated impacts. The primary downgradient impacts appear within monitoring wells MW-5, MW-9, MW-12, and MW-13. The concentrations detected in on-site well MW-5 are similar to those detected in well MW-6 with the exception of PCE; the concentration detected in MW-6 is approximately twice the concentration detected in MW-5. In general, the groundwater results for off-site monitoring well MW-9 obtained during the soil vapor survey (9/12/07) exhibited similar parameters, but at lower concentrations in comparison to the initial August 2006 data for this location. The PCE and TCE concentrations detected in downgradient monitoring wells MW-12 and MW-13 are an order of magnitude lower than those detected in MW-9.

Based on the relatively low PCE and TCE concentrations detected in MW-7, MW-8, and MW-10 and no detections of these VOCs in MW-11, MW-14, MW15, and MW-16, it appears that the groundwater plume is migrating in a narrow band to the northwest toward MW-12 and then north toward MW-13. The groundwater plume does not appear to be migrating northeast toward the residential area bounded by Apple, Walnut, and Taft Streets.

Although upgradient groundwater also appears to be impacted with similar chlorinated organics, the on-site source area is not likely contributing to those impacts under the current hydrogeologic setting.

3.3 Residential Indoor Air

3.3.1 Sampling Rounds 1 and 2 – December 2006 - January 2008

A total of seven air samples were collected in December 2006 from [redacted] and [redacted] and again in January 2007 from [redacted] and [redacted] (2 sub-slab vapor, 2 basement indoor air, 2 first floor indoor air, and 1 outdoor air). During

the February 2007 Round 1 event, a total of four air samples were collected from [redacted] (sub-slab vapor, basement indoor air, first floor indoor air, and outdoor air) as well as a re-sample of the basement indoor air sample at [redacted]. Re-sampling was required due to laboratory error associated with the initial January 2007 sample collected at [redacted].

Table 5 summarizes the air analytical results for Rounds 1 and 2. Table 6 compares the data to NYSDOH's soil vapor/indoor air matrices. As shown in the tables, seven compounds have been assigned to the two matrices as of the October 2006 (revised June 2007) printing of the final guidance document. Soil vapor/indoor air Matrix 1 and Matrix 2 are reproduced and included in Appendix C.

Comparing the Round 1 and 2 results to the NYSDOH matrices, the following actions are recommended per the NYSDOH guidance:

- Monitor for TCE at [redacted] and [redacted].
- Take reasonable and practical actions to identify the sources and reduce exposures (I, R[1]) to carbon tetrachloride and vinyl chloride at [redacted], [redacted], [redacted], [redacted], and [redacted].
- Take reasonable and practical actions to identify the sources and reduce exposures (I, R) to TCE at [redacted].
- Take reasonable and practical actions to identify the sources and reduce exposures (I, R) to 1,1,1-TCA at [redacted].

The owners of [redacted]. did not wish to have their home re-sampled and declined further access. During the January 2008 Round 2 event, a total of four air samples were collected from [redacted] (sub-slab vapor, basement indoor air, first floor indoor air, and outdoor air). As indicated on Table 5, the concentrations of TCE are lower than the Round 1 sampling results collected in December 2006; however, the TCE concentrations remained in the category of "monitor" under the current NYSDOH matrices. In addition, it was recommended that [redacted]. also take reasonable and practical actions to identify the sources and reduce exposures to carbon tetrachloride.

[1] I,R indicates on-site source (e.g., household chemicals) is contributing to impacts in lieu of sub-slab mitigation.

3.3.2 Sampling Round 3 – March 2009

The following 15 residences were sampled between March 2 and 31, 2009:

[redacted].

[redacted].

The Round 3 sampling program consisted of collecting and analyzing one sub-slab vapor and one indoor air sample from the basement of each participating off-site resident. Concurrent with indoor samples, an ambient air sample was collected from an outdoor location upwind of the properties, as determined on the day of sub-slab vapor sampling field activities. As indicated on Table 7, VOC detections were generally limited to trace concentrations (below 1 microgram per cubic meter) in all off-site samples. Table 8 summarizes and compares the data to NYSDOH Matrix 1 and Matrix 2, with the following conclusions:

- [redacted]: Five of the seven compounds (vinyl chloride, PCE, 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA) return a "no further action" recommendation when compared to the NYSDOH matrices. Carbon tetrachloride returns "take reasonable and practical actions to identify source(s) and reduce exposures." The indoor carbon tetrachloride sample result is comparable to the outdoor ambient concentration.

  The elevated concentration of TCE in the sub-slab returns "monitor soil vapor/indoor air."

- [redacted] For these eight properties, 6 of the 7 compounds (TCE, vinyl chloride, PCE, 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA) return a "no further action" recommendation when compared to the NYSDOH matrices. Carbon tetrachloride is the only compound that returns "take reasonable and practical actions to identify source(s) and reduce exposures."

  With the exception of [redacted] and [redacted], outdoor air samples were collected concurrent with indoor samples and yielded carbon tetrachloride results comparable to the indoor concentrations. The vacuum on the canister collecting the outdoor sample for [redacted] and [redacted] failed, preventing a concurrent ambient sample collection; however, the indoor air concentrations at these two properties are similar to those observed at the other six properties.

- [redacted]: For these four properties, 5 of the 7 compounds (vinyl chloride, PCE, 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA) return a

"no further action" recommendation when compared to the NYSDOH matrices. TCE and carbon tetrachloride return "take reasonable and practical actions to identify source(s) and reduce exposures."

The indoor TCE and carbon tetrachloride sample results are comparable to their respective outdoor ambient concentrations.

- [redacted]: Four of the seven compounds (vinyl chloride, PCE, 1,1-DCE, and cis-1,2-DCE) return a "no further action" recommendation when compared to the NYSDOH matrices. TCE, carbon tetrachloride, and 1,1,1-TCA return "take reasonable and practical actions to identify source(s) and reduce exposures."

  The indoor TCE and carbon tetrachloride sample results are comparable to their respective outdoor ambient concentrations. However, the concentration of 1,1,1-TCA in the basement air is much greater than the outdoor ambient air and sub-slab concentrations, indicating that the source is originating from the area of the basement in which the sample was collected. Although not specifically identified during the chemical inventory at [redacted], 1,1,1-TCA is commonly found in household products such as glues, spot cleaners, aerosol sprays, and fabric protectors (e.g., Scotchgard™).

- [redacted]: Six of the seven compounds (TCE, carbon tetrachloride, vinyl chloride, PCE, 1,1-DCE, and cis-1,2-DCE) return a "no further action" recommendation when compared to the NYSDOH matrices. 1,1,1-TCA returns "take reasonable and practical actions to identify source(s) and reduce exposures."

  The concentration of 1,1,1-TCA in the basement air is one to two magnitudes greater than the sub-slab and outdoor ambient air concentrations, respectively, indicating that the source is originating from the area of the basement in which the sample was collected. Although not specifically identified during the chemical inventory at [redacted], 1,1,1-TCA is commonly found in household products such as glues, spot cleaners, aerosol sprays, and fabric protectors (e.g., Scotchgard™).

3.3.3 Summary

These investigations were conducted to characterize subsurface soil vapor and indoor air in off-site residences to determine the relevance of exposure to VOCs from indoor air via the groundwater-to-air pathway. In some instances, the VOC concentrations detected in the basement air were much greater than the outdoor ambient air and sub-slab concentrations, indicating that the source is originating from the area of the basement in which the sample was collected. The questionnaire completed by the residents/owners was useful in identifying factors that may have influenced the indoor air quality within their home.

Comparing the three rounds of residential sub-slab and indoor air sampling results to NYSDOH's soil vapor/indoor air matrices, [redacted] and [redacted] are the only residences that warrant follow-up monitoring for elevated concentrations of TCE. The resident at [redacted] has declined further work on their property.

3.4 Off-Site Soil Vapor

3.4.1 August 2007 Investigation

Of the 16 soil gas locations sampled in August 2007, only one soil gas location (SG-1) exhibited a concentration above the detection limit; SG-1 exhibited a PCE concentration of 0.202 µg. The results of the soil gas survey suggest that off-site groundwater impacts are likely minimal and/or that migration of VOCs from groundwater to outdoor air does not represent a significant exposure pathway. As requested by the NYSDEC in its December 12, 2007 letter, two additional off-site monitoring wells MW-11 and MW-12 were installed to delineate the extent of the groundwater plume. The wells were developed and sampled as discussed in Section 2.1.6 and 3.2.

3.4.2 Supplemental July 2008 Investigation

Table 9 summarizes the laboratory reported soil vapor and ambient air sampling results for the semi-permanent soil gas sampling wells (SV-1 and SV-2) installed on July 9, 2008. As indicated, certain VOCs were detected in the soil vapor, including BTEX compounds (benzene, toluene, ethylbenzene, and xylenes), PCE, 4-ethyltoluene, and n-heptane. Excluding PCE, all of these compounds were also detected in the outdoor ambient air sample, in addition to dichlorodifluoromethane, trichlorofluoromethane, 2,2,4-trimethylpentane, and n-hexane. New York State does not have standards, criteria, or guidance for soil vapor.

3.4.3 Summary

In summary, the off-site groundwater-to-vapor migration pathway, while complete, appears to have only minimal impact as evidenced by the fact that no off-site properties require mitigation and only two would require monitoring per the NYSDOH guidance.

3.5 Data Usability Summary

In accordance with the SI/RAS Work Plan, the laboratory analytical data from this investigation was independently assessed and, as required, submitted for independent review. Ms. Judy Harry of Data Validation Services located in North Creek, New York performed the data usability summary assessment for the soil and groundwater samples, which involved a review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Correlations
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental Tunes
- Calibration Standards
- ICP Serial Dilution
- CRI/CRA Standards
- Instrumental IDLs

The Data Usability Summary Reports (DUSRs) were conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review, as well as professional judgment. Appendix D contains the DUSRs, which was prepared in accordance with Appendix 2B of NYSDEC's draft DER-10 guidance. Those items listed above that demonstrated deficiencies are discussed by matrix in the DUSR; all other items were determined to be acceptable for the DUSR level of review. The DUSR includes red-ink edited results forms that reflect final sample results with recommended edits and qualifications.

3.5.1 Soil DUSR

In summary, sample analyte values/reporting limits are generally usable as reported or usable with minor qualification as estimated ("J" qualifier) due to typical processing or

matrix effects, with the exception of one sample analyte value; the result for Aroclor 1260 in soil sample SS-4 is not usable. Due to the presence of acetone, methylene chloride, and trichlorofluoromethane in the associated equipment and/or method blanks, the detections in all field samples are considered external contamination and are edited to reflect non-detection. Blind field duplicate evaluations were performed on soil sample SS-5 and show correlations within validation guidelines for all analytes.

3.5.2 Groundwater DUSR

In summary, due to the presence in the associated equipment and/or method blanks, the following detections are considered external contamination, and are edited to reflect non-detection:

- Acetone, methylene chloride, and trichlorofluoromethane in all field samples.
- Tetrachloroethene in MW-3, MW-7, and OW-2.
- Zinc in MW-9 and the aqueous Blind Duplicate.
- Di-n-butylphthalate in aqueous samples.

Blind field duplicate evaluations were performed on aqueous sample MW-9 and show correlations within validation guidelines for all analytes.

The DUSRs for monitoring wells MW-11 through MW-16 indicate all sample analyte values/reporting limits usable as reported, or usable with minor qualification as estimated ("J" qualifier) due to typical processing and matrix effects.

3.5.3 Residential Indoor Air DUSR

The DUSR for indoor and outdoor air samples collected March 2009 in support of the residential neighborhood assessment necessitated only minor qualification to the results; no changes were made that necessitated modification of the recommendations per the NYSDOH matrices. These DUSRs, which were prepared by Vali-Data of WNY, LLC, were submitted to the NYSDEC on September 9, 2009.

4.0 FATE AND TRANSPORT OF CONSTITUENTS OF PRIMARY CONCERN

The analytical results were incorporated with the physical characterization of the Site to evaluate the fate and transport of constituents of primary concern (COPCs) in Site media. The mechanisms by which the COPCs can migrate to other areas or media are discussed below.

4.1 Airborne Pathways

Potential migration pathways involving airborne transport of COPCs include erosion and transport of soil particles and sorbed chemical constituents in fugitive dust emissions, and volatilization.

4.1.1 Fugitive Dust Generation

Volatile and non-volatile chemicals present in soil can be released to ambient air as a result of fugitive dust generation. However, the only exceedances of the restricted-commercial SCOs in surface soil were barium and lead at one sample location (SS-2) in the open lot at the western end of the Site. Therefore, this is a relevant pathway for the isolated area surrounding SS-2.

4.1.2 Volatilization

Volatile chemicals were present in the soil at trace or estimated concentrations well below restricted-commercial SCOs; therefore, the release of VOCs from soils is not considered relevant. Volatile chemicals in groundwater may be released to ambient air through volatilization. Four VOCs were detected above drinking water standards (i.e., Class GA GWQS) in 8 of 9 on-site monitoring wells and 9 of 10 off-site monitoring wells, suggesting that the groundwater-to-air pathway is potentially relevant.

4.2 Waterborne Pathways

Due to the relatively insoluble nature of the COPCs and absence of outdoor source areas, chemical migration via leaching to groundwater is not considered a relevant migration pathway.

4.2.1 Surface Water Runoff

This pathway would involve erosion and transport of surface soils and associated sorbed chemicals in surface water runoff. The potential for soil particle transport with surface water runoff is minimal, as no outdoor source areas exist. Uncontrolled off-site transport is further limited because the Site is situated outside the 100-year floodplain of nearby Irondequoit Creek, which is located approximately 1 mile east of the Site.

4.2.2 Groundwater Transport

Groundwater underlying the Site migrates to the north/northwest toward Irondequoit Creek, ultimately discharging to Lake Ontario. Chemicals present in groundwater may be transported from the Site via this pathway. As described in Section 3, groundwater data indicates an impact to on-site and off-site groundwater. However, the Site and surrounding area are serviced by a municipal (supplied) water service, with no evidence of potable wells within 1 mile of the subject property. In addition, the depth to groundwater is greater than 4.5 feet, thereby reducing the potential exposure during utility and foundation work. Moreover, the groundwater transport pathway is mitigated by the continued operation of the IRM pump-and-treat system as discussed in Section 7.0.

4.3 Exposure Pathways

Based on the analysis of chemical fate and transport provided above and the limited instances where constituents were detected above comparative criteria, chemicals detected at the Site are migrating off-site via groundwater transport; however, chemicals are not likely to reach off-site receptors at significant exposure point concentrations since downgradient groundwater is not used and off-site soil vapor testing indicates that the groundwater-to-indoor/outdoor air pathways appear to have only minimal impact. The groundwater-to-air pathway is considered relevant for VOCs to on-site receptors and potentially relevant to off-site receptors. The potential significance of chemicals in terms of on-site receptors is evaluated in Section 6.0.

5.0 QUALITATIVE RISK ASSESSMENT

5.1 Human Health Exposure (HHE) Assessment

A qualitative exposure assessment consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations); identifying exposure pathways; and evaluating contaminant fate and transport.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements:

- Receptor population
- Contaminant source
- Contaminant release and transport mechanism
- Point of exposure
- Route of exposure

The receptor population is the people who are or may be exposed to contaminants at a point of exposure. The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge), or the impacted environmental medium (soil, air, biota, water) at the point of exposure. Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed. The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (i.e., ingestion, inhalation, dermal absorption).

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present, and will not exist in the future.

5.1.1 Potential Receptors

The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. The former Brainerd Manufacturing Facility is presently occupied by an office furniture reconditioning and sales company. The property comprises an industrial/manufacturing building and offices; asphalt parking area; and open gravel parking lot. Under current Site use conditions, human contact with Site soil can be expected to occur primarily by construction workers (adult receptors) that may access the Site to service utilities and outdoor workers. Exposure to indoor air vapors is relevant to indoor workers. Site visitors/customers may also be considered receptors; however, their exposure would be similar to that of the indoor worker but at a lesser frequency and duration. Therefore, consideration of the indoor worker is conservatively protective of the Site visitor.

In terms of future use, the current Site owner (Despatch Industries) intends to continue leasing or transfer the property to the current occupant. Accordingly, the reasonably anticipated future use of the Site is for industrial purposes, with the same exposed receptors as with current use of the Site (i.e., indoor workers, outdoor workers, and construction workers).

5.1.2 Contaminant Source

The COPCs present in unremediated Site media at elevated concentrations are discussed in Section 4.0. In general, these are limited to volatile COPCs in groundwater.

5.1.3 Contaminant Release and Transport Mechanisms

Contaminant release and transport mechanisms are specific to the type of receptor. For the current use scenario, these include direct contact with surface soil by construction workers; contact with fugitive dusts, vapors and subsurface soil by construction workers; and inhalation of indoor air VOCs by off-site residents.

For the future (unremediated) use scenario, contaminant release and transport mechanisms are listed below by receptor:

- Future indoor worker: indoor air VOCs
- Future outdoor worker: fugitive dusts, outdoor air VOCs, direct contact with soil
- Future construction worker: fugitive dusts, outdoor air VOCs, direct contact with source area soil

- Future off-site resident: indoor air VOCs

For both the current and future use scenarios, direct contact with groundwater is not considered to pose a relevant mechanism due to the absence of significant groundwater impacts, the availability of a local municipal potable water source, and the depth to groundwater (greater than 4.5 feet, which is the standard depth of utilities and foundation footers). Although complete, the off-site groundwater-to-vapor migration pathway appears to have only a minimal impact as evidenced by the fact that no off-site properties require mitigation and only two would require monitoring per the 2006 NYSDOH guidance.

5.1.4 Point of Exposure

Excluding specific areas of observed impact described in Section 4.0, no discernible operable units, areas of disposal, or source areas were identified on the property. The point of exposure is therefore defined as the overall Site.

5.1.5 Route of Exposure

Based on the types of receptors and points of exposure identified above, potential routes of exposure are listed below:

- Indoor Worker – inhalation
- Construction and Outdoor Worker - skin contact, incidental ingestion, and inhalation

5.1.6 Exposure Assessment Summary

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present, and will not exist in the future. Based on the above assessment, the exposures can be readily mitigated through:

- Source area groundwater treatment and sub-slab vapor mitigation as described in Section 8.0.

5.2 Potential Ecological Risks

The Site is a former industrial manufacturing facility located within a developed, light industrial area of East Rochester. The property comprises an industrial/manufacturing building and offices; asphalt parking area; and open gravel parking lot, providing little or no wildlife habitat or food value. No natural waterways are present on or adjacent

The reasonably anticipated future use of the Site is for industrial purposes. As such, no unacceptable ecological risks are anticipated under the current or reasonably anticipated future use scenarios.

6.0 REMEDIAL INVESTIGATION SUMMARY AND CONCLUSIONS

The results of the off-site sub-slab and indoor air sampling at residential properties suggest that these areas have not been significantly impacted by the VOCs detected in Site groundwater. Based on the results of the off-site soil vapor investigation, soil gas is not a significant exposure pathway. The detections of PAHs and metals in Site surficial soils reflect ubiquitous constituents typically encountered in urban areas. Based on the results of the on-site and off-site investigations, the following activities are warranted:

- Continued operation of the existing IRM groundwater pump-and-treat system to mitigate off-site contaminant migration.
- Source area groundwater remediation to expedite COPC attenuation.
- On-site sub-slab soil vapor mitigation to protect indoor air quality.
- Re-testing of the sub-slab and indoor air at [redacted] and [redacted].; however, the resident at [redacted] has declined further work on their property.

Section 7.0 discusses the existing IRM pump-and-treat system. Section 8.0 describes and evaluates proposed supplemental remedial measures and a no further action alternative against the criteria outlined in 6 NYCRR 375-1.8(f).

7.0 INTERIM REMEDIAL MEASURE

As discussed above, site investigation data supported the need for an IRM to address groundwater impacts at the Site. Details of the existing pump-and-treat IRM design are presented in the April 2004 IRM Design Report (Ref. 13). The IRM was constructed during the period of June through August 2004. The IRM groundwater collection and treatment system involves recovery of contaminated groundwater from pumping well PW-1 with concurrent on-site treatment of the recovered groundwater via low profile air stripping. Contaminants present in Site groundwater are predominantly: TCE, PCE, and, to a lesser extent, 1,1,1-TCA. Concentrations of these constituents are typically present in untreated groundwater at low ppm levels.

The April 2005 IRM Operation, Maintenance and Monitoring (OM&M) Plan (Ref. 14) identifies performance monitoring for the IRM that incorporates routine groundwater elevation monitoring and influent/effluent sampling. Table 11 summarizes the influent and effluent analytical data from start-up to present. The total VOCs detected in the effluent samples have been less than the permitted discharge limit since start-up.

Figures 3 and 4 present isopotential maps for the Site based on groundwater elevation measurements collected on July 7, 2009 (wet weather) and October 14, 2009 (dry weather). These isopotential maps illustrate an area of influence from the pumping well across the western side of the northernmost section of the building, indicating a substantial downgradient capture zone. Thus, the data indicate that the capture zone of the pump-and-treat system is effectively drawing groundwater into the system.

8.0 REMEDIAL ALTERNATIVES ANALYSIS

The final remedial measures for the Site must satisfy Remedial Action Objectives (RAOs). Remedial Action Objectives are site-specific statements that convey the goals for minimizing or eliminating substantial risks to public health and the environment. The RAOs for the Former Brainerd Manufacturing Facility are:

- Reduce VOC concentrations in saturated soil and source area groundwater beneath the former Brainerd building (i.e., in the vicinity of MW-6, extending to MW-5) to expedite the cleanup and shorten the required duration for operation of the existing pump-and-treat system.
- Mitigate sub-slab soil vapor beneath the former Brainerd Manufacturing building to reduce worker exposure to VOCs in ambient air.

In addition to achieving RAOs, the remedy is evaluated against the following criteria consistent with 6NYCRR Part 375-1.8(f):

- **Overall Protectiveness of Public Health and the Environment**. This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.
- **Compliance with Standards, Criteria, and Guidance (SCGs)**. Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- **Long-Term Effectiveness and Permanence**. This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: (i) the magnitude of the remaining risks (i.e., will there be any significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals), (ii) the adequacy of the engineering and institutional controls intended to limit the risk, (iii) the reliability of these controls, and (iv) the ability of the remedy to continue to meet RAOs in the future.
- **Reduction in Toxicity, Mobility or Volume of Contamination through Treatment**. This criterion evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.

- **Short-Term Impacts and Effectiveness**. Short-term effectiveness is an evaluation of the potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during construction and/or implementation. This includes a discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls. This criterion also includes a discussion of engineering controls that will be used to mitigate short term impacts (i.e., dust control measures), and an estimate of the length of time needed to achieve the remedial objectives.
- **Implementability**. The implementability criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.
- **Cost-Effectiveness**. Capital, operation, maintenance, and monitoring costs are estimated for the remedy and presented on a present worth basis.
- **Community Acceptance**. This criterion evaluates the public's comments, concerns, and overall perception of the remedy.
- **Land Use**. This criterion requires that the reasonable anticipated future land use be factored into the evaluation. The 6 NYCRR 375-1.8(f)(9) identifies 16 criteria that must be considered. These criteria and the resultant outcome for the Site are presented in Appendix E.

8.1 Alternatives Evaluation

The existing pump-and-treat IRM is effectively capturing impacted groundwater at the property line for treatment in the area of PW-1; however, groundwater concentrations detected in on-site source area and to a lesser extent off-site downgradient monitoring wells exceed Class GA GWQS/GV. The alternatives evaluated below include: [1] No Further Action, which assumes no additional remediation beyond the operation of the existing pump-and-treat system; [2] Source Area Groundwater Remediation; and [3] On-Site Sub-Slab Soil Vapor Mitigation. According to Section 4.1(b) of DER-10 (Ref. 15), the remedial goal for Voluntary Cleanup Program sites is that the remedial alternative be protective of public health and the environment, given the intended use of the site.

8.1.1 No Further Action

"No further action" is defined as performing no additional cleanup activities at the Site beyond continued operation of the existing groundwater pump-and-treat system. The efficacy of the No Further Action alternative will continue to be maintained and monitored in accordance with the environmental monitoring outlined in the 2005 IRM Groundwater Collection and Pretreatment System Operation, Maintenance and Monitoring Work Plan (Ref. 14).

Overall Protectiveness of Public Health and the Environment – The existing IRM is effectively drawing Site groundwater to the treatment system; however, groundwater concentrations on-site and off-site exceed GWQS/GV, and ambient air within the former Brainerd Manufacturing building is not currently being addressed. Therefore, the No Further Action alternative is not protective of public health and the environment and does not achieve the RAOs for the Site.

Compliance with SCGs – The IRM was performed in accordance with applicable, relevant, and appropriate standards, guidance, and criteria. Groundwater concentrations in source area on-site monitoring wells and off-site monitoring wells (primarily MW-9, MW-12, and MW-13) exceed Class GA GWQS/GV for TCE and PCE. In addition, ambient air concentrations exceed NYSDOH guidance values. Accordingly, the No Further Action alternative does not satisfy this criterion.

Long-Term Effectiveness and Permanence – Since the IRM has not mitigated off-site migration of contaminated groundwater nor has it mitigated indoor air contamination, the No Further Action alternative will not provide long-term effectiveness and permanence.

Reduction in Toxicity, Mobility, or Volume of Contamination through Treatment – The IRM has reduced the toxicity, mobility, and volume of Site groundwater contamination; however, VOC concentrations in on-site and off-site groundwater remain above GWQS/GV. Ambient air concentrations exceed NYSDOH guidance values. Therefore, the No Further Action alternative does not satisfy this criterion.

Short-Term Impacts and Effectiveness – There are no short-term adverse impacts or risks to the community, Site workers, or the environment with implementation of the No

Further Action alternative. The potential for chemical exposures and physical injuries to field personnel during groundwater monitoring and system maintenance are effectively reduced through safe work practices and the use of personal protective equipment (PPE).

Implementability – No technical or action-specific administrative implementability issues are associated with the No Further Action alternative.

Cost-Effectiveness – There are no capital costs associated with the No Further Action alternative. The annual Operation, Maintenance & Monitoring (OM&M) cost for the pump-and-treat IRM system is approximately $20,000.

Community Acceptance – Based on the absence of off-site indoor air impacts, it is anticipated that the No Further Action alternative would be accepted by the community.

Land Use – The land use evaluation in Appendix E supports industrial use as the reasonably anticipated future use of the Site.

8.1.2 Source Area Groundwater Remediation

The existing IRM is effectively drawing Site groundwater to the treatment system; however, groundwater concentrations detected in source area and off-site downgradient monitoring wells exceed Class GA GWQS/GV. Remedial activities are proposed to address impacted source area groundwater beneath the former Brainerd building (i.e., in the vicinity of MW-6, extending to MW-5) to expedite this element of the cleanup and shorten the required duration for operation of the existing pump-and-treat system. Based on the nature and extent of contamination as indicated by prior investigations, a gas infusion system for anaerobic groundwater remediation will provide the most effective and implementable means to reduce VOC concentrations in groundwater and saturated soil beneath the building.

This in-situ enhanced bioremediation technology employs downgradient extraction wells and upgradient reinjection wells (to the source) with concurrent dissolved hydrogen introduction to the re-circulated groundwater via microporous hollow fiber modules. The modules can be located in a tank within the recirculation line or within the injection wells (with the latter case requiring larger diameter wells). This alternative would be accomplished through direct injection of dissolved hydrogen gas (via the gPRO® LP system) into the impacted groundwater and saturated soil zone to stimulate biologically mediated reductive

dechlorination. Reductive dechlorination is the mechanism by which chlorinated compounds are biodegraded into less harmful constituents such as ethene and ethane. The dissolved hydrogen stimulates reductive dechlorination of chlorinated organics, and can be substituted with oxygen later in the remedial process to stimulate aerobic degradation of chlorinated organic breakdown products.

Overall Protectiveness of Public Health and the Environment – The overall protection of public health and the environment of this alternative will be determined through groundwater monitoring. However, it is anticipated that this alternative, together with the existing pump-and-treat system, would reduce VOC concentrations in on-site (and eventually off-site) groundwater to near Class GA GWQS/GV. Therefore, this alternative would meet the RAO for Site groundwater.

Long-Term Effectiveness and Permanence – This alternative is expected to provide long-term effectiveness and permanence in remediating contaminated groundwater to reduce environmental risk and mitigate off-site contaminant migration. Groundwater monitoring will be used to assess whether this alternative provides long-term effectiveness and permanence.

Reduction in Toxicity, Mobility, or Volume of Contamination Through Treatment – The toxicity, mobility, and volume of VOCs in the groundwater would be significantly and permanently reduced through in-situ reductive dechlorination. The hydrogen can be substituted with oxygen later in the remedial process to stimulate aerobic degradation of chlorinated organic breakdown products.

Compliance with SCGs – The Source Area Groundwater Remediation will be performed in accordance with applicable, relevant, and appropriate standards, guidance, and criteria (SCGs). It is anticipated that the source area remediation will reduce groundwater concentrations to below Class GA GWQS/GV for TCE and PCE.

Short-Term Impacts and Effectiveness – There would be no short-term risks or disruptions posed to the community or the environment due to implementation of this alternative. The potential for chemical exposures and physical injuries to Site workers during construction of the groundwater remediation system would be effectively reduced through safe work practices and the proper use of PPE. Based on limited equipment use for a relatively short duration (est. 1 month), disruption to Site workers would be minor. The

RAO for groundwater would be achieved once groundwater monitoring verifies a decreasing trend in VOC concentrations on-site and off-site.

Implementability – Construction of this alternative would not be subject to special technical implementability issues. Drilling of recovery and injection wells would require standard equipment and labor, both of which are readily available. No action-specific administrative implementability issues are associated with this alternative with the possible exception of securing a permit to re-inject groundwater into the Site aquifer.

Cost-Effectiveness – The capital costs associated with this alternative are estimated at $154,500. The annual Operation, Maintenance & Monitoring (OM&M) costs for the source area groundwater treatment system are approximately $13,000 for groundwater and performance sampling and reporting. Table 12 provides a detailed breakdown of these costs.

Community Acceptance – Community acceptance will be evaluated based on comments received from the public in response to Fact Sheets and other planned Citizen Participation activities. However, this alternative would likely be accepted by the community as source area groundwater contamination would be addressed.

Land Use – The land use evaluation in Appendix E supports industrial use as the reasonably anticipated future use of the Site.

8.1.3 On-Site Sub-Slab Soil Vapor Mitigation

At the time of the 2003 sampling, the NYSDOH had not yet published its Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006). Therefore, Table 10 compares the December 2003 on-site sub-slab soil vapor data to NYSDOH's soil vapor/indoor air matrices from the October 2006 guidance. As indicated, sub-slab soil vapor mitigation is required for: TCE at all five locations; PCE at 4 of the 5 locations; and 1,1,1-TCA at one location.

According to the NYSDOH guidance, mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-

specific basis, taking into account building construction and operating conditions. The NYSDOH considers mitigation a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Installation of an active sub-slab depressurization (ASD) system within the building will address sub-slab soil vapor that is migrating to the indoor air of the former Brainerd Manufacturing building. An ASD system creates a low-pressure zone beneath a building slab using a powered fan connected via piping to create negative pressure beneath the building foundation. The low pressure field prevents soil gas from entering the building. Generally, essential components of an ASD include:

- A layer of coarse sub-base aggregate beneath the slab.
- Extraction points beneath the slab across the building structure.
- A vent stack pipe from the extraction point(s) under the slab to the roof.
- A continuous operation fan equipped with a pressure gauge indicating the system is under negative pressure.
- Sealing of all major slab and foundation penetrations, including joints, cracks and utility and pipe penetrations.

The ASD system for the Site would incorporate a minimum of five extraction points each fitted with: a vertical piping vent stack and associated materials; a photohelic pressure gauge; and a system failure warning device. The five piping runs would join in a central location for one roof penetration and connect to a roof-top exhaust fan.

During the design phase of the sub-slab soil vapor mitigation system, building operations will be investigated to confirm no on-site use of chlorinated solvents by the current occupant.

Overall Protectiveness of Public Health and the Environment – The overall protection of public health and the environment of this alternative will be determined through vacuum measurements to confirm the negative pressure beneath the slab. However, it is anticipated that this alternative will eliminate the risk to workers upon startup. Therefore, this alternative would meet the RAO for mitigating on-site sub-slab soil vapor to reduce on-site receptor exposure to VOCs in ambient air.

Long-Term Effectiveness and Permanence – This alternative is expected to provide long-term effectiveness and permanence in mitigating indoor air, reducing the risk

to indoor workers. Routine monitoring will be used to assess whether this alternative provides long-term effectiveness and permanence.

Reduction in Toxicity, Mobility, or Volume of Contamination Through Treatment – The toxicity, mobility, and volume of soil gas vapor released to the indoor air would be significantly and permanently reduced through operation of the ASD system. Following source area groundwater remediation, operation of the ASD system may no longer be required.

Compliance with SCGs – The sub-slab soil vapor mitigation will be performed in accordance with applicable, relevant, and appropriate standards, guidance, and criteria (SCGs). It is anticipated that the mitigation will reduce or eliminate VOC concentration in ambient air to acceptable levels.

Short-Term Impacts and Effectiveness – There would be no short-term risks or disruptions posed to the community or the environment due to implementation of this alternative. The potential for chemical exposures and physical injuries to Site workers during construction of the ASD system would be effectively reduced through safe work practices and the proper use of PPE. Based on limited equipment use for a relatively short duration (est. 2 weeks), disruption to Site workers would be minor. The RAO for indoor air would be achieved once the ASD system is operating as intended.

Implementability – Construction of this alternative would not be subject to special technical implementability issues. Drilling for extraction points would require standard equipment and labor, both of which are readily available. No action-specific administrative implementability issues are associated with this alternative with the possible exception of securing an air permit for the soil vapors released from the roof-top exhaust fan.

Cost-Effectiveness – The capital costs associated with this alternative are estimated at $25,000. The annual Operation, Maintenance & Monitoring (OM&M) costs for the ASD system are approximately $1,500 for maintenance of the components, and performance sampling and reporting. Table 13 provides a detailed breakdown of these costs.

Community Acceptance – Community acceptance will be evaluated based on comments received from the public in response to Fact Sheets and other planned Citizen

Participation activities. However, this alternative would likely be accepted by the community as indoor air contamination would be addressed.

Land Use – The land use evaluation in Appendix E supports industrial use as the reasonably anticipated future use of the Site.

8.2 Recommended Remedial Measures

Based on the above screening and the conclusions of the Remedial and Supplemental Investigations, the recommended remedial measures for the Former Brainerd Manufacturing Facility are Source Area Groundwater Remediation and On-Site Sub-Slab Soil Vapor Mitigation. These alternatives satisfy the RAOs for the Site and will be protective of public health and the environment.

9.0 REFERENCES

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10. Benchmark Environmental Engineering and Science, PLLC, October 2005, *Site Investigation/Remedial Alternatives Selection Work Plan – Former Brainerd Manufacturing Facility.*

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15. New York State Department of Health, December 2002, *Draft DER-10 Technical Guidance for Site Investigation and Remediation – Appendix 1A, Generic Community Air Monitoring Plan.*

TABLES

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 1

SUMMARY OF MONITORING WELL CONSTRUCTION DETAILS

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Location[1]	Installation Date	Installed By	Well Diameter (inches)	Well Construction Material (screen/riser)	TOR Elevation[2] (fmsl)	Ground Elevation[2,3] (fmsl)	Construction Details (approx.)			Total Depth (fbTOR) (Aug-06)	July 7, 2009 Event		October 14, 2009 Event	
							Bentonite Seal (fbgs)	Sand Pack Interval (fbgs)	Screened Interval (fbgs)		DTW-GWH (fbTOR)	Groundwater Elevation (fmsl)	DTW-GWL (fbTOR)	Groundwater Elevation (fmsl)
ON-SITE MONITORING WELLS:														
PW-1	12/14/02	BM	4.0	PVC / PVC	101.26	101.66	19.0 - 22.0	22.0 - 59.0	37.0 - 57.0	59.81	46.29	54.97	46.29	54.97
OW-1	12/12/02	BM	2.0	PVC / PVC	101.23	101.65	38.2 - 41.2	41.2 - 59.2	47.2 - 57.2	58.58	23.54	77.69	24.46	76.77
OW-2	12/10/02	BM	2.0	PVC / PVC	101.29	101.60	20.0 - 23.0	23.0 - 64.0	52.0 - 62.0	63.88	22.78	78.51	23.36	77.93
MW-1	April 2001	Sear Brown	2.0	PVC / PVC	101.43	102.00	51.0 - 53.5	53.5 - 71.8	56.8 - 71.8	69.92	NA	NA	NA	NA
MW-2	April 2001	Sear Brown	2.0	PVC / PVC	103.30	103.76	15.3 - 17.9	17.9 - 35.0	20.0 - 35.0	33.69	22.31	80.99	23.11	80.19
MW-3	April 2001	Sear Brown	2.0	PVC / PVC	98.02	98.53	10.0 - 13.0	13.0 - 30.0	15.0 - 30.0	26.72	16.79	81.23	17.85	80.17
MW-4	August 2001	Sear Brown	2.0	PVC / PVC	101.35	101.75	12.0 - 15.5	15.5 - 28.0	17.5 - 27.5	27.22	22.19	79.16	23.16	78.19
MW-5	August 2001	Sear Brown	2.0	PVC / PVC	101.24	101.65	14.9 - 17.3	17.3 - 30.0	19.5 - 29.5	28.78	22.60	78.64	23.40	77.84
MW-6	07/18/06	BM	2.0	PVC / PVC	101.83	102.15	17.0 - 20.0	20.0 - 34.2	24.2 - 34.2	33.74	21.86	79.97	22.39	79.44
OFF-SITE MONITORING WELLS:														
MW-7	07/20/06	BM	2.0	PVC / PVC	98.80	99.34	19.0 - 22.0	22.0 - 35.0	25.0 - 35.0	33.89	21.74	77.06	22.51	76.29
MW-8	07/19/06	BM	2.0	PVC / PVC	98.76	99.45	19.0 - 22.0	22.0 - 35.0	25.0 - 35.0	33.61	21.46	77.30	22.21	76.55
MW-9	07/19/06	BM	2.0	PVC / PVC	98.40	99.06	19.0 - 22.0	22.0 - 35.0	25.0 - 35.0	33.88	21.19	77.21	22.11	76.29
MW-10	07/18/06	BM	2.0	PVC / PVC	96.04	96.52	19.0 - 22.0	22.0 - 35.0	25.0 - 35.0	33.98	18.00	78.04	19.16	76.88
MW-11	03/05/08	BM	2.0	PVC / PVC	100.26	100.69	20.0 - 23.0	23.0 - 35.0	25.0 - 35.0	34.07	24.65	75.61	25.39	74.87
MW-12	03/05/08	BM	2.0	PVC / PVC	99.72	100.21	20.0 - 23.0	23.0 - 35.0	25.0- 35.0	33.67	24.56	75.16	25.31	74.41
MW-13	08/05/08	BM	2.0	PVC / PVC	93.03	93.24	12.5 - 14.5	14.5 - 32.0	17.0 - 32.0	32.00	22.40	70.63	23.05	69.98
MW-14	08/04/09	BM	2.0	PVC / PVC	92.14	92.58	17.7 - 19.8	19.8 - 32.3	22.3 - 32.0	32.30	--	--	23.61	68.53
MW-15	08/05/09	BM	2.0	PVC / PVC	92.36	92.70	16.0 - 18.0	18.0 - 29.8	19.8 - 29.8	30.00	--	--	20.54	71.82
MW-16	09/11/09	BM	2.0	PVC / PVC	86.74	86.71	17.5 - 20.8	20.8 - 33.0	23.0 - 33.0	33.00	--	--	26.34	60.40

Notes:

1. Monitoring wells MW-1 through MW-5 were installed by Sear Brown during previous investigations; all others were installed by Benchmark Environmental Engineering & Science, PLLC.
2. Top of riser elevation based upon an assumed datum of 100.00 fmsl; chiseled "x" n'ly b. bolt on fire hydrant by Sear Brown.
3. Top of riser and ground surface elevations surveyed by Benchmark personnel on 09/22/06 and 3/10/08.

Definitions:

BM = Benchmark Environmental Engineering & Science, PLLC
TOR = Top of riser.
fmsl = Feet above mean sea level.
fbgs = Feet below ground surface.
GWH = Seasonal groundwater high
GWL = Seasonal groundwater low
NA = Not accessible.
--' = No measurement as well was not yet installed.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 2

SUMMARY OF SURFICIAL SOIL ANALYTICAL RESULTS

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

PARAMETER[1]	Location						SCO [2]	
	SS-2	SS-3	SS-4	SS-5	Blind Dup.[3]	SS-6	Commercial (ppm)	Industrial (ppm)
TCL VOCs (mg/Kg)								
Trichloroethene	ND	ND	0.001 J	ND	0.003 J	ND	**200**	**400**
TCL SVOCs (mg/Kg)								
Acenaphthene	ND	ND	0.12 J	ND	ND	ND	**500**	**1,000**
Anthracene	ND	ND	0.2 J	ND	ND	ND	**500**	**1,000**
Benzo (a) anthracene	ND	0.19 J	0.88 J	ND	ND	0.67 J	**5.6**	**11**
Benzo (a) pyrene	ND	0.22 J	0.91 J	ND	ND	0.82 J	**1**	**1.1**
Benzo (b) fluoranthene	0.5 J	0.27 J	1.2 J	0.86 J	ND	1.1 J	**5.6**	**11**
Benzo (g,h,i) perylene	ND	0.27 J	0.6 J	ND	ND	0.62 J	**500**	**1,000**
Benzo (k) fluoranthene	ND	ND	0.34 J	ND	ND	0.29 J	**56**	**110**
Carbazole	ND	ND	0.15 J	ND	ND	ND	**--**	**--**
Chrysene	ND	0.18 J	0.86 J	ND	ND	0.71 J	**56**	**110**
Dibenzo(a,h)anthracene	ND	ND	0.17 J	ND	ND	0.17 J	**0.56**	**1.1**
Fluoranthene	0.46 J	0.26 J	2.0	1.1 J	4.7 J	1.2 J	**500**	**1,000**
Indeno (1,2,3 - cd) pyrene	ND	0.18 J	0.52 J	ND	ND	0.56 J	**5.6**	**11**
Phenanthrene	ND	ND	1.2 J	ND	ND	0.29 J	**500**	**1,000**
Pyrene	0.4 J	0.24 J	1.6 J	0.86 J	ND	1.1 J	**500**	**1,000**
TAL Metals (mg/Kg)								
Aluminum	4460	1820	4740	1950	2150	2040	**--**	**--**
Arsenic	4.1	ND	4.3	3.4	2.9	3.7	**16**	**16**
Barium	**863 NJ**	51.4 NJ	399 NJ	72.6 NJ	128 NJ	323 NJ	**400**	**10,000**
Beryllium	0.24	ND	0.24	ND	ND	ND	**590**	**2,700**
Cadmium	3.1	0.28	1.5	0.41	0.5	0.69	**9.3**	**60**
Calcium	32500 *	95500 *	58500 *	96900 *	109000 *	80500 *	**--**	**--**
Chromium	36.4	5.7	15.5	5.6	6.2	12.7	**1,500**	**6,800**
Cobalt	3.6	1.5	4	1.7	1.8	2	**--**	**--**
Copper	34.6	33.9	74	24.6	37.5	48.2	**270**	**10,000**
Iron	9760 NEJ	5750 NEJ	10500 NEJ	8260 NEJ	6990 NEJ	7420 NEJ	**--**	**--**
Lead	**2440 NJ**	141 NJ	920 NJ	135 NJ	208 NJ	701 NJ	**1,000**	**3,900**
Magnesium	16400 *	49500 *	12500 *	51500 *	58000 *	45000 *	**--**	**--**
Manganese	244	235	285	299	322	251	**10,000**	**10,000**
Nickel	14.8	6.3	34	5.5	5.5	11.5	**310**	**10,000**
Potassium	750	563	674	613	725	530	**--**	**--**
Vanadium	9 E	5.2 E	9.2 E	5.4 E	6.3 E	4.9 E	**--**	**--**
Zinc	829 NEJ	98.2 NEJ	346 NEJ	120 NEJ	141 NEJ	274 NEJ	**10,000**	**10,000**
PCB Aroclor (mg/Kg)								
Aroclor 1260	0.04	0.011 J	R	0.021	0.011 J	0.022	**1**	**25**

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC Part 375 Restricted Use Soil Cleanup Objectives; effective December 14, 2006.
3. Blind Duplicate collected at monitoring well SS-5.

Definitions:

ND = Parameter not detected above laboratory detection limit.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
* = Indicates analysis is not within quality control limits.
N = Spike sample recovery is not within quality control limits.
E = Indicates value estimated or not reported due to the presence of interferences.
R = Sample results rejected; therefore, the presence or absence of the analyte cannot be verified.
SCO = soil cleanup objective

BOLD = Analytical result exceeds the Part 375 Restricted-Commercial SCO.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - AUG. 2006 & SEP. 2007

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Parameter [1]	Monitoring Well Location & Date of Sample Collection														GWQS/GV [4]
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6 [5]	MW-7	MW-8	MW-9 [3]	MW-9	MW-10	PW-1 [2]	OW-1	OW-2	
	08/18/06	08/18/06	08/21/06	08/22/06	08/22/06	08/22/06	08/21/06	08/21/06	08/21/06	09/12/07	08/21/06	08/22/06	08/22/06	08/21/06	
TCL VOCs (ug/L)															
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
Toluene	ND	ND	ND	ND	ND	3.2 J	ND	ND	ND	ND	ND	1.8 J	ND	ND	**5**
Chloroform	ND	0.91 J	ND	0.86 J	1.4 J	ND	ND	ND	2 J	0.9 J	ND	0.55 J	0.58 J	ND	**7**
Tetrachloroethene	3.1 J	**8.2**	ND	**87**	**1600**	**3100**	ND	**13**	**3100**	**2600 D**	**17**	**780**	**570**	ND	**5**
Trichloroethene	0.78 J	**6.3**	**11**	**240**	**1400**	**1500**	**6.0**	**20**	**2700**	**1900 D**	**15**	**540**	**470**	**320**	**5**
1,1 Dichloroethene	ND	ND	ND	ND	0.56 J	ND	ND	ND	3.5 J	1.3	ND	ND	1 J	ND	**5**
cis-1,2-Dichlorethene	ND	ND	ND	ND	0.8 J	ND	ND	ND	3.2 J	1.3	ND	1.3 J	0.65 J	4 J	**5**
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3 J	**5**
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
1,1,1-Trichloroethane	ND	ND	0.74 J	2.6 J	**11**	**16 J**	ND	ND	**34**	**12**	0.6 J	3.6 J	**5.4**	ND	**5**
1,1,2-Trichloroethane	ND	ND	ND	ND	**1.5 J**	ND	ND	ND	**3.8 J**	**1.9**	ND	0.51 J	ND	ND	**1**
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	0.62 J	ND	ND	ND	ND	ND	**5**
TOTAL VOCs	**3.88**	**15.4**	**11.7**	**330**	**3015**	**4619**	**6**	**33**	**5847**	**4517**	**32.6**	**1328**	**1048**	**325**	**--**
Total and Soluble Metals [4] (ug/L)															
Aluminum, Total	NA	**511**	NA	NA	NA	ND	NA	NA	**917**	NA	NA	ND	NA	NA	**100**
Barium, Total	NA	40.2	NA	NA	NA	ND	NA	NA	66.5	NA	NA	57.2	NA	NA	**1,000**
Calcium, Total	NA	85700	NA	NA	NA	ND	NA	NA	144000	NA	NA	119000	NA	NA	**--**
Chromium, Total	NA	5.6	NA	NA	NA	ND	NA	NA	**212**	NA	NA	12.4	NA	NA	**50**
Iron, Total	NA	**604**	NA	NA	NA	**4870**	NA	NA	**1320**	NA	NA	ND	NA	NA	**300**
Iron, Soluble	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	NA	ND	NA	NA	**300**
Magnesium, Total	NA	20400	NA	NA	NA	ND	NA	NA	**35400**	NA	NA	**40600**	NA	NA	**35,000***
Manganese, Total	NA	16.4	NA	NA	NA	**558**	NA	NA	**322**	NA	NA	95.6	NA	NA	**300**
Manganese, Soluble	NA	ND	NA	NA	NA	**337**	NA	NA	ND	NA	NA	ND	NA	NA	**300**
Nickel, Total	NA	ND	NA	NA	NA	ND	NA	NA	11.4	NA	NA	ND	NA	NA	**100**
Potassium, Total	NA	5270 J	NA	NA	NA	ND	NA	NA	6020 J	NA	NA	22600 NJ	NA	NA	**--**
Selenium, Total	NA	ND	NA	NA	NA	ND	NA	NA	**22.9**	NA	NA	ND	NA	NA	**10**
Sodium, Total	NA	**283000**	NA	NA	NA	ND	NA	NA	**452000**	NA	NA	**237000**	NA	NA	**20,000**
Zinc, Total	NA	ND	NA	NA	NA	ND	NA	NA	12.3	NA	NA	ND	NA	NA	**2,000***

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - AUG. 2006 & SEP. 2007

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Parameter [1]	Monitoring Well Location & Date of Sample Collection																										GWQS/GV [4]
	MW-1		MW-2		MW-3		MW-4		MW-5		MW-6 [5]		MW-7		MW-8		MW-9 [3]		MW-9		MW-10		PW-1 [2]		OW-1		OW-2	
	08/18/06		08/18/06		08/21/06		08/22/06		08/22/06		08/22/06		08/21/06		08/21/06		08/21/06		09/12/07		08/21/06		08/22/06		08/22/06		08/21/06		
Wet Chemistry (units as indicated)																											
Chemical Oxygen Demand (mg/L)	NA		NA		NA		NA		NA		18.8		NA		NA		NA		NA		NA		NA		NA		--
Cyanide, Total (mg/L)	NA		ND		NA		NA		NA		NA		NA		NA		0.033		NA		NA		ND		NA		NA		**0.2**
Nitrate (mg/L) (as N)	NA		NA		NA		NA		NA		2.6		NA		NA		NA		NA		NA		NA		NA		NA		**10**
Sulfate (mg/L)	NA		NA		NA		NA		NA		**1830**		NA		NA		NA		NA		NA		NA		NA		NA		**250**
Field Measurements (units as indicated)																											
pH (units)	7.28	7.27	7.43	7.46	7.45	7.46	7.20	7.21	7.24	7.24	6.98	6.97	7.33	7.34	7.30	7.30	6.97	7.04	7.18	7.19	7.58	7.61	7.25	7.17	7.04	7.08	7.58	7.58	**6.5 - 8.5**
Temperature (^{o}C)	19.1	18.1	16.8	17.5	19.8	19.3	19.0	19.3	15.8	15.7	18.1	18.1	14.0	13.9	14.3	13.8	15.2	15.5	16.9	16.8	16.2	15.7	17.4	16.6	14.6	14.5	15.9	15.7	--
Specific Conductance (uS)	1010	1009	1795	1805	2806	2824	2566	2603	2076	2077	3190	3192	496	500	512	532	2912	2957	1497	1525	1546	1541	1987	2031	3228	3207	484	487	--
Turbidity	6.5	5.25	19.8	13.7	22.1	16.5	32.3	27.3	45.1	40.4	107	68	15.6	11.4	5.52	3.24	30.5	17.3	65.8	89	155	106	3.48	2.37	39.2	15.1	97.2	80.9	--
DO (ppm)	1.43	1.47	4.72	5.53	5.06	5.45	5.53	5.56	3.04	2.91	3.25	3.21	6.74	6.95	6.49	6.25	1.68	1.74	3.12	3.09	3.32	3.54	4.77	5.14	3.16	2.66	1.32	1.41	--
ORP (mV)	-27	-32	62	67	138	134	120	118	118	119	129	128	127	127	125	124	149	165	107	105	157	157	97	101	66	89	-17	-25	--

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. MS/MSD collected at PW-1.
3. Blind Duplicate collected at monitoring well MW-9 during the August 2006 event.
4. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.
5. Groundwater collected from well MW-6 was analyzed for soluble iron and manganese, in addition to TAL Metals.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
B = Analyte was detected in the associated blank as well as in the sample.
P = Detected concentrations between the two GC columns is greater than 25%; lower value is reported and flagged (for CLP methodology only).
ND = parameter not detected above laboratory detection limit.
NA = Not analyzed
N = Indicates the spike or duplicate analysis is not within the quality control limits
" * " = NYSDEC Class GA Guidance Value

BOLD = Analytical result exceeds individual GWQS/GV.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 4

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - MAR. 2008 - SEP. 2009

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Site
East Rochester, New York

Parameter [1]	Monitoring Well Location & Date of Sample Collection											GWQS/GV [2]
	MW-11	MW-12	MW-13	MW-14		Blind Dup MW-14	MW-15		Blind Dup MW-15	MW-16		
	03/10/08	03/10/08	08/07/08	08/11/09	01/19/10	01/19/10	08/11/09	01/19/10	08/11/09	09/12/09	01/19/10	
TCL VOCs (ug/L)												
Acetone	3.1 J	4.8 J	4.6 J	ND	ND	ND	ND	ND	ND	**12**	ND	**5**
Bromodichloromethane	0.99 J	0.82 J	**6.0**	2.8	ND	ND	2.8	ND	2.8	2.3	ND	**5**
Bromoform	ND	ND	3.2 J	ND	ND	ND	ND	ND	ND	ND	ND	**--**
2-Butanone	ND	ND	ND	ND	ND	ND	7.4	ND	3.1 J	3.6 J	ND	**50**
Carbon Disulfide	1.1	0.94 J	0.42 J	0.89 J	ND	ND	ND	ND	ND	0.74 J	ND	**5**
Chloroform	1.7	1.6	**15**	5.5	ND	ND	5.9	ND	6.0	4.8	ND	**7**
Dibromochloromethane	ND	ND	2.6	ND	ND	ND	ND	ND	ND	2.9	ND	**50**
1,1-Dichloroethene	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND	**5**
cis-1,2-Dichloroethene	ND	0.66 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8 J	ND	**50**
Tetrachloroethene	ND	**300 D**	**350 D**	ND	ND	ND	ND	ND	ND	ND	ND	**5**
Trichloroethene	ND	**270 D**	**300 D**	ND	ND	ND	ND	ND	ND	ND	ND	**5**
Trichlorofluoromethane	**11**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**5**
1,1,1-Trichloroethane	ND	2.0	1.8	ND	ND	ND	ND	ND	ND	ND	ND	**5**
1,1,2-Trichloroethane	ND	ND	0.42 J	ND	ND	ND	ND	ND	ND	ND	ND	**1**
TOTAL VOCs	**17.9**	**581**	**684**	**9.2**	**0.0**	**0.00**	**16.10**	**0.00**	**11.90**	**30.1**	**0.0**	**--**
Field Measurements (units as indicated)												
pH (units)	6.90	6.83	7.21	7.26	7.03	**7.03**	**6.36**	6.94	**6.36**	6.68	6.68	**6.5 - 8.5**
Temperature (°C)	12.4	11.2	15.7	18.3	10.3	10.3	16.2	9.4	16.2	15.1	11.0	**--**
Specific Conductance (uS)	717	737	851.3	704.3	880	880.0	801.1	1532	801.1	10610	11500	**--**
Turbidity	330	371	>1000	>1000	634	634	594	31.8	594	508	540	**--**
DO (ppm)	6.09	3.09	--	3.56	7.03	7.03	4.15	5.48	4.15	6.89	2.26	**--**
ORP (mV)	137	60	10	111	93	93	95	100	95	140	86	**--**

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. NYSDEC Class "GA" Groundwater Quality Standards/Guidance Values (GWQS/GV), 6 NYCRR Part 703.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.
D = Compound identified in an analysis at the secondary dilution factor.
ND = parameter not detected above laboratory detection limit.

BOLD = Result exceeds Class GA GWQS/GV.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 5

SUMMARY OF AIR MONITORING RESULTS - ROUNDS 1 AND 2

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Parameter [1]	Round, Date of Collection, Sample Location, and Analytical Result (ug/m^3)																					
	ROUND 1																			ROUND 2			
	12/13/06							01/25/07							02/01/07					01/17/08			
	Outdoor Ambient	Subslab	Basement Ambient	1st Floor Ambient	Subslab	Basement Ambient	1st Floor Ambient	Outdoor Ambient	Subslab	Basement Ambient	1st Floor Ambient	Subslab	Basement Ambient	1st Floor Ambient	Outdoor Ambient	Subslab	Basement Ambient	1st Floor Ambient	Outdoor Ambient	Subslab	Basement Ambient	1st Floor Ambient
1,1,1-Trichloroethane (1,1,1-TCA)		6.0	2.83	5.32					1.4	0.887	0.832	1.7										
1,1-Dichloroethene (1,1-DCE)																						
1,2,4-Trimethylbenzene	7.79	8.5	7.34	8.19	32	6.5 J	8.14	3.3	5.5	5.1	5.85	2	4.05	4.85	1.75	22	10.2	6 J	2.7	4	5.05	3.75
1,2-Dichloroethane					2.4															0.99		
1,3,5-Trimethylbenzene	1.75	5.6	2.55	3.30	11 J	3.60	3.25	1.05	2.2	2.25	2.45	1.6	1.20	2.05	0.6 J	8	2.60	3.3	1.15	2.4	2.3	1.90
1,4-Dichlorobenzene			8.13	31.9																1.9		
2,2,4-Trimethylpentane		5.0			15	7.69	5.03	0.617 J	9.5	1.19	1.19		0.57 J	1.04		24	2.66	3.18		1.0	0.807	0.807
4-Ethyltoluene	2.40	4.6	2.80	2.85	12	4.95	2.55	0.999	2.8	1.2	1.35	1.3	0.949	1.55	0.55 J	11	3.5	3.8	1.4	1.4	2.05	1.55
Acetone				61.8		485 E	2200 E				33.8		11.3	31.6	27.3		463	467	7.85	25	22.2	18.8
Allyl chloride			0.891																			
Benzene	1.27	12	2.01	1.75	30	7.79	4.68	1.2	1.4	1.79	1.75	1.3	1.04	2.44	1.43	38	5.97	5.62	0.812	2.2	1.01	0.909
Carbon Disulfide		2.1			2.0				1.0							3.4				1.2		
Carbon Tetrachloride (CT)			1.09	1.28		0.767 J	0.767 J	0.767		0.767	0.703		0.703	0.703	0.831		0.831	0.831	0.448		0.448	0.256
Chloroform		3.7	0.695 J	1.64	1.5		0.893		1.5	0.546 J						20	2.58	2.93		0.79		
Chloromethane													1.13						0.630	0.73	0.777	0.672
cis-1,2-Dichloroethene (cis-1,2-DCE)		7.0			6.8															5.3		
Cyclohexane	0.98	37	2.34	1.85	70	5.60	3.95	0.49 J	7.1	0.875				2.73	3.67	130	4.9	6.54	0.840	24	2.38	
Ethyl acetate																				10		1.83
Ethylbenzene	1.10	4.6	1.99	1.54	8.8 J	6.97	3.22	0.794	9.3	1.41	1.46	7.2	0.883	3.27	0.794	23	9.31	8.25		8.8	0.839	0.971
Freon 11	1.43	6.5	9.99	4.74	2.7	5.20	15.7	2.51	2.3	2.46	2.34	0.86	2.23	3.2	2.11	48	2.68	4.11	1.26	1.5	1.54	0.914
Freon 113		1.2	1.79	2.26				0.935 J		0.857 J		3.3	0.857 J		0.857 J							
Freon 114					1.4	3.77	9.81															
Freon 12	1.61	4.8	8.60	2.41	5.3	10.9	32.7	4.62		5.18	4.93		5.03	4.32	3.52		3.32	3.22	1.86	2.1	2.21	1.56
Heptane	1.00	47	2.62	2.37	73	7.04	4.33	0.625	4.9	0.958	0.791		0.5 J	2.71	0.875	130	8.33	16.7		8.3	0.666	0.875
Hexane	1.54	70	3.04	3.01	140	8.60	6.52	1.36	2.9	2.15	1.93		0.967	3.51	0.716	230	5.66	4.8	0.860	43		2.22
Isopropyl alcohol											4.25							362				3.90
Xylene (m,p)	4.02	16	6.89	5.96	50	15.4	12.2	2.21	11 J	4.55	4.77	14	2.82	8.96	1.9	64 J	21.6	20.3	1.06 J	42	2.38	2.56
Methyl Ethyl Ketone																						1.53
Methyl Isobutyl Ketone																						0.583 J
Methylene Chloride	0.388 J	7.0	17.5	15.4	1.5	0.530		1.69	1.4	0.883			0.847	3.5	1.06		11.3	4.73	2.30	27	3.21	3.14
Xylene (o)	1.68	5.1	2.34	1.99	18	7.55	3.88	0.794	4.7	1.5	1.5	2.5	0.927	2.69	0.574 J	22	7.99	7.11		15	0.971	0.971
Styrene			0.823	0.693			0.866		6.1			3.9		0.996		53	2.12	1.73				0.476 J
Tetrachloroethylene (PCE)	1.52	3.4	2.62	2.90	3.2	1.86	1.86		3.4	2.21	2.14	54		0.827 J				0.965 J		1.4		0.896 J
Toluene	11.2	26	31.4	28.8	75	37.5	26.6	4.79	12	7.66	7.28	19	5.78	75.1	18	170	41.8	43.7	5.09	3.6	8.43	10.7
trans-1,2- Dichloroethene																				1.1		
Trichloroethene (TCE)		27	0.710	0.710	27	0.710	0.819					30								17	0.492	0.437
Vinyl Chloride (VC)																						

Notes:
1. Only those parameters detected above the method detection limit, at a minimum of one location, are presented in this table. Also included are all seven compounds listed in NYSDOH's Matrices 1 and 2 (as shaded).
2. J = Analyte detected at or below quantitation limit.
3. E = Value above quantitation range.

Color Code:

	Round 1 sampling events
	Round 2 sampling event
	Soil Vapor/Indoor Air Matrix 1: Carbon Tetrachloride, Trichloroethene (TCE), & Vinyl Chloride (October 2006/June 2007)
	Soil Vapor/Indoor Air Matrix 2: Tetrachloroethene (PCE), 1,1,1,-Trichloroethane (1,1,1-TCA), cis-1,2-dichloroethene (cis-1,2, DCE), 1,1-Dichloroethene (1,1, DCE) (October 2006/June 2007)

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 6

NYSDOH's SOIL VAPOR/INDOOR AIR MATRICES COMPARISON - ROUNDS 1 AND 2

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Sample Location	MATRIX 1						MATRIX 2							
	CT		TCE		VC		PCE		1,1,1-TCA		cis-1,2-DCE		1,1-DCE	
	56-23-5		79-01-6		75-01-4		127-18-4		71-55-6		540-59-0		75-35-4	
	LRC (ug/m^3)	SV / IA Matrix 1	LRC (ug/m^3)	SV / IA Matrix 1	LRC (ug/m^3)	SV / IA Matrix 1	LRC (ug/m^3)	SV / IA Matrix 2	LRC (ug/m^3)	SV / IA Matrix 2	LRC (ug/m^3)	SV / IA Matrix 2	LRC (ug/m^3)	SV / IA Matrix 2
ROUND 1 - DECEMBER 2006														
[redacted]														
Subslab	ND <0.960		27		ND <0.390		3.4		6.0		7.0		ND <0.600	
Basement	1.09	**I, R**	0.710	**Monitor**	ND <0.390	**I, R**	2.62	NFA	2.83	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	1.28	**I, R**	0.710	**Monitor**	ND <0.390	**I, R**	2.90	NFA	5.32	**I, R**	ND <0.604	NFA	ND <0.605	NFA
[redacted]														
Subslab	ND <0.960		27		ND <0.390		3.2		ND <0.830		6.8		ND <0.600	
Basement	0.767 J	**I, R**	0.710	**Monitor**	ND <0.390	**I, R**	1.86	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	0.767 J	**I, R**	0.819	**Monitor**	ND <0.390	**I, R**	1.86	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
Outdoor														
Outdoor 121306	ND <0.959		ND <0.218		ND <0.390		1.52		ND <0.832		ND <0.604		ND <0.605	
ROUND 1 - JANUARY 2007														
[redacted]														
Subslab	ND <0.960		30		ND <0.390		54		1.7		ND <0.600		ND <0.600	
Basement	0.703	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	ND <1.030	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	0.703	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	0.827 J	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
[redacted]														
Subslab	ND <0.960		ND <0.820		ND <0.390		3.4		1.4		ND <0.600		ND <0.600	
Basement	0.767	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	2.21	NFA	0.887	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	0.703	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	2.14	NFA	0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
Basement (re-sample)	0.831	**I,R**	1.26	**I,R**	ND <0.390	**I, R**	2.21	NFA	0.610 J	NFA	ND <0.604	NFA	ND <0.605	NFA
Outdoor														
Outdoor 012507	0.767		ND <0.218		ND <0.390		ND <1.030		ND <0.832		ND <0.604		ND <0.605	
ROUND 1 - FEBRUARY 2007														
[redacted]														
Subslab	ND <0.960		ND <0.820		ND <0.390		ND <1.000		ND <0.830		ND <0.600		ND <0.600	
Basement	0.831	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	ND <1.030	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	0.831	**I,R**	ND <0.218	NFA	ND <0.390	**I, R**	0.965 J	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
Outdoor														
Outdoor 020107	0.831		ND <0.218		ND <0.390		ND <1.030		ND <0.832		ND <0.604		ND <0.605	
ROUND 2 - JANUARY 2008														
[redacted]														
Subslab	ND <0.960		17		ND <0.390		1.4		ND <0.830		5.3		ND <0.600	
Basement	0.448	**I,R**	0.492	**Monitor**	ND <0.104	NFA	ND <1.030	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
1st Floor	0.256	**I,R**	0.437	**Monitor**	ND <0.104	NFA	0.896 J	NFA	ND <0.832	NFA	ND <0.604	NFA	ND <0.605	NFA
Outdoor														
Outdoor 011708	0.448		ND <0.218		ND <0.104		ND <1.030		ND <0.832		ND <0.604		ND <0.605	

Notes:

1. ND = Not Detected
2. I, R = take reasonable and practical actions to identify source(s) and reduce exposures
3. Monitor = monitor soil vapor / indoor air
4. NFA = no further action
5. LRC = Laboratory reported concentration
6. CT = carbon tetrachloride
7. TCE = trichloroethene
8. VC = vinyl chloride
9. PCE = tetrachloroethene
10. 1,1,1-TCA = 1,1,1-tetrachloroethane
11. cis-1,2-DCE = cis-1,2-dichloroethene
12. 1,1-DCE = 1,1-dichloroethene

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 7

SUMMARY OF AIR MONITORING RESULTS - ROUND 3

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Site
East Rochester, New York

Parameter [1]	Sample Location and Analytical Result (µg/m³)																						
	March 2-3, 2009 [5]				March 3-4, 2009			March 11-12, 2009					March 12-13, 2009							March 16-17, 2009				
	Subslab	Indoor	Subslab	Indoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Subslab	Indoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Subslab	Indoor	Outdoor
Chloromethane	1.2 J	1.3	0.91 J	0.93	0.94 J	1.3 J	1.3	0.14 J	1.5	0.29 J	1.2	1.8	0.40 J	2.6	0.20 J	1.5	1.1 J	1.3	1.2	ND	5.9	0.12 J	1.6	1
Vinyl Chloride [3]	0.064 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.063 J	ND	ND	0.046 J	0.16 J	0.08 J	ND	ND	0.045 J	ND	0.042 J	0.024 J	ND	ND	ND	ND	0.067 J	ND	ND	ND	0.066 J	ND	0.041 J	ND
Chloroethane	0.093 J	ND	0.04 J	ND	ND	ND	0.044 J	ND	0.045 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	83 D	19	46	7.7	170 D	190 D	7.4	43	27	11	8.0 J	11	31	21	29	22	17	7.2 J	6.0 J	47	25	37	32	10 J
Trichlorofluoromethane (CFC 11)	1.7 J	1.6	1.5	1.5	2.1 J	2.1	1.3	1.6	1.9	1.4	1.4	1.4	1.5	1.5	1.5	1.6 J	1.6 J	1.3 J	1.4 J	2.3	3.7	1.6	1.7	1.5 J
1,1-Dichloroethene [4]	ND	ND	ND	ND	0.17 J	ND	ND	ND	ND	ND	ND	ND	0.018 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	2.8	0.37 J	0.85 J	0.33 J	**100**	**63**	0.48	0.8	1.4	0.25 BJ	0.33 BJ	0.34 BJ	0.63	0.42 J	0.47 J	0.37 J	0.50 J	0.34 J	0.38 J	0.77 J	1.0 J	0.73 J	9.8	0.97 J
1,1,2-Trichloro-1,2,2-trifluoroethane	0.66	0.7	0.68	0.66	0.63 J	0.65	0.67	0.62	0.64	0.62	0.66	0.73	0.6	0.72	0.62	0.71	0.76	0.66	0.7	0.62	0.76	0.65	0.73	0.64
Carbon Disulfide	2.2	0.16 J	0.23 J	0.035 J	0.83 J	1.2	0.046 J	0.24 J	0.052 J	0.74	0.03 BJ	0.024 J	0.35 J	0.055 J	0.47 J	0.68 J	0.20 J	0.067 J	0.051 J	0.88 J	0.078 J	0.91	0.23 J	0.05 J
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032 J	ND
1,1-Dichloroethane (1,1-DCA)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert Butyl Ether	0.067 J	0.015 J	ND	ND	0.85 J	0.55 J	0.02 J	0.049 J	ND	0.062 J	ND	ND	0.053 J	0.026 J	0.033 J	ND	ND	ND	ND	0.042 J	0.033 J	0.028 J	0.034 J	ND
Vinyl Acetate	0.07 J	ND	ND	ND	ND	ND	ND	ND	0.04 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054 J	ND	0.039 J
2-Butanone (MEK)	25	1.6	15	0.93	33	10	1.5	36	7.2	5.7	27	2.7	27	4.9	18	3.5	6.5	0.99 J	1.0 J	32	5.3	20	7.9	2.9
cis-1,2-Dichloroethene [4]	0.16 J	ND	0.03 J	ND	ND	ND	ND	ND	ND	ND	ND	0.11 J	ND	ND	0.14 J	ND	ND	ND	ND	ND	ND	ND	0.052 J	ND
Chloroform	69	1.4	0.20 J	0.18 J	0.57 J	0.65 J	0.081 J	0.11 J	1.2	0.35 J	0.33 J	0.093 J	0.70 J	0.14 J	0.36 J	0.14 J	0.20 J	0.20 J	0.084 J	0.24 J	0.64 J	0.29 J	1.3 J	0.16 J
1,2-Dichloroethane	0.28 J	0.23 J	0.29 J	0.074 J	0.41 J	0.26 J	0.091 J	0.34 J	0.11 J	0.079 J	0.088 J	0.094 J	0.31 J	0.13 J	0.2 J	0.13 J	0.17 J	0.12 J	0.1 J	0.51 J	0.2 J	0.22 J	0.19 J	0.15 J
1,1,1-Trichloroethane (TCA) [4]	0.33 J	1.5	0.083 J	0.066 J	ND	0.084 J	0.058 J	0.29 J	0.29 J	0.13 J	0.066 J	0.068 J	0.28 J	0.085 J	0.27 J	0.072 J	0.20 J	0.084 J	0.073 J	1.0 J	4.1	1.5 J	11	0.11 J
Benzene	1.2	1.2	0.9	0.65	1.9	2	1.1	0.97	1.4	1.3	0.67	0.62	2.8	1.8	1.4	1.3	2	1.2	1.1	11	4.9	3.5	2.7	2.7
Carbon Tetrachloride [3]	0.72	0.62	0.55	0.62	0.68 J	0.68	0.4	0.19	0.55	0.45	0.6	0.49	0.33	0.58	0.25	0.62	0.14 J	0.63	0.45	0.27	0.55	0.4	0.22	0.37
1,2-Dichloropropane	0.97 J	0.051 J	ND	0.031 J	0.14 J	0.063 J	0.031 J	0.13 J	0.03 J	0.14 J	ND	ND	0.15 J	0.039 J	0.23 J	ND	ND	ND	ND	0.91 J	0.057 J	0.68 J	0.062 J	ND
Bromodichloromethane	13	0.36	0.15 J	0.032 J	0.19 J	0.23 J	ND	ND	0.28	0.068 J	ND	ND	0.10 J	0.037 J	0.041 J	ND	ND	ND	ND	0.12 J	0.18 J	0.093 J	0.35 J	ND
Trichloroethene (TCE) [3]	4.3	0.048 J	0.098 J	0.058 J	ND	ND	0.041 J	2.2	0.03 J	2.8	0.3	0.29	1.4	0.35	2.6	0.3	0.54	0.27	0.21	2.1	0.25	2.3	0.21	0.23
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.026 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	5.5	0.11 J	3	0.044 J	3.6 J	0.36 J	0.079 J	6.8	0.095 J	1.3 J	0.20 J	0.12 J	4.5	0.04 J	3.1	0.12 J	0.90 J	ND	0.088 J	6.5	0.27 J	3.7	0.34 J	0.29 J
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	0.68 J	ND	0.72 J	ND	ND	0.36 J	ND	0.69 J	ND	0.17 J	ND	ND	0.93 J	ND	0.92 J	ND	ND
1,1,2-Trichloroethane	4.9	0.058 J	0.61 J	0.13 J	0.32 J	0.13 J	0.047 J	5.8	0.059 J	6.1	0.062 J	ND	2.6	ND	5.2	ND	1.2 J	ND	ND	11	0.19 J	7.6	0.31 J	0.16 J
Toluene	25	4.4	17	1.3	23	6.2	2.3	28	6.1	38	1.8	0.94	32	4.7	25	2.4	17	2.5	1.7	46	13	28	14	8.7
2-Hexanone	4.8	0.14 J	2.5	0.073 J	4.1	0.39 J	0.15 J	5.7	0.27 J	1.1	0.14 J	0.32 J	8.9	0.1 J	2.7	0.23 J	1.3	0.11 J	0.11 J	7.2	0.18 J	4.4	0.16 J	0.18 J
Dibromochloromethane	0.53 J	0.078 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromochloromethane	ND	ND	0.13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.1 J	ND	ND	ND	ND	ND	ND	0.17 J	ND	0.19 J	ND	ND
Tetrachloroethene (PCE) [4]	2.7	0.59	2	0.053 J	2.2	0.13 J	0.095 J	3.1	0.14	1.3	0.24	0.083 J	2.2	0.084 J	1.8	0.10 J	0.96	0.29	0.092 J	3	0.52	1.8	2.8	0.45
Chlorobenzene	ND	ND	ND	ND	0.11 J	ND	ND	0.93 J	ND	0.059 J	ND	ND	ND	ND	0.16 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	36	0.68 J	25	0.50 J	31	0.80 J	0.39 J	34	0.67 J	2.3	0.31 J	0.13 J	26	0.60 J	14	0.28 J	11	0.30 J	0.22 J	37	1.6 J	25	2.3 J	1.2 J
m,p-Xylenes	110	2.0 J	78	1.7 J	96	2.9 J	1.3 J	100	2.6 J	5.4	1.1 J	0.36 J	78	2.0 J	28	0.95 J	38	1.0 J	0.68 J	120	6.6	83	8.8	4.8 J
Bromoform	ND	ND	ND	ND	ND	3.0 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	7	0.19 J	4.2	0.043 J	6.4	0.19 J	0.042 J	8.6	0.21 J	2.5	0.11 J	0.019 J	6.4	0.18 J	0.74 J	0.087 J	3.5	0.13 J	0.05 J	8.4	0.73 J	6.8	0.37 J	0.15 J
o-Xylene	22	0.66 J	15	0.42 J	18	0.95 J	0.45 J	23	0.65 J	2.9	0.28 J	0.13 J	18	0.69 J	4.6	0.32 J	8.8	0.33 J	0.23 J	26	1.7 J	20	2.6	1.5 J
1,1,2,2-Tetrachloroethane	0.86	ND	ND	ND	1.2	ND	ND	2.2	ND	0.83	ND	ND	0.89	ND	0.44	ND	1.4	ND	ND	1.9	ND	ND	0.38 J	ND
1,3-Dichlorobenzene	0.6 J	0.046 J	ND	ND	ND	ND	ND	0.059 J	ND	ND	ND	ND	0.046 J	ND	0.24 J	ND	ND	ND	ND	0.077 J	ND	ND	ND	ND
1,4-Dichlorobenzene	0.37 J	10	0.18 J	ND	0.23 J	0.15 J	ND	0.29 J	0.046 J	0.44 J	ND	ND	0.22 J	ND	0.21 J	0.094 J	0.31 J	ND	ND	0.28 J	0.14 J	0.29 J	0.15 J	0.091 J
1,2-Dichlorobenzene	ND	0.068 J	ND	ND	ND	0.097 J	ND	ND	0.056 J	ND	ND	ND	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 7

SUMMARY OF AIR MONITORING RESULTS - ROUND 3

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Site
East Rochester, New York

Parameter [1]	Sample Location and Analytical Result (µg/m^3)													
	March 18-19, 2009					March 23-24, 2009			March 26-27, 2009			March 30-31, 2009		
	Subslab	Indoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Outdoor	Subslab	Indoor	Outdoor
Chloromethane	0.92 J	1.3	0.32 J	1.2 J	1.5	0.059 J	ND	1.0 J	0.13 J	1.7	1.1 J	1 J	0.97 J	1.2
Vinyl Chloride [3]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	0.041 J	ND	ND	ND	ND	ND	ND	ND	0.055 J	0.05 J	ND	ND	ND
Chloroethane	0.35 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	41	12 J	28 J	29	6.6 J	14 J	19	6.2 J	15	16	13 J	52 J	12 J	4.6 J
Trichlorofluoromethane (CFC 11)	1.5 J	1.4 J	1.7 J	2	1.4 J	2.1	1.6 J	1.6	1.6 J	1.8	1.5 J	1.8 J	2.1	1.5 J
1,1-Dichloroethene [4]	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.61 J	0.55 J	0.83 J	0.62 J	0.60 J	0.23 J	0.47 J	0.43 J	0.24 J	1.2	0.59 J	4.6 J	7.6	0.37 J
1,1,2-Trichloro-1,2,2-trifluoroethane	0.7	0.63	0.66 J	0.63	0.66	0.66	0.72	0.68	0.69	0.68	0.73	0.62 J	0.71	0.7
Carbon Disulfide	0.32 J	0.11 J	1.2 J	0.15 J	0.045 J	0.49 J	0.074 J	0.052 J	0.21 J	0.068 J	0.15 J	3.8 J	0.041 J	0.05 J
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert Butyl Ether	0.089 J	0.09 J	0.72 J	0.039	ND	0.13 J	ND	0.025 J	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	6.3	1.6 J	6.3	2.2	1.20 J	6.5	2.2	1.7	6.6	2.5	1.8	5.1 J	0.92 J	0.54 J
cis-1,2-Dichloroethene [4]	ND	ND	0.18 J	0.17 J	ND	ND	ND	ND	ND	0.034 J	ND	ND	ND	ND
Chloroform	1.5	0.27 J	29	1.3 J	0.12 J	0.44 J	1.3 J	0.11 J	0.11 J	1.4 J	0.11 J	5.1 J	0.84 J	0.087 J
1,2-Dichloroethane	0.21 J	0.11 J	ND	0.88 J	0.16 J	0.17 J	0.17 J	0.12 J	0.14 J	0.13 J	0.1 J	ND	0.091 J	0.091 J
1,1,1-Trichloroethane (TCA) [4]	0.077 J	0.065 J	0.68 J	0.068 J	0.084 J	0.13 J	0.11 J	0.096 J	0.36 J	0.085 J	0.083 J	ND	0.091 J	0.077 J
Benzene	0.82 J	1.1	3.6	1.6	2.2	2.7	2.2	1.6	3.3	1.2	1.2	10	1.1	1
Carbon Tetrachloride [3]	0.15 J	0.31	0.51	0.56	0.44	0.29	0.39	ND	0.31	0.76	0.66	ND	0.7	0.24
1,2-Dichloropropane	ND	ND	0.28 J	ND	ND	0.22 J	0.059 J	ND	0.11 J	ND	ND	2.4 J	ND	ND
Bromodichloromethane	ND	0.063 J	3	0.35 J	ND	ND	0.27 J	ND	ND	0.1 J	ND	ND	0.25 J	ND
Trichloroethene (TCE) [3]	0.11 J	0.083 J	68	0.15 J	0.065 J	1.8	0.11 J	0.085 J	1.4	0.066 J	0.082 J	0.86 J	0.073 J	0.069 J
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.04 J	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	1.8 J	0.16 J	2.2 J	0.21 J	0.11 J	1.2 J	0.15 J	ND	1.9 J	0.2 J	0.15 J	0.31 J	ND	ND
trans-1,3-Dichloropropene	ND	ND	0.86 J	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.79 J	0.11 J	10	0.077 J	ND	6.6	0.18 J	ND	5.7	ND	ND	11 J	ND	ND
Toluene	39	4.9	330 D	5.4	5.6	290 D	6.1	3.9	35	4.9	3.6	650	7.6	2.3
2-Hexanone	2.1	0.13 J	1.9 J	0.21 J	0.18 J	3.8	0.15 J	ND	2.2	0.19 J	0.12 J	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromochloromethane	0.19 J	ND	0.71 J	ND	ND	ND	0.22 J	ND	0.12 J	ND	ND	ND	ND	ND
Tetrachloroethene (PCE) [4]	3	0.61	13	0.24 J	0.21 J	3.8	0.31	0.26	2.4	0.26	0.28	5.2	0.17 J	1.2
Chlorobenzene	ND	ND	0.19 J	ND	ND	0.092 J	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	35	0.80 J	23	1.3 J	0.72 J	23	1.1 J	0.47 J	18	0.57 J	0.45 J	8.2 J	0.66 J	0.29 J
m,p-Xylenes	110	3.4 J	84	6	2.9 J	84	4.4 J	1.9 J	63	2.2 J	1.6 J	35 J	2.4 J	0.98 J
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	7.9	0.17 J	7.7	0.21 J	0.1 J	9.1	0.23 J	0.051 J	5.3	0.18 J	0.071 J	3.4 J	0.097 J	0.05 J
o-Xylene	22	1.0 J	21	1.3 J	1.0 J	20	1.1 J	0.55 J	16	0.7 J	0.52 J	9.3 J	0.63 J	0.31 J
1,1,2,2-Tetrachloroethane	1.5	ND	7.6	ND	ND	4.3	ND	ND	ND	ND	ND	6.8	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.14 J	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.25 J	0.13 J	0.38 J	ND	ND	0.63 J	0.13 J	ND	0.32 J	ND	ND	ND	0.3 J	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

1. Only those parameters detected above the method detection limit, at a minimum of one location, are presented in this table.
2. Constituent monitored under NYSDOH Vapor/ Indoor Air Quality Standards - October 2006/June 2007.
3. Decision Matrix 1 used to determine appropriate corrective action.
4. Decision Matrix 2 used to determine appropriate corrective action.
5. The outdoor air sample collected from March 2-3, 2009 was not analyzed due to poor vacuum in the sample collection bag.

[redacted]y.

BOLD = Value above NYSDOH guideline.

J = Estimated value.

B = Compound was detected in the associated method blank at a concentration that may have contributed to sample result.

D = Concentrations identified from analysis of the sample at a secondary dilution.

ND = Compound analyzed but not detected at a concentration above the reporting limit.

Values in red are changes to data made during data validation.

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TABLE 8

NYSDOH's SOIL VAPOR/IINDOOR AIR MATRICES COMPARISON - ROUND 3

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Site
East Rochester, New York

Sample Location	Trichloroethene (TCE)		Carbon Tetrachloride		Vinyl Chloride		Tetrachloroethene (PCE)		1,1-Dichloroethene		cis-1,2-Dichloroethene		1,1,1 -Trichloroethane	
	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2
[redacted]														
Subslab	0.86 J		ND		ND		5.2		ND		ND		ND	
Indoor	0.073 J	NFA	0.7	**I, R**	ND	NFA	0.17 J	NFA	ND	NFA	ND	NFA	0.091 J	NFA
Outdoor	0.069 J		0.24		ND		1.2		ND		ND		0.077 J	
[redacted]														
Subslab	4.3		0.72		**0.064 J**		2.7		ND		0.16		0.33	
Indoor	0.048	NFA	0.62	**I, R**	ND	NFA	0.59	NFA	ND	NFA	ND	NFA	1.5	NFA
Outdoor														
[redacted]														
Subslab	1.4		0.31		ND		2.4		ND		ND		0.36 J	
Indoor	0.066 J	NFA	0.76	**I, R**	ND	NFA	0.26	NFA	ND	NFA	**0.034 J**	NFA	0.085 J	NFA
Outdoor	0.082 J		0.66		ND		0.28		ND		ND		0.083 J	
[redacted]														
Subslab	1.8		0.29		ND		3.8		ND		ND		0.13 J	
Indoor	0.11 J	NFA	0.39	**I, R**	ND	NFA	0.31	NFA	ND	NFA	ND	NFA	0.11 J	NFA
Outdoor	0.085 J		ND		ND		0.26		ND		ND		0.096 J	
[redacted]														
Subslab	2.2		0.19		ND		3.1		ND		ND		0.29 J	
Indoor	0.03 J	NFA	0.55	**I, R**	ND	NFA	0.14	NFA	ND	NFA	ND	NFA	0.29 J	NFA
Outdoor	0.29		0.49		ND		0.083 J		ND		0.11 J		0.068 J	
[redacted]														
Subslab	ND		0.68 J		ND		2.2		0.17 J		ND		ND	
Indoor	ND	NFA	0.68	**I, R**	ND	NFA	0.13 J	NFA	ND	NFA	ND	NFA	0.084 J	NFA
Outdoor	0.041 J		0.4		ND		0.095 J		ND		ND		0.058 J	
[redacted]														
Subslab	0.11 J		0.15 J		ND		3		ND		ND		0.077 J	
Indoor	0.083 J	NFA	0.31	**I, R**	ND	NFA	0.61	NFA	ND	NFA	ND	NFA	0.065 J	NFA
Outdoor	0.065 J		0.44		ND		0.21 J		ND		ND		0.084 J	
[redacted]														
Subslab	0.098 J		0.55		ND		2		ND		**0.03 J**		0.083 J	
Indoor	0.058 J	NFA	0.62	**I, R**	ND	NFA	0.053 J	NFA	ND	NFA	ND	NFA	0.066 J	NFA
Outdoor														
[redacted]														
Subslab	2.8		0.45		ND		1.3		ND		ND		0.13 J	
Indoor	0.3	**I, R**	0.6	**I, R**	ND	NFA	0.24	NFA	ND	NFA	ND	NFA	0.066 J	NFA
Outdoor	0.29		0.49		ND		0.083 J		ND		0.11 J		0.068 J	
[redacted]														
Subslab	1.4		0.33		ND		2.2		**0.018 J**		ND		0.28 J	
Indoor	0.35	**I, R**	0.58	**I, R**	ND	NFA	0.084 J	NFA	ND	NFA	ND	NFA	0.085 J	NFA
Outdoor	0.21		0.45		ND		0.092 J		ND		ND		0.073 J	
[redacted]														
Subslab	2.6		0.25		ND		1.8		ND		0.14 J		0.27 J	
Indoor	0.3	**I, R**	0.62	**I, R**	ND	NFA	0.1 J	NFA	ND	NFA	ND	NFA	0.072 J	NFA
Outdoor	0.21		0.45		ND		0.092 J		ND		ND		0.073 J	
[redacted]														
Subslab	0.54		**0.14 J**		ND		0.96		ND		ND		0.2 J	
Indoor	0.27	**I, R**	0.63	**I, R**	ND	NFA	0.29	NFA	ND	NFA	ND	NFA	0.084 J	NFA
Outdoor	0.21		0.45		ND		0.092 J		ND		ND		0.073 J	
[redacted]														
Subslab	2.1		0.27		ND		3		ND		ND		1 J	
Indoor	0.25	**I, R**	0.55	**I, R**	ND	NFA	0.52	NFA	ND	NFA	ND	NFA	4.1	**I, R**
Outdoor	0.23		0.37		ND		0.45		ND		ND		0.11 J	
[redacted]														
Subslab	2.3		0.4		ND		1.8		ND		ND		1.5 J	
Indoor	0.21	NFA	0.22	NFA	ND	NFA	2.8	NFA	ND	NFA	**0.052 J**	NFA	11	**I, R**
Outdoor	0.23		0.37		ND		0.45		ND		ND		0.11 J	
[redacted]														
Subslab	68		0.51		ND		13		ND		**0.18 J**		0.68 J	
Indoor	0.15	**Monitor**	0.56	**I, R**	ND	NFA	0.24	NFA	ND	NFA	0.17 J	NFA	0.068 J	NFA
Outdoor	0.065 J		0.44		ND		0.21 J		ND		ND		0.084 J	

Notes:
"ND" = Not Detected
"NFA" = No further action.
"I, R" = Take reasonable and practical actions to identify source(s) and reduce exposures.
"Monitor" = Monitor soil vapor / indoor air
"Mitigate" = Mitigate source of identified parameter.
Values in red are changes to data made during data validation.

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TABLE 9

SUMMARY OF OFF-SITE SOIL VAPOR ANALYTICAL RESULTS
JULY 2008

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Repor
Former Brainerd Manufacturing Facility
East Rochester, New York

Parameter	Sample Location (ug/m^3)		
	SV-1	SV-2	Outdoor Air #1
Benzene	6.4	11	2.2
Dichlorodifluoromethane	--	--	2
Ethylbenzene	31	33	0.96
4-Ethyltoluene	6.4	5.9	1.1
n-Heptane	66	110	1.5
n-Hexane	--	--	5.6
Tetrachloroethene	75	52	--
Toluene	450	410	8.3
Trichlorofluoromethane	--	--	1.1
2,2,4-Trimethylpentane	--	--	3
Xylene (m,p)	96	100	4.3
Xylene (o)	17	19	1.5

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TABLE 10

SUMMARY OF DECEMBER 2003 ON-SITE SUB-SLAB SOIL VAPOR SAMPLING RESULTS

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Sample I.D. and Location		Parameter and CAS No.											
		TCE				PCE				1,1,1-TCA			
		79-01-6				127-18-4				71-55-6			
		Molecular Weight	Lab Reported Concentration (ppbv)	Converted Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Molecular Weight	Lab Reported Concentration (ppbv)	Converted Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Molecular Weight	Lab Reported Concentration (ppbv)	Converted Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2
V-1	office floor	131.4	140 D	752.39	Mitigate	165.8	70 D	474.68	Mitigate	133.4	5	27.28	NFA
V-1	office ambient	131.4	9.2	49.44		165.8	11	74.59		133.4	0.5	2.73	
V-2	warehouse floor	131.4	3.3	17.73	Mitigate	165.8	6.8	46.11	I, R, M	133.4	8.9	48.56	NFA
V-2	warehouse ambient	131.4	6	32.25		165.8	7.1	48.15		133.4	0.5	2.73	
V-3	assembly floor	131.4	55 D	295.58	Mitigate	165.8	22	149.19	Mitigate	133.4	4.8	26.19	NFA
V-3	assembly ambient	131.4	9.4	50.52		165.8	11	74.59		133.4	0.5	2.73	
V-4	shipping floor	131.4	18	96.74	Mitigate	165.8	21	142.40	Mitigate	133.4	0.67	3.66	I, R
V-4	shipping ambient	131.4	18	96.74		165.8	24	162.75		133.4	0.65	3.55	
V-5	blanking room floor	131.4	240 D	1289.82	Mitigate	165.8	16	108.50	Mitigate	133.4	300 D	1636.81	Mitigate
V-5	blanking room ambient	131.4	11	59.12		165.8	13	88.16		133.4	0.5	2.73	

Notes:

1. Only those parameters detected above the method detection limit, at a minimum of one location, are presented in this table.
2. " D " = Concentrations identified from analysis of the sample at a secondary dilution.
3. " I " = take reasonable and practical actions to identify source(s)
4. " R " = take reasonable and practical actions to reduce exposure(s)
5. " M " = monitor soil vapor / indoor air
6. " NFA " = no further action

= " ND "; compound was analyzed, but detected below method detection limit; not detected. The method detection limit is presented numerically in this table.

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TABLE 11

SUMMARY OF INFLUENT & EFFLUENT ANALYTICAL RESULTS
FOR PUMP & TREAT SYSTEM

FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

Sampling Event	Influent [2]	Effluent	Volume Data (Gal)		Volatile Organic Compounds (mg/L) [1]						
			Total Volume	Period Total	Methylene Chloride	Tetrachloroethene	Toluene	Trichloroethene	cis-1,2-Dichloroethene	1,1,1-Trichloroethene	Total VOCs
Permitted Discharge Limit (mg/L) [3]											2.13
8/30/2004		x	--	--	0.16	0.011	0.025	0.017	ND	ND	0.213
8/31/2004		x	--	--	0.27	ND	0.015	0.0059	ND	ND	0.2909
9/1/2004		x	--	--	0.069	ND	0.021	0.0079	ND	ND	0.0979
9/7/2004		x	--	--	0.058	0.0055	0.0066	0.0075	ND	ND	0.0776
9/14/2004		x	--	--	0.029	0.0072	0.023	0.0098	ND	ND	0.069
9/21/2004		x	172,913	172,913	0.1	ND	0.034	ND	ND	ND	0.134
10/13/2004		x	291,761	118,848	0.041	ND	0.0084	ND	ND	ND	0.0494
11/9/2004	x		--	--	ND	0.23	ND	ND	ND	ND	0.23
11/9/2004		x	461,569	169,808	0.017	ND	0.0081	ND	ND	ND	0.0251
12/2/2004		x	618,439	156,870	ND	ND	ND	0.0059	ND	ND	0.0059
1/13/2005		x	914,277	295,838	ND	ND	ND	0.0088	ND	ND	0.0088
2/18/2005		x	1,156,450	242,173	ND	ND	ND	0.0077	ND	ND	0.0077
3/9/2005	x		--	--	ND	0.34	ND	0.37	ND	ND	0.71
3/9/2005		x	1,273,749	117,299	ND	ND	ND	0.0057	ND	ND	0.0057
4/19/2005		x	1,541,553	267,804	ND	0.0054	ND	0.0079	ND	ND	0.0133
5/25/2005		x	1,782,297	240,744	ND	ND	ND	ND	ND	ND	ND
6/8/2005		x	1,870,997	88,700	0.006	ND	ND	0.0057	ND	ND	0.0117
7/7/2005		x	2,060,886	189,889	0.017	ND	0.037	0.0071	ND	ND	0.0611
8/3/2005	x		--	--	ND	0.22 E	0.0012	0.27	0.0014	0.001	0.4912
8/3/2005		x	2,232,653	171,767	ND	ND	0.007	0.0068	ND	ND	0.0138
9/9/2005		x	2,458,235	225,582	ND	ND	0.0085	0.0057	ND	ND	0.0142
10/3/2005		x	2,600,759	142,524	0.014	ND	0.032	0.006	ND	ND	0.052
11/3/2005		x	2,783,076	182,317	0.005	ND	ND	0.0086	ND	ND	0.0136
12/1/2005		x	2,944,509	161,433	0.0057	ND	ND	0.0061	ND	ND	0.0118
1/3/2006		x	3,119,072	174,563	ND	0.0055	ND	0.01	ND	ND	0.0155
2/1/2006		x	3,277,311	158,239	ND	ND	ND	0.007	ND	ND	0.007
3/1/2006	x		--	--	ND	0.34 D	ND	0.31 D	ND	ND	0.65
3/1/2006		x	3,427,689	150,378	0.0064	0.0068	ND	0.011	ND	ND	0.0242
4/4/2006		x	3,608,897	181,208	ND	ND	ND	0.0054	ND	ND	0.0054
5/2/2006		x	3,755,931	147,034	ND	0.0076	0.0058	0.01	ND	ND	0.0234
6/19/2006		x	4,003,627	247,696	0.014	0.006	0.015	0.0095	ND	ND	0.0445

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TABLE 11

SUMMARY OF INFLUENT & EFFLUENT ANALYTICAL RESULTS
FOR PUMP & TREAT SYSTEM

FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

Sampling Event	Influent [2]	Effluent	Volume Data (Gal)		Volatile Organic Compounds (mg/L) [1]						
			Total Volume	Period Total	Methylene Chloride	Tetrachloroethene	Toluene	Trichloroethene	cis-1,2-Dichloroethene	1,1,1-Trichloroethene	Total VOCs
Permitted Discharge Limit (mg/L) [3]											2.13
7/12/2006		x	4,120,141	116,514	0.046	0.0074	0.012	0.0099	ND	ND	0.0753
8/11/2006		x	4,277,310	157,169	0.006	0.005	0.023	0.0081	ND	ND	0.0421
10/24/2006 [4]		x	4,278,205	895	0.015	ND	ND	ND	ND	ND	0.015
11/15/2006		x	4,492,423	214,218	ND	0.0095	ND	0.016	ND	ND	0.0255
12/13/2006		x	4,595,333	102,910	ND	0.0057	ND	0.009	ND	ND	0.0147
1/5/2007		x	4,677,995	82,662	0.0052	0.0087	0.018	0.013	ND	ND	0.0449
2/2/2007	x		--	--	ND	0.16	ND	0.24	ND	ND	0.4
2/2/2007		x	4,739,436	61,441	ND	0.0067	ND	0.0098	ND	ND	0.0165
3/7/2007 [5]		x	4,739,436	0	ND	ND	ND	0.0066	ND	ND	0.0066
4/17/2007		x	4,833,445	94,009	0.0098	ND	0.018	ND	ND	ND	0.0278
5/10/2007		x	4,930,077	96,632	0.012	ND	0.0057	ND	ND	ND	0.0177
6/7/2007		x	5,046,062	115,985	0.006	ND	0.019	ND	ND	ND	0.025
7/9/2007		x	5,129,641	83,579	ND	ND	ND	ND	ND	ND	ND
8/2/2007		x	5,224,224	94,583	0.043	ND	0.0082	0.005	ND	ND	0.0562
9/12/2007		x	5,372,992	148,768	0.057	ND	0.0096	ND	ND	ND	0.0666
10/12/2007		x	5,476,205	103,213	0.01	ND	0.02	ND	ND	ND	0.03
11/1/2007		x	5,542,767	66,562	ND	ND	0.007	ND	ND	ND	0.007
12/4/2007	x		--	--	ND	0.27 D	ND	0.25	ND	ND	0.52
12/4/2007		x	5,649,067	106,300	ND	ND	ND	ND	ND	ND	ND
1/18/2008		x	5,797,398	148,331	ND	ND	ND	ND	ND	ND	ND
2/11/2008		x	5,835,867	38,469	ND	ND	ND	ND	ND	ND	ND
3/6/2008	x		--	--	ND	0.14	0.007	0.22	ND	ND	0.367
3/6/2008		x	5,918,140	82,273	ND	ND	0.007	ND	ND	ND	0.007
4/4/2008		x	6,017,380	99,240	ND	ND	ND	ND	ND	ND	ND
5/7/2008		x	6,131,654	114,274	0.006	ND	ND	ND	ND	ND	0.006
6/12/2008		x	6,224,249	92,595	ND	ND	0.02	ND	ND	ND	0.02
7/10/2008		x	6,225,939	1,690	0.13 D	0.0059	0.018	ND	ND	ND	0.1539
8/7/2008		x	6,234,354	8,415	0.0056	ND	0.022	ND	ND	ND	0.0276
9/15/2008	x		--	--	ND	0.088	ND	0.16	ND	ND	0.248
9/15/2008		x	6,240,620	6,266	ND	ND	ND	ND	ND	ND	ND
10/7/2008		x	6,294,275	53,655	ND	ND	0.007	ND	ND	ND	0.007

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 11

SUMMARY OF INFLUENT & EFFLUENT ANALYTICAL RESULTS FOR PUMP & TREAT SYSTEM

FORMER BRAINERD MANUFACTURING FACILITY EAST ROCHESTER, NEW YORK

Sampling Event	Influent [2]	Effluent	Volume Data (Gal)		Volatile Organic Compounds (mg/L) [1]						
			Total Volume	Period Total	Methylene Chloride	Tetrachloroethene	Toluene	Trichloroethene	cis-1,2-Dichloroethene	1,1,1-Trichloroethene	Total VOCs
										Permitted Discharge Limit (mg/L) [3]	2.13
11/3/2008		x	6,380,309	86,034	ND	ND	ND	ND	ND	ND	ND
12/17/2008		x	6,522,243	141,934	ND	ND	ND	ND	ND	ND	ND
1/9/2009		x	6,532,215	9,972	0.0013 J	0.0015 J	0.013	0.0022 J	ND	ND	0.018
2/3/2009		x	6,613,599	81,384	0.0041 J	0.0018 J	0.0059	0.0022 J	ND	ND	0.014
3/3/2009	x		--	--	ND	0.13	ND	0.18	ND	ND	0.31
3/3/2009		x	6,648,848	35,249	ND	0.0022 J	0.0015 J	0.003 J	ND	ND	0.0067
4/1/2009		x	6,684,786	35,938	ND	0.0011 J	0.00096	0.0017 J	ND	ND	0.00376
5/1/2009		x	6,769,635	84,849	0.0037 BJ	0.0027 J	0.014	0.0026 J	ND	ND	0.023
6/3/2009		x	6,920,820	151,185	0.0028 BJ	0.0023 J	0.013	0.0037 J	ND	ND	0.0218
7/3/2009		x	7,075,788	154,968	0.002 J	0.0029 J	0.0072	0.0041 J	ND	ND	0.0162
8/6/2009		x	7,214,912	139,124	0.0037 J	0.0019 J	0.038	0.0022 J	ND	ND	0.0458
9/11/2009	x		--	--	0.0018 DJ	0.13 D	0.0023 DJ	0.22 D	ND	ND	0.3541
9/11/2009		x	7,260,148	45,236	0.005	0.0021 J	0.039	0.0031 J	ND	ND	0.0492
10/13/2009		x	7,260,612	464	ND	0.0018 J	0.001 J	0.0024 J	ND	ND	0.0052
11/9/2009		x	7,358,349	97,737	0.0011 J	0.0017 J	0.0035 J	0.0023 J	ND	ND	0.0086
12/2/2009		x	7,358,629	280	ND	0.0015 J	0.0035 J	0.0017 J	ND	ND	0.0067
1/8/2010		x	7,359,677	1,048	ND	0.0022 J	0.0057	0.0011	ND	ND	0.009
2/3/2010		x	7,463,186	103,509	ND	0.0022 J	0.0036 J	0.0027 J	ND	ND	0.0085
3/8/2010	x		--	--	ND	0.39 D	ND	0.28 D	ND	ND	0.67
3/8/2010		x	7,690,320	227,134	ND	0.0023 J	ND	0.003 J	ND	ND	0.0053
4/14/2010		x	7,944,172	253,852	ND	0.0028 J	0.0034 J	0.0037 J	ND	ND	0.0099

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table.
2. Parameters detected in the effluent but not in the influent is a result of higher detection limits for influent sample parameters.
3. Permitted Discharge limit per Sewer Use Permit 883.
4. System was down for repairs in September 2006 and restarted October 24, 2006.
5. Malfunctioning flow meter replaced.

Definitions:

ND = Parameter not detected above laboratory detection limit.

J = Estimated value; result is less than the sample quantitation limit but greater than zero.

B = Analyte found in the associated blank, as well as the sample.

D = Compounds identified in an analysis at the secondary dilution.

E = Identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 12

COST ESTIMATE FOR SOURCE AREA GROUNDWATER REMEDIATION ALTERNATIVE

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Item	Quantity	Units	Unit Cost	Installed Cost
Delivery System (wells to tank):				
4-inch extraction wells	2	EA	$ 1,207.86	$ 2,416
2-inch Sch 80 PVC water piping (wells to tank)	250	LF	$ 1.48	$ 370
Pump (from wells to ceiling)	1	EA	$ 650.00	$ 650
Fittings to tank (2 tees; 5 elbows)	7	EA	$ 58.00	$ 406
Contractor Costs	3	Days	$ 1,500.00	$ 4,500
				$ -
Delivery System (tank to wells):				
4-inch reinjection wells	5	EA	$ 2,975.00	$ 14,875
2-inch PVC water piping (tank to wells)	300	LF	$ 1.48	$ 444
Fittings to tank (1 tee; 4 elbows)	5	EA	$ 51.00	$ 255
Subtotal:				**$ 23,916**
gPRO Treatment System:				
gPRO System (month) 2 units	24	MO	$ 2,000.00	$ 48,000
Hydrogen 8 Cylinder Manifold with regulator [1]	1	EA	$ 3,000.00	$ 3,000
Power (120 V single phase)	24	MO	$ 100.00	$ 2,400
Gas Infusion Tank (575 gal. with level switches)	1	EA	$ 4,295.00	$ 4,295
Transfer Pump and manifold to 5 wells [3]	1	EA	$ 995.00	$ 995
Hydrogen (H2) supply [2]	264	Cylinders	$ 41.00	$ 10,824
Cylinder lease (deposit on 8 cylinders)	8	LS	$ 50.00	$ 400
Cylinder cage (holds 8 cylinders)	1	EA	$ 1,995.00	$ 1,995
Nema 4 Panel (3 well pumps, 1 transfer pump)	1	EA	$ 3,950	$ 3,950
Wood Treatment Shed	1	LS	$ 5,500.00	$ 5,500
Flexible Parflex Hose (cylinder to tank)	20	LF	$ 50.00	$ 1,000
Shipping/Tax	1	LS	$ 2,500.00	$ 2,500
Subtotal:				**$ 84,859**
Subtotal Capital Cost				**$ 108,800**
Contractor Mobilization/Demobilization (5%)				$ 5,440
Health and Safety (2%)				$ 2,176
Engineering/Contingency (35%)				$ 38,080
Total Capital Cost				**$ 154,500**

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

TABLE 12

COST ESTIMATE FOR SOURCE AREA GROUNDWATER REMEDIATION ALTERNATIVE

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

Item	Quantity	Units	Unit Cost	Installed Cost
Annual Operation Maintenance & Monitoring (OM&M):				
Groundwater Sampling / Reporting	2	Yr	$ 4,500	$ 9,000
Performance Sampling	4	Yr	$ 1,000	$ 4,000
Total Annual OM&M Cost				**$ 13,000**
Number of Years (n):				30
Interest Rate (I):				5%
p/A value:				15.3725
OM&M Present Worth (PW):				**$ 199,843**
Total Present Worth (PW): Capital Cost + OM&M PW				**$ 354,343**

Notes:
[1] Unit cost includes required NY PE signature.
[2] Approximately 300 cubic feet of gas per cylinder = 8,000 Liters;
Gas use 1 L/min x 1,440 min = 1,440 L/day; 8,000 L/1,440 L/day = 5.5 days; 365 day/yr/5.5 days= 66 cylinders/yr x 2 LP =264
[3] No aeration. Use drop hoses into wells to below water table.

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TABLE 13

COST ESTIMATE FOR ON-SITE SUB-SLAB SOIL VAPOR MITIGATION ALTERNATIVE

Remedial Investigation / Alternatives Analysis / Interim Remedial Measures Report
Former Brainerd Manufacturing Facility
East Rochester, New York

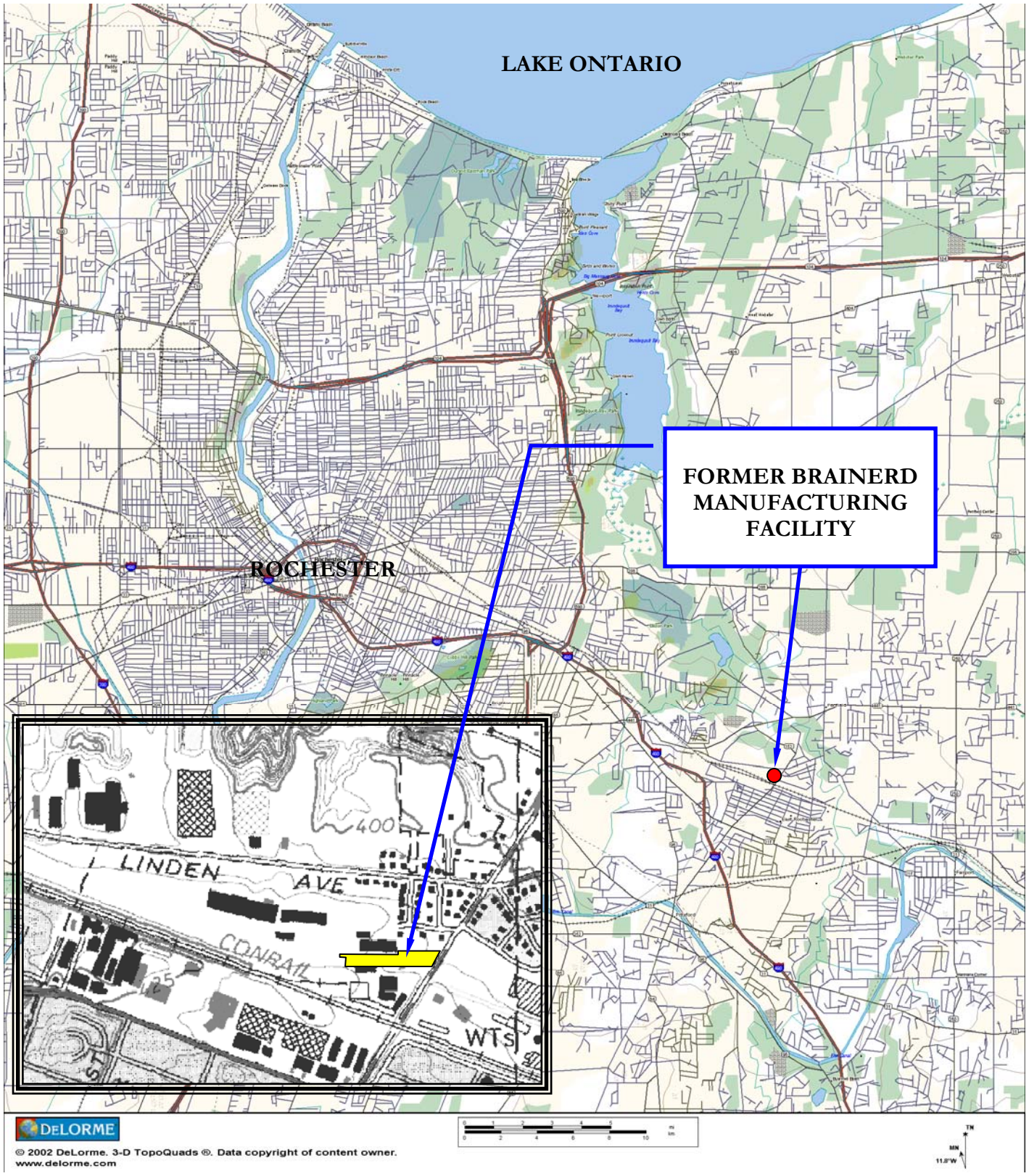
Item	Quantity	Units	Unit Cost	Installed Cost
Subslab Depressurization System (installed)	1	LS	$ 17,500	$ 17,500
Subtotal:				**$ 17,500**
Subtotal Capital Cost				**$ 17,500**
Contractor Mobilization/Demobilization (5%)				$ 875
Health and Safety (2%)				$ 350
Engineering/Contingency (35%)				$ 6,125
Total Capital Cost				**$ 24,900**

Annual Operation Maintenance & Monitoring (OM&M):						
Maintenance of Components	1	Yr	$	500	$	500
Performance Sampling / Reporting	1	Event	$	1,000	$	1,000
Total Annual OM&M Cost					**$**	**1,500**
Number of Years (n):						30
Interest Rate (I):						5%
p/A value:						15.3725
OM&M Present Worth (PW):					**$**	**23,059**

Total Present Worth (PW): Capital Cost + OM&M PW	**$**	**47,959**

FIGURES

FIGURE 1



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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SUITE 300
BUFFALO, NEW YORK 14218
(716) 856-0599

PROJECT NO.: 0040-002-400

DATE: NOVEMBER 2009

DRAFTED BY: AJZ

SITE LOCATION AND VICINITY MAP

RI/AAR/IRM REPORT

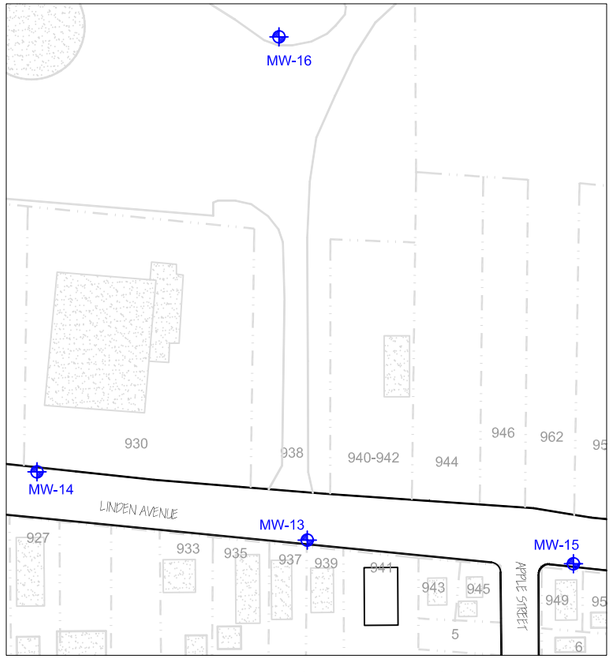
FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR

DESPATCH INDUSTRIES, INC.

FILEPATH=I:\CAD\Benchmark\Despatch\RI-AAR-IRM (NOVEMBER 2009\figure 1; site location and vicinity map.dwg

F:\CAD\Benchmark\Despatch\RI-AAR-IRM (NOVEMBER 2009)\Figure 2; Site Plan.dwg



ADDITIONAL OFF-SITE MONITORING WELLS

SCALE: 1 INCH = 80 FEET
SCALE IN FEET
(approximate)

LEGEND

- PROPERTY BOUNDARY
- DESPATCH PROPERTY BOUNDARY
- OFF-SITE BUILDING STRUCTURE
- PW-1 PUMPING WELL LOCATION
- OW-1 OBSERVATION WELL LOCATION
- MW-4 EXISTING MONITORING WELL LOCATION
- MW-201 DESTROYED MONITORING WELL LOCATION
- GP-101 GEOPROBE SOIL CORE LOCATION
- SC-1 SOIL CORING LOCATION
- SS-1A SURFACE SOIL SAMPLE LOCATION (SEAR BROWN)
- SS-2 SURFACE SOIL SAMPLE LOCATION

NOTES:

1. ORIGINAL BUILDING LAYOUT FROM SITE PLAN PROVIDED TO SEAR-BROWN DURING SEAR BROWN PHASE I PROPERTY VISIT IN JANUARY 2000.
2. PROPERTY BOUNDARIES OBTAINED FROM "A MAP OF SURVEY & INSTRUMENT LOCATION OF LANDS OF BRAINERD MANUFACTURING CORP." SCALE 1" = 30', DATED MAY 16, 1990, BY DOMINIC J. PARRONE & ASSOCIATES OF PENFIELD, NEW YORK.
3. SURFACE SOIL SAMPLES (0 TO 0.5 FBGS) SS-1A THROUGH SS-1D WERE COLLECTED BY SEAR-BROWN IN JANUARY 2000, AND SUBMITTED AS COMPOSITE SAMPLE SS-1.
4. MONITORING WELLS MW-201, MW-202, AND MW-203 AND SOIL CORINGS GP-101, GP-102, AND GP-103 WERE COMPLETED BY SEAR-BROWN IN JANUARY 2000; MONITORING WELLS MW-201, MW-202, AND MW-203 WERE DESTROYED DUE TO SITE RE-PAVING ACTIVITIES.
5. MONITORING WELLS MW-1, MW-2, AND MW-3 AND SOIL CORINGS SC-1 THROUGH SC-5 WERE COMPLETED BY SEAR-BROWN IN APRIL 2001 AND MAY 2001, RESPECTIVELY.
6. MONITORING WELLS MW-4 AND MW-5 AND SOIL CORINGS SC-6 THROUGH SC-17 WERE COMPLETED BY SEAR-BROWN IN AUGUST 2001.
7. PUMPING WELL PW-1 AND OBSERVATION WELLS OW-1 AND OW-2 WERE COMPLETED BY BENCHMARK IN DECEMBER 2002 AS PART OF THE IRM.
8. MONITORING WELLS MW-6 THROUGH MW-10 WERE COMPLETED BY BENCHMARK IN JULY 2006 AS PART OF THE OFF-SITE INVESTIGATION.

DATE: NOVEMBER 2009
DRAFTED BY: AJZ

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BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

JOB NO.: 0040-002-400

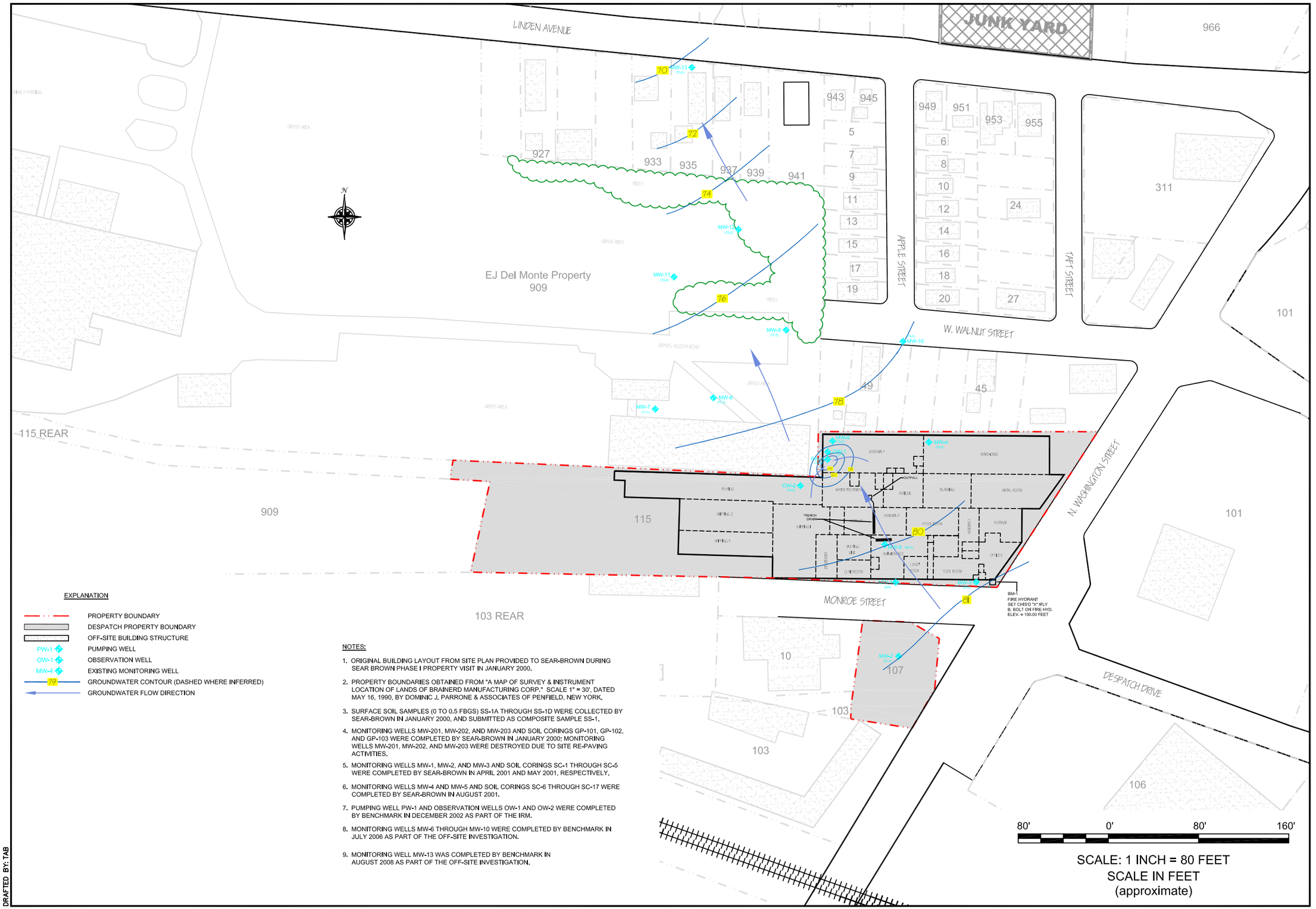
SITE PLAN

RI/AAR/IRM REPORT
FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR
DESPATCH INDUSTRIES, INC.

FIGURE 2

F:\CAD\Benchmark\Despatch\RI-AAR-IRM (NOVEMBER 2009)\Figure 3; Groundwater Isopotential Map - JULY 2009.dwg



EXPLANATION

- PROPERTY BOUNDARY
- DESPATCH PROPERTY BOUNDARY
- OFF-SITE BUILDING STRUCTURE
- PW-1 PUMPING WELL
- OW-1 OBSERVATION WELL
- MW-4 EXISTING MONITORING WELL
- 79 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. ORIGINAL BUILDING LAYOUT FROM SITE PLAN PROVIDED TO SEAR-BROWN DURING SEAR BROWN PHASE I PROPERTY VISIT IN JANUARY 2000.
2. PROPERTY BOUNDARIES OBTAINED FROM "A MAP OF SURVEY & INSTRUMENT LOCATION OF LANDS OF BRAINERD MANUFACTURING CORP." SCALE 1" = 30', DATED MAY 16, 1990, BY DOMINIC J. PARRONE & ASSOCIATES OF PENFIELD, NEW YORK.
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4. MONITORING WELLS MW-201, MW-202, AND MW-203 AND SOIL CORINGS GP-101, GP-102, AND GP-103 WERE COMPLETED BY SEAR-BROWN IN JANUARY 2000; MONITORING WELLS MW-201, MW-202, AND MW-203 WERE DESTROYED DUE TO SITE RE-PAVING ACTIVITIES.
5. MONITORING WELLS MW-1, MW-2, AND MW-3 AND SOIL CORINGS SC-1 THROUGH SC-5 WERE COMPLETED BY SEAR-BROWN IN APRIL 2001 AND MAY 2001, RESPECTIVELY.
6. MONITORING WELLS MW-4 AND MW-5 AND SOIL CORINGS SC-6 THROUGH SC-17 WERE COMPLETED BY SEAR-BROWN IN AUGUST 2001.
7. PUMPING WELL PW-1 AND OBSERVATION WELLS OW-1 AND OW-2 WERE COMPLETED BY BENCHMARK IN DECEMBER 2002 AS PART OF THE IRM.
8. MONITORING WELLS MW-6 THROUGH MW-10 WERE COMPLETED BY BENCHMARK IN JULY 2006 AS PART OF THE OFF-SITE INVESTIGATION.
9. MONITORING WELL MW-13 WAS COMPLETED BY BENCHMARK IN AUGUST 2008 AS PART OF THE OFF-SITE INVESTIGATION.

SCALE: 1 INCH = 80 FEET
SCALE IN FEET
(approximate)

DATE: NOVEMBER 2009
DRAFTED BY: TAB

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JOB NO.: 0040-002-400

GROUNDWATER ISOPOTENTIAL MAP JULY 7, 2009

RI/AAR/IRM REPORT

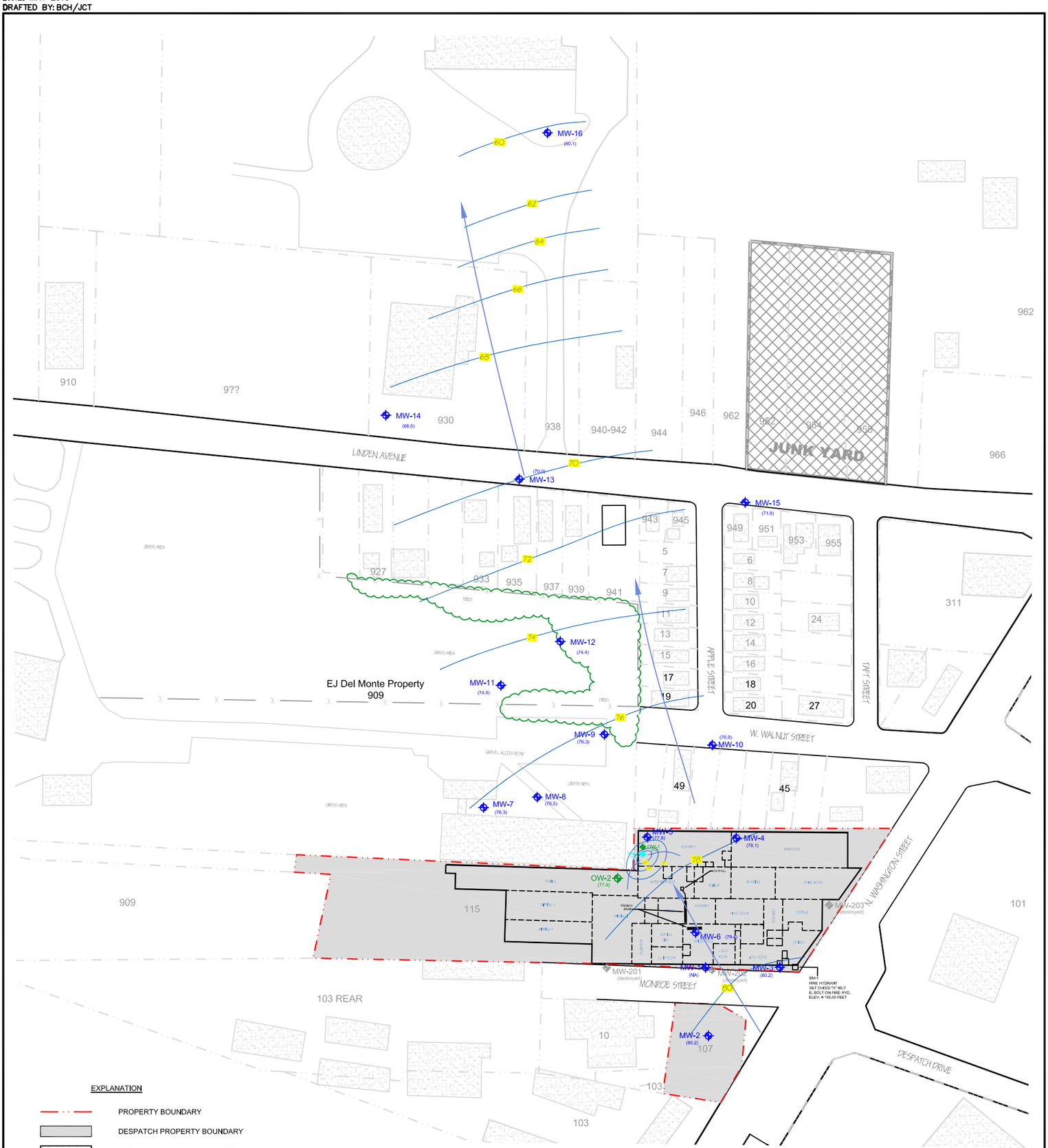
FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR
DESPATCH INDUSTRIES, INC.

FIGURE 3

F:\CAD\Benchmark\Despatch\RI-AAR-IRM (NOVEMBER 2009)\Figure 4; Groundwater Isopotential Map - October 2009.dwg

DATE: MAY 2010
DRAFTED BY: BCH/JCT



EXPLANATION

- PROPERTY BOUNDARY
- DESPATCH PROPERTY BOUNDARY
- OFF-SITE BUILDING STRUCTURE
- PW-1 PUMPING WELL LOCATION
- OW-1 OBSERVATION WELL LOCATION
- MW-4 EXISTING MONITORING WELL LOCATION
- MW-201 DESTROYED MONITORING WELL LOCATION
- 80 GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

N

150' 0' 150' 300'

SCALE: 1 INCH = 150 FEET
SCALE IN FEET
(approximate)

NOTES:

1. ORIGINAL BUILDING LAYOUT FROM SITE PLAN PROVIDED TO SEAR-BROWN DURING SEAR BROWN PHASE I PROPERTY VISIT IN JANUARY 2000.
2. PROPERTY BOUNDARIES OBTAINED FROM "A MAP OF SURVEY & INSTRUMENT LOCATION OF LANDS OF BRAINERD MANUFACTURING CORP." SCALE 1" = 30', DATED MAY 16, 1990, BY DOMINIC J. PARRONE & ASSOCIATES OF PENFIELD, NEW YORK.
3. SURFACE SOIL SAMPLES (0 TO 0.5 FBGS) SS-1A THROUGH SS-1D WERE COLLECTED BY SEAR-BROWN IN JANUARY 2000, AND SUBMITTED AS COMPOSITE SAMPLE SS-1.
4. MONITORING WELLS MW-201, MW-202, AND MW-203 AND SOIL CORINGS GP-101, GP-102, AND GP-103 WERE COMPLETED BY SEAR-BROWN IN JANUARY 2000; MONITORING WELLS MW-201, MW-202, AND MW-203 WERE DESTROYED DUE TO SITE RE-PAVING ACTIVITIES.
5. MONITORING WELLS MW-1, MW-2, AND MW-3 AND SOIL CORINGS SC-1 THROUGH SC-5 WERE COMPLETED BY SEAR-BROWN IN APRIL 2001 AND MAY 2001, RESPECTIVELY.
6. MONITORING WELLS MW-4 AND MW-5 AND SOIL CORINGS SC-6 THROUGH SC-17 WERE COMPLETED BY SEAR-BROWN IN AUGUST 2001.
7. PUMPING WELL PW-1 AND OBSERVATION WELLS OW-1 AND OW-2 WERE COMPLETED BY BENCHMARK IN DECEMBER 2002 AS PART OF THE IRM.
8. MONITORING WELLS MW-6 THROUGH MW-10 WERE COMPLETED BY BENCHMARK IN JULY 2006 AS PART OF THE OFF-SITE INVESTIGATION.
9. MONITORING WELLS MW-11 AND MW-12 WERE COMPLETED BY BENCHMARK IN FEBRUARY 2008 AS PART OF THE OFF-SITE INVESTIGATION.
10. MONITORING WELL MW-13 WAS COMPLETED BY BENCHMARK IN AUGUST 2008 AS PART OF THE OFF-SITE INVESTIGATION.
11. MONITORING WELLS MW-14, MW-15 AND MW-16 WERE COMPLETED BY BENCHMARK IN AUGUST/SEPTEMBER 2009 AS PART OF THE OFF-SITE INVESTIGATION.

FIGURE 4

GROUNDWATER ISOPOTENTIAL MAP
OCTOBER 14, 2009

RI/AAR/IRM REPORT

FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR
DESPATCH INDUSTRIES, INC.

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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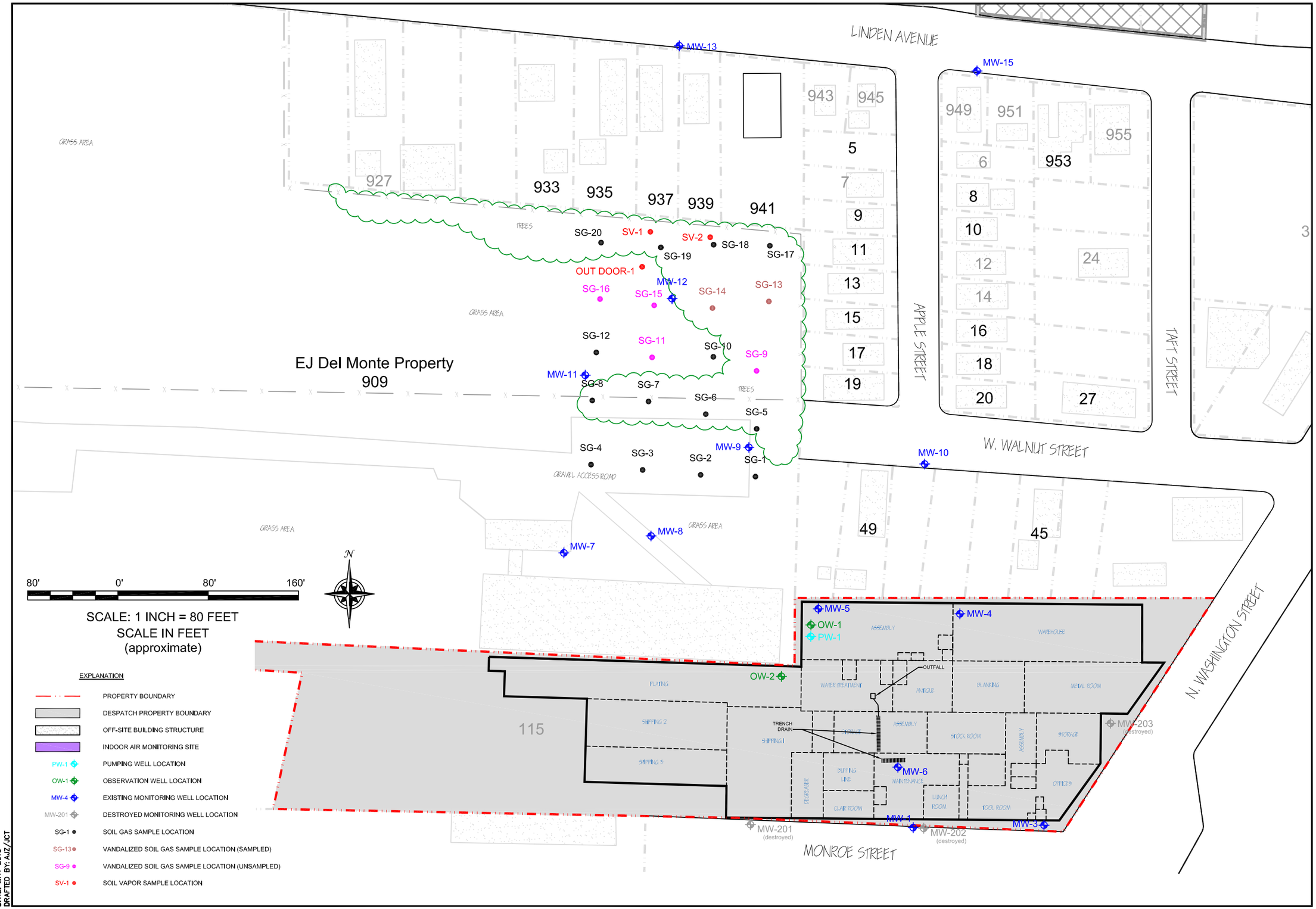
JOB NO.: 0040-002-400

F:\CAD\Benchmark\Despatch\R1-AAR-IRM (NOVEMBER 2009)\Figure 5; Residential Indoor Air and Off-Site Soil Vapor (redacted).dwg



EXPLANATION

- PROPERTY BOUNDARY
- DESPATCH PROPERTY BOUNDARY
- OFF-SITE BUILDING STRUCTURE
- INDOOR AIR MONITORING SITE
- PW-1 PUMPING WELL LOCATION
- OW-1 OBSERVATION WELL LOCATION
- MW-4 EXISTING MONITORING WELL LOCATION
- MW-201 DESTROYED MONITORING WELL LOCATION
- SG-1 SOIL GAS SAMPLE LOCATION
- SG-13 VANDALIZED SOIL GAS SAMPLE LOCATION (SAMPLED)
- SG-9 VANDALIZED SOIL GAS SAMPLE LOCATION (UNSAMPLED)
- SV-1 SOIL VAPOR SAMPLE LOCATION

DATE: MAY 2010
DRAFTED BY: AJZ/JCT

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RESIDENTIAL INDOOR AIR
OFF-SITE SOIL VAPOR SAMPLING LOCATIONS

RI/AAR/IRM REPORT
FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR
DESPATCH INDUSTRIES, INC.

FIGURE 5

APPENDIX A

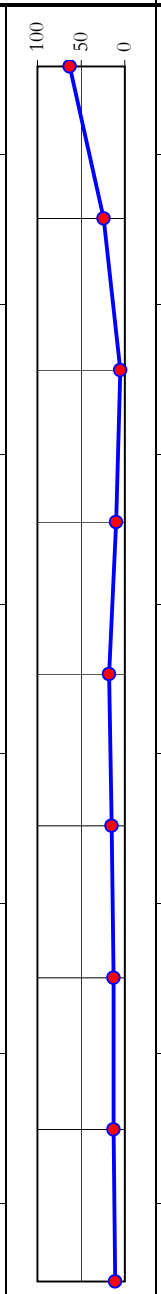
FIELD BOREHOLE/MONITORING WELL INSTALLATION LOGS

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE LOG

Project Name: Voluntary Cleanup - IRM
BORING NUMBER: **PW-1**
Project Number: 0040-002-100
Location: Former Plating Room
Client: Despatch Industries, Inc.
Start Date/Time: 12/13/02 / 08:30 AM
Drilling Company: Nothnagle Drilling, Inc.
End Date/Time: 12/14/02 / 02:45 PM
Driller: Jay Stockholm
Logged By: BCH
Helper: Steve Gelser and Travis Rawleigh
Drilling Method: 6.25-inch Hollow Stem Auger
Rig Type: Gus Pec 750 propane rig
Weather: NA - *location is within building structure*

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Penetrometer (tons/SF)	Well Construction Details
101.7	0	S1	2 13 50 --	63	0.5	0.0 - 0.75 **CONCRETE:** AT GRADE 0.75 - 2.0 **GRAVELLY SILT:** Dark brown, moist, 60% fines, 20% coarse sub-angular gravel, 20% fine sub-angular gravel, non to low plasticity, hard, loose when disturbed	ML	0.0	17.2	n	NA	
99.7	2	S2	11 18 6 7	24	1.2	**POORLY GRADED SAND with GRAVEL:** Dark orange/brown, moist, 70% fine sand, 25% fine sub-angular gravel, 5% coarse sub-angular gravel, medium dense, loose when distrubed	SP	12.9	51.4	n	NA	
97.7	4	S3	1 2 3 2	5	1.0	**POORLY GRADED SAND:** Orange/brown, moist, 90% fine sand, 10% non-plastic fines, loose, iron-stainded banding	SP	6.3	0.0	n	NA	
95.7	6	S4	3 4 6 6	10	1.4	Same as S3 above, light orange/brown	SP	1.7	0.0	n	NA	
93.7	8	S5	6 9 9 9	18	1.4	Same as S4 above, medium dense	SP	5.9	0.0	n	NA	
91.7	10	S6	4 8 7 7	15	1.4	Same as S5 above	SP	1.7	0.0	n	NA	
89.7	12	S7	7 6 7 9	13	1.7	Same as S5 above	SP	0.0	0.0	n	NA	
87.7	14	S8	5 6 7 6	13	1.8	Same as S5 above	SP	0.0	0.0	n	NA	
85.7	16	S9	5 5 6 5	11	1.6	Same as S5 above	SP	0.0	0.0	n	NA	
83.7	18											



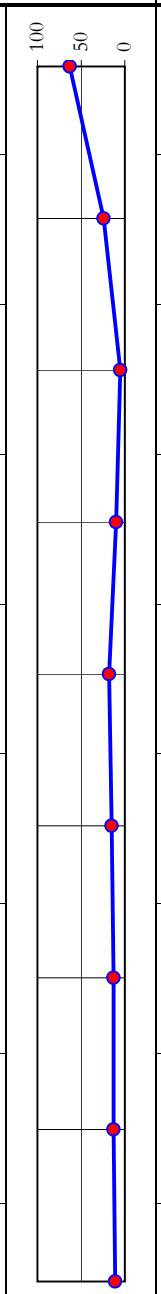
Cement/Bentonite Grout
4", Schedule 40 PVC Riser

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE LOG

Project Name: Voluntary Cleanup - IRM
BORING NUMBER: OW-1
Project Number: 0040-002-100
Location: Former Assembly Room
Client: Despatch Industries, Inc.
Start Date/Time: 12/11/02 / 01:00 PM
Drilling Company: Nothnagle Drilling, Inc.
End Date/Time: 12/12/02 / 03:00 PM
Driller: Jay Stockholm
Logged By: BCH
Helper: Steve Gelser and Travis Rawleigh
Drilling Method: 4.25-inch Hollow Stem Auger
Rig Type: Gus Pec 750 propane rig
Weather: NA - *location is within building structure*

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Penetrometer (tons/SF)	Well Construction Details
101.7	0	S1	2 13 50 --	63	0.5	0.0 - 0.75 **CONCRETE:** AT GRADE 0.75 - 2.0 **GRAVELLY SILT:** Dark brown, moist, 60% fines, 20% coarse sub-angular gravel, 20% fine sub-angular gravel, non to low plasticity, hard, loose when disturbed	ML	0.0	17.2	n	NA	
99.7	2	S2	11 18 6 7	24	1.2	**POORLY GRADED SAND with GRAVEL:** Dark orange/brown, moist, 70% fine sand, 25% fine sub-angular gravel, 5% coarse sub-angular gravel, medium dense, loose when distrubed	SP	12.9	51.4	n	NA	
97.7	4	S3	1 2 3 2	5	1.0	**POORLY GRADED SAND:** Orange/brown, moist, 90% fine sand, 10% non-plastic fines, loose, iron-stainded banding	SP	6.3	0.0	n	NA	
95.7	6	S4	3 4 6 6	10	1.4	Same as S3 above, light orange/brown	SP	1.7	0.0	n	NA	
93.7	8	S5	6 9 9 9	18	1.4	Same as S4 above, medium dense	SP	5.9	0.0	n	NA	
91.7	10	S6	4 8 7 7	15	1.4	Same as S5 above	SP	1.7	0.0	n	NA	
89.7	12	S7	7 6 7 9	13	1.7	Same as S5 above	SP	0.0	0.0	n	NA	
87.7	14	S8	5 6 7 6	13	1.8	Same as S5 above	SP	0.0	0.0	n	NA	
85.7	16	S9	5 5 6 5	11	1.6	Same as S5 above	SP	0.0	0.0	n	NA	
83.7	18											



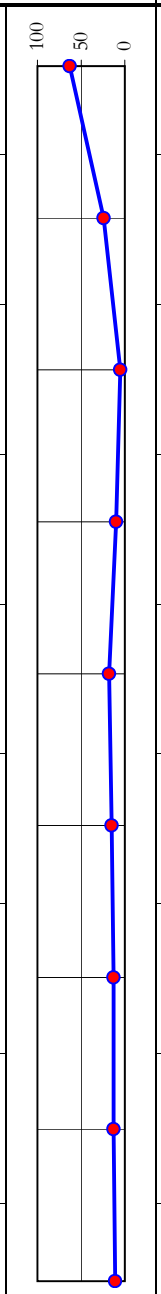
Cement/Bentonite Grout
2", Schedule 40 PVC Riser

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE LOG

Project Name: Voluntary Cleanup - IRM
BORING NUMBER: OW-2
Project Number: 0040-002-100
Location: Former Plating Room
Client: Despatch Industries, Inc.
Start Date/Time: 12/09/02 / 11:20 AM
Drilling Company: Nothnagle Drilling, Inc.
End Date/Time: 12/10/02 / 03:40 PM
Driller: Jay Stockholm
Logged By: BCH
Helper: Steve Gelser and Travis Rawleigh
Drilling Method: 4.25-inch Hollow Stem Auger
Rig Type: Gus Pec 750 propane rig
Weather: NA - *location is within building structure*

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery	SOIL DESCRIPTION USCS Classification: Color, Moisture Condition, Percentage of Soil Type,Texture, Plasticity, Fabric, Bedding, Other	USCS Code	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Penetrometer (tons/SF)	Well Construction Details
101.7	0	S1	2 13 50 --	63	0.5	0.0 - 0.75 **CONCRETE:** AT GRADE 0.75 - 2.0 **GRAVELLY SILT:** Dark brown, moist, 60% fines, 20% coarse sub-angular gravel, 20% fine sub-angular gravel, non to low plasticity, hard, loose when disturbed	ML	0.0	17.2	n	NA	
99.7	2	S2	11 18 6 7	24	1.2	**POORLY GRADED SAND with GRAVEL:** Dark orange/brown, moist, 70% fine sand, 25% fine sub-angular gravel, 5% coarse sub-angular gravel, medium dense, loose when distrubed	SP	12.9	51.4	n	NA	
97.7	4	S3	1 2 3 2	5	1.0	**POORLY GRADED SAND:** Orange/brown, moist, 90% fine sand, 10% non-plastic fines, loose, iron-stainded banding	SP	6.3	0.0	n	NA	
95.7	6	S4	3 4 6 6	10	1.4	Same as S3 above, light orange/brown	SP	1.7	0.0	n	NA	
93.7	8	S5	6 9 9 9	18	1.4	Same as S4 above, medium dense	SP	5.9	0.0	n	NA	
91.7	10	S6	4 8 7 7	15	1.4	Same as S5 above	SP	1.7	0.0	n	NA	
89.7	12	S7	7 6 7 9	13	1.7	Same as S5 above	SP	0.0	0.0	n	NA	
87.7	14	S8	5 6 7 6	13	1.8	Same as S5 above	SP	0.0	0.0	n	NA	
85.7	16	S9	5 5 6 5	11	1.6	Same as S5 above	SP	0.0	0.0	n	NA	
83.7	18											



Cement/Bentonite Grout
2", Schedule 40 PVC Riser

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 6**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	07/13/06
Drilling Company:	Nothnagle	**End Date:**	07/13/06
Driller:	Kevin Busch	**Logged By:**	BCH
Helper:	Tom Vellecoop	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:		**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0	NA	1.3	**0.0 - 1.3** Concrete flooring	NA	NA	NA	
-1.3	1.3							
-2	2	S1	0.7	**0.0 - 0.7** Conrete pieces with some fine sand.	73			
-4	4							
-6	6	S2	2.4	**0.0 - 0.8** Dark orange/brown, moist, **Fine Sand**, with some silt and clay, with iron stained mottling. **0.8 - 2.4** As above but with more silt fines, dense, loose when disturbed, with iron banding.	29.4 / 27.3			
-8	8							
-10	10	S3	2.9	**0.0 - 2.9 Fine Sand** As above with no banding.	65.3			
-12	12							
-14	14	S4	3.7	**0.0 - 3.7** As above, dark orange from 1.4 - 2.2, light blue at 3.0.	44.6			
-16	16							
-18	18	S5	3.5	**0.0- 3.5** As above but light brown.	41.9			
-20	20							

Well Construction Details: Grout; 2 inch PVC Riser; Bentonite seal

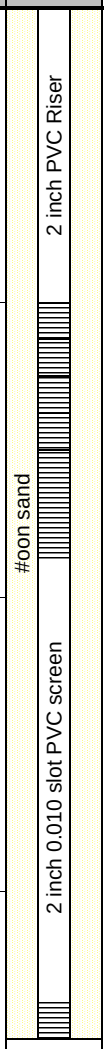
BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 6**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-20	20				14.0			
-22	22	S6	3.9	**0.0 - 3.9** As above but medium to dark brown, moist to wet, wet at 0.8 with rapid dilatancey.	3.3			
-24	24				0.5			
-26	26			Due to running/heaving sands, augered to 35 fbgs and set well.				
-28	28							
-30	30							
-32	32							
-34	34			EOB @ 35.0 fbgs				
-36	36							
-38	38							
-40	40							



BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 7**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	07/20/06
Drilling Company:	Nothnagle	**End Date:**	07/20/06
Driller:	Kevin Busch	**Logged By:**	BCH
Helper:	Tom Vellecoop	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:		**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0							
-2	2	S1	3.3	**0.0 - 3.2** Dark orange/brown, moist, **Fill**, fine sand with some silt fines slag and cinders, loose.	0.2			
-4	4							
-6	6	S2	2.9	**0.0 - 0.5 Fill** As above, **0.5 - 2.9** Dark orange/brown, moist, **Fine Sand**, with some silt, with angular bands of iron staining, loose.	0.0			
-8	8							
-10	10	S3	3.7	**0.0 - 3.5 Fine Sand** As above, with bands of silt.	0.1			
-12	12							
-14	14	S4	3.8	**0.0 - 3.8 Fine Sand** As above, light brown/tan, no iron staining, medium dense.	0.0			
-16	16							
-18	18	S5	3.9	**0.0- 3.9 Fine Sand** As above, dense.	0.0			
-20	20							

Well Construction Details: Grout; 2 inch PVC Riser; Bentonite

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 7**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-20	20							Bentonite seal
-22	22	S6	3.4	**0.0 - 3.4 Fine Sand** As above, wet at 1.5 with rapid dilatancey.	0.0			2 inch PVC Riser
-24	24	NA	NA		NA			
-26	26	S7	3.6	**0.0 - 3.6 Fine Sand** As above, wet.	0.0			#oon sand
-28	28	NA	NA		NA			
-30	30	S8	4.0	**0.0 - 4.0 Fine Sand** As above.	0.0			2 inch 0.010 slot PVC screen
-32	32							
-34	34			EOB @ 35.0 fbgs				
-36	36							
-38	38							
-40	40							

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 8**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	07/19/06
Drilling Company:	Nothnagle	**End Date:**	07/19/06
Driller:	Kevin Busch	**Logged By:**	BCH
Helper:	Tom Vellecoop	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:		**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0							
-2	2	S1	3.3	**0.0 - 2.6** Black with dark orange/brown, moist, **Fill**, fine sand with some silt fines and cinders, loose when disturbed **2.6 - 3.3** Dark orange/brown, moist, **Fine Sand**, with some silt, medium dense, loose when disturbed	0.0			
-4	4							
-6	6	S2	3.4	**0.0 - 1.3 Fine Sand** As above, **1.3 - 3.4** As above, medium brown/tan, with angular bands of iron staining, loose.	0.0			
-8	8							
-10	10	S3	3.5	**0.0 - 3.5 Fine Sand** As above, medium dense.	0.0			
-12	12							
-14	14	S4	3.7	**0.0 - 3.7 Fine Sand** As above, no iron staining, increased moisture (not yet wet).	0.0			
-16	16							
-18	18	S5	3.8	**0.0- 3.8 Fine Sand** As above.	0.0			
-20	20							

Well Construction Details: Grout; 2 inch PVC Riser; Bentonite

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 8**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-20	20							Bentonite seal
-22	22	S6	3.3	**0.0 - 3.3 Fine Sand** As above, wet at 1.4 with rapid dilatancey.	0.0			2 inch PVC Riser
-24	24	NA	NA		NA			
-26	26	S7	3.8	**0.0 - 3.8 Fine Sand** As above.	0.0			#oon sand
-28	28							
		NA	NA		NA			
-30	30							
-32	32	S8	3.8	**0.0 - 3.8 Fine Sand** As above.	0.9			2 inch 0.010 slot PVC screen
-34	34							
				EOB @ 35.0 fbgs				
-36	36							
-38	38							
-40	40							

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 9**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	07/19/06
Drilling Company:	Nothnagle	**End Date:**	07/19/06
Driller:	Kevin Busch	**Logged By:**	BCH
Helper:	Tom Vellecoop	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:		**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0				NA			
		S1	3.0	**0.0 - 0.3** Asphalt **0.3 - 0.9** Black, moist, **Fill**, silt fines with some fine sand, cinders, and slag, dense, loose when disturbed, former railroad ballast **0.9 - 1.2** Dark orange/brown, moist, **Fine Sand**, with some silt, medium dense, with iron staining. **1.2 - 1.5** Same as S1 (0.3 - 0.9). **1.5 - 3.0** Same as S1 (0.9 - 1.2).				
-2	2				0.0			
-4	4							
		S2	3.0	**0.0 - 3.0 Fine Sand** As above, medium to light orange/brown, with horizontal iron stained bands < 5 cm, occasional rootlets.	0.0			
-6	6							
-8	8							
		S3	2.7	**0.0 - 2.7 Fine Sand** As above, wet from 0.1 - 0.7.	0.0			
-10	10							
-12	12							
		S4	3.3	**0.0 - 1.6 Fine Sand** As above, with occasional rootlets. **1.6 - 3.3** As above, light brown/tan, with occasional iron staining.	0.0			
-14	14							
-16	16							
		S5	3.3	**0.0- 3.3 Fine Sand** As above, with bands of silt, dense.	0.0			
-18	18							
-20	20							

Grout
2 inch PVC Riser
Bentonite

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 9**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-20	20							Bentonite seal
					0.5			
-22	22	S6	3.3	**0.0 - 3.3 Fine Sand** As above, wet at 0.4 with rapid dilatancey, very dense.				2 inch PVC Riser
					4.9			
-24	24	NA	NA		NA			
-26	26	S7	3.9	**0.0 - 3.9 Fine Sand** As above.	16.6			#oon sand
-28	28							
		NA	NA		NA			
-30	30							
-32	32	S8	3.9	**0.0 - 3.9 Fine Sand** As above.	11.7			2 inch 0.010 slot PVC screen
-34	34							
				EOB @ 35.0 fbgs				
-36	36							
-38	38							
-40	40							

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 10**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	07/18/06
Drilling Company:	Nothnagle	**End Date:**	07/18/06
Driller:	Kevin Busch	**Logged By:**	BCH
Helper:	Tom Vellecoop	**Drilling Method:**	Hollow stem auger
Rig Type:		**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0	S1	23 6 4 4	10	1.4	**0.0 - 0.4 Asphalt** **0.4 - 1.4** Dark brown/orange, moist, **Fine Sand**, with some silts and clay, firm to soft, loose.	0.0	NA		Grout
-2	2	S2	4 5 6 6	11	1.8	**0.0 - 0.6** Same as S1 (0.4 - 1.4). **0.6 - 1.8** Dark orange/brown, moist, **Fine Sand**, with some silt, medium dense, with iron staining.	0.0			
-4	4	S3	3 3 4 3	7	1.2	**0.0 - 1.2** As above, but bedded, and loose.	0.0			
-6	6	S4	3 3 3 4	6	1.6	**0.0 - 1.6** Same as above, no bedding.	0.0			
-8	8	S5	2 3 3 2	6	1.7	**0.0 - 1.7** Same as above, with rootlets, and iron staining.	0.0			
-10	10	S6	4 3 2 3	5	1.7	**0.0 - 1.7** Same as above, but wet at 1.2, with no rootlets or iron staining.	0.0			
-12	12	S7	4 6 9 12	15	1.7	**0.0 - 1.1** Same as above, wet from 0.7 to 1.0, medium dense. **1.1 -1.7** Same as above but light brown to tan and moist.	0.0			
-14	14	S8	7 10 11 12	21	1.6	**0.0 - 1.3** Same as above **1.3 - 1.6** Same as above, but wet	0.0			
-16	16	S9	6 9 13 13	22	1.6	**0.0 - 1.6** Same as above 1.3 - 1.6 with trace silt fines, rapid dilatency.	0.0			2 inch PVC Riser
-18	18	S10	6 9 13 13	22	1.6	**0.0 - 1.6** Same as above.	0.0			Bentonite
-20	20									

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 10**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Blows (per 6")	SPT N-Value	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure) USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-20	20					**Augered to 25.0 fbgs.**				#0on sand; 2" 0.010 slot PVC screen
-25	25	S11	WH 5 7 12	12	1.6	**0.0 - 1.6** Same as above but dark brown.	0.0			
-27	27					**Augered to 30.0 fbgs.**				
-30	30	S12	WR 3 6 15	9	1.6	**0.0 - 1.6** Same as above.	0.0			
-32	32					**Augered to 35.0 fbgs.**				
-35	35					EOB @ 35.0 fbgs				
-37	37									
-39	39									
-41	41									
-43	43									
-45	45									

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 11**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	03/05/08
Drilling Company:	Nothnagle	**End Date:**	03/05/08
Driller:	Neal Short	**Logged By:**	TAB
Helper:	James	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:	CME 75	**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE (ASTM D2488 - Visual/Manual Procedure)	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0							
-2	2	S1	2.9	**0.0 - 0.7** Brown, moist, **Top Soil**, Silty clay, with some sand, stiff with few gravel, with rootlets. **0.7 - 1.7** Black, moist, **Fill**, silt fines with some fine sand, cinders, and pieces of glass and slag, dense, loose, when disturbed, with rootlets at top. **1.7 - 2.9** Brown, moist, **Fine Sand**, iron stained molding with banding, dense, loose when disturbed	0.0	NA	NO	
-4	4							
-6	6	S2	2.5	**0.0 - 2.5** As S1 (1.7 - 2.9) with little fine gravel, from 0.0 - 1.2.	0.0	NA	NO	
-8	8							
-10	10	S3	2.9	**0.0 - 2.9** As above, with no fine gravel, but laminated	0.0	NA	NO	
-12	12							
-14	14	S4	2.4	**0.0 - 2.4** As above.	0.0	NA	NO	
-15	15							
-17	17	S5	3.3	**0.0 - 3.3** As above, but with no laminations.	0.0	NA	NO	
-19	19							

Well Construction Details: cuttings; 2 inch PVC Riser

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 11**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE *(ASTM D2488 - Visual/Manual Procedure)* USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded,	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-19	19							
-21	21	S6	3.2	**0.0 - 3.2** As above.	0.0	NA	NO	Medium chips / 2 inch PVC Riser
-23	23							
-25	25	S7	2.5	**0.3 - 2.5** As above, but wet, with rapid dilatencey.	0.0	0.0	NO	
-27	27							
-29	29	S8	2.2	**0.0 - 2.2** As above.	0.0	NA	NO	#oon sand / 2 inch 0.010 slot PVC screen
-30	30							
-32	32	S9	1.5	**0.0 - 1.5** As above.	0.0	0.3	NO	
-33	33							
		S10	1.7	**0.0 - 1.7** As above.	0.0	NA	NO	
-35	35							
				EOB @ 35.0 fbgs.				
-37	37							

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name:	SI / RAS	**LOCATION I.D.:**	**MW - 12**
Project Number:	0040-002-400	**Well Type:**	☐ Stick-up ☑ Flush-mount
Client:	Despatch	**Start Date:**	03/05/08
Drilling Company:	Nothnagle	**End Date:**	03/05/08
Driller:	Neal Short	**Logged By:**	TAB
Helper:	James	**Drilling Method:**	Macro Core through Hollow Stem Augers
Rig Type:	CME 75	**Weather:**	

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE *(ASTM D2488 - Visual/Manual Procedure)* USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
0	0							
-2	2	S1	3.1	**0.0 - 1.4** Dark brown, black, moist, **Fill**, silt fines with some fine sand, cinders, and pieces of glass and slag, dense, loose, when disturbed, with rootlets at top. **1.4 - 3.1** Brown, moist, **Fine Sand**, iron stained modling with banding, dense, loose when disturbed.	0.0	NA	NO	
-4	4							
-6	6	S2	1.7	**0.0 - 0.5** As above but dark brown with trace coarse sand (black). **0.5 - 1.7** As S1 (1.4 - 3.1)	0.0	NA	NO	
-8	8							
-10	10	S3	3.0	**0.0 - 3.0** As S1 (1.4 - 3.1).	0.0	NA	NO	cuttings / 2 inch PVC Riser
-12	12							
-14	14	S4	2.2	**0.0 - 2.2** As above.	0.0	NA	NO	
-15	15							
-17	17	S5	3.1	**0.0 - 3.1** As above.	0.0	NA	NO	
-19	19							

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

FIELD BOREHOLE/MONITORING INSTALLATION LOG

Project Name: SI / RAS **LOCATION I.D.:** **MW - 12**

Project Number: 0040-002-400 **Well Type:** ☐ Stick-up ☑ Flush-mount

Elevation (fmsl)	Depth (fbgs)	Sample No.	Recovery (feet)	DESCRIPTION OF RECOVERED SAMPLE *(ASTM D2488 - Visual/Manual Procedure)* USCS Classification: Color, Moisture Condition, Primary Soil Type, Secondary Soil Type (<5% Trace, 5-10% Few, 15-25% Little, 30-45% Some), Structure (varved, stratified, thinly bedded, bedded, thickly bedded, laminated, fissured, blocky, lensed, massive), Consistency/Density (Standard Penetration Test, SPT), Weathering/Fracturing, Odor, Fill Materials (if present), Other	PID Scan (ppm)	PID HDSP (ppm)	Samples (y/n)	Well Construction Details
-19	19							Medium chips / 2 inch PVC Riser
-21	21	S6	3.1	**0.0 - 3.1** As above, but wet from (1.8 - 2.2)	0.0	NA	NO	
-23	23							
-25	25	S7	2.7	**0.0 - 0.3** Grey, wet, **Gravel**, with some fine sand. **0.3 - 2.7** As S1 (1.4 - 3.0) but wet, with rapid dilatencey.	0.0	NA	NO	#oon sand / 2 inch 0.010 slot PVC screen
-27	27							
-29	29	S8	2.0	**0.0 - 2.0** As S7 (0.3 - 2.7).	0.0	NA	NO	
-30	30							
-32	32	S9	2.4	**0.0 - 2.4** As above.	0.0	0.3	NO	
-33	33							
		S10	2.0	**0.0 - 2.0** As above.	0.0	NA	NO	
-35	35							
				EOB @ 35.0 fbgs.				
-37	37							

Project No: 0079-001-200

Borehole Number: MW-13

Project: Despatch Industries, Inc.

Client: Despatch Industries, Inc.

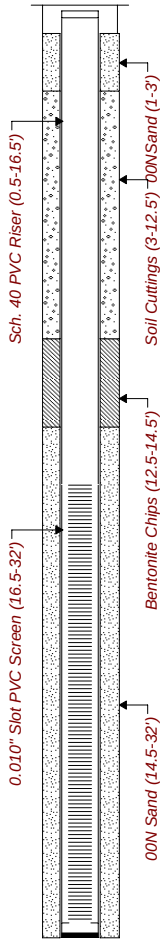
Logged By: TAB

Site Location: East Rochester, NY

Checked By: BCH

Benchmark Environmental Engineering & Science, PLLC
726 Exchange Street, Suite 624
Buffalo, NY
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete - Sidewalk***							
		Subbase One inch crusher-run							
		Fine Sand Medium brown, Fine Sand with few Silt, moist, medium density, very faint reddish brown laminations	Hand	NA	5				
	-5.0 5.0	Same as above	S1	NA	3.2		0.0		
	-9.0 9.0	Same as above with rootlets	S2	NA	3.6		0.0		
	-13.0 13.0	Same as above with no rootlets	S3	NA	3.3		0.0		
	-17.0 17.0	Same as above	S4	NA	3.5		0.0		
	-20.0 20.0	Same as above, wet							
	-21.0 21.0	Same as above	S5	NA	2.2		0.0		
	-24.0 24.0	Same as above with trace coarse gravel	S6	NA	2.9		0.0		
	-28.0 28.0	Same as above with no gravel	S7	NA	2.4		0.0		
	-32.0 32.0	Same as above	S8	NA	2.2		0.0		
	-35.0 35.0	***End of Boring***							
40.0	-40.0 40.0								



Drilled By: Nothnagle Enterprises, Inc.
Drill Rig Type: CME 55
Drill Method: 4.25" HSA with 4' Macro-core

Drill Date(s): 08-05-08

Hole Size: 9"
Stick-up: Flushmount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No:

Borehole Number: MW-14

Project: Despatch

Client: Despatch

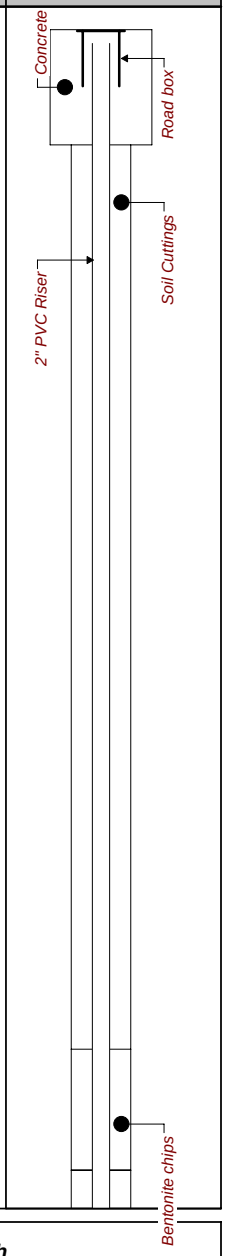
Logged By: TAB

Site Location: East Rochester

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
		Fill hand cleared dark brown fs, moist, with pieces of clay tile and nails, m dense, np, lwd.							
	4.5	***Fine Sand*** brown, fine sand, little silt, m dense to dense, lwd	S1	na	1.9		0.0		
5.0							0.0		
	8.0	as above few silt	S2	na	0.7		0.0		
10.0	10.0	as above	S3	na	3.5		0.0		
							0.0		
	14.0	as above	S4	na	2.5		0.0		
15.0							0.0		
	18.0	as above	S5	na	1.2		0.0		
20.0	20.0	as above wet					0.0		



Drilled By:
Drill Rig Type: Low Clearance Buggie Rig
Drill Method: Continous Macrocore, with 41/4-inch augers

Drill Date(s): 8/5/09

Hole Size: 9-inch
Stick-up: Flush Mount
Datum: Mean Sea Level

Sheet: 1 of 2

Project No:

Borehole Number: MW-14

Project: Despatch

Client: Despatch

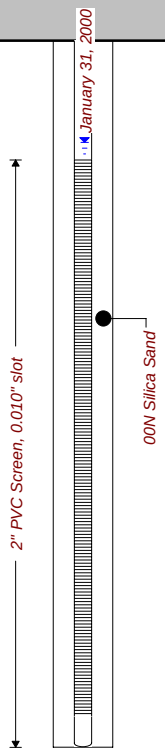
Logged By: TAB

Site Location: East Rochester

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
			S6	na	2.0		0.0		
	24.0	as above					0.0		
25.0			S7	na	1.9		0.0		
	28.0	as above					0.0		
30.0			S8	na	2.1		0.0		
	32.3	End of Borehole					0.0		
35.0									
40.0									



Drilled By:
Drill Rig Type: Low Clearance Buggie Rig
Drill Method: Continous Macrocore, with 41/4-inch augers

Drill Date(s): 8/5/09

Hole Size: 9-inch
Stick-up: Flush Mount
Datum: Mean Sea Level

Sheet: 2 of 2

Project No:

Borehole Number: MW-15

Project: Despatch

Client: Despatch

Logged By: TAB

Site Location: East Rochester

Checked By:

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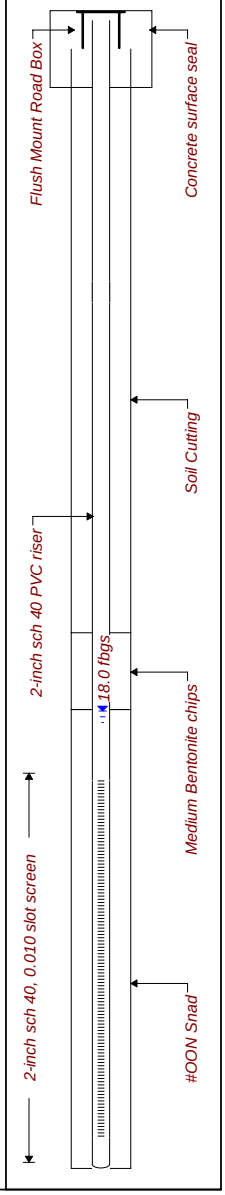
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 1000 – 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Concrete Sidewalk***							
		clayey silt with fine sand hand cleared 0-4, clayey silt with some fine sand, medium dense, hp.							
	-4.0 4.0	brown, clayey silt with some fine sand, medium dense, medium plastic, rootlets and brown patches.	S1	na	1.9		0.0		
5.0	-7.0 7.0	***Silty Clay***					0.0		
	-8.0 8.0	brown, moist,silty clay, with trace fine sand, stiff, hp.							
		Clayey Silt with fine sand Brown, moist, clayey silt with fine sand, stiff, slightly laminated, medium plastic, with fine sand wet lenses.	S2	na	1.5		0.0		
10.0			S3	na	2.5		0.0		
							0.0		
15.0			S4	na	2.4		0.0		
							0.0		
	-18.0 18.0	As above, wet, low plasticity fines	S5	na	1.0		0.0		
20.0			S6	na	2.4		0.0		
							0.0		
	-24.0 24.0	***Fine Sand*** Brown, wet, fine sand with some silt, dense, non-plastic,, rabid diatancy.	S7	na	2.0		0.0		
25.0							0.0		
	-28.0 28.0	Augered to 30.0 fbgs to mitigate heaving sands, added ~50 gals of water to boring to hold down sand.							
30.0	-30.0 30.0								



Drilled By: Nathnagle
Drill Rig Type: Low clearance buggie rig
Drill Method: Countiuos macrocore sample with 41/4-inch augers

Drill Date(s): 8/4/09 - 8/5/09

Hole Size: 9-inch
Stick-up: flush mount
Datum: mean sea level

Sheet: 1 of 1

Project No:

Borehole Number: MW-16

Project: Despatch

Client: Despatch

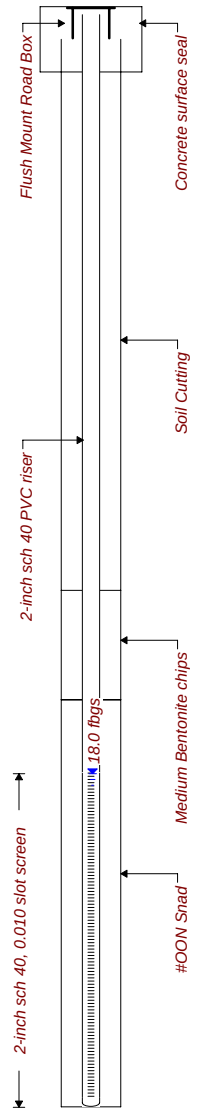
Logged By: TAB

Site Location: East Rochester

Checked By:

Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY
(716) 856-0599

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 1000 – 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fine Sand*** hand cleared 0-4, Brown, moist, fine sand, with some silt, medium dense, withe trace limestone cobbles, loose when disturbed, dark brown banding, with rootlets.							
5.0	-6.0		1	NA	3.8		0.0		
	6.0	***Slity Clay*** Brown, moist, siltyclay with some sand, very stiff, medium plastic, rootlets.					0.0		
	-8.0								
	8.0	***Clayey Silt*** Brown, moist, clayey silt, with some fine sand, very stiff, medium plastic.	2	NA	3.6		0.0		
10.0							0.0		
	-12.0								
	12.0	***Fine Sand*** Brown, moist, fine sand with some silt, dense, loose when disturbed, Iron banding and discolorations.	3	NA	1.8		0.0		
	-15.0								
15.0	15.0	As above, with two redish brown slity clay lense ~2-inch thick at 16 .0 fbgs and 18.0 fbgs and laminations in fine sand.	4	NA	3.7		0.0		
	-19.0						0.0		
	19.0	As above with no silty clay lenses, wet from 20 fbgs to 21 fbgs, with little silt	5	NA	3.6		0.0		
20.0	-23.0						0.0		
	23.0	As above, wet, little silt, medium dense, rapid dilatancy.	6	NA	2.7		0.0		
25.0							0.0		
			7	NA	2.3		0.0		
30.0			8	NA	2.6		0.0		
	-34.0						0.0		
	34.0	End of Borehole							
35.0									



Drilled By: Nathnagle
Drill Rig Type: CME 75
Drill Method: Countiuos macrocore sample with 41/4-inch augers

Drill Date(s): 9/11/09

Hole Size: 9-inch
Stick-up: flush mount
Datum: mean sea level

Sheet: 1 of 1

APPENDIX B

ANALYTICAL DATA PACKAGES

ANALYTICAL DATA PACKAGES
SUBMITTED UNDER SEPARATE COVER DUE TO VOLUME

APPENDIX C

NYSDOH SOIL VAPOR/INDOOR AIR MATRIX 1 AND 2

Soil Vapor / Indoor Air Matrix 1

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 0.25	0.25 to < 1	1 to < 5.0	5.0 and above
< 5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
5 to < 50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
50 to < 250	9. MONITOR	10. MONITOR / MITIGATE	11. MITIGATE	12. MITIGATE
250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 1

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 0.25 microgram per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended for buildings with full slab foundations, and 1 microgram per cubic meter for buildings with less than a full slab foundation.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

Soil Vapor / Indoor Air Matrix 2

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 3	3 to < 30	30 to < 100	100 and above
< 100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
100 to < 1,000	5. MONITOR	6. MONITOR / MITIGATE	7. MITIGATE	8. MITIGATE
1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 2

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 3 micrograms per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

APPENDIX D

DATA USABILITY SUMMARY REPORTS (DUSRS)

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
Facsimile 518-251-4428

January 15, 2010

Lori Riker
Benchmark Env. Engineers
726 Exchange St. Suite 624
Buffalo, NY 14210

RE: **D**ata **U**sability **S**ummary **R**eport for the Despatch Industries site-soil samples
TAL-Buffalo Package Nos. A08-2443, A08-9659, RSH0339, and RSI0612

Dear Ms. Riker

Review has been completed for the data packages generated by TestAmerica Laboratories that pertain to samples collected 03/10/08 through 09/12/09 at the Despatch Industries site. Six aqueous samples and a field duplicate were analyzed for TCL volatiles by USEPA Method 8260B.

The data packages submitted contain full deliverables for validation, but this usability report is generated from review of the summary form information, with review of sample raw data, and limited review of associated QC raw data. Full validation has not been performed. However, the reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA National Functional Guidelines for Organic Data Review, the specific laboratory methodologies, and professional judgment, as affects the usability of the data. The following items were reviewed:

* Laboratory Narrative Discussion
* Custody Documentation
* Holding Times
* Surrogate and Internal Standard Recoveries
* Matrix Spike Recoveries/Duplicate Correlations
* Field Duplicate Correlations
* Method Blanks
* Laboratory Control Samples (LCSs)
* Instrumental Tunes
* Calibration Standards
* Instrument MDLs

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review.

In summary, all sample analyte values/reporting limits are usable as reported, or usable with minor qualification as estimated ("J" qualifier) due to typical processing or matrix effects.

Copies of the laboratory case narratives and the sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report. Included with this submission are red-ink edited results forms, reflecting final sample results with the edits and qualifications recommended within this report.

The following text discusses quality issues of concern.

TCL Volatiles

Results for analytes reported by the laboratory with the "E" flag are to be derived from the dilution analyses of the samples, thus reflecting responses within linear range of the instrumentation.

Matrix spikes for MW-14 show acceptable accuracy and precision for the five analytes evaluated.

The result for chloroethane in MW-16 is qualified as estimated, with a possible low bias, due to low recovery (63%) in the associated LCS.

The correlations for the blind field duplicate evaluation of MW-15 are acceptable.

Sample holding time requirements were met, and surrogate and internal standard responses meet protocol requirements.

Calibration standards are within validation guidelines, with the following exceptions, results for which are qualified as estimated, with a possible low bias, in the indicated associated samples:

- bromomethane (30%D) in MW-11 and MW-12
- bromoform (22%RSD), bromomethane (26%D), and chloroethane (36%D) in MW-13
- 1,2-dibromo-3-chloropropane and bromoform (both 26%RSD) in MW-16

Data Package Completeness

No cooler temperature was available for the samples collected 08/11/09. This would be required for full validation. Log-in forms were not provided for the data packages.

The samples collected 09/12/09 were transferred to the laboratory five days after collection, beyond the required 2 day timeframe. A memorandum to the file should be made attesting to the condition and custody of the samples during that interim.

The laboratory case narratives for the data packages generated in 2009 are not project specific, do not discuss outlying issues, do not contain the required "verbatim" statement, and are not signed.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,

Judy Harry

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected. The associated reported quantitation limit is an estimate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

CLIENT and LABORATORY SAMPLE IDs and CASE NARRATIVES

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A8244301	MW-11	WATER	03/10/2008	12:49	03/11/2008	12:10
A8244302	MW-12	WATER	03/10/2008	13:13	03/11/2008	12:10

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A8965901	MW-13	WATER	08/07/2008	13:15	08/08/2008	10:35

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
MW-15	RSH0339-01	Water	08/11/09 11:29	08/12/09 13:20	
BLIND DUP	RSH0339-02	Water	08/11/09 12:00	08/12/09 13:20	
MW-14	RSH0339-03	Water	08/11/09 12:24	08/12/09 13:20	

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSI0612

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 09/17/09
Reported: 09/25/09 15:16

Sample Summary

Sample Identification	Lab Number	Client Matrix	Date/Time Sampled	Date/Time Received	Sample Qualifiers
MW-16	RSI0612-01	Water	09/12/09 12:56	09/17/09 15:00	

SDG NARRATIVE

Job#: A08-2443

Project#: NY4A9217
Site Name: Benchmark

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A08-2443
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

Linear regression was used to calibrate analytes that were greater than 15% RSD in the initial calibration A8I0000178-1.

For method 8260, samples MW-11 and MW-12 exhibited a pH>2 at the time of analysis. The analysis was performed after the recommended 7 days for un-preserved samples, therefore all detected concentrations should be considered minimum values and the results estimated.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this Sample Data package and in the electronic data deliverables has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature."

Brian J. Fischer
Project Manager

3-26-08
Date

SDG NARRATIVE

Job#: A08-9659

Project#: NY4A9310
Site Name: Benchmark - E. Rochester site

General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

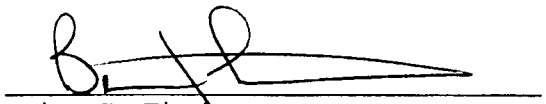
A08-9659
Sample Cooler(s) were received at the following temperature(s); 2.0 °C
All samples were received in good condition.

GC/MS Volatile Data

Linear regression was used to calibrate analytes that were greater than 15% RSD in the initial calibrations A8I0000594-1 and A8I0000610-1.

For method 8260, all samples were preserved to a pH less than 2.

"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this Sample Data package and in the electronic data deliverables has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature."



Brian J. Fischer
Project Manager

8-27-08
Date

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSI0612

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 09/17/09
Reported: 09/25/09 15:16

Case Narrative

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. field-pH), they were not analyzed immediately, but as soon as possible after laboratory receipt.

A pertinent document is appended to this report, 1 page, is included and is an integral part of this report.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

QUALIFIED SAMPLE RESULTS FORMS

TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.

MW-11

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: A8244301

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: S2111.RR

Level: (low/med) LOW

Date Samp/Recv: 03/10/2008 03/11/2008

% Moisture: not dec. _____ Heated Purge: N

Date Analyzed: 03/20/2008

GC Column: ZB-624 ID: 0.18 (mm)

Dilution Factor: 1.00

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	3.1	J
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	0.99	J
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon Disulfide	1.1	
56-23-5	Carbon Tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.7	
74-87-3	Chloromethane	1.0	U
110-82-7	Cyclohexane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	1.0	U

TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.

MW-11

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8244301

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S2111.RR

Level: (low/med) LOW Date Samp/Recv: 03/10/2008 03/11/2008

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 03/20/2008

GC Column: ZB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-10-1	4-Methyl-2-pentanone	5.0	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	U
108-88-3	Toluene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
75-69-4	Trichlorofluoromethane	11	
79-01-6	Trichloroethene	1.0	U
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Total Xylenes	3.0	U

TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.

MW-12

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8244302

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S2112.RR

Level: (low/med) LOW Date Samp/Recv: 03/10/2008 03/11/2008

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 03/20/2008

GC Column: ZB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	4.8	J
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	0.82	J
75-25-2	Bromoform	1.0	U
74-83-9	Bromomethane	1.0	U
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon Disulfide	0.94	J
56-23-5	Carbon Tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U
67-66-3	Chloroform	1.6	
74-87-3	Chloromethane	1.0	U
110-82-7	Cyclohexane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
124-48-1	Dibromochloromethane	1.0	U
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	0.66	J
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
100-41-4	Ethylbenzene	5.0	U
591-78-6	2-Hexanone	1.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride		

TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.

MW-12

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8244302

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: S2112.RR

Level: (low/med) LOW Date Samp/Recv: 03/10/2008 03/11/2008

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 03/20/2008

GC Column: ZB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-10-1	4-Methyl-2-pentanone	5.0	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
127-18-4	Tetrachloroethene	300 ~~360~~	~~E~~
108-88-3	Toluene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
71-55-6	1,1,1-Trichloroethane	2.0	
79-00-5	1,1,2-Trichloroethane	1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
79-01-6	Trichloroethene	270 ~~320~~	~~E~~
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Total Xylenes	3.0	U

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE
BENCHMARK - E. ROCHESTER SITE
TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.: MW-13

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8965901

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G8501.RR

Level: (low/med) LOW Date Samp/Recv: 08/07/2008 08/08/2008

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 08/16/2008

GC Column: ZB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
67-64-1	Acetone	4.6	J
71-43-2	Benzene	1.0	U
75-27-4	Bromodichloromethane	6.0	
75-25-2	Bromoform	3.2	J
74-83-9	Bromomethane	1.0	U UJ
78-93-3	2-Butanone	5.0	U
75-15-0	Carbon Disulfide	0.42	J
56-23-5	Carbon Tetrachloride	1.0	U
108-90-7	Chlorobenzene	1.0	U
75-00-3	Chloroethane	1.0	U UJ
67-66-3	Chloroform	15	
74-87-3	Chloromethane	1.0	U
110-82-7	Cyclohexane	1.0	U
106-93-4	1,2-Dibromoethane	1.0	U
124-48-1	Dibromochloromethane	2.6	
96-12-8	1,2-Dibromo-3-chloropropane	1.0	U
95-50-1	1,2-Dichlorobenzene	1.0	U
541-73-1	1,3-Dichlorobenzene	1.0	U
106-46-7	1,4-Dichlorobenzene	1.0	U
75-71-8	Dichlorodifluoromethane	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U
107-06-2	1,2-Dichloroethane	1.0	U
75-35-4	1,1-Dichloroethene	0.40	J
156-59-2	cis-1,2-Dichloroethene	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	U
100-41-4	Ethylbenzene	1.0	U
591-78-6	2-Hexanone	5.0	U
98-82-8	Isopropylbenzene	1.0	U
79-20-9	Methyl acetate	1.0	U
108-87-2	Methylcyclohexane	1.0	U
75-09-2	Methylene chloride	1.0	U

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE
BENCHMARK - E. ROCHESTER SITE
TCL VOAS(4.2)-SW8463 8260 - 5 ML PURGE
ANALYSIS DATA SHEET

Client No.

MW-13

Lab Name: TestAmerica Laboratories Inc. Contract: _____

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: A8965901

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: G8501.RR

Level: (low/med) LOW Date Samp/Recv: 08/07/2008 08/08/2008

% Moisture: not dec. _____ Heated Purge: N Date Analyzed: 08/16/2008

GC Column: ZB-624 ID: 0.18 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-10-1	4-Methyl-2-pentanone	5.0	U
1634-04-4	Methyl-t-Butyl Ether (MTBE)	1.0	U
100-42-5	Styrene	1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U
127-18-4	Tetrachloroethene	350	~~E~~
108-88-3	Toluene	1.0	U
120-82-1	1,2,4-Trichlorobenzene	1.0	U
71-55-6	1,1,1-Trichloroethane	1.8	
79-00-5	1,1,2-Trichloroethane	0.42	J
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	U
79-01-6	Trichloroethene	300 ~~290~~	~~E~~
75-01-4	Vinyl chloride	1.0	U
1330-20-7	Total Xylenes	3.0	U

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339
Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-01 (MW-15 - Water)						**Sampled: 08/11/09 11:29**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		1.0	0.26	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,1-Dichloroethane	ND		1.0	0.38	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,1-Dichloroethene	ND		1.0	0.29	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dibromo-3-chloropropane	ND		1.0	0.39	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dibromoethane	ND		1.0	0.17	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dichlorobenzene	ND		1.0	0.20	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dichloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dichloropropane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,3-Dichlorobenzene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
2-Butanone	7.4		5.0	1.3	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
2-Hexanone	ND		5.0	1.2	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
4-Methyl-2-pentanone	ND		5.0	0.91	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Acetone	ND		5.0	1.3	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Benzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Bromodichloromethane	2.8		1.0	0.39	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Bromoform	ND		1.0	0.26	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Bromomethane	ND		1.0	0.28	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Carbon disulfide	ND		1.0	0.19	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Carbon Tetrachloride	ND		1.0	0.27	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Chlorobenzene	ND		1.0	0.32	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Dibromochloromethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Chloroethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Chloroform	5.9		1.0	0.34	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Chloromethane	ND		1.0	0.35	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
cis-1,2-Dichloroethene	ND		1.0	0.38	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Cyclohexane	ND		1.0	0.53	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Dichlorodifluoromethane	ND		1.0	0.29	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Ethylbenzene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Isopropylbenzene	ND		1.0	0.19	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Methyl Acetate	ND		1.0	0.50	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.16	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Methylcyclohexane	ND		1.0	0.50	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Methylene Chloride	ND		1.0	0.44	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Styrene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Tetrachloroethene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Toluene	ND		1.0	0.51	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Trichloroethene	ND		1.0	0.46	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Trichlorofluoromethane	ND		1.0	0.15	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
Vinyl chloride	ND		1.0	0.24	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-01 (MW-15 - Water) - cont.						**Sampled: 08/11/09 11:29**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B - cont.										
Xylenes, total	ND		2.0	0.66	ug/L	1.00	08/14/09 01:00	NMD	9H13089	8260B
1,2-Dichloroethane-d4	*92 %*		*Surr Limits: (66-137%)*				*08/14/09 01:00*	*NMD*	*9H13089*	*8260B*
4-Bromofluorobenzene	*116 %*		*Surr Limits: (73-120%)*				*08/14/09 01:00*	*NMD*	*9H13089*	*8260B*
Toluene-d8	*97 %*		*Surr Limits: (71-126%)*				*08/14/09 01:00*	*NMD*	*9H13089*	*8260B*

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Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-02 (BLIND DUP - Water)						**Sampled: 08/11/09 12:00**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		1.0	0.26	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,1-Dichloroethane	ND		1.0	0.38	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,1-Dichloroethene	ND		1.0	0.29	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dibromo-3-chloropropane	ND		1.0	0.39	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dibromoethane	ND		1.0	0.17	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dichlorobenzene	ND		1.0	0.20	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dichloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dichloropropane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,3-Dichlorobenzene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
2-Butanone	3.1	J	5.0	1.3	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
2-Hexanone	ND		5.0	1.2	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
4-Methyl-2-pentanone	ND		5.0	0.91	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Acetone	ND		5.0	1.3	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Benzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Bromodichloromethane	2.8		1.0	0.39	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Bromoform	ND		1.0	0.26	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Bromomethane	ND		1.0	0.28	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Carbon disulfide	ND		1.0	0.19	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Carbon Tetrachloride	ND		1.0	0.27	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Chlorobenzene	ND		1.0	0.32	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Dibromochloromethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Chloroethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Chloroform	6.0		1.0	0.34	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Chloromethane	ND		1.0	0.35	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
cis-1,2-Dichloroethene	ND		1.0	0.38	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Cyclohexane	ND		1.0	0.53	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Dichlorodifluoromethane	ND		1.0	0.29	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Ethylbenzene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Isopropylbenzene	ND		1.0	0.19	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Methyl Acetate	ND		1.0	0.50	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.16	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Methylcyclohexane	ND		1.0	0.50	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Methylene Chloride	ND		1.0	0.44	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Styrene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Tetrachloroethene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Toluene	ND		1.0	0.51	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Trichloroethene	ND		1.0	0.46	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Trichlorofluoromethane	ND		1.0	0.15	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
Vinyl chloride	ND		1.0	0.24	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-02 (BLIND DUP - Water) - cont.						**Sampled: 08/11/09 12:00**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B - cont.										
Xylenes, total	ND		2.0	0.66	ug/L	1.00	08/14/09 01:26	NMD	9H13089	8260B
1,2-Dichloroethane-d4	*96 %*		*Surr Limits: (66-137%)*				*08/14/09 01:26*	*NMD*	*9H13089*	*8260B*
4-Bromofluorobenzene	*117 %*		*Surr Limits: (73-120%)*				*08/14/09 01:26*	*NMD*	*9H13089*	*8260B*
Toluene-d8	*101 %*		*Surr Limits: (71-126%)*				*08/14/09 01:26*	*NMD*	*9H13089*	*8260B*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339
Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-03 (MW-14 - Water)						**Sampled: 08/11/09 12:24**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B										
1,1,1-Trichloroethane	ND		1.0	0.26	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,1-Dichloroethane	ND		1.0	0.38	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,1-Dichloroethene	ND		1.0	0.29	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dibromo-3-chloropropane	ND		1.0	0.39	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dibromoethane	ND		1.0	0.17	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dichlorobenzene	ND		1.0	0.20	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dichloroethane	ND		1.0	0.21	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dichloropropane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,3-Dichlorobenzene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
2-Butanone	ND		5.0	1.3	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
2-Hexanone	ND		5.0	1.2	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
4-Methyl-2-pentanone	ND		5.0	0.91	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Acetone	ND		5.0	1.3	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Benzene	ND		1.0	0.41	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Bromodichloromethane	2.8		1.0	0.39	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Bromoform	ND		1.0	0.26	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Bromomethane	ND		1.0	0.28	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Carbon disulfide	0.89	J	1.0	0.19	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Carbon Tetrachloride	ND		1.0	0.27	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Chlorobenzene	ND		1.0	0.32	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Dibromochloromethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Chloroethane	ND		1.0	0.32	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Chloroform	5.5		1.0	0.34	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Chloromethane	ND		1.0	0.35	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
cis-1,2-Dichloroethene	ND		1.0	0.38	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Cyclohexane	ND		1.0	0.53	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Dichlorodifluoromethane	ND		1.0	0.29	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Ethylbenzene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Isopropylbenzene	ND		1.0	0.19	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Methyl Acetate	ND		1.0	0.50	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.16	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Methylcyclohexane	ND		1.0	0.50	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Methylene Chloride	ND		1.0	0.44	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Styrene	ND		1.0	0.18	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Tetrachloroethene	ND		1.0	0.36	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Toluene	ND		1.0	0.51	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Trichloroethene	ND		1.0	0.46	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Trichlorofluoromethane	ND		1.0	0.15	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
Vinyl chloride	ND		1.0	0.24	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSH0339
Project: East Rochester Site-Level 4
Project Number: TURN

Received: 08/12/09
Reported: 08/21/09 17:18

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSH0339-03 (MW-14 - Water) - cont.						**Sampled: 08/11/09 12:24**		**Recvd: 08/12/09 13:20**		
Volatile Organic Compounds by EPA 8260B - cont.										
Xylenes, total	ND		2.0	0.66	ug/L	1.00	08/14/09 01:51	NMD	9H13089	8260B
1,2-Dichloroethane-d4	*94 %*		*Surr Limits: (66-137%)*				*08/14/09 01:51*	*NMD*	*9H13089*	*8260B*
4-Bromofluorobenzene	*114 %*		*Surr Limits: (73-120%)*				*08/14/09 01:51*	*NMD*	*9H13089*	*8260B*
Toluene-d8	*102 %*		*Surr Limits: (71-126%)*				*08/14/09 01:51*	*NMD*	*9H13089*	*8260B*

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSI0612

Project: East Rochester Site-Level 4
Project Number: TURN

Received: 09/17/09
Reported: 09/25/09 15:16

Analytical Report

Sample ID: RSI0612-01 (MW-16 - Water) — **Sampled: 09/12/09 12:56** — **Recvd: 09/17/09 15:00**

Volatile Organic Compounds by EPA 8260B

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
1,1,1-Trichloroethane	ND		1.0	0.26	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,1-Dichloroethane	ND		1.0	0.38	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,1-Dichloroethene	ND		1.0	0.29	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2,4-Trichlorobenzene	ND	UJ	1.0	0.41	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dibromo-3-chloropropane	ND		1.0	0.39	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dibromoethane	ND		1.0	0.17	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dichlorobenzene	ND		1.0	0.20	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dichloroethane	ND		1.0	0.21	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dichloropropane	ND		1.0	0.32	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,3-Dichlorobenzene	ND		1.0	0.36	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,4-Dichlorobenzene	ND		1.0	0.39	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
2-Butanone	**3.6**	J	5.0	1.3	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
2-Hexanone	**3.8**	J	5.0	1.2	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
4-Methyl-2-pentanone	ND		5.0	0.91	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Acetone	**12**		5.0	1.3	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Benzene	ND		1.0	0.41	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Bromodichloromethane	**2.3**		1.0	0.39	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Bromoform	ND	UJ	1.0	0.26	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Bromomethane	ND		1.0	0.28	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Carbon disulfide	**0.74**	J	1.0	0.19	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Carbon Tetrachloride	ND		1.0	0.27	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Chlorobenzene	ND		1.0	0.32	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Dibromochloromethane	**2.9**		1.0	0.32	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Chloroethane	ND	UJ L2	1.0	0.32	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Chloroform	**4.8**		1.0	0.34	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Chloromethane	ND		1.0	0.35	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
cis-1,2-Dichloroethene	ND		1.0	0.38	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Cyclohexane	ND		1.0	0.53	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Dichlorodifluoromethane	ND		1.0	0.29	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Ethylbenzene	ND		1.0	0.18	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Isopropylbenzene	ND		1.0	0.19	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Methyl Acetate	ND		1.0	0.50	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.16	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Methylcyclohexane	ND		1.0	0.50	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Methylene Chloride	ND		1.0	0.44	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Styrene	ND		1.0	0.18	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Tetrachloroethene	ND		1.0	0.36	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Toluene	ND		1.0	0.51	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
trans-1,2-Dichloroethene	ND		1.0	0.42	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Trichloroethene	ND		1.0	0.46	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Trichlorofluoromethane	ND		1.0	0.15	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
Vinyl chloride	ND		1.0	0.24	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B

Benchmark Environmental & Engineering Science
2558 Hamburg Turnpike, Suite 300
Lackawanna, NY 14218

Work Order: RSI0612

Project: East Rochester Site-Level 4
Project Number: TURN

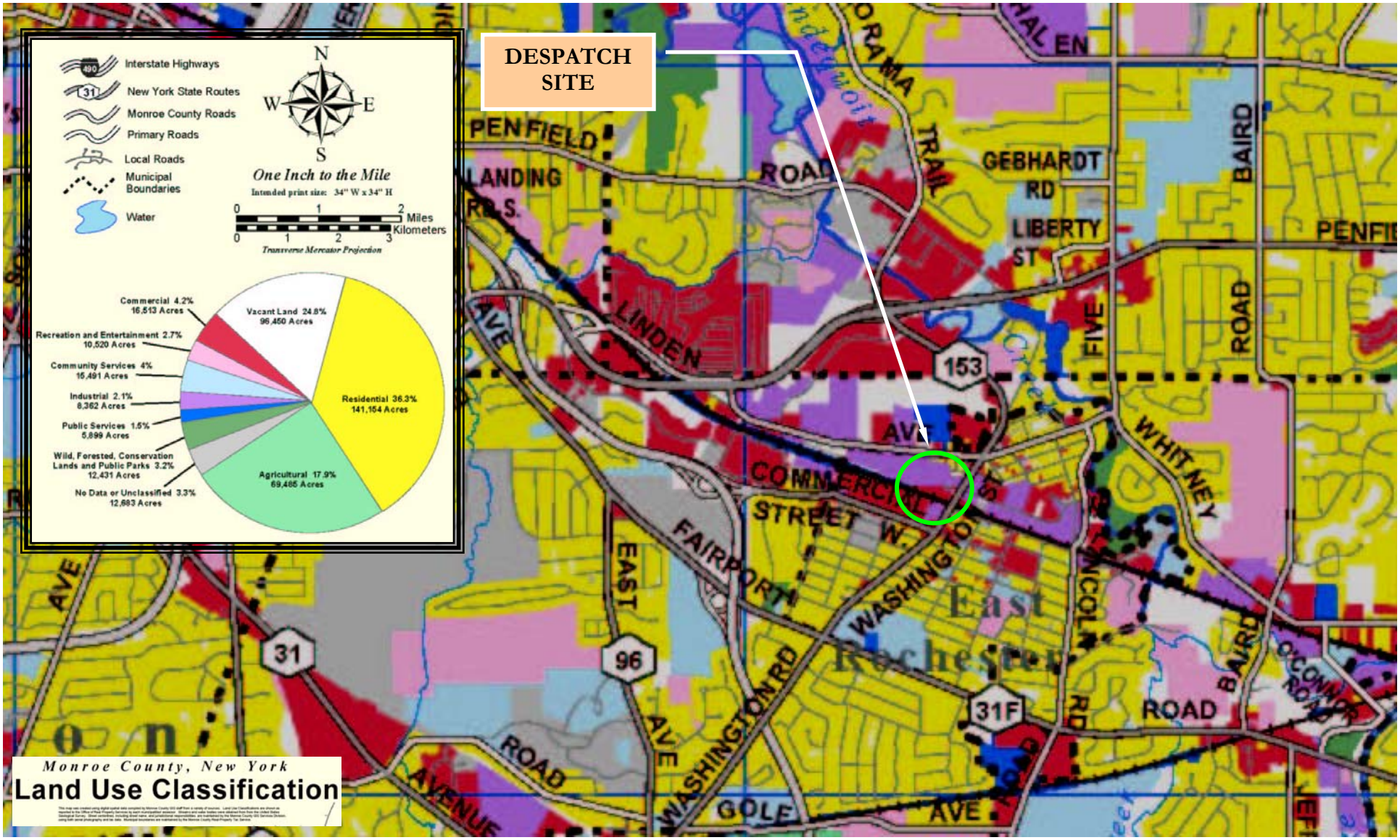
Received: 09/17/09
Reported: 09/25/09 15:16

Analytical Report

Analyte	Sample Result	Data Qualifiers	RL	MDL	Units	Dil Fac	Date Analyzed	Lab Tech	Batch	Method
Sample ID: RSI0612-01 (MW-16 - Water) - cont.							**Sampled: 09/12/09 12:56**		**Recvd: 09/17/09 15:00**	
Volatile Organic Compounds by EPA 8260B - cont.										
Xylenes, total	ND		2.0	0.66	ug/L	1.00	09/18/09 06:27	TWS	9I17129	8260B
1,2-Dichloroethane-d4	*105 %*		*Surr Limits: (66-137%)*				*09/18/09 06:27*	*TWS*	*9I17129*	*8260B*
4-Bromofluorobenzene	*100 %*		*Surr Limits: (73-120%)*				*09/18/09 06:27*	*TWS*	*9I17129*	*8260B*
Toluene-d8	*101 %*		*Surr Limits: (71-126%)*				*09/18/09 06:27*	*TWS*	*9I17129*	*8260B*

APPENDIX E

LAND USE EVALUATION



BENCHMARK
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PROJECT NO.: 0040-002-400

DATE: DECEMBER 2009

DRAFTED BY: BCH

LAND USE MAP

RI/AA/IRM REPORT

FORMER BRAINERD MANUFACTURING FACILITY
EAST ROCHESTER, NEW YORK

PREPARED FOR
DESPATCH INDUSTRIES, INC.

FIGURE E-1

FILEPATH: F:\CAD\Benchmark\Despatch\RI-AAR-IRM (NOVEMBER 2009)\figure E-1; land use map.dwg