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Division of Environmental Remediation

Site Investigation Report
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Dussault Foundry Site,
City of Lockport,
Niagara County, New York

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New York State Department of Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203

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1.0 EXECUTIVE SUMMARY

The Dussault Foundry Site consists of two parcels at the foot of Washburn Street in the City of Lockport, Niagara County, New York (Figures 1-1 and 1-2). The total area of the site is approximately 5.6 acres in a mixed residential, commercial and industrial neighborhood. The site is bounded on the north and west by Market Street, commercial property and the New York State Barge Canal, on the south by railroad tracks, and on the east by residential properties. The majority of the site is located on a relatively flat-lying plateau, with approximately 60 percent of the site occupied by buildings (Figure 1-3). The surface topography of the plateau ranges from approximately 587 to 595 feet above mean sea level (amsl). North of the plateau the property slopes steeply downward to the north over the Niagara Escarpment, a 70-foot wooded hillside slightly beyond the northern Dussault property line (Figure 1-3). The surface elevation at the bottom of the escarpment is approximately 540 ft amsl.

Dussault Foundry operated as a grey iron foundry from 1914 through 1995. Manufacturing operations during that period remained virtually unchanged. Following the facility's closing, machinery and equipment was sold for its salvage value. The property has been vacant since 1995 when Dussault Foundry declared bankruptcy. The property is still owned by Dussault Foundry, although the City of Lockport has Temporary Incidents of Ownership.

In March 1985, the New York State Department of Environmental Conservation (NYSDEC) listed the site in the Department’s Registry of Inactive Hazardous Waste Disposal Sites in New York State (Registry) as a suspected hazardous waste site (Class 2a) due to the on-site disposal of spent foundry sand. A State funded Phase I Investigation was completed in 1989, and concluded that further investigations were necessary to determine the appropriate classification of the site.

In early 1990, Dussault was informed by the NYSDEC that a State funded Phase II Investigation was scheduled for later that year. In response, Dussault notified the NYSDEC on April 12, 1990 of the company’s willingness to enter into an Order on Consent for the completion of a Phase II Investigation. Ultimately, the company was unable to conduct the investigation and the site was referred back to the Bureau of Hazardous Site Control for inclusion on the State funded Phase II Investigation list.

On July 27, 1993 the NYSDEC collected one fill and three surface soil samples from the site for chemical analysis. Because these analyses did not identify the presence of hazardous waste at the site, the Dussault Foundry Site was delisted from the Registry on July 25, 1994.

During March 2000 a Phase I Environmental Site Assessment (ESA) of the former Dussault Foundry property was completed for the Niagara County Department of Planning, Development and Tourism. This report concluded that several of the foundry's processes utilized a variety of hazardous materials and generated extensive quantities of foundry sand. One underground storage tank (UST) and evidence of a second UST were noted in the report. Numerous 55-gallon drums were scattered throughout the site, both inside and outside of the buildings. The majority of the drums appeared to be empty, but some appeared to be partially full with liquids and debris. Based upon these findings, the Phase I ESA report concluded that a Phase II ESA should be conducted at the site to determine if hazardous substances were present.

In 2001 the Niagara County Department of Planning, Development and Tourism commissioned a Phase II Environmental Site Assessment of the former Dussault Foundry property. This assessment began in November 2001 of that year and was completed in September 2002. A geophysical survey completed during the investigation did not identify the presence of a UST between the westernmost building (Area 2) and the railroad tracks as previously thought (Figure 1-3). A raceway investigation revealed that one raceway was located in the northeastern portion of the site, and an open channel was once located approximately half way between the northern site boundary and the bottom of the escarpment to the north (Figure 1-3). A drum inventory documented 244 drums on site, mostly in good or fair condition. The volume of foundry sand, not including miscellaneous volumes present inside the buildings, was estimated to be 10,500 cubic yards. Chemical analysis of site surface soil revealed the presence of polycyclic aromatic hydrocarbons (PAHs). Soil collected around an isopropyl alcohol UST was found to contain alcohol and acetone. Total phenol concentrations in foundry sand samples were below NYSDEC Part 375 soil cleanup objectives. These sands, however, contained elevated concentrations of chromium, copper, iron and nickel. An elevated concentration of zinc in soil below a drain pipe indicated the presence of a zinc source in this area of the site. This source, however, was not identified during the Phase II ESA.

On July 2, 2002 Niagara County asked for help from the United States Environmental Protection Agency (EPA) to characterize the liquid contents of the drums inventoried during the Phase II ESA. The EPA agreed to this request and completed an Expedited Removal Assessment (ERA) at the site on October 1, 2002. Composite samples from 20 of the drums revealed the presence of various hazardous substances and wastes including D003 reactive materials, D002 corrosive materials, lead, chromium, pyrene and toxaphene. The site also contained five tanks that were in poor condition, two of which had leaked all or part of their contents.

The Niagara County Health Department determined that a public health risk was posed by these drums and tanks, and on October 9, 2002 issued a Public Health Hazard Declaration for the Dussault Foundry Site. In response to this declaration the NYSDEC implemented an emergency site security action by placing warning signs across the front of the property and installing high visibility fencing across the open doorways of the buildings. On October 16, 2002 the NYSDEC asked the EPA to undertake a removal action at the site.

Based upon the public health hazards identified, the EPA agreed to this request. The removal action began on March 13, 2003 and was completed on September 25, 2003 at a cost of approximately $384,000. During this removal action EPA removed approximately 400 tons of foundry sand and debris from inside the plant buildings, removed all drums of foundry waste including flammable liquids and reactive materials, removed three underground storage tanks and their contents, removed five above-ground storage tanks and their contents, and removed approximately 300 cubic yards of asbestos containing debris and materials.

In 2008 the NYSDEC conducted a Site Investigation of the Dussault Foundry Site through a Targeted Site Assessment grant from the EPA. The overall objective of this investigation was to obtain information sufficient to: (1) determine if the Dussault Foundry Site should be relisted in the Registry of Inactive Hazardous Waste Sites, and if so, what the appropriate site classification should be and (2) determine if the property is suitable for redevelopment. The specific objectives of this investigation were to: (1) evaluate the site to determine if hazardous wastes were present, and if present, to determine if there was a consequential amount, (2) determine the nature and extent of contamination at the site, including the presence of asbestos in site buildings, (3) better quantify the volume of foundry sand throughout the property; and (4) estimate costs for building demolition. These objectives were determined through a grided soil boring/test pit program in which thirty-three soil borings and eighty-eight test pits were completed, five bedrock monitoring wells were installed, and twenty-two surface soil samples, forty-four subsurface soil and fill samples, three pit water samples, five groundwater samples and one sludge sample were collected for chemical analysis. A detailed survey of the site was also completed, along with an asbestos survey of the existing buildings. Results from the asbestos survey were utilized to estimate building demolition costs.

The stratigraphy of the site was evaluated by examining the stratigraphic logs completed during the Site Investigation. With increasing depth, the geologic units encountered include foundry sand, reworked soil, and native glaciolacustrine sands and silty clays. The bedrock underlying the site consists of dolostone and mudstone from the Gothic Hill Member of the Gasport Dolomite of the Lockport Group.

Based upon the presence of the Niagara Escarpment and the thin layer of overburden throughout the site, saturated soil/fill was not encountered at thicknesses sufficient to justify the installation of micro-wells. As a result, five bedrock monitoring wells were installed during the Site Investigation to evaluate groundwater flow patterns across the site and to assess bedrock groundwater quality. Groundwater elevations ranged from 547.42 to 584.52 feet amsl, with bedrock groundwater flow to the northeast toward the Niagara Escarpment and the New York State Barge Canal.

The results of the Site Investigation indicate that surface soil at the Dussault Foundry Site contains semivolatile organic compounds, pesticides, polychlorinated biphenyls (PCBs) and metals. The concentrations of benzo(a)anthracene (6 samples), benzo(a)pyrene (7 samples), benzo(b)fluoranthene (8 samples), benzo(k)fluoranthene (3 samples), chrysene (6 samples), dibenzo(a,h)anthracene (4 samples), indeno(1,2,3-cd)pyrene (7 samples), and the EPA priority pollutant metals arsenic (2 samples) and chromium (3 samples) exceeded the NYSDEC Part 375 residential soil cleanup objectives. The concentrations of benzo(a)anthracene (3 samples), benzo(a)pyrene (7 samples), benzo(b)fluoranthene (3 samples), dibenzo(a,h)anthracene (3 samples), indeno(1,2,3-cd)pyrene (1 sample) and arsenic (2 samples) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives. These results, combined with the surface soil results from the Phase II ESA, reveal that eight of twelve samples that exceeded the NYSDEC Part 375 residential soil cleanup objectives, and seven of eight samples that exceeded the NYSDEC Part 375 commercial soil cleanup objectives, are located in the southern portion of the site. This area was historically covered by a series of rail lines and spurs. The presence of PAHs, arsenic and chromium in these samples is likely related to the presence of coal that was observed on the ground surface throughout this portion of the site. These contaminants are common constituents of coal, with the coal likely related to historical rail operations. The remaining surface soil samples that exceeded the NYSDEC Part 375 soil cleanup objectives are scattered throughout the site in no definable pattern.

Subsurface soil and fill at the Dussault Foundry Site contains volatile organic compounds, semivolatile organic compounds, pesticides, PCBs and metals. The concentrations of benzo(a)anthracene (13 samples), benzo(a)pyrene (11 samples), benzo(b)fluoranthene (13 samples), benzo(k)fluoranthene (7 samples), chrysene (13 samples), dibenzo(a,h)anthracene (9 samples), indeno(1,2,3-cd)pyrene (11 samples), 2-methylnaphthalene (2 samples), naphthalene (2 samples), phenanthrene (1 sample), dieldrin (1 sample), and the EPA priority pollutant metals arsenic (6 samples), cadmium (1 sample), chromium (4 samples), lead (6 samples), mercury (2 samples) and zinc (1 sample) exceeded the NYSDEC Part 375 residential soil cleanup objectives. Concentrations of benzo(a)anthracene (5 samples), benzo(a)pyrene (11 samples), benzo(b)fluoranthene (6 samples), dibenzo(a,h)anthracene (6 samples), indeno(1,2,3-cd)pyrene (1 sample), naphthalene (1 sample), arsenic (6 samples) and lead (1 sample) also exceeded the Part 375 commercial soil cleanup objectives. These results, combined with the subsurface soil and fill results from the Phase II ESA and the EPA's Expedited Removal Assessment, reveal that eleven of twenty-four samples that exceeded the NYSDEC Part 375 residential soil cleanup objectives, and ten of twelve samples that exceeded the NYSDEC Part 375 commercial soil cleanup objectives, are located in the southern portion of the site. Once again, the presence of PAHs and metals in these samples is likely related to historical rail operations. The remaining subsurface soil and fill samples that exceeded the NYSDEC Part 375 soil cleanup objectives are scattered throughout the site in no definable pattern.

The sludge sample, collected from a pit within the main foundry building, contained volatile organic compounds, semivolatile organic compounds, pesticides, PCBs and metals. Only the concentrations of PCBs, and the EPA priority pollutant metals cadmium and chromium exceeded the NYSDEC Part 375 residential soil cleanup objectives.

The water samples collected from pits within the buildings contained semivolatile organic compounds, pesticides, PCBs and metals. Only the concentrations of bis(2-ethylhexyl)phthalate (2 samples), alpha-BHC (2 samples), PCBs (2 samples), and the EPA priority pollutant metal lead (2 samples) exceeded the NYSDEC surface water standards or guidance values. Both samples that exceeded standards were collected from the same pit (original and duplicate samples). Bis(2-ethylhexyl)phthalate, PCBs and lead were also detected in the sludge sample collected from this pit, suggesting that the sludge is the source of the pit water contamination. Because this pit holds water, migration of contaminants from it is unlikely.

Groundwater underlying the Dussault Foundry Site contains volatile organic compounds, semivolatile organic compounds, pesticides, metals, chloride and sulfate. Only the concentrations of bis(2-ethylhexyl)phthalate (1 sample), chloride (2 samples), sulfate (2 samples) and the EPA priority pollutant metal lead (1 sample) exceeded the NYSDEC groundwater standards or guidance values. The presence of bis(2-ethylhexyl)phthalate, a common plasticizer widely used in the plastics industry, may have resulted from the disposable bailer or rope used to collect the sample, or was introduced into the sample in the laboratory during extraction and analysis procedures. The presence of lead may be related to the Dussault Foundry Site as this contaminant was detected in subsurface soil and fill samples collected during the Site Investigation. The results from the other wells, however, indicate that contaminated groundwater is not widespread. The concentrations of chloride and sulfate in the groundwater samples likely represent the natural mineral content of this groundwater.

The results of the Site Investigation reveal that hazardous waste is not present at the Dussault Foundry Site. As a result, the site does not qualify for inclusion in the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites in New York State. However, due to the presence of contamination at this site, the property may be eligible for NYSDEC's Environmental Restoration (ERP) or Brownfield Cleanup (BCP) programs. At the present time funding for the ERP has been depleted. This contamination does not prohibit redevelopment of the property for commercial use.

The historic raceway located along the northern boundary of the Dussault property is not a significant contaminant migration pathway. In addition, based upon the results from confirmatory samples collected by the EPA following the removal of three underground storage tanks and the evaluation during the Site Investigation of an historic spill remediated by EPA, the NYSDEC does not require additional remediation in these areas.

While completing the soil boring/test pit program, two drums were uncovered: a 55-gallon drum containing suspected paint waste in test pit SUB-8 and a 55-gallon drum containing a tar-like waste in test pit SUB-90. Both drums and all soil and fill visually contaminated by the wastes were containerized and subsequently transported off-site for disposal. Based upon the extent of the cleanup, and the analytical results from excavated soil and fill that was placed back into test pit SUB-90, the NYSDEC does not require additional remediation in these areas.

Spent foundry sand from the Dussault Foundry was granted a Beneficial Use Determination (BUD; number 073-9-32) by the NYSDEC's Division of Solid and Hazardous Materials in the early 1990s for use as an aggregate in asphalt and in the production of flowable fill. A Beneficial Use Determination indicates that the waste material ceases to be a solid waste subject to disposal when utilized as described by the BUD. This BUD is still in effect, and could be utilized for foundry sand excavated during redevelopment activities.

The estimated cost to demolish the buildings on the Dussault property is $367,000, which includes $192,000 for asbestos abatement and disposal at a licensed asbestos landfill. A second cost estimate for asbestos abatement and disposal was $165,000. Demolition costs may be less, however, if the buildings were demolished with the asbestos in place through a New York State Department of Labor (NYSDOL) variance. Variances of this type have been issued by the NYSDOL for other demolition projects in western New York.

2.0 INTRODUCTION

Between August and November 2008 the New York State Department of Environmental Conservation (NYSDEC) conducted a Site Investigation at the Dussault Foundry Site in the City of Lockport, Niagara County, New York (Figures 1-1 thru 1-3). This investigation was funded through a Targeted Site Assessment grant from the United States Environmental Protection Agency (EPA). The Dussault Foundry Site, located at the foot of Washburn Street, occupies a total area of approximately 5.6 acres in a mixed residential, commercial and industrial neighborhood. Although this site has been delisted from the Registry of Inactive Hazardous Waste Disposal Sites in New York State (Registry), it is located within the City of Lockport's Brownfield Opportunities Area (BOA), the Niagara County and the City of Lockport's Brownfield Water Front Planning Area and the City of Lockport's Historic Canal Corridor. The City has been unable to stimulate interest in developing the site due to the perceived chemical contamination of the property. As a result, the Division of Environmental Remediation (DER) conducted a Site Investigation at the site to determine the nature and extent of contamination, including the presence of asbestos in site buildings. The Site Investigation was also conducted to better quantify the volume of foundry sand on the property. The study results will be utilized to determine whether the Dussault Foundry Site should be relisted in the Registry, or if the property is eligible for NYSDEC's Environmental Restoration (ERP) or Brownfield Cleanup (BCP) programs.

This report summarizes the findings of the Site Investigation. The remaining sections of this report are organized as follows:

- **Section 3.0, Site Description and History:** this section describes the salient features of the Dussault Foundry Site, and presents a summary of site history, facility operations and disposal history;

- **Section 4.0, Previous Investigations and Remedial Actions:** this section describes the previous investigative activities undertaken at the site, and describes the remedial activities completed by the EPA;

- **Section 5.0, Study Objectives and Scope of Work:** this section describes the objectives of the Site Investigation and the activities that were completed during the investigation;

- **Section 6.0, Geology and Hydrogeology:** this section describes the regional and site geology and hydrogeology. The characteristics, areal extent and hydrogeologic properties of the strata are discussed;

- **Section 7.0, Investigation Results:** this section describes the findings of the Site Investigation, including general observations and a summary of the analytical results obtained from various environmental media (i.e., surface soil, fill, surface water, groundwater and sludge);

- **Section 8.0, Nature and Extent of Contamination:** this section evaluates the results of the 2001 Phase II Environmental Site Assessment, the Environmental Protection Agency's (EPA) removal action and the 2008 NYSDEC Site Investigation to determine the nature and extent of contamination at the site;

- **Section 9.0, Discussion and Recommendation:** this section discusses the analytical results presented in Section 7.0 and the nature and extent of contamination presented in Section 8.0 as they relate to the investigation objectives presented in Section 5.0. Recommendations for future activities regarding the site are also discussed; and

- **Section 10.0, References:** this section contains a list of references utilized or cited in the report.

Figures, tables and appendices, in that order, follow Section 10.0.

3.0 SITE DESCRIPTION AND HISTORY

3.1 Site Description

The Dussault Foundry Site consists of two parcels at the foot of Washburn Street in the City of Lockport, Niagara County, New York (Figures 1-1 and 1-2). The site occupies an area of approximately 5.6 acres in a mixed industrial, commercial and residential neighborhood, and is heavily vegetated with weeds, small bushes and trees (Figures 3-1 and 3-2). Approximately 60 percent of the site is occupied by buildings that are in dilapidated and deteriorated condition (Figures 3-3 thru 3-8). The site is bounded on the north and west by Market Street, commercial property and the New York State Barge Canal, on the south by railroad tracks, and on the east by residential properties.

The Dussault Foundry Site is located on a relatively flat-lying plateau, with surface elevations ranging from approximately 587 to 595 feet above mean sea level (amsl). North of the plateau the property slopes steeply downward to the north over the Niagara Escarpment, a 70-foot wooded hillside slightly beyond the northern Dussault property line (Figure 1-3). The surface elevation at the bottom of the escarpment is approximately 540 ft amsl.

3.2 Site History

Dussault Foundry operated as a grey iron foundry from 1914 through 1995. Following the facility's closing, machinery and equipment was sold for its salvage value. The property has been vacant since 1995 when Dussault Foundry declared bankruptcy. The property is still owned by Dussault Foundry, although the City of Lockport has Temporary Incidents of Ownership.

Sanborn Fire Insurance maps indicate that prior to Dussault Foundry's operations at the site, tenants included the Charles Rakes Mill Machinery Works, the Levan & Gritman Planing Mill, the Empire Manufacturing Company, the Lockport Box and Lumber Company and the S.E. Levan Planing Mill (Appendix A). The 1938 Lockport City Directory listed a fuel company with the same address as Dussault, and coal was reported to have been stored in the area of the site where the Core Room Addition is now located (see Figure 1-3). The city directory also listed a restaurant on the portion of property east of Washburn Street. This restaurant was located in the Old Union Station (Figure 1-3).

3.3 Facility Operations and Disposal History

Manufacturing operations at Dussault Foundry remained virtually unchanged during its years of operation and included the production of grey and ductile iron. The iron was melted in an induction/melting furnace and was transferred into sand molds with ladles. To make the molds, a pattern was constructed out of wood to achieve the desired shape. At Dussault, two methods of fixing the sand into the molds were utilized. For smaller products a “no-bake” mold was utilized. This type of mold was made from green sand, water, clay and seacoal, a finely crushed bituminous coal that is added to the mixture to reduce expansion defects in the iron and steel castings. For products that required larger molds, a chemical catalyst was utilized to keep the sand mold cohesive. A combination of green sand, phenolic resins and tolusulfuric acid was utilized for these molds.

The principle waste product of Dussault’s foundry operations was spent foundry sand, which was generated by breaking the sand molds to retrieve the castings. This used foundry sand was recycled and remolded several times until various impurities reached concentrations that required the addition of clean sand to ensure that adequate quality sand molds were created. Approximately 15 to 20 tons of clean sand was added weekly to the recycled sand. When operating, Dussault recycled approximately 90% of the used foundry sand generated during its production operations. The spent sand that was discarded accounted for nearly all waste materials generated at the facility. This sand was disposed of in an on-site landfill (Area 7; Figures 1-3 and 3-9) and on other areas of the property (Figure 1-3, and Figures 3-10 thru 3-12).

The on-site landfill was utilized by Dussault for the disposal of spent foundry sand from at least 1914 through 1985. In September 1981, in response to a NYSDEC request, Dussault Foundry prepared and submitted to the agency an application to construct a Solid Waste Management Facility at the site. This application was subsequently turned down by the agency. By January 1984 Dussault has contracted with Browning-Ferris Industries to remove newly generated spent foundry sand from the facility. Later that year, Dussault submitted a Hazardous Waste Disposal Questionnaire to the NYSDEC stating that only nonhazardous waste was being disposed of on site.

During late 1985, Dussault contracted with the Niagara County Refuse Disposal District Landfill for the disposal of both the facility's newly generated and stockpiled spent foundry sands. In March 1986, Niagara County submitted a permit application to the NYSDEC to accept these foundry sands from Dussault for daily cover. The permit for foundry sand disposal at the Niagara County Landfill was subsequently approved by the agency.

In October 1986, Dussault hired Wendel Engineers, P.C. to prepare a closure plan for the on-site landfill. Under a NYSDEC Order on Consent, dated December 24, 1986, Dussault Foundry submitted the closure plan. The removal of the spent foundry sand and the closure of the on-site landfill was completed in October 1987. Approximately 20,00 cubic yards of foundry sand was removed from the site and transported to the Niagara County Landfill for disposal. Foundry sand, however, remains in this area of the site (Figure 3-9). Foundry sand has also been dumped over the face of the Niagara Escarpment (Area 8; Figure 1-3).

Information concerning detailed operations at the facility are described in the Phase I Environmental Site Assessment (ESA) completed by Foit-Albert Associates in 2000 for Niagara County (see Section 4.4 for additional details). The following discussion is excerpted from that report.

The Phase I ESA report states that the sheet metal Quonset Hut (Area 1; Figures 1-3 and 3-3) was used as a wood shop for pattern making. Since the closing of the foundry, the contents of this building were set on fire by vandals. Charred debris and other trash is scattered on the ground throughout the building. Two aboveground storage tank (AST) located south of the Quonset Hut formerly stored phenolic resins (Figures 1-3 and 3-3). An underground storage tank (UST) in this area reportedly contained isopropyl alcohol (Figure 1-3).

The westernmost portion of the main building, called the Core Room Addition, was utilized for the storage of wood and patterns (Area 2; Figure 1-3). At the time of the Phase I ESA this building contained numerous 55-gallon drums, pallets, patterns, and a large quantity of debris. Coal was reported to have been stored in the area of the site before the Core Room Addition was built. A Machine Shop (Area 3; Figure 1-3) was located within the southeast corner of the Core Room Addition. Several drums and other debris were observed throughout this area. Mr. James Maxwell, the former president of the company, reported that 30-weight oil used in compressors was stored in this area. A 550-gallon AST in this area was reported to contain linseed oil (Figure 1-3).

The Foundry Building (Area 4; Figures 1-3, 3-3 and 3-7) is a large open space that formerly housed a variety of large machines used in the foundry process. An AST containing tolusulfuric acid was located along the west wall of this building (Figures 1-3 and 3-13). South of this tank was an oven that was utilized to bake molds at 400 degrees Fahrenheit. A second tolusulfuric acid tank was positioned along the south wall (Figures 1-3 and 3-14).

A small office and an electrical distribution room were located north of the Quonset Hut in Area 4.

Empty barrels formerly containing silicon carbide were located outside of this office. Mr. Maxwell noted that the bins located along the south wall of this area facilitated dumping of scrap iron into the building. He also reported that only "no-bake" molds were used in Areas 1 through 4. The melting furnace was at one time located in Area 4 near the Quonset Hut.

The eastern end of the Foundry Building (Area 5; Figures 1-3 and 3-4) was used to house the chemical sand and sand reclamation processes.

The Cleaning Building (Area 6; Figures 1-3 and 3-2), located on the eastern portion of the property, was utilized for sand reclamation. This building housed a dust collector, shot blast machine, and an electric furnace. Various types of debris were scattered throughout this building during the Phase I ESA, in addition to several 55-gallon drums.

4.0 PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

Several sampling events and investigations have been completed at the Dussault Foundry Site since the 1980's. Sampling events have been completed by Dussault Foundry, the NYSDEC and the EPA, while investigations have been completed by the NYSDEC and Niagara County. In addition to these activities, EPA completed an Emergency Removal Action at the site in 2003. The details of these sampling events, investigations and the removal action are described in the following sections.

For this report, analytical results for soil, fill and sludge were evaluated against the residential and commercial soil cleanup objectives of Table 375-6.8(b) contained in the December 2006 NYSDEC publication entitled "*6NYCRR Part 375: Environmental Remediation Programs*". For contaminants not included in Part 375, the soil cleanup objectives identified in the October 1995 NYSDEC publication entitled "*Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels*" were utilized. When utilized, the soil cleanup objectives for individual semivolatile organic compounds were taken directly from Table 2 of the TAGM, while the soil cleanup objectives for pesticides were taken directly from Table 3. For metals, TAGM 4046 allows the use of background concentrations so long as the background samples are collected from areas not impacted by the site and any other source of contaminants. Although background samples were collected during a Phase II Environmental Site Assessment (ESA) completed at the site in 2002 (see Section 4.4 for more details concerning this ESA), these samples were collected near Union Street and the railroad track adjacent to the site and may not be free of site related contaminants. As a result, the background metals concentrations determined during the Site Investigation of the Former Flintkote Plant Site in the City of Lockport, Niagara County, New York (TVGA, 2005) were utilized in this report. This site is located approximately 0.5 miles northwest of the Dussault Foundry Site.

Analytical results for water samples were evaluated against the water quality standards and guidance values contained in the June 1998 NYSDEC publication entitled "*Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*". The surface water standards and guidance values for individual contaminants were taken directly from Table 1.

4.1 Dussault Foundry Investigations

During late 1980, Dussault Foundry reached an agreement with the NYSDEC regarding the sampling and analysis of spent foundry sand and related dust collector fines that had been stockpiled on-site within the spent foundry sand landfill (Area 7; Figure 1-3). During January 1981, Dussault collected two samples from the dust collectors and two samples from the foundry sand landfill. All samples were submitted to Advanced Environmental Systems, Inc. for chemical analysis of total phenols and metals using the Extraction Procedure (EP) Toxicity Test. The EP Tox results indicated that none of the samples were characteristic hazardous waste, although phenol could leach from these wastes at low concentrations (0.01 ppm and 1.4 mg/L). On July 2, 1985, Advanced Environmental Systems, Inc. collected one foundry sand sample for analysis of total phenols using the EP Tox procedure. Once again the EP Tox results indicated that the foundry sand was not a characteristic hazardous waste, although phenol could leach from this waste at low concentrations (0.344 mg/L).

4.2 NYSDEC Investigations

In March 1985, the NYSDEC listed Dussault Foundry in the Department's Registry of Inactive Hazardous Waste Disposal Sites in New York State (Registry) as a suspected hazardous waste site (Class 2a) due to its on-site disposal of spent foundry sand. On June 4, 1987, Ecology and Environment Engineering, P.C. (E & E) conducted a site inspection in support of a NYSDEC Phase I Investigation. The purpose of this investigation was to provide a preliminary evaluation of the potential for hazardous waste to be present at the site, to evaluate potential contaminant migration pathways, and to determine the natural resources or extent of the human population that might be affected by the contaminants. This investigation consisted of a detailed file review of available information and a site inspection. The Phase I Investigation was completed in 1989, and concluded that further investigations were necessary to determine the appropriate classification of the site.

In early 1990, Dussault was informed by the NYSDEC that a State funded Phase II Investigation was scheduled for later that year. In response, Dussault notified the NYSDEC on April 12, 1990 of the company's willingness to enter into an Order on Consent for the completion of a Phase II Investigation. Due to the company's Chapter 11 bankruptcy, its inability to produce an acceptable Phase II work plan, and an estimated cost that was far greater than Dussault initially anticipated, the site was referred back to the Bureau of Hazardous Site Control in early 1992 for inclusion on the State funded Phase II Investigation list.

On July 27, 1993 the NYSDEC collected one fill (SS-3) and three surface soil (SS-1, SS-2 and SS-4) samples from the site (Figure 4-1). Samples were collected from background soils, soils underlying the former foundry sand landfill, contents of a drum protruding from the face of the Niagara Escarpment, and from soils near this drum. All samples were submitted to Recra Environmental, Inc. for chemical analysis of Target Compound List (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), TCL pesticides, TCL polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals and cyanide. The analytical results for these samples are summarized in Table 4-2, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses did not reveal the presence of volatile organic compounds in any of the samples (Table 4-2). Semivolatile organic compounds, however, were detected in all four samples (Table 4-2). Eleven semivolatile organic compounds were detected in these samples with nine of these constituents being polycyclic aromatic hydrocarbons (PAHs). PAHs are a group of over 100 different chemicals that are ubiquitous in the environment. Sources of PAHs include incomplete combustion of coal, oil, gasoline, garbage, wood from stoves, automobiles and incinerators. PAHs are also found in coal tar, crude oil, creosote, roofing tar, medicines, dyes, plastics and pesticides. The presence of PAHs in samples at the Dussault Foundry Site are likely related to the foundry operations at the facility and the coal that had historically been stockpiled on the site. None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-2).

Phthalates [bis(2-ethylhexyl)phthalate and butylbenzylphthalate] were detected in three of the samples collected from the site (Table 4-2). None of the concentrations, however, exceeded the NYSDEC TAGM 4046 soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for these contaminants. Pesticides and PCBs were also detected in the samples, but again, none of the concentrations exceeded the NYSDEC soil cleanup objectives (Table 4-2).

Fourteen metals were detected in the samples collected by the NYSDEC from the site (Table 4-2). Of these compounds, five were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-2), with three of these metals being EPA priority pollutant metals. EPA priority pollutant metals are toxic metals for which technology-based effluent limitations and guidelines are required by Federal law. The priority pollutant metals exceeding the soil cleanup objectives (with the number of exceedances and maximum concentrations) included chromium (3 samples; 267 mg/kg), copper (1 sample; 286 mg/kg) and nickel (1 sample; 817 mg/kg). The concentrations of copper and nickel also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-2).

Because these analyses did not identify the presence of hazardous waste at the site, the Dussault Foundry Site was delisted from the Registry on July 25, 1994.

4.3 EPA Investigations

In January 1987, the EPA conducted a site investigation at the Dussault Foundry Site. During this investigation, the EPA's contractor collected 10 soil samples (BD-458 thru BD-465, BI-458 and BI-543) from various locations across the Dussault property. The locations of these samples, however, are unknown. All samples were submitted to Ecology & Environment, Inc for chemical analysis of TCL semivolatile organic compounds. Two of these samples were also analyzed for TCL volatile organic compounds. The analytical results for these samples are summarized in Table 4-2, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed that both volatile and semivolatile organic compounds were detected in the samples collected from the Dussault Foundry Site (Table 4-2). Volatile organic compounds detected in the samples included acetone (2 samples), 2-butanone (1 sample), ethylbenzene (1 sample), methylene chloride (2 samples), toluene (1 sample) and total xylenes (1 sample). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-2).

Twenty-one semivolatile organic compounds were detected in the samples collected from the Dussault Foundry Site (Table 4-2) with thirteen of these constituents being polycyclic aromatic hydrocarbons. Of these compounds, only benzo(a)anthracene (1 sample), benzo(a)pyrene (1 sample), benzo(b)fluoranthene (3 samples), chrysene (2 samples), dibenzo(a,h)anthracene (1 sample) and indeno(1,2,3-cd)pyrene (3 samples) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-2). Only the concentration of benzo(a)pyrene in one sample exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-2).

Phthalates [bis(2-ethylhexyl)phthalate, butylbenzylphthalate, di-n-butylphthalate and di-n-octlyphthalate] were also detected in the samples collected by the EPA from the site (Table 4-2). None of the concentrations, however, exceeded the NYSDEC TAGM 4046 soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for these contaminants. Phenols [2-methylphenol, 4-methylphenol and phenol] were detected in three of the samples with only the concentrations of 4-methylphenol and phenol in one sample exceeding the NYSDEC Part 375 residential soil cleanup objectives (Table 4-2). None of these concentrations, however, exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-2).

4.4 Niagara County Investigations

In early 2000 the Niagara County Department of Planning, Development and Tourism solicited proposals from environmental consultants for the completion of a Phase I Environmental Site Assessment (ESA) of the former Dussault Foundry property. This assessment was completed in March 2000, and concluded that several of the foundry's processes utilized a variety of hazardous materials and generated extensive quantities of foundry sand. Two underground storage tanks (USTs), one containing isopropyl alcohol (Figure 4-2) and the other one gasoline, were reported to be on-site. Numerous 55-gallon drums were scattered throughout the site, both inside and outside of the buildings (Figures 4-3 thru 4-5). The majority of the drums appeared to be empty, but some appeared to be partially full with liquids and debris. Based upon these findings, the Phase I ESA report concluded that a Phase II ESA should be conducted at the site to determine if hazardous substances were present at the site.

In 2001 the Niagara County Department of Planning, Development and Tourism commissioned a Phase II Environmental Site Assessment of the former Dussault Foundry property. This assessment began in November of that year and was completed in September 2002. The Phase II ESA field program consisted of the following major efforts: (1) geophysical surveying; (2) a historic raceway investigation; (3) a drum inventory; (4) estimating the volume of foundry sand on site; (5) surface soil sampling at locations that potentially received hazardous materials; (6) sampling of soils beneath the concrete floors of the buildings; (7) sampling of sump water and sludge; and (8) sampling of soil around the USTs. The results of each Phase II ESA activity are summarized in the following sections.

4.4.1 *Geophysical Survey*

The Phase I ESA reported that a buried tank existed on site. While the specific location was not known, the former site owner indicated that he believed the tank was located at the western end of the property, roughly between the building and the railroad tracks (Figure 1-3). A geophysical survey was conducted on November 22 and 23, 2001 to determine the exact location of this tank.

The results of the geophysical survey did not indicate the presence of a buried steel tank anywhere in the southern or southwestern portion of the property. Two small electromagnetic anomalies, however, were detected in this area of the property. A significant anomaly was detected about 75 feet south of the Quonset Hut.

Test pits were subsequently completed at the three geophysical anomalies identified during the geophysical survey. Excavation at the largest anomaly (south of the Quonset Hut) did not reveal the presence of buried steel objects in this area. A steel cart, however, was located close to this location, which may have effected the geophysical results. Excavation at the other two geophysical anomalies revealed the presence of a 1-inch galvanized steel pipe at a depth of 26 inches below ground surface. This pipe was followed from near where it passes beneath the railroad tracks (due north of a fire hydrant located along Union Street); the pipe bends 90 degrees to parallel the tracks, then later bends due north to enter the building at the western end of the Core Room Addition. The diameter, material, and position of this pipe relative to the fire hydrant suggest that it is a water line. Samples were not collected from these excavations.

4.4.2 *Raceway Investigation*

The Phase I ESA report suggested that three manmade water channels, termed raceways, may exist on the former Dussault Foundry property. As these raceways are potential contaminant migration pathways, they were further investigated during the Phase II ESA. A record search for available historical data on raceways was conducted on November 29 and 30, 2001. The Lockport Historical Society, the Niagara County Historical Society, and a retired City of Lockport engineer were contacted to learn more about the location and configuration of raceways on the Dussault property. The records obtained included a photocopy of a local raceway map, a photo of the channel north of Market Street and a 1974 City of Lockport Sewer Map showing historic hydraulic raceway locations in the vicinity of the site. The locations of these raceways are shown on Figure 1-3.

Following the records search the investigation team attempted to locate the raceways on site. Relic indications of only one raceway were identified. The foundation of a small mill building was found approximately 100 feet north of the escarpment, northeast of the Cleaning Building (identified as a former raceway during the 2008 NYSDEC Site Investigation). A narrow (2-foot wide) archway located at the base of this stone building foundation indicated a water outlet. A ditch was noted traversing the western side of the former Western Block Company property from near the top of the embankment down to a short drop-off topographically uphill from Market Street (Figure 1-3). At the drop-off, a rusty iron trough was noted extending from the ditch toward Market Street. Collectively, these field findings indicated the position of one former raceway. The nearest open raceway was located approximately half way between Market Street and the site along the embankment north of the site buildings (Figure 1-3). No evidence of any other raceways were identified during the Phase II ESA.

4.4.3 *Drum Inventory*

An inventory of all drums located on site was conducted by the investigation team on December 5, 2001, and updated on June 3, 2002. The team noted the size (in gallons), drum material, condition, labeling, percent full, bung/lid presence, and general contents of each drum found both within the buildings as well as outside and along the escarpment. All drums were numbered using orange spray paint during inventory. In addition, empty drums were marked with a green dot using spray paint, and most liquid-containing drums were marked with a red dot. In total, 244 drums were documented, mostly in good or fair condition.

4.4.4 *Foundry Sand Quantification*

Foundry sand generated during site operations is present over much of the site. Due to the concern that foundry sand poses a possible environmental hazard, an estimate of the volume of spent foundry sand was made during the Phase II ESA. The site was divided into four areas to facilitate the volume calculation: the western area, the northern embankment, the eastern embankment and piles located in the eastern portion of the site. The western area consisted of all property west of the buildings and north of the railroad track, and includes the associated portion of the escarpment. Based upon field observations, this estimate includes sand that extends off of the property. The northern embankment includes all sand north of the buildings. The eastern area consisted of all property east of the Washburn Street Extension. The sand pile area consists primarily of three distinct sand mounds. The depth of foundry sand was determined through excavation of several test pits. The volume of foundry sand present on site, not including miscellaneous volumes present inside the buildings, was estimated to be 10,500 cubic yards. These estimates, however, have a large margin of error as they were based solely on the use of a tape measure in the field.

4.4.5 *Former Rail Yard Surface Soil Investigation*

Five composite surface soil samples were collected from four locations within the former rail yard area (RR01 thru RR04) to evaluate possible ash/coal residue/petroleum contamination that may be in the area as a result of rail yard operations. The locations of these samples are shown on Figure 4-1. These samples consisted predominantly of black-stained, fine-grained silty soils, with locations RR01, RR02, and RR04 also containing minor gravel. Sample RR03 was collected from a pile of black-stained, dark, fine-grained soil that appeared to be non-native at the northern fringe of the rail yard area. Sample RR04 was collected from a stained soil zone found adjacent to a trench excavation at the geophysical anomaly south of the Quonset Hut. All samples were submitted to Ecology & Environment, Inc. for chemical analysis of TCL semivolatile organic compounds. The analytical results for these samples are summarized in Table 4-3, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed the presence of twenty-four semivolatile organic compounds in the rail yard samples (Table 4-3). Fifteen of these contaminants were polycyclic aromatic hydrocarbons. Of these compounds, only benzo(a)anthracene (2 samples), benzo(a)pyrene (2 samples), benzo(b)fluoranthene (2 samples), benzo(k)fluoranthene (2 samples), chrysene (2 samples), dibenzo(a,h)anthracene (2 samples) and indeno(1,2,3-cd)pyrene (2 samples) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-3). The concentrations of benzo(a)anthracene (2 samples), benzo(a)pyrene (2 samples), benzo(b)fluoranthene (1 sample) and dibenzo(a,h)anthracene (2 samples) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-3).

Phthalates [butylbenzylphthalate and di-n-butylphthalate] and phenols [4-methylphenol and phenol] were also detected in the samples collected from the rail yard (Table 4-3). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives. Acetophenone (5 samples), benzaldehyde (3 samples), biphenyl (3 samples), carbazole (3 samples) and dibenzofuran (4 samples) were also detected in the rail yard samples (Table 4-3). The concentrations of dibenzofuran did not exceed the NYSDEC Part 375 soil cleanup objective for this contaminant; there are no soil cleanup objectives for acetophenone, benzaldehyde, biphenyl and carbazole.

4.4.6 *Foundry Sand Sampling*

Four foundry sand samples (MS01 thru MS04) were collected during the Phase II ESA to evaluate the chemical nature of this material. The locations were selected to assess possible variations in sand content. Sample MS01 was collected from the far western end of the site in an area now covered by many trees (Figure 4-1). The presence of trees in this portion of the site suggests that the sand would be the oldest on site. Samples MS02 and MS03 were collected from sand piles located east of the Cleaning Building (Figure 4-1). These samples were believed to represent newer sand. Sample MS04 was collected from an excavation in the embankment, due north of the eastern end of the Area 5 building (Figure 4-1). All samples were submitted to Ecology & Environment, Inc. for chemical analysis of TCL semivolatile organic compounds, total phenols and TAL metals. The analytical results for these samples are summarized in Table 4-4, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed the presence of twenty-four semivolatile organic compounds in the foundry sand samples (Table 4-4). Sixteen of these contaminants were polycyclic aromatic hydrocarbons, one was a phthalate and three were phenols. None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives. Acetophenone, benzaldehyde, biphenyl and dibenzofuran were also detected in these samples (Table 4-4). There are no soil cleanup objectives for these contaminants.

Seventeen metals were detected in the foundry sand samples collected from the site during the Phase II ESA (Table 4-4). Of these compounds, only chromium (2 samples) and iron (5 samples) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-4). None of the concentrations, however, exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-4).

4.4.7 *Raceway Sampling*

One sample (RW01) of black silty loam soil was collected from the bottom of the raceway identified during the raceway investigation. This sample was collected from beneath the archway of the stone foundation at the top of the embankment (Figure 4-1), where water was believed to have flowed. This sample point was selected as it is the most upgradient point of exposure for this raceway. While no other raceways were identified, a 10-inch corrugated steel drain pipe extending northwest from the western end of the Core Room Addition was found. This drain pipe was positioned such that it may have emptied into a relic raceway located part way down the escarpment. One sample (RW02) of black foundry sand mixed with black silty loam soil was collected at the opening of this drain pipe (Figure 4-1). Both samples were submitted to Ecology & Environment, Inc. for chemical analysis of TCL volatile organic compounds, TCL semivolatile organic compounds, TCL pesticides, TCL PCBs and TAL metals. The analytical results for these samples are summarized in Table 4-5, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed that both volatile and semivolatile organic compounds were detected in the raceway samples collected from the Dussault Foundry Site (Table 4-5). Volatile organic compounds detected in the samples included methylcyclohexane (1 sample), tetrachloroethene (1 sample) and trichloroethene (1 sample). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-5). There are no soil cleanup objectives for methylcyclohexane.

Twenty-two semivolatile organic compounds were detected in the samples collected from the raceway and drain pipe (Table 4-2) with fifteen of these constituents being polycyclic aromatic hydrocarbons. Of these compounds, only benzo(b)fluoranthene (1 sample), benzo(k)fluoranthene (1 sample) and chrysene (1 sample) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-5). None of the concentrations, however, exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-5).

Phenols [4-methylphenol and phenol] were also detected in the raceway samples collected from the site (Table 4-5). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives. Acetophenone, benzaldehyde, biphenyl, carbazole and dibenzofuran were also detected in these samples (Table 4-5). The concentrations of dibenzofuran did not exceed the NYSDEC Part 375 soil cleanup objective for this contaminant; there are no soil cleanup objectives for acetophenone, benzaldehyde, biphenyl and carbazole.

Pesticides and PCBs were also detected in the samples, but again, none of the concentrations exceeded the NYSDEC soil cleanup objectives (Table 4-5).

Eighteen metals were detected in the raceway samples collected from the site during the Phase II ESA (Table 4-5). Of these compounds, only zinc in one sample was detected at a concentration that exceeded the NYSDEC residential soil cleanup objectives (Table 4-5). This concentration, however, did not exceed the NYSDEC Part 375 commercial soil cleanup objective for this contaminant (Table 4-5).

4.4.8 *Transformer Area Sampling*

Two composite surface soil samples were collected from former transformer areas to evaluate possible PCB contamination. The locations of these samples are shown on Figure 4-1. Sample SS01 was collected along the northern and eastern perimeter of a concrete pad located at a former electrical substation (Figure 3-7). It was believed that electrical transformers were once located on this pad. The age of this foundry indicates that the transformers would have contained PCB oils. The second sample (SS02) was collected from loose foundry sand in an area formerly containing extensive electrical equipment (Figure 4-1). All samples were submitted to Ecology & Environment, Inc. for chemical analysis of TCL PCBs. TCL pesticides were also analyzed because the analytical method for PCBs included pesticides. The analytical results for these samples are summarized in Table 4-6, while information concerning sample collection and analysis is given in Table 4-1.

Nineteen pesticides were detected in the transformer area samples collected from the site during the Phase II ESA (Table 4-6). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives. PCBs were detected in one of the samples, but again, none of the concentrations exceeded the NYSDEC soil cleanup objectives (Table 4-6).

4.4.9 *Subfloor Soil Sampling*

Eleven subfloor soil samples were collected from ten locations throughout the buildings (SUB01 through SUB10) to evaluate the potential for site contaminants to have penetrated into the soil underlying the concrete floor. Sample locations, shown on Figure 4-1, were distributed in areas where liquids were likely used, transported, or stored. All samples were submitted to Ecology & Environment, Inc. for chemical analysis of total phenols. Three of the samples were also analyzed for TCL VOCs, with two of the samples further analyzed for TCL pesticides and TCL PCBs. Six of the ten samples were analyzed for TAL metals. The analytical results for these samples are summarized in Table 4-7, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed that volatile organic compounds and total phenols were detected in the subfloor samples collected during the Phase II ESA (Table 4-7). Volatile organic compounds detected in the samples included acetone (2 samples), carbon disulfide (1 sample) and toluene (1 sample). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-7). Total phenols were detected in seven of the samples collected from beneath the concrete floors (Table 4-7); none of these concentrations exceeded the NYSDEC soil cleanup objectives (Table 4-7).

Fourteen pesticides were detected in the subfloor samples collected from the site (Table 4-7). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives. PCBs were detected in two of the samples, but again, none of the concentrations exceeded the NYSDEC soil cleanup objectives (Table 4-7).

Eighteen metals were detected in the subfloor samples collected from the site during the Phase II ESA (Table 4-7). Of these compounds, only antimony (1 sample), chromium (1 sample) and iron (3 samples) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 4-7). None of the concentrations, however, exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 4-7). Antimony and chromium are EPA priority pollutant metals.

4.4.10 *Pit and Sump Sampling*

Four pits containing water were identified within the buildings; three were located in the Foundry Building while the fourth pit was located in the Cleaning Building. Water samples (Sump1 thru Sump4) were collected from these pits during the Phase II ESA. A duplicate sample was collected from Pit 1. In addition, one sample (SED01) of a thick, black sludge at least 3 inches thick was collected from the bottom of the pit in the electrical control room to evaluate possible PCB contamination. A duplicate sample of this sludge was also collected. The locations of the water and sludge samples are shown on Figure 4-1. All water samples were submitted to Ecology & Environment, Inc. for chemical analysis of TCL volatile organic compounds, total phenols, TCL pesticides, TCL PCBs and TAL metals. The analytical results for these samples are summarized in Table 4-8, while information concerning sample collection and analysis is given in Table 4-1. The sludge samples were also submitted to Ecology & Environment, Inc. for chemical analysis of TCL semivolatile organic compounds, TCL pesticides and TCL PCBs. The analytical results for these samples are summarized in Table 4-9, while information concerning sample collection and analysis is given in Table 4-1.

The results of the organic analyses revealed that volatile organic compounds and total phenols were detected in the pit water samples collected during the Phase II ESA (Table 4-8). The only volatile organic compound detected was acetone (4 samples). None of the concentrations, however, exceeded the NYSDEC surface water guidance value for this contaminant (Table 4-8). Total phenols were detected in three of the pit water samples with all three concentrations exceeding the NYSDEC surface water standard for total phenols (Table 4-8).

Beta-BHC was the only pesticide detected in the pit water samples collected from the site (Table 4-8). None of the concentrations, however, exceeded the NYSDEC surface water standard for this contaminant (Table 4-8). PCBs were not detected in any of the pit water samples (Table 4-8).

Seventeen metals were detected in the pit water samples collected during the Phase II ESA (Table 4-8). Of these compounds, eight were detected at concentrations that exceeded the NYSDEC surface water standards and guidance values. Four of these metals are EPA priority pollutant metals. The priority pollutant metals exceeding the surface water criteria (with the number of exceedances and maximum concentrations) include: antimony (2 samples; 8.3 µg/L), cadmium (2 samples; 9.3 µg/L), lead (2 samples; 129 µg/L) and thallium (5 samples; 5.7 µg/L).

Semivolatile organic compounds, pesticides and PCBs were detected in the sludge samples collected from pit 3 (Table 4-9). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-9).

4.4.11 *Isopropyl Alcohol UST Subsurface Soil Sampling*

A track hoe was utilized to excavate soil from around the western end of the isopropyl alcohol tank south of the Quonset Hut (Figure 1-3). The top of the tank was located approximately 1 foot below ground surface. Soil surrounding the tank consisted of red crusty silt, indicating that the tank had been installed into a pit excavated into native soil. Soil from beneath the tank had a noticeable odor; the photoionization detector (PID) measured a VOC concentration of 226 ppm. Two subsurface soil samples (AST1 and its duplicate) immediately beneath the lowest point of the tank's western end (Figure 4-1) were collected and submitted to Ecology & Environment, Inc. for chemical analysis of TCL volatile organic compounds and isopropyl alcohol through Tentatively Identified Compound (TIC) analysis. The analytical results for these samples are summarized in Table 4-10, while information concerning sample collection and analysis is given in Table 4-1. Subsequent to sample collection, the excavation was backfilled and the sample location was flagged.

The results of the organic analyses revealed that acetone and isopropyl alcohol were the only VOCs detected in the subsurface soil samples collected from the western end of the isopropyl alcohol tank (Table 4-10). The concentration of acetone in one sample was detected at the NYSDEC soil cleanup objective for this contaminant (Table 4-10). The concentration of acetone in the duplicate sample, however, did not exceed the NYSDEC soil cleanup objective (Table 4-10). There is no NYSDEC soil cleanup objective for isopropyl alcohol.

4.5 EPA Removal Action

On July 2, 2002 Niagara County asked for help from the United States Environmental Protection Agency (EPA) to characterize the liquid contents of the drums inventoried during the Phase II ESA. As a result of this request, the EPA conducted an Expedited Removal Assessment (ERA) at the site on October 1, 2002. Field analytical tests taken during ths ERA identified eleven drums containing characteristic hazardous wastes as defined by the Resource Conservation and Recovery Act (RCRA). Composite samples from 20 of the 200 drums revealed the presence of various hazardous substances and wastes including D003 reactive materials, D002 corrosive materials, lead, chromium, pyrene and toxaphene. The site also contained five tanks that were in poor condition; two had leaked all or part of their contents.

The Niagara County Health Department determined that a public health risk was posed by these drums and tanks, and on October 9, 2002 issued a Public Health Hazard Declaration for the Dussault Foundry Site. In response to this declaration the NYSDEC implemented an emergency site security action by placing warning signs across the front of the property and installing high visibility fencing across the open doorways of the buildings. On October 16, 2002 the NYSDEC asked the EPA to undertake a removal action at the site.

Based upon the public health hazards identified, the EPA agreed to this request. The removal action was authorized on February 27, 2003 and included the following activities: (1) over-pack all open containers and those of questionable integrity, (2) sample all drums and tanks for disposal analysis parameters, (3) dispose of all tanks and drums at appropriates disposal facilities, and (4) evaluate additional areas of suspect soil, debris and potential waste accumulation throughout the site for possible off-site disposal. EPA initiated this removal action on March 13, 2003 and completed this work on September 25, 2003 at a cost of approximately $384,000. Details of the removal action are summarized in the following sections.

4.5.1 *Radiation Survey*

During March 2003 a radiation survey was completed at the Dussault Foundry Site. This survey determined that radioactive materials do not exist on-site.

4.5.2 *Asbestos Abatement*

During March 2003 seven samples from within the buildings were collected for asbestos analysis. These results confirmed the presence of asbestos in two debris piles, two oven platforms, and in 200 linear feet of collapsed piping in the locker room. By June 16, 2003 sixty cubic yards of asbestos containing debris, tranzite panels, and oven platforms were removed from the site and transported to the Minerva Enterprises Landfill in Waynesboro, Ohio for disposal. This work, however, did not include the collapsed piping in the locker room. This abatement was initiated on September 8, 2003 and was completed by September 25, 2003. Approximately 240 cubic yards of asbestos piping, asbestos containing debris and tranzite panels from the floor of the foundry oven were abated and transported to the Minerva Enterprises Landfill for disposal.

4.5.3 *Drum Removal*

During March 2003 EPA began segregating the drums at the site (Figures 4-6 and 4-7). A field chemist was mobilized to the site to hazcat the drums and established waste groups. Ten waste groups were identified, with samples from each group collected and sent off-site for disposal analysis. Drums that were located below the escarpment and along the hillside were also evaluated (Figure 4-5).

During April 2003 non-hazardous drummed material was sent to Modem Landfill in Model City, New York for disposal. By June 6, 2003 all remaining drums were removed from the site and transported to Permafix of Michigan, Brownstown, Michigan for stabilization and disposal.

4.5.4 *Tank Removal*

During March 2003 EPA opened the five aboveground storage tanks and sampled the contents for chemical analysis. The removal of these tanks and the cleanup of the containment areas was completed by June 6, 2003.

During April 2003 two underground storage tanks that formerly contained diesel/no. 2 fuel oil were discovered behind the Foundry Building (Figures 1-3, 4-8 and 4-9). These USTs, along with the isopropyl alcohol UST in front of the Core Room Addition (Figure 1-3), were excavated and removed on April 17, 2003. During excavation, the overburden material overlying each of the tanks was removed and staged on polyethylene sheeting. This material was field screened with a photoionization detector (PID). All PID measurements were negative (0 ppm). All liquids in the tanks were pumped into 55-gallon drums for subsequent off-site transport and disposal. The USTs were then excavated, staged on polyethylene sheeting and placed in a secure location. Once the tanks were safe to enter, all bottom residual was removed and placed into 55-gallon drums. Each tank was subsequently cut up, added to, and disposed with the non-RCRA hazardous debris generated during the removal action.

Following removal of the tanks, confirmatory soil samples were collected from each of the excavations for chemical analysis. The locations of these samples are shown on Figure 4-10. All samples were submitted to GLA Laboratories for chemical analysis of TCL volatile organic compounds. The four samples collected from the isopropyl alcohol tank excavation were also analyzed for isopropyl alcohol. The eight samples collected from the diesel/no. 2 fuel oil tank excavations were analyzed for TCL semivolatile organic compounds. The analytical results for these samples are summarized in Table 4-11, while information concerning sample collection and analysis is given in Table 4-1. Each excavation was subsequently backfilled with the previously staged overburden material.

The results of the organic analyses revealed that both volatile and semivolatile organic compounds were detected in the confirmatory soil samples (Table 4-11). Volatile organic compounds detected in the samples included acetone (2 samples), benzene (8 samples), carbon disulfide (2 samples), ethylbenzene (1 sample), tetrachloroethene (1 sample), toluene (4 samples) and total xylenes (2 samples). None of the concentrations, however, exceeded the NYSDEC soil cleanup objectives (Table 4-11).

Fifteen semivolatile organic compounds were detected in the confirmatory soil samples (Table 4-11) with all fifteen of these constituents being polycyclic aromatic hydrocarbons. Of these compounds, only indeno(1,2,3-cd)pyrene in one sample was detected at a concentration that exceeded the NYSDEC residential soil cleanup objectives (Table 4-11). This concentration, however, did not exceed the NYSDEC Part 375 commercial soil cleanup objective for this contaminant (Table 4-11).

During April 2003 soil contaminated with an unknown oily material was discovered behind the Cleaning Building in the apparent location of a former storage tank. While the tank was gone, broken fill pipes were observed in the area. The contaminated area appeared to be limited in extent. As a result, approximately 60 tons of contaminated soil were excavated during June and July 2003 and transported to Modern Landfill for disposal.

4.5.5 *Debris Removal*

During March 2003 approximately 500 cubic yards of debris from the foundry was segregated and stockpiled (Figures 4-11 thru 4-14) to make additional room in the buildings for drum storage. By April 21, 2003 a total of fourteen trucks containing approximately 300 cubic yards of site debris and foundry sand were sent to Modem Landfill for disposal. Also during April 2003 mercury switches and light bulbs from overhead vapor lighting were collected for off-site disposal. Ballasts from the lighting were determined to be non-PCB.

Additional debris was removed from the site during September 2003. In total, approximately 400 tons of debris and foundry sand were transported to Modern Landfill for disposal.

5.0 STUDY OBJECTIVES AND SCOPE OF WORK

5.1 Objectives

The overall objective of the Site Investigation was to obtain information sufficient to (1) determine if the Dussault Foundry Site should be relisted in the Registry of Inactive Hazardous Waste Sites, and if so, what the appropriate Site classification should be and (2) determine if the property is suitable for redevelopment. The specific objectives of this investigation were to:

- evaluate the site to determine if hazardous wastes were present, and if present, to determine if there was a consequential amount;

- determine the nature and extent of contamination at the site, including the presence of asbestos in site buildings;

- better quantify the volume of foundry sand throughout the property; and

- estimate costs for building demolition.

These objectives were determined through a grided soil boring/test pit program, and the analysis of soil, fill, pit water, groundwater, sludge and asbestos samples collected during the Site Investigation.

5.2 Scope of Work

To meet the study objectives, the following activities were completed during the Site Investigation: (1) a detailed property survey, (2) a soil boring/test pit program, (3) monitoring well installation, (4) water level measurements, (5) collection of environmental samples for chemical analysis, (6) a detailed asbestos survey and (7) demolition cost estimates. These activities are briefly described in the following sections. All field work was conducted in level D personal protective equipment, while air monitoring for organic vapors was completed during intrusive activities by the NYSDEC spill contractor. The drill rigs and sampling equipment were deconed prior to the implementation of field activities, with the sampling equipment decontaminated between samples.

5.2.1 *Detailed Property Survey and Mapping*

A detailed map of the Dussault Foundry Site, including site buildings, property lines and topography, was not available prior to the initiation of the Site Investigation. As a result, a detailed property survey was the first task completed during the Site Investigation. Niagara Boundary and Mapping Service, a surveying subcontractor licensed in the State of New York, completed the survey, which included the following:

- survey of all relevant features of the site and adjacent areas including, at a minimum, all structures, property boundaries, roads, fences, and any historical sample, boring or test pit locations that could still be identified;

- horizontal locations and ground surface elevations of all soil borings and test pits completed during the Site Investigation;

- horizontal locations and ground surface elevations of all samples collected during the Site Investigation; and

- horizontal locations and vertical elevations of all monitoring wells. This included the ground surface elevation and the elevation of the inner PVC riser of each well.

In addition, a detailed topographic base map of the site and immediate vicinity was developed. Contours were plotted at 1-foot intervals.

Vertical control was established to the nearest ±0.1 foot for all ground surface elevations. Monitoring well riser elevations were reported to the nearest 0.01 foot. Elevations were determined relative to the North American Vertical Datum of 1988 (NAVD 88), with reference made to an existing monument in the vicinity of the site. Horizontal coordinates were given in the State Plane East Zone (feet), North American Datum (NAD) of 1983 to an accuracy of ±0.5 foot.

The survey data were used to develop a detailed map of the Dussault Foundry Site. This map included all site structures; the property boundaries; the Niagara Escarpment; topography; historic raceways at and near the site; nearby roadways; all soil boring and test pit locations; all monitoring well locations; the locations of historic samples collected at the site; and the locations of all samples collected as part of the Site Investigation. The coordinates and ground surface elevations for each soil boring, test pit and monitoring well are given in Appendix C, while the stratigraphic logs and well construction diagrams are given in Appendix B.

5.2.2 *Soil Boring/Test Pit Program*

One of the objectives of the soil boring/test pit program was to better quantify the volume of foundry sand throughout the property. To accomplish this objective, a 50 foot by 50 foot grid was established across the entire property by the surveyor, with each grid node staked (outside) or spray painted (inside). Soil borings or test pits were completed at each grid node to evaluate the thickness of foundry sand present, if any, and to facilitate the collection of subsurface soil and fill samples. The locations of these soil borings and test pits are shown on Figure 5-1.

5.2.3 *Monitoring Wells*

Based upon the presence of the Niagara Escarpment and the thin layer of overburden throughout the site, saturated soil/fill was not encountered at thicknesses sufficient to justify the installation of micro-wells. As a result, five bedrock monitoring wells were installed during the Site Investigation to evaluate groundwater flow patterns across the site and to assess bedrock groundwater quality. The locations of these wells are shown on Figure 5-1. The bedrock monitoring wells were drilled by advancing a 6¼-inch diameter auger with continuous split spoon sampling of the overburden until bedrock was encountered. At this point the driller re-tooled the drill rig and cored the upper 5 feet of bedrock with an HQ core barrel (2.5-inch core diameter with a 3.8-inch hole diameter). The core hole was then reamed to 6 inches in diameter using a tricone roller bit to create a rock-socket. A 4-inch-diameter steel casing was lowered into the rock-socket and grouted in place. After the grout was allowed to cure for at least 24 hours, bedrock was continuously cored through the casing with an HQ core barrel to the desired depth.

The wells were constructed of 2" diameter threaded/flush joint Schedule 40 PVC screen and riser with appropriate sand pack, bentonite seal, grout and protective casing with locking cap. The wells were constructed with a minimum 3' stickup. Well construction diagrams are included in Appendix B, while well construction details are given in Table 5-1. Continuous split spoon samples of the overburden were collected during well installation, while coring of bedrock was completed with standard HQ coring tools. Ground surface and top-of-riser elevations at each well were surveyed by the licensed surveyor, and are given in Table 5-1 and Appendix B.

Following construction, the wells were developed in accordance with standard NYSDEC well development protocols by Empire Geo Services personnel.

5.2.4 *Water Level Measurements*

Water levels were measured five times in the newly constructed monitoring wells between October 1 and November 3, 2008. The water level data obtained during the Site Investigation were utilized to evaluate groundwater flow patterns across the Dussault Foundry Site.

5.2.5 *Asbestos Survey*

An asbestos survey of the existing buildings was completed by Paradigm Environmental Services to identify asbestos containing materials (ACMs). The survey was performed in general accordance with NYCRR, Title 12, Part 56 (Industrial Code Rule No. 56), applicable provisions of 40 CFR Part 61 (NESHAPS) and Occupational Safety and Health Administration (OSHA) 29 CFR 1910. The survey included the following tasks:

- completion of a site inspection by an EPA and NYSDOL certified asbestos inspector on August 6, 2008. The site inspection was completed for the accessible portions of the on-site buildings. Visual observations of ACMs were recorded on site specific inspection forms. Samples for asbestos analysis were collected as part of this work; and

- preparation of an Asbestos Survey report by Paradigm Environmental Services detailing the location, approximate quantity (when practical) and condition of ACM. The report includes inspection forms, a figure indicating sampling and ACM locations and analytical results. A copy of the report is included as Appendix E.

5.2.6 *Sample Collection and Analysis*

With the exception of the asbestos samples collected by Paradigm Environmental Services, all samples were collected by Empire Geo Services personnel in consultation with the NYSDEC field representative. During the Site Investigation twenty-two surface soil samples, forty-four subsurface soil and fill samples, three pit water samples, five groundwater samples and one sludge sample (Figure 5-2) were collected and submitted to Test America Laboratories in Amherst, New York for chemical analysis. Information concerning sample collection and analysis is given in Table 5-2.

5.2.7 *Building Demolition Costs*

Following completion of the asbestos survey, a demolition cost estimate was prepared for the site by ETS Clearing and Grading for the following scenario:

- asbestos abatement is completed prior to demolition, with building demolition completed during a single construction period.

The demolition cost estimate was obtained solely to provide an "order of magnitude" estimate for future redevelopment budgeting by others.

5.2.8 *Report Preparation*

This report was prepared to describe the activities completed during the Site Investigation of the Dussault Foundry Site; present the analytical results of the samples collected during the investigation; discuss the results as they relate to the objectives of the investigation; present estimated costs for the demolition of site buildings and present recommendations for future activities at the site.

6.0 GEOLOGY AND HYDROGEOLOGY

Site Investigation activities were undertaken, in part, to determine the characteristics, areal extent and hydrogeologic properties of the geologic strata underlying the Dussault Foundry Site. This is important as these attributes of the geologic strata govern the occurrence and flow of groundwater across the site. These attributes also govern the potential for contaminant migration from the site, and determine the rate and extent of this migration. As a result, a detailed evaluation of the geology at the Dussault Foundry Site is essential. Before completing such a detailed evaluation, however, it is important to first describe the regional geologic history of the western New York area as a general knowledge of this history is critical to a complete understanding of the complex interrelationships between the various geologic strata and their hydrogeologic properties.

6.1 Regional Geology

6.1.1 *Surficial Geology*

Geologic evidence suggests that at least four major glacial episodes covered parts of North America during the Pleistocene Epoch (Buehler and Tesmer, 1963). In western New York, however, there is evidence of only two such episodes. The last glacial event in the area, the Wisconsin, eroded and modified the earlier glacial deposits to such an extent that little evidence of their existence remains. These glacial events widened the preexisting valleys and basins, and led to the development of the present day drainage system in western New York (La Sala, 1968).

A complex sequence of proglacial lakes that formed during the final retreat of the Wisconsin ice sheet inundated an extensive area of western New York. This succession originated in the Erie-Huron Basin prior to 14,000 years ago as the ice sheet retreated from the basin. Further retreat produced Lake Arkona about 13,600 years ago (Hough, 1958); a readvance of the ice sheet followed about 13,000 years ago and resulted in a water level increase to the Lake Whittlesey stage. A series of advances and retreats over the next 300 years produced, from latest to earliest, lakes Warren, Wayne, Lowest Warren, Grassmere, Lundy and Tonawanda, the last forming about 9,800 years ago (Calkins and Brett, 1978). To the north, Lake Iroquois occupied the Ontario Basin at this time. This lake sequence was responsible for the deposition of stratified lacustrine clays, silts, sands and gravels that now cover much of western New York.

The Pleistocene Epoch presented a variety of environments that resulted in the deposition of unconsolidated deposits. In the Lockport area these deposits include the following (GZA, 1987; Smith, 1990; Ecology and Environment, 1991):

- Glacial till, consisting of a non-sorted, non-stratified mixture of sand, silt, clay, gravel and rock fragments deposited directly from glacial ice;

- Glaciolacustrine deposits, consisting primarily of silt, sand and clay deposited in lakes that formed during melting of the ice sheets; and

- Glaciofluvial deposits, consisting of sand and gravel deposited either by glacial meltwater streams or by the reworking of till and other glacial deposits along the shore of former glacial lakes.

The thickness of these deposits in the Lockport Area varies considerably, ranging from less than 2 feet near the Niagara Escarpment to approximately 45 feet at the Frontier Pendleton Quarry Site approximately 9 miles southwest of the Dussault Foundry Site (Golder, 1989).

6.1.2 *Bedrock Geology*

The bedrock underlying western New York is characterized as a thick sequence of shales, sandstones, limestones and dolostones deposited in ancient seas during the Silurian and Devonian Periods (Buehler and Tesmer, 1963). This stratigraphic sequence is summarized in Table 6-1. Bedrock bedding generally strikes in an east-west direction, approximately paralleling the Niagara and Onondaga Escarpments, and dips to the south at approximately 30 to 40 feet per mile (Johnson, 1964; La Sala, 1968; Yager and Kappel, 1987). Erosion and weathering, however, have produced local differences in the bedrock surface configuration (Snyder Engineering, 1987).

The uppermost bedrock unit underlying the Dussault Foundry Site is the Gothic Hill Member of the Gasport Dolomite of the Lockport Group (Table 6-1), which was deposited in a shallow sea environment during the Middle Silurian Period (439-408 million years ago) (Brett et al., 1995). The Lockport Group varies in thickness from 20 to 175 feet (Johnson, 1964; Brett et al., 1995), and is described by Brett et al (1995, page 45) as a "massive- to medium-bedded, argillaceous dolomite with minor amounts of dolomite and shale." The Gothic Hill Member ranges in thickness from 3 to over 21 feet, and is described by Brett et al (1995, page 50) as a "thick- to massive- bedded, dark olive-grey to light-pink, dolomitic limestone." The upper 10 to 25 feet of the Lockport Group contains abundant bedding planes and vertical fractures enlarged by dissolution and glacial scour (Miller and Kappel, 1987).

6.2 Site Geology

Thirty-three soil borings and eighty-eight test pits (Figure 5-1) were completed during the Site Investigation to evaluate the stratigraphy of the Dussault Foundry Site. One hundred sixteen of these borings and test pits were completed to refusal; five test pits were completed to the maximum depths possible with the excavation equipment available (9 to 15 feet below ground surface). The stratigraphic logs for these borings are given in Appendix B, while a stratigraphic summary of these logs is given in Appendix C.

6.2.1 *Non-Native Deposits*

The soil boring/test pit program completed during the Site Investigation revealed that two non-native deposits underlie the Dussault Foundry Site: fill material and reworked soil. Fill material was encountered at ninety-one soil borings and test pits completed at the site (Table C-1 of Appendix C), and overlies either reworked or native soil. Fill material consisted predominantly of dark brown to black foundry sand containing ash, coal, coke, slag, brick, gravel, sand molds and metal (Appendix B; Figures 6-1 thru 6-3). Drums containing waste were encountered at two locations (SUB-8 and SUB-90; Figures 6-4 and 6-5). The thickness of the fill material ranged from 0.2 to 24.0 feet (Table C-1 of Appendix C), with the average thickness being 4.1 feet. Fill material was thickest near the Niagara Escarpment and thinned to the south toward Union Street (Figure 6-6). The volume of fill material at the Dussault Foundry Site was estimated to be approximately 95,000 cubic yards using the Grid Volume command of the Surfer Program (version 8.05) copyrighted by Golden Software, Inc.

Reworked soil was encountered in forty-two soil borings and test pits completed at the site, and consisted predominantly of brown sand or silty clay with gravel, wood and metal (Figure 6-7). This soil was most commonly encountered beneath the fill material, but was located either at the ground surface or under the concrete floor of the buildings at twelve locations (Table C-1 of Appendix C). Where encountered, reworked soil ranged in thickness from 0.3 to 6.3 feet (Table C-1 in Appendix C), with the average thickness being 3.3 feet.

6.2.2 *Glaciolacustrine Deposit*

A glaciolacustrine deposit consisting of two separate units (sand and silty clay) was encountered in sixty-nine soil borings and test pits completed during the Site Investigation, and directly underlies the fill material or reworked soil (Table C-1 of Appendix C). The upper unit was encountered in thirty-three soil borings and test pits, and consisted predominantly of brown, fine to medium-grained sand containing trace amounts of gravel and silt (Appendix B; Figure 6-8). The contact between this unit and the overlying fill was usually very distinct (Figures 6-9 and 6-10). Where encountered, this unit ranged in thickness from 0.5 to 7.9 feet (Table C-1 in Appendix C), with the average thickness being 3.4 feet. At twenty-one locations the upper sand unit directly overlies bedrock. At the other eleven locations this unit directly overlies the silty clay unit.

The lower silty clay unit was encountered in forty-five soil borings and test pits, and consisted predominantly of red-brown, brown and grey, silt and silty clay containing numerous rock fragments, mottling and traces of sand (Appendix B; Figures 6-11 and 6-12). Where encountered, this unit ranged in thickness from 0.2 to 7.1 feet (Table C-1 in Appendix C), with the average thickness being 1.9 feet. The silty clay unit directly overlies a thin veneer of sapprolitic (weathered) bedrock (Figure 6-13).

6.2.3 *Gasport Dolomite - Gothic Hill Member*

The uppermost bedrock unit underlying the Dussault Foundry Site is the Gothic Hill Member of the Gasport Dolomite (Table 6-1). Bedrock was encountered in one hundred soil borings and test pits completed during the Site Investigation at depths ranging from 0.6 to 24.0 feet below ground surface (Table C-1 of Appendix C). Only the five monitoring well borings penetrated this formation to any significant depth, and revealed that the Gothic Hill Member consisted of two distinct units: (1) a thin to massively bedded, hard to very hard, grey dolostone with occasional vertical fractures, vugs and fossils; and (2) a thin bedded, soft, brown to grey mudstone (Appendix B; Figure 6-14). The mudstone was the uppermost bedrock unit encountered at sixty-one soil boring and test pit locations, while the grey dolostone was the uppermost bedrock unit encountered at thirty-four locations. Bedrock type was not determined at the remaining five locations. The Gothic Hill Member was never fully penetrated during the Site Investigation, but thicknesses up to 29.3 feet were documented.

6.3 Regional Hydrogeology

Water bearing zones in the Lockport area include unconsolidated glacial deposits and bedrock of the Lockport Group and Rochester Shale (Johnson, 1964; GZA, 1981; EHC, 1989). Most of the unconsolidated deposits in the area consist of fine grained glacial deposits with hydraulic conductivities roughly 10^{-7} cm/s or less (Earth Dimensions, 1980). These deposits, however, often contain horizontal laminations and sand lenses that can produce perched water table conditions, or if areally extensive, can be utilized as sources of water (La Sala, 1968). Because the unconsolidated deposits in the Lockport area are relatively thin, and horizontal laminations and sand lenses are not common, groundwater yields from these deposits would be too low for domestic or industrial purposes. Overburden groundwater flow in the area, therefore, is expected to be highly localized and discontinuous, with an overall flow toward the Niagara Escarpment and the New York State Barge Canal.

The Lockport Group consists predominantly of dolostone; however, thin beds of limestone and shaly dolostone, and small irregularly shaped masses of gypsum are common. These thin beds and masses are subject to dissolution by groundwater, resulting in the enlargement of fractures and the formation of migration pathways that can transmit large quantities of groundwater. Groundwater wells completed in the Lockport Group have yields commonly ranging from 10 to 100 gpm (Miller and Kappel, 1987), with yields up to 950 gpm reported (Yager and Kappel, 1987). Groundwater in the Lockport Group is typically either a calcium-sulfate or calcium-bicarbonate water, is very hard, and is highly mineralized; calcium, bicarbonate, magnesium, sulfate and chloride are present in significant concentrations (Johnson, 1964; La Sala, 1968; NYSDEC, 1997). Due to this poor water quality and the nearby presence of the Niagara River, an important source of municipal drinking water throughout Western New York, bedrock groundwater is not extensively utilized as a domestic water source in the Lockport area. Because of the significant well yields, however, groundwater is commonly utilized for industrial purposes (i.e., non-contact cooling; quarry washing operations).

Regional bedrock groundwater flow in the Lockport area is expected to be toward the Niagara Escarpment and the New York State Barge Canal.

6.4 Site Hydrogeology

The hydrogeology of the Dussault Foundry Site was evaluated by examining data obtained during the Site Investigation. Although a fine to medium-grained sand was encountered at the Dussault Foundry Site (Table C-1 of Appendix C), overburden groundwater was only encountered at five locations during the Site Investigation, typically at the overburden/bedrock interface. Based upon this paucity of overburden groundwater, overburden monitoring wells were not installed during the Site Investigation. Instead, five bedrock monitoring wells were installed to monitor the first encountered groundwater underlying the site and to evaluate bedrock groundwater flow patterns across the site (Figure 5-1).

Water levels were measured five times in the bedrock monitoring wells between October 1 and November 3, 2008 (Table 6-2). This table reveals that groundwater elevations during this period ranged from 547.42 to 584.52 feet amsl. The hydrographs constructed from the water level data are shown as Figure 6-15, and reveal that water levels in each well remained relatively static.

The water level data obtained from the bedrock monitoring wells were also utilized to construct groundwater contour maps. A representative map is shown as Figure 6-16, and reveals that bedrock groundwater under the Dussault Foundry Site flows to the northeast toward the Niagara Escarpment and the New York State Barge Canal. This flow direction, combined with the water levels in the wells, suggests that bedrock groundwater discharges from the Lockport Group near the base of the Niagara Escarpment. The thick mantle of fill overlying the escarpment (Figure 6-17), however, prevents this water from being observed.

7.0 INVESTIGATION RESULTS

A brief description of the activities completed during the Site Investigation of the Dussault Foundry Site was presented in Section 5.0. In this section, a detailed evaluation of the observations made during the investigation and the analytical results obtained from the samples are presented. Analytical results are summarized by environmental media (e.g., surface soil, subsurface soil and fill, surface water, groundwater, sludge and asbestos).

7.1 General Observations

The Dussault Foundry Site is heavily vegetated with weeds, small bushes and trees (Figures 3-1 and 3-2), which makes travel around the site extremely difficult. To provide equipment access to the soil boring and test pit locations, a significant amount of vegetation was cleared during the Site Investigation (Figures 6-1, 6-2, 7-1 and 7-2).

The buildings of the Dussault Foundry Site are extremely dilapidated (Figures 3-3 thru 3-8) and present a significant physical hazard. While individuals were not observed on site during any of the Site Investigation activities, evidence of trespassing was observed (e.g., beer and soda cans, fire pits, dumping, etc).

During the site reconnaissance, fill material (primarily foundry sand) was observed at the surface throughout the site (Figures 6-1, 6-2 and 6-17). Samples of this foundry sand were collected during the Site Investigation and submitted to Test America Laboratories for chemical analysis. The results of these analyses are described in Sections 7.2 (surface soil) and 7.3 (subsurface soil and fill) below. Several 55-gallon drums were scattered throughout the site, mainly on the slope of the Niagara Escarpment (Figures 7-3 and 7-4). The majority of the drums appeared to contain foundry sand or metal debris.

7.2 Surface Soil

Twenty-two surface soil samples from the Dussault Foundry Site were collected during the Site Investigation. The locations of these samples are shown on Figure 5-2. All samples consisted of foundry sand or topsoil mixed with foundry sand, and were collected to evaluate the nature of surface soil contamination at the site. All samples were submitted to Test America Laboratories for chemical analysis of Target Compound List (TCL) semivolatile organic compounds (SVOCs), TCL pesticides, TCL polychlorinated biphenyls (PCBs) and Target Analyte List (TAL) metals. The analytical results for these samples are summarized in Table 7-1, while information concerning sample collection and analysis is given in Table 5-2.

Analytical results were evaluated against the residential and commercial soil cleanup objectives of Table 375-6.8(b) contained in the December 2006 NYSDEC publication entitled "*6NYCRR Part 375: Environmental Remediation Programs*". For contaminants not included in Part 375, the soil cleanup objectives identified in the October 1995 NYSDEC publication entitled "*Technical and Administrative Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels*" were utilized. For metals, TAGM 4046 allows the use of background concentrations so long as the background samples are collected from areas not impacted by the site and any other source of contaminants. Background samples, however, were not collected during the Site Investigation of the Dussault Foundry Site. As a result, the background metals concentrations determined during the Site Investigation of the Former Flintkote Plant Site in the City of Lockport, Niagara County, New York were utilized when a Part 375 soil cleanup objective was not available. This site is located approximately 2.0 miles northeast of the Dussault Foundry Site.

Twenty-four semivolatile organic compounds were detected in the surface soil samples with seventeen of these constituents being polycyclic aromatic hydrocarbons (PAHs). PAHs are a group of over 100 different chemicals that are ubiquitous in the environment. Sources of PAHs include incomplete combustion of coal, oil, gasoline, garbage, wood from stoves, automobiles and incinerators. PAHs are also found in coal tar, crude oil, creosote, roofing tar, medicines, dyes, plastics and pesticides. The presence of PAHs in surface soil at the Dussault Foundry Site was not unexpected due to the presence of coal and coke in the foundry sand observed throughout the site. Of these compounds, only benzo(a)anthracene (6 samples), benzo(a)pyrene (7 samples), benzo(b)fluoranthene (8 samples), benzo(k)fluoranthene (3 samples), chrysene (6 samples), dibenzo(a,h)anthracene (4 samples) and indeno(1,2,3-cd)pyrene (7 samples) were detected at concentrations that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Table 7-1). Concentrations of benzo(a)anthracene (3 samples), benzo(a)pyrene (7 samples), benzo(b)fluoranthene (3 samples), dibenzo(a,h)anthracene (3 samples) and indeno(1,2,3-cd)pyrene (1 sample) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 7-1).

Phthalates [bis(2-ethylhexyl)phthalate and di-n-octylphthalate] were detected in three of the surface soil samples collected from the site (Table 7-1). None of the concentrations, however, exceeded the NYSDEC TAGM 4046 soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for these contaminants. Biphenyl (2 samples), carbazole (10 samples), dibenzofuran (10 samples), 4-methylphenol (1 sample) and n-nitrosodiphenylamine (1 sample) were also detected in the surface soil samples (Table 7-1). Once again, none of the concentrations exceeded the NYSDEC Part 375 residential soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for biphenyl, carbazole and n-nitrosodiphenylamine.

The surface soil samples collected from the Dussault Foundry Site were also analyzed for PCBs and pesticides (Table 7-1). PCBs were only detected in two samples, but at a concentrations well below the NYSDEC Part 375 residential soil cleanup objective. Eleven pesticides were detected in the surface soil samples collected from the site (Table 7-1). None of the concentrations, however, exceeded the NYSDEC Part 375 residential soil cleanup objectives.

Sixteen metals were detected in the surface soil samples collected from the Dussault Foundry Site (Table 7-1). Of these compounds, only four were detected at concentrations that exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives, with two of these metals being EPA priority pollutant metals. EPA priority pollutant metals are toxic metals for which technology-based effluent limitations and guidelines are required by Federal law. The priority pollutant metals exceeding the soil cleanup objectives (with the number of exceedances and maximum concentrations) include: arsenic (2 samples; 30.0 mg/kg) and chromium (3 samples; 147 mg/kg). The concentrations of arsenic in both samples also exceeded the NYSDEC Part 375 commercial soil cleanup objectives.

7.3 Subsurface Soil and Fill

Forty-four subsurface soil and fill samples from the Dussault Foundry Site were collected during the Site Investigation. The locations of these samples are shown on Figure 5-2. All samples were submitted to Test America Laboratories for chemical analysis of TCL semivolatile organic compounds; forty-three of these samples were also analyzed for TCL pesticides, TCL PCBs and TAL metals. Based upon PID screening results, seven subsurface soil and fill samples were also analyzed for TCL volatile organic compounds. Due to the presence of petroleum-type odors near the Cleaning Building, three samples from this area of the site were analyzed for hydrocarbons. Lastly, one sample near the former tolusulfuric acid tank was also analyzed for corrosivity, sulfide and sulfate. The analytical results for these samples are summarized in Table 7-2, while information concerning sample collection and analysis is given in Table 5-2.

Analytical results were once again evaluated against the residential and commercial soil cleanup of 6NYCRR Part 375. For contaminants not included in Part 375, the soil cleanup objectives identified in TAGM 4046 were utilized. For metals, the site background values obtained during the Flintkote Site

Investigation were utilized when a Part 375 soil cleanup objective was not available. The regulatory limits for corrosivity were obtained from the January 1995 NYSDEC publication entitled "*6 NYCRR Part 371: Identification and Listing of Hazardous Wastes*".

The results of the organic analyses reveal that both volatile and semivolatile organic compounds were detected in the subsurface soil and fill samples collected from the Dussault Foundry Site (Table 7-2). Volatile organic compounds detected in the samples include: acetone (4 sample), benzene (2 samples), cyclohexane (2 samples), 1,2-dibromo-3-chloropropane (1 sample), ethylbenzene (3 samples), isopropylbenzene (5 samples), methylcyclohexane (4 samples), methylene chloride (5 samples), toluene (2 samples) and total xylenes (3 samples). Of these compounds, only benzene (1 sample), ethylbenzene (1 sample), isopropylbenzene (2 samples), toluene (1 sample) and total xylenes (2 samples) were detected at concentrations that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Table 7-2). All of these exceedances, however, were associated with the two drum waste samples collected during the Site Investigation: suspected paint waste from a drum excavated from test pit SUB-8 (Figure 6-4) and a tar-like waste from a drum excavated from test pit SUB-90 (Figure 6-5).

Thirty-two semivolatile organic compounds were detected in the subsurface soil and fill samples collected from the Dussault Foundry Site (Table 7-2) with seventeen of these constituents being polycyclic aromatic hydrocarbons. Of these compounds, only benzo(a)anthracene (13 samples), benzo(a)pyrene (11 samples), benzo(b)fluoranthene (13 samples), benzo(k)fluoranthene (7 samples), chrysene (13 samples), dibenzo(a,h)anthracene (9 samples), indeno(1,2,3-cd)pyrene (11 samples), 2-methylnaphthalene (2 samples), naphthalene (2 samples) and phenanthrene (1 sample) were detected at concentrations that exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives (Table 7-2). Concentrations of benzo(a)anthracene (5 samples), benzo(a)pyrene (11 samples), benzo(b)fluoranthene (6 samples), dibenzo(a,h)anthracene (6 samples), indeno(1,2,3-cd)pyrene (1 sample) and naphthalene (1 sample) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 7-2).

Phthalates [bis(2-ethylhexyl)phthalate, butylbenzylphthalate, diethylphthalate, di-n-butylphthalate and di-n-octylphthalate] were also detected in the subsurface soil and fill samples collected from the site (Table 7-2). None of the concentrations, however, exceeded the NYSDEC TAGM 4046 soil cleanup objectives. There are no NYSDEC Part 375 soil cleanup objectives for these contaminants. Acetophenone (1 sample), biphenyl (9 samples), caprolactam (2 samples), carbazole (16 samples), dibenzofuran (22 samples), 2,4-dimethylphenol (1 sample), 4,6-dinitro-2-methylphenol (1 sample), 2-methylphenol (2 samples), 4-methylphenol (1 sample) and n-nitrosodiphenylamine (1 sample) were also detected in the subsurface soil and fill samples (Table 7-2). Concentrations of dibenzofuran, 2-methylphenol and 4-methylphenol did not exceed the NYSDEC Part 375 residential soil cleanup objectives (Table 7-2). There are no NYSDEC soil cleanup objectives for acetophenone, biphenyl, caprolactam, carbazole, 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol and n-nitrosodiphenylamine.

The subsurface soil and fill samples collected from the Dussault Foundry Site were also analyzed for PCBs and pesticides (Table 7-2). PCBs were detected in fourteen samples, with only the concentration in one of the drum waste samples (SUB-8) exceeding the NYSDEC Part 375 residential soil cleanup objective. Eleven pesticides were detected in the subsurface soil and fill samples collected from the site (Table 7-2). Only the concentration of dieldrin in one sample exceeded the NYSDEC Part 375 residential soil cleanup objectives (Table 7-2).

Fifteen metals were detected in the subsurface soil and fill samples collected from the Dussault Foundry Site (Table 7-2). Of these compounds, eight were detected at concentrations that exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives, with six of these metals being EPA priority pollutant metals. The priority pollutant metals exceeding the soil cleanup objectives (with the number of exceedances and maximum concentrations) include: arsenic (6 samples; 26.1 mg/kg), cadmium (1 sample; 6.4 mg/kg), chromium (4 samples; 204 mg/kg), lead (6 samples; 2,900 mg/kg), mercury (2 samples; 1.2 mg/kg) and zinc (1 sample; 6,850 mg/kg). The concentrations of arsenic (6 samples) and lead (1 sample) also exceeded the Part 375 commercial soil cleanup objectives.

Fuel oil #2 was detected in the three subsurface soil and fill samples analyzed for hydrocarbons (Table 7-2). Concentrations ranged from 64.0 to 570 mg/kg. There is no NYSDEC Part 375 soil cleanup objectives for this contaminant. Leachable pH for the one sample analyzed for corrosivity was 8.19 standard pH units. This sample was also analyzed for sulfide and sulfate; neither contaminant was detected.

7.4 Sludge

During the Site Investigation, one sludge sample was collected from the pit in the electrical control room in the Foundry Building. The location of this sample is shown on Figure 5-2. The sample consisted of a thick, black sludge at least 3 inches thick with a slight chemical odor, and was submitted to Test America Laboratories for chemical analysis of TCL volatile organic compounds, TCL semivolatile organic compounds, TCL pesticides, TCL PCBs and TAL metals. The analytical results for this sample is summarized in Table 7-3, while information concerning sample collection and analysis is given in Table 5-2.

Analytical results were evaluated against the residential and commercial soil cleanup of 6NYCRR Part 375. For contaminants not included in Part 375, the soil cleanup objectives identified in TAGM 4046 were again utilized. For metals, the site background values obtained during the Flintkote Site Investigation were utilized when a Part 375 soil cleanup objective was not available.

The results of the organic analyses reveal the presence of both volatile and semivolatile organic compounds in the sludge sample collected from the Dussault Foundry Site (Table 7-3). Volatile organic compounds detected in the sample include: acetone, benzene, 2-butanone, carbon disulfide, 1,4-dichlorobenzene, ethylbenzene, isopropylbenzene, methylene chloride, toluene and total xylenes. None of the concentrations, however, exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives (Table 7-3).

Only four semivolatile organic compounds were detected in the sludge sample with three of these constituents being polycyclic aromatic hydrocarbons. Semivolatile organic compounds detected in the sample include: bis(2-ethylhexyl)phthalate, fluoranthene, phenanthrene and pyrene. None of the concentrations, however, exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives (Table 7-3).

The sludge sample collected from the Dussault Foundry Site was also analyzed for PCBs and pesticides (Table 7-3). PCBs were detected in this sample at a concentration that exceeded the NYSDEC Part 375 residential soil cleanup objective. Only two pesticides (4,4'-DDE and endrin ketone) were detected in the sludge sample collected from the site. The concentration of DDE, however, did not exceed the NYSDEC Part 375 residential soil cleanup objective for this contaminant (Table 7-3). There are no soil cleanup objectives for endrin ketone.

Sixteen metals were detected in the sludge sample collected from the Dussault Foundry Site (Table 7-3). Of these compounds, only three were detected at concentrations that exceeded the NYSDEC Part 375 or TAGM 4046 soil cleanup objectives, with two of these metals being EPA priority pollutant metals. The priority pollutant metals exceeding the soil cleanup objectives (with concentrations) include: cadmium (6.2 mg/kg) and chromium (52.7 mg/kg).

7.5 Pit Water

Three water samples from pits at the Dussault Foundry Site were collected during the Site Investigation. One sample was collected from a pit in the Cleaning Building, while two samples (original and duplicate) were collected from the pit in the electrical control room in the Foundry Building. The locations of these samples are shown on Figure 5-2. All samples were submitted to Test America Laboratories for chemical analysis of TCL volatile organic compounds, TCL semivolatile organic compounds, TCL pesticides, TCL PCBs and TAL metals. The analytical results for these samples are summarized in Table 7-4, while information concerning sample collection and analysis is given in Table 5-2.

Analytical results were evaluated against the water quality standards and guidance values for surface water contained in the June 1998 NYSDEC publication entitled "*Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*". The surface water standards and guidance values for individual contaminants were taken directly from Table 1.

The results of the organic analyses reveal that bis(2-ethylhexyl)phthalate was the only volatile or semivolatile organic compound detected in the pit water samples collected from the Dussault Foundry Site (Table 7-4). The concentration of this contaminant exceeded the NYSDEC surface water standard in both samples collected from the electrical control room pit (Table 7-4). Bis(2-ethylhexyl)phthalate was not detected in the pit water sample collected from the Cleaning Building pit.

The pit water samples collected from the Dussault Foundry Site were also analyzed for PCBs and pesticides (Table 7-4). PCBs were detected in both samples collected from the electrical control room pit at concentrations that exceeded the NYSDEC surface water standard. PCBs were not detected in the pit water sample collected from the Cleaning Building pit. Five pesticides were detected in the pit water samples collected from the site with only the concentration of alpha-BHC in both electrical control room pit samples exceeding the NYSDEC surface water standards or guidance values (Table 7-4). Pesticides were not detected in the pit water sample collected from the Cleaning Building pit.

Ten metals were detected in the pit water samples collected from the Dussault Foundry Site during the Site Investigation (Table 7-3). Of these compounds, only four were detected at concentrations that exceeded the NYSDEC surface water standards or guidance values, with lead being the only EPA priority pollutant metal. Lead was detected in both samples collected from the electrical control room pit at concentrations that exceeded the NYSDEC surface water standard for this contaminant. Only three metals were detected in the pit water sample collected from the Cleaning Building pit. None of the concentrations, however, exceeded the NYSDEC surface water standards and guidance values (Table 7-4).

7.6 Groundwater

As part of the Site Investigation, five bedrock monitoring wells were installed to evaluate groundwater flow patterns across the site and to determine whether historic waste disposal has contaminated site groundwater. The locations of these wells are shown on Figure 5-1. A groundwater sample from each well was collected during the Site Investigation and submitted to Test America Laboratories for chemical analysis of TCL volatile organic compounds, TCL semivolatile organic compounds, TCL pesticides, TCL PCBs, TAL metals, chloride, sulfate and alkalinity. The analytical results for these samples are summarized in Table 7-5, while information concerning sample collection and analysis is given in Table 5-2. The well development, and purge and sample logs, are included in Appendix D.

Analytical results were evaluated against the water quality standards and guidance values for groundwater contained in the June 1998 NYSDEC publication entitled "*Technical and Operational Guidance Series (TOGS) 1.1.1: Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*". The groundwater standards and guidance values for individual contaminants were taken directly from Table 1.

The results of the organic analyses reveal the presence of both volatile and semivolatile organic compounds in the groundwater samples collected from the Dussault Foundry Site (Table 7-5). Volatile organic compounds detected in the samples include: acetone (3 samples), carbon disulfide (1 sample), cis-1,2-dichloroethene (1 sample), trichloroethene (1 sample) and vinyl chloride (1 sample). None of the concentrations, however, exceeded the NYSDEC groundwater standards or guidance values (Table 7-5). Bis(2-ethylhexyl)phthalate was the only semivolatile organic compound detected in the groundwater samples, with the concentration of this contaminant exceeding the NYSDEC groundwater standard in the one sample (well MW-5) in which it was detected (Table 7-5).

The groundwater samples collected from the Dussault Foundry Site were also analyzed for PCBs and pesticides (Table 7-5). PCBs were not detected in any of the samples. Only two pesticides (endrin aldehyde and gamma-chlordane) were detected in the groundwater samples collected from the site (Table 7-5). None of the concentrations, however, exceeded the NYSDEC groundwater standards or guidance values.

Fourteen metals were detected in the groundwater samples collected from the Dussault Foundry Site (Table 7-5). Of these compounds, only three were detected at concentrations that exceeded the NYSDEC groundwater standards or guidance values, with lead being the only EPA priority pollutant metal. Lead was only detected in two wells (MW-4 and MW-5), with the concentration in well MW-5 exceeding the NYSDEC groundwater standard for this contaminant.

The groundwater samples collected from the Dussault Foundry Site during the Site Investigation contained significant concentrations of chloride and sulfate, ranging from 28,000 to 614,000 µg/L and 112,000 to 1,140,000 µg/L, respectively (Table 7-5). Both contaminants were detected in every well sampled, with concentrations exceeding the NYSDEC groundwater standards in two samples each (Table 7-5). Alkalinity was also detected in all five groundwater samples at concentrations ranging from 275,000 to 488,000 µg/L (Table 7-5). There is no NYSDEC groundwater standard or guidance value for this contaminant.

7.7 Asbestos Containing Materials

As part of the Site Investigation an asbestos survey of the existing buildings was completed by Paradigm Environmental Services to identify asbestos containing materials (ACMs). The results from this survey are presented in Appendix E, and reveal the presence of ACMs throughout the buildings. All of the ACMs were classified as non-friable or non-friable organically bound and include: (1) red floor tile, black floor tile mastic, black window caulk and black/silver roof core in the office area of the Foundry Building, (2) black window caulk and black roof core in the remaining portions of the Foundry Building, and (3) brown floor tile, black floor tile mastic and black roof flashing in the Cleaning Building. The quantity of floor tile, mastic, roof core and roof flashing containing asbestos was estimated at 67,950 square feet, while the quantity of window caulk containing asbestos was estimated at 460 linear feet. All of the ACMs were considered to be in poor condition.

8.0 NATURE AND EXTENT OF CONTAMINATION

The results of the 2008 NYSDEC Site Investigation of the Dussault Foundry Site were discussed in Section 7.0. In this section, those results, combined with the results from the 2001 Phase II Environmental Site Assessment (ESA) and the Environmental Protection Agency's (EPA) Expedited Removal Assessment, are evaluated to determine the nature and extent of contamination at the site. Only those samples that represent current conditions at the site (e.g., confirmatory samples versus samples collected prior to a removal action) are evaluated.

8.1 Surface Soil

A total of thirty surface soil samples (eight during the Phase II ESA and twenty-two during the Site Investigation) have been collected from the Dussault Foundry Site (Figures 4-1 and 5-2). The results from these samples were discussed previously in Sections 4.4.5, 4.4.7, 4.4.8 and 7.2. Of these samples only twelve contained contaminants at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives. These exceedances are summarized in Table 8-1, with the locations of these samples shown on Figures 8-1 (residential exceedances) and 8-2 (commercial exceedances).

Seven semivolatile organic compounds were detected in the surface soil samples collected from the Dussault Foundry Site at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives (Table 8-1). All seven of these SVOCs are polycyclic aromatic hydrocarbons (PAHs). These PAHs (with the number of exceedances and maximum concentrations) include: benzo(a)anthracene (7 samples; 20,000 µg/kg), benzo(a)pyrene (8 samples; 18,000 µg/kg), benzo(b)fluoranthene (10 samples; 25,000 µg/kg), benzo(k)fluoranthene (5 samples; 8,000 µg/kg), chrysene (8 samples; 20,000 µg/kg), dibenzo(a,h)anthracene (5 samples; 2,700 µg/kg) and indeno(1,2,3-cd)pyrene (8 samples; 7,500 µg/kg). The concentrations of benzo(a)anthracene (4 samples), benzo(a)pyrene (8 samples), benzo(b)fluoranthene (3 samples), dibenzo(a,h)anthracene (4 samples) and indeno(1,2,3-cd)pyrene (1 sample) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 8-1).

Only three EPA priority pollutant metals were detected in the surface soil samples collected from the site at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives (Table 8-1). These metals (with the number of exceedances and maximum concentrations) include: arsenic (2 samples; 30.0 mg/kg), chromium (3 samples; 147 mg/kg) and zinc (1 sample; 2,630 mg/kg). The concentrations of arsenic in both samples also exceeded the NYSDEC Part 375 commercial soil cleanup objective for this contaminant (Table 8-1). It is important to note, however, that the residential and commercial soil cleanup objectives for arsenic are the same.

As illustrated by Figure 8-1, eight of the surface soil samples (RR02, SS-1, SS-6, SS-8, SS-11, SS-14, SS-15 and SS-17) that exceeded the NYSDEC Part 375 residential soil cleanup objectives are located in the southern portion of the site. This area was historically covered by a series of rail lines and spurs (see the Sanborn maps in Appendix A). The presence of PAHs, arsenic and chromium in these samples is likely related to the presence of coal that was observed on the ground surface throughout this portion of the Dussault Foundry Site. These contaminants are common constituents of coal, with the coal likely related to historical rail operations. The remaining surface soil samples that exceeded the NYSDEC Part 375 residential soil cleanup objectives are scattered throughout the site in no definable pattern (Figure 8-1). Two of these samples (SS-12 and SS-16) only exceeded the NYSDEC Part 375 residential soil cleanup objective for chromium (Table 8-1).

Figure 8-2 reveals that all of the surface soil samples that exceeded the NYSDEC Part 375 commercial soil cleanup objectives, with the exception of sample SS-13, were located in the southern portion of the site. Sample SS-13 only slightly exceeded the NYSDEC Part 375 commercial soil cleanup objective for benzo(a)pyrene (1,100 µg/kg; soil cleanup objective 1,000 µg/kg). It is important to note, however, that the residential and commercial soil cleanup objectives for this contaminant are the same.

8.2 Subsurface Soil and Fill

A total of seventy subsurface soil and fill samples (fourteen during the Phase II ESA, twelve during the EPA removal action and forty-four during the Site Investigation) have been collected from the Dussault Foundry Site (Figures 4-1 and 5-2). The results from these samples were discussed previously in Sections 4.4.6, 4.4.9, 4.5.4 and 7.3. Of these samples only twenty-four contained contaminants at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives. These exceedances are summarized in Table 8-2, with the locations of these samples shown on Figures 8-3 (residential exceedances) and 8-4 (commercial exceedances).

Seven semivolatile organic compounds were detected in the subsurface soil and fill samples collected from the Dussault Foundry Site at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives (Table 8-2). All seven of these SVOCs are polycyclic aromatic hydrocarbons (PAHs). These PAHs (with the number of exceedances and maximum concentrations) include: benzo(a)anthracene (12 samples; 16,000 µg/kg), benzo(a)pyrene (11 samples; 14,000 µg/kg), benzo(b)fluoranthene (13 samples; 18,000 µg/kg), benzo(k)fluoranthene (7 samples; 7,400 µg/kg), chrysene (12 samples; 14,000 µg/kg), dibenzo(a,h)anthracene (9 samples; 2,000 µg/kg) and indeno(1,2,3-cd)pyrene (13 samples; 6,100 µg/kg). The concentrations of benzo(a)anthracene (5 samples), benzo(a)pyrene (11 samples), benzo(b)fluoranthene (6 samples), dibenzo(a,h)anthracene (6 samples) and indeno(1,2,3-cd)pyrene (1 sample) also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 8-2).

Dieldrin was the only pesticide (1 sample) detected in the subsurface soil and fill samples at a concentration that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Table 8-2). The concentration of dieldrin, however, did not exceed the NYSDEC Part 375 commercial soil cleanup objective for this contaminant (Table 8-2).

Seven EPA priority pollutant metals were detected in the subsurface soil and fill samples collected from the site at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives (Table 8-2). These metals (with the number of exceedances and maximum concentrations) include: antimony (1 sample; 3.4 mg/kg), arsenic (6 samples; 26.1 mg/kg), cadmium (1 sample; 6.4 kg/kg), chromium (7 samples; 204 mg/kg), lead (5 samples; 811 mg/kg), mercury (2 samples; 1.2 mg/kg) and zinc (1 sample; 6,850 mg/kg). The concentrations of arsenic in six samples also exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 8-2). It is important to note, however, that the residential and commercial soil cleanup objectives for this contaminant are the same.

As illustrated by Figure 8-3, eleven of the subsurface soil and fill samples (MS02, SUB-16, SUB-22, SUB-32, SUB-36, SUB-47, SUB-49, SUB-69, SUB-82, SUB-89 and SUB-99) that exceeded the NYSDEC Part 375 residential soil cleanup objectives are located in the southern portion of the site. Once again, the presence of PAHs and metals in these samples is likely related to historical rail operations. The remaining subsurface soil and fill samples that exceeded the NYSDEC Part 375 residential soil cleanup objectives are scattered throughout the site in no definable pattern (Figure 8-3). Ten of these samples only exceeded the NYSDEC Part 375 residential soil cleanup objectives for a single contaminant: antimony (SUB02), benzo (b)fluoranthene (SUB-10), chromium (MS04, SUB03, SUB-61, SUB-80 and SUB-101), indeno(1,2,3-cd)pyrene (FO-08 and SUB-25) and lead (SUB-104).

Figure 8-4 reveals that all of the subsurface soil and fill samples that exceeded the NYSDEC Part 375 commercial soil cleanup objectives, with the exception of samples SUB-58 and SUB-110, were located in the southern portion of the site. Sample SUB-58 only slightly exceeded the NYSDEC Part 375 commercial soil cleanup objective for benzo(a)pyrene (1,400 µg/kg; standard 1,000 µg/kg), while sample SUB-110 only slightly exceeded the NYSDEC Part 375 commercial soil cleanup objective for arsenic (18.4 mg/kg; standard 16.0 mg/kg). It is important to note, however, that the residential and commercial soil cleanup objectives for these contaminants are the same.

8.3 Sludge

A total of three sludge samples (two during the Phase II ESA and one during the Site Investigation) have been collected from the Dussault Foundry Site, with all of these samples collected from the electrical control room pit in the Foundry Building (Figures 4-1 and 5-2). The results from these samples were discussed previously in Sections 4.4.10 and 7.4. Only the sample collected during the Site Investigation, however, contained contaminants at concentrations that exceeded the NYSDEC Part 375 soil cleanup objectives (Table 8-3). These contaminants include PCBs, cadmium and chromium. The concentration of PCBs also exceeded the NYSDEC Part 375 commercial soil cleanup objective. It is important to note, however, that the residential and commercial soil cleanup objectives for this contaminant are the same. Sludge was not encountered in the other three pits within the site buildings.

8.4 Pit Water

A total of six pit water samples (four during the Phase II ESA and two during the Site Investigation) have been collected from the Dussault Foundry Site (Figures 4-1 and 5-2). The results from these samples were discussed previously in Sections 4.4.10 and 7.5. Three pits containing water were identified within the Foundry Building during the Phase II ESA (sample locations SUMP1, SUMP2 and SUMP3; Figure 4-1). The pits associated with samples SUMP1 and SUMP2 are now filled with crushed stone. Test pits were completed in these pits during the Site Investigation, but no water was encountered. The contamination identified in these pits during the Phase II ESA (Table 4-8), therefore, do not represent current conditions at the site. As a result, these data have not been included in Table 8-4.

The pit water sample collected from the electrical control room during the Phase II ESA contained total phenols, cadmium, lead and thallium at concentrations that exceeded the NYSDEC surface water standards or guidance values (Table 8-4). Total phenols and thallium were not detected in the two samples (original and duplicate) collected from this pit during the Site Investigation, while cadmium was detected at concentrations that did not exceed the surface water standard for this contaminant (Table 8-4). The two Site Investigation samples, however, contained bis(2-ethylhexyl)phthalate, alpha-BHC and PCBs at concentrations that exceeded the NYSDEC surface water standards or guidance values (Table 8-4). These contaminants were not detected in the Phase II ESA sample. Lead was detected in the 2008 samples at concentrations similar to that detected during the Phase II ESA (Table 8-4). Bis(2-ethylhexyl)phthalate, PCBs and lead were detected in the sludge sample collected from this pit in 2008 (Table 7-3), suggesting that the sludge is the source of the water contamination documented during the Site Investigation. Because this pit holds water, migration of contaminants in the sludge and water is unlikely.

Thallium was the only contaminant detected in the pit water sample collected from the Cleaning Building during the Phase II ESA that exceeded the NYSDEC surface water standards or guidance values (Table 8-4). There were no surface water exceedances documented in the sample collected from the Cleaning Building pit during the Site Investigation (Table 8-4).

8.5 Groundwater

A total of five groundwater samples (all during the Site Investigation) have been collected from the Dussault Foundry Site (Figure 5-1). The results from these samples were discussed previously in Section 7.6. Bis(2-ethylhexyl)phthalate (1 sample), lead (1 sample), chloride (2 samples) and sulfate (2 samples) were the only contaminants detected in the groundwater samples that exceeded the NYSDEC groundwater standards or guidance values (Table 8-5).

Bis(2-ethylhexyl)phthalate was detected in several subsurface soil and fill samples collected from the Dussault Foundry Site, but was not detected at concentrations that exceeded the TAGM 4046 soil cleanup objective for this contaminant. There are no NYSDEC Part 375 soil cleanup objectives for bis(2-ethylhexyl)phthalate. This compound, however, is widely used in the plastics industry as a plasticizer. It is possible, therefore, that the presence of bis(2-ethylhexyl)phthalate in well MW-5 resulted from the disposable bailer or rope used to collect the sample, or was introduced into the sample in the laboratory during extraction and analysis procedures.

Lead was also detected in several subsurface soil and fill samples collected from the Dussault Foundry Site, with the concentrations in five samples exceeding the NYSDEC Part 375 residential soil cleanup objectives for this contaminant (Table 8-2). One of these samples (SUB-90) is located upgradient of monitoring well MW-5, so it is possible that the lead in this well is related to the Dussault Foundry Site. The results from the other wells indicate, however, that lead contamination in groundwater is not a widespread occurrence at the site (Table 8-5).

The Lockport Group bedrock consists predominantly of dolostone, although thin beds of limestone and shaly dolostone, and small irregularly shaped masses of gypsum are common. Groundwater in the Lockport Group is typically either a calcium-sulfate or calcium-bicarbonate water, is very hard, and is highly mineralized; calcium, bicarbonate, magnesium, sulfate and chloride are present in significant concentrations (Johnson, 1964). Chloride and sulfate concentrations up to 130,000 and 1,400,000 µg/L, respectively, have been reported in the Niagara Falls area (Madsen and Yager, 1996). The concentrations of chloride and sulfate in bedrock groundwater underlying the Dussault Foundry Site, therefore, likely represent the natural mineral content of this groundwater.

9.0 DISCUSSION AND RECOMMENDATION

9.1 Discussion

The overall objective of the Site Investigation was to obtain information sufficient to: (1) determine if the Dussault Foundry Site should be relisted in the Registry of Inactive Hazardous Waste Sites, and if so, what the appropriate site classification should be and (2) determine if the property is suitable for redevelopment. The specific objectives of this investigation were to: (1) evaluate the site to determine if hazardous wastes were present, and if present, to determine if there was a consequential amount, (2) determine the nature and extent of contamination at the site, including the presence of asbestos in site buildings, (3) better quantify the volume of foundry sand throughout the property; and (4) estimate costs for building demolition. These objectives were determined through a grided soil boring/test pit program, and the analysis of soil, fill, pit water, groundwater, sludge and asbestos samples collected during the Site Investigation. This section discusses the analytical results presented in Section 7.0, and the nature and extent of contamination presented in Section 8.0, as they relate to these objectives.

9.1.1 *Hazardous Waste Presence*

The NYSDEC publication entitled "*6 NYCRR Part 371: Identification and Listing of Hazardous Wastes*" reveals that wastes generated during foundry operations are not listed hazardous wastes. Prior to the EPA removal action, eleven drums at the site contained characteristic hazardous waste. In addition, composite samples from 20 of the 200 drums revealed the presence of corrosive hazardous waste (D002) and reactive hazardous waste (D003). These drums have been removed from the site.

During the 2008 NYSDEC Site Investigation one subsurface soil and fill sample was analyzed for corrosivity to determine if leaks from a former tolusulfuric acid tank had penetrated the concrete floor. The leachable pH for this sample was 8.19 standard pH units, indicating that subsurface soil and fill under the floor was not a corrosive hazardous waste (D002). While there was a provision in the Site Investigation Scope of Work to analyze select samples for hazardous waste characteristics using the Toxicity Characteristic Leaching Procedure (TCLP), no TCLP analyses were conducted during the Site Investigation; a review of the analytical results suggested that none of the samples would fail the TCLP criteria for hazardous waste characteristics.

Based upon the EPA drum removal action and the analytical results obtained during the Site Investigation, hazardous waste is not present at this site.

9.1.2 *Tank Removal and Residual Soil Contamination*

During April 2003 the EPA discovered two underground storage tanks that formerly contained diesel/no. 2 fuel oil behind the Foundry Building (Figures 1-3, 4-8 and 4-9). These USTs, along with the isopropyl alcohol UST in front of the Core Room Addition (Figure 1-3), were excavated and removed on April 17, 2003. Details concerning these activities are given in Section 4.5.4.

Following removal of the tanks, confirmatory soil samples were collected from each of the excavations for chemical analysis. The locations of these samples are shown on Figure 4-10. Only indeno(1,2,3-cd)pyrene in one sample was detected at a concentration that exceeded the NYSDEC residential soil cleanup objectives (Table 4-11). This concentration, however, did not exceed the NYSDEC Part 375 commercial soil cleanup objective for this contaminant (Table 4-11). Based upon these results, the NYSDEC does not require additional remediation at the three former UST areas.

During April 2003 the EPA also discovered soil contaminated with an unknown oily material behind the Cleaning Building in the apparent location of a former storage tank. While the tank was gone, broken fill pipes were observed. The EPA excavated approximately 60 tons of contaminated soil from this area during June and July 2003, and transported the soils to Modern Landfill for disposal. Confirmatory samples were not collected, so the completeness of this removal action was not known. During the 2008 NYSDEC Site Investigation, this spill area was evaluated during the soil boring/test pit program. In total, one test pit (SUB-61) and five soil borings (SUB-113 thru SUB-117) were completed outside the northwest corner of the Cleaning Building (Figure 5-2), while three samples were collected for chemical analysis (Table 9-1).

The analytical results from these samples reveal the presence of fuel oil #2 in all three samples at concentrations ranging from 64.0 to 570 mg/kg (Table 9-1). There are no NYSDEC soil cleanup objectives for this contaminant. The analytical results also reveal the presence of both volatile and semivolatile organic compounds (Table 9-1). None of the concentrations, however, exceeded the NYSDEC Part 375 residential soil cleanup objectives. Pesticides and PCBs were not detected in the two samples analyzed for these contaminants (Table 9-1). Fourteen metals were detected in these samples, with only the concentration of chromium (204 mg/kg) in one sample exceeding the NYSDEC Part 375 residential soil cleanup objectives (Table 9-1). The concentration of iron in two samples exceeded the site background value for this contaminant (Table 9-1). Based upon these results, the NYSDEC does not require additional remediation at the fuel oil #2 spill area.

9.1.3 *Historic Raceways*

As described in Section 4.4.2, a series of historic raceways existed on and near the former Dussault Foundry property (Figure 1-3). Portions of the raceway along the northern boundary of the Dussault property (the "northern raceway") can still be observed east of Washburn Street (Figure 9-1 thru 9-2). Discharge pipes on the southern wall of the raceway (Figure 9-1) likely originated from the former dwellings on this portion of the property (see the Sanborn maps in Appendix A). A narrow archway located at the base of this raceway represented a former spillway (Figure 9-3). A ditch was observed along the western side of the former Western Block Company property (Figure 1-3) that appeared to originate from this spillway. A rusty iron trough extending from this ditch toward Market Street was observed during the Site Investigation (Figure 9-4).

West of the outlet, portions of the northern raceway can also be observed, but they are not as continuous as the raceway to the east (Figures 9-5 and 9-6). A second spillway was observed in this area of the site (Figure 9-7). The continuation of the northern raceway was observed on the westernmost portion of the Dussault property (Figures 9-8 thru 9-11), and can be seen easily from Market Street. A third spillway was observed in this area of the site (Figure 9-11). The northern raceway received water from the west at what is now Scalzo Park (see Sanborn maps in Appendix A).

Investigation of the northern raceway was completed during both the Phase II ESA and the NYSDEC Site Investigation to determine if this raceway was a potential contaminant migration pathway. Both investigations were limited, however, due to equipment access issues posed by the steep slope of the Niagara Escarpment. One surface soil sample (RW01) of what was described as a black silty loam soil (most likely foundry sand) was collected from beneath the archway of the easternmost spillway during the Phase II ESA (Figure 4-1). This location was selected as it is the most upgradient point of exposure for this raceway. During the NYSDEC Site Investigation, a test pit (SUB-104; Figure 5-2) was completed beneath the archway to determine what type of materials were present in the spillway. The spillway was found to be backfilled with large rocks and smaller cobble size rocks mixed with foundry sand and topsoil (Figure 9-12). The bottom of the spillway was lined with concrete (Figure 9-12). A sample of the foundry sand (SUB-104) was collected from the bottom of the spillway for chemical analysis. The results from both samples are summarized in Table 9-2.

The results of the organic analyses reveal that volatile organic compounds, semivolatile organic compounds, pesticides and PCBs were detected in the samples collected from the easternmost spillway (Table

9-2). None of the concentrations, however, exceeded the NYSDEC residential soil cleanup objectives (Table 9-2). Eighteen metals were detected in these samples, with only the concentration of lead (478 mg/kg) in the subsurface sample exceeding the NYSDEC Part 375 residential soil cleanup objectives (Table 9-2). The concentration of iron in this sample also exceeded the site background value for this contaminant (Table 9-2). Based upon the visual and chemical results, the easternmost spillway is not a significant contaminant migration pathway.

In the western portion of the Dussault property, a 10-inch corrugated metal pipe extending in a northwest direction from the western end of the Core Room Addition was observed (Figure 5-1). This drain pipe was positioned such that it may have emptied into the historic raceway located part way down the escarpment (Figures 9-9 and 9-10). One surface soil sample (RW02) of black foundry sand mixed with black silty loam soil was collected at the opening of this drain pipe during the Phase II ESA. During the NYSDEC Site Investigation, a test pit (SUB-10; Figure 5-2) was completed at the end of the pipe to look for evidence of contaminated discharges. This test pit encountered foundry sand mixed with gravel, cobbles, rebar, wood, slag and sand molds (Figure 9-13). Staining, odors and organic vapors were not observed nor detected. A shallow sample of the foundry sand beneath the pipe (SUB-10) was collected for chemical analysis. The results from both samples are summarized in Table 9-2.

The results of the organic analyses reveal that semivolatile organic compounds, pesticides and PCBs were detected in the samples collected at the end of the pipe (Table 9-2). Of these compounds, only benzo(b)fluoranthene (2 samples), benzo(k)fluoranthene (1 sample) and chrysene (1 sample) were detected at concentrations that exceeded the NYSDEC residential soil cleanup objectives (Table 9-2). None of the concentrations, however, exceeded the NYSDEC Part 375 commercial soil cleanup objectives (Table 9-2). Eighteen metals were detected in these samples, with only the concentration of zinc (2,630 mg/kg) in the surface sample exceeding the NYSDEC Part 375 residential soil cleanup objectives (Table 9-2). Based upon the visual and chemical results, contaminated discharges to the historic raceway did not occur through this pipe.

During the NYSDEC Site Investigation, a test pit (SUB-21; Figure 5-2) was completed in the historic raceway along Market Street to determine what type of materials were present in the raceway. This test pit encountered foundry sand mixed with gravel, metal and lesser amounts of brick overlying reworked native soils consisting of brown sand mixed with gravel and cobbles (Figure 9-14). Staining, odors and organic vapors were not observed nor detected. As a result of these findings, a sample was not collected for chemical analysis.

Based upon the visual and chemical results of the raceway investigations, the northern raceway is not a significant contaminant migration pathway.

9.1.4 *Drums*

As stated in Section 4.4, numerous 55-gallon drums were observed throughout the Dussault Foundry Site during the Phase I ESA completed at the site in 2000 (Figures 4-3 thru 4-5). The majority of the drums appeared to be empty, but some appeared to be partially full, with either debris or liquid. An inventory of these drums was completed on December 5, 2001 (updated on June 3, 2002) during the Phase II ESA. In total, 244 drums were documented, mostly in good or fair condition.

In March 2003 EPA began segregating these drums during their removal action at the site (Figures 4-6 and 4-7). Drums that were located below the escarpment and along the hillside were also evaluated (Figure 4-5). During April 2003 non-hazardous drummed material was sent to Modem Landfill in Model City, New York for disposal. By June 6, 2003 all remaining drums had been removed from the site and transported to Permafix of Michigan, Brownstown, Michigan for stabilization and disposal.

During the 2008 NYSDEC Site Investigation, several 55-gallon drums were observed scattered throughout the site, mainly on the slope of the Niagara Escarpment (Figures 7-3 and 7-4). The majority of the drums appeared to contain foundry sand or metal debris. Samples of the foundry sand were not collected due to the large number of foundry sand samples collected during the soil boring/test pit program.

While completing the soil boring/test pit program, two drums were uncovered: a 55-gallon drum containing suspected paint waste in test pit SUB-8 (Figure 6-4) and a 55-gallon drum containing a tar-like waste in test pit SUB-90 (Figure 6-5). Samples of the drummed wastes were collected for chemical analysis, the results of which are summarized in Table 9-3. Based upon these results, both drums and all soil and fill visually contaminated by the wastes were containerized and subsequently transported off-site for disposal.

One sample of the excavated soil and fill that was to be backfilled in test pit SUB-90 was also collected for chemical analysis. These materials were not visually contaminated, but did exhibit elevated PID readings. The results from this sample are summarized in Table 9-3, and reveal the presence of both volatile and semivolatile organic compounds. Of these compounds, only benzo(a)anthracene, benzo(b) fluoranthene and chrysene were detected at concentrations that exceeded the NYSDEC Part 375 residential soil cleanup objectives (Table 9-3). These compounds were not detected in the drummed waste sample, but are common contaminants in the foundry sand at the site. Metals were also detected in the excavated soil and fill sample, with only the concentrations of lead and mercury exceeding the NYSDEC Part 375 residential soil cleanup objectives (Table 9-3). Of these metals, only lead was detected in the drummed waste sample, but at a significantly lower concentration. Based upon these results, the NYSDEC does not require additional remediation in the test pit SUB-90 area.

9.1.5 *Beneficial Reuse of Spent Foundry Sand*

As stated in Section 3.3, the principle waste product of Dussault's foundry operations was spent foundry sand. This sand was disposed of in an on-site landfill (Area 7; Figures 1-3 and 3-9) and on other areas of the Dussault property (Figure 1-3, and Figures 3-10 thru 3-12). During the 2008 Site Investigation, foundry sand was encountered throughout the site at thickness up to 24.0 feet, and was estimated to total 95,000 cubic yards.

Spent foundry sand from the Dussault Foundry, however, has been granted a Beneficial Use Determination (BUD; number 073-9-32) by the NYSDEC for use as an aggregate in asphalt by Frontier Stone, Inc. and in the production of flowable fill by Riefler Concrete Products, Inc. A Beneficial Use Determination indicates that the waste material ceases to be a solid waste subject to disposal when utilized as described by the BUD. This BUD is still in effect. As a result, any foundry sand excavated during redevelopment activities that is chemically similar to the foundry sand that received the BUD could be utilized as aggregate in asphalt and in the production of flowable fill. Since Frontier Stone, Inc. and Riefler Concrete Products, Inc. are no longer in business, other end users would have to be identified and would be subject to approval by the NYSDEC's Division of Solid and Hazardous Materials.

9.1.6 *Building Demolition Costs*

As part of the NYSDEC Site Investigation, a demolition cost estimate was prepared for the site by ETS Clearing and Grading (ETS) to provide an "order of magnitude" estimate for future redevelopment budgeting by others. This estimate totaled $367,000, which included $192,000 for asbestos abatement and disposal at a licensed asbestos landfill. A second cost estimate for asbestos abatement and disposal was obtained by ETS, which was reported to be $165,000. Total demolition costs may be less, however, if the buildings were demolished with the asbestos in place through a New York State Department of Labor (NYSDOL) variance. Variances of this type have been issued by the NYSDOL for other demolition projects in western New York.

9.2 Recommendation

Due to the absence of hazardous waste at the Dussault Foundry Site the site does not qualify for inclusion in the NYSDEC Registry of Inactive Hazardous Waste Disposal Sites in New York State. However, due to the presence of contamination at this site, the property may be eligible for NYSDEC's Environmental Restoration (ERP) or Brownfield Cleanup (BCP) programs. At the present time funding for the ERP has been depleted.

Contamination is present at this site in soil and fill at concentrations that exceed the NYSDEC Part 375 commercial soil cleanup objectives (Figures 8-2 and 8-4; Tables 8-1 and 8-2). This contamination does not prohibit redevelopment of the property for commercial use; however, it is recommended that the following precautions be implemented during redevelopment activities:

- Future redevelopment plans should contain provisions to remove foundry sand or place a surface cover system as described in the Soils Management Plan (Appendix F) over the foundry sand to eliminate direct contact exposures to workers or visitors at the site and to eliminate the potential for contaminated runoff from the property;

- Any foundry sand excavated during future redevelopment activities should be managed as detailed in the Soils Management Plan unless it is used in accordance with the previously approved Beneficial Use Determination (BUD). This BUD allowed the foundry sand to be used as an aggregate in asphalt or in the production of flowable fill. As a requirement of the BUD, the foundry sand would have to be chemically similar to the foundry sand that originally received the BUD, with the end users subject to approval by the NYSDEC's Division of Solid and Hazardous Materials;

- The Soils Management Plan must also be utilized if fill (other than foundry sand), stained soil, or other signs of contamination are encountered during any future redevelopment activities; and

- Groundwater underlying the site should not be utilized as a source of potable or process water, without necessary water quality treatment as determined by the Niagara County

Health Department.

10.0 REFERENCES

Brett, C.E., Tepper, D.H., Goodman, W.M., LoDuca, S.T., and Eckert, B.Y, 1995, Revised Stratigraphy and Correlations of the Niagaran Provincial Series (Medina, Clinton, and Lockport Groups) in the Type Area of Western New York: U.S. Geological Survey Bulletin 2086, 66p.

Buehler, E.J., and Tesmer, I.H., 1963, Geology of Erie County, New York: Buffalo Society of Natural Sciences Bulletin, v. 21, no. 3, 118p.

Calkins, P.E., and Brett, C.E., 1978, Ancestral Niagara River Drainage: Stratigraphic and Paleontologic Setting: Geological Society of America Bulletin, v. 89, p. 1140-1154.

Earth Dimensions, 1980, Soils Report, Guterl Special Steel, Lockport, N.Y.: Earth Dimensions, Inc., East Aurora, New York.

Ecology and Environment, 1991, Engineering Investigations at Inactive Hazardous Waste Sites in the State of New York, Preliminary Site Assessment, Diamond Shamrock Site, Site Number 932071, Town of Lockport, Niagara County: Ecology and Environment Engineering, P.C., Lancaster, New York.

EHC, 1989, Environmental Site assessment, Former Niagara Materials Site, NYSDEC Inactive Hazardous Waste Disposal Site No. 932073, Frontier Stone, Lockport, New York: Environmental Hydrogeology Corporation, Clifton Park, New York.

Golder, 1989, Hydrogeologic Investigation, Pendleton Quarry Lake, Pendleton, New York: Golder Associates, Mississauga, Ontario, Canada.

Gross, M.R., and Engelder, T., 1991, a Case for Neotectonic Joints along the Niagara Escarpment: Tectonics, v. 10, no. 3, p 631-641.

GZA, 1981, Hydrogeologic Studies at the Niagara County Landfill: Goldberg-Zoino Associates of New York, Buffalo, New York.

GZA, 1987, Hydrogeologic Studies at the NCRDD Sanitary Landfill, Lockport, New York: Goldberg-Zoino Associates of New York, Buffalo, New York.

Hough, J., 1958, Geology of the Great Lakes: Illinois University Press, Urbana, Illinois, 313p.

Johnson, R.H., 1964, Ground Water in the Niagara Falls Area, New York: State of New York Water Resources Commission Bulletin GW 53, 93p.

La Sala, A.M., Jr., 1968, Ground-Water Resources of the Erie-Niagara Basin, New York: Water Resources Commission, Basin Planning Report ENB-3, New York State Conservation Department, Albany, New York, 114p.

Madsen, E.L., and Yager, R.M., 1996, Attenuation of Chlorinated Ethenes by Naturally-Occurring Microorganisms in a Fractured Dolomite Aquifer Near Niagara Falls, New York: New York Center for Hazardous Waste Management, Buffalo, New York, 17 p.

Miller, T.S., and Kappel, W.M., 1987, Effect of Niagara Power Plant Project on Ground-Water Flow in the Upper Part of the Lockport Dolomite, Niagara Falls Area, New York: U.S. Geological Survey Water-

Resources Investigation Report 86-4130, 31p.

NYSDEC, 1995, Determination of Soil Cleanup Objectives and Cleanup Levels: New York State Department of Environmental Conservation, Division of Environmental Remediation Technical and Administrative Guidance Memorandum # HWR-95-4046, Albany, New York.

NYSDEC, 1995, Identification and Listing of Hazardous Wastes, New York State Codes, Rules and Regulations Title 6, Part 371: New York State Department of Environmental Conservation, Division of Hazardous Substances Regulation, Albany, New York.

NYSDEC, 1997, Immediate Investigative Work Assignment, Vanadium Corporation of America Site, Town of Niagara, Niagara County, Site Number 9-32-001: New York State Department of Environmental Conservation, Division of Environmental Remediation, Buffalo, New York.

NYSDEC, 1997, Eighteenmile Creek Remedial Action Plan: New York State Department of Environmental Conservation, Division of Water, Albany, New York.

NYSDEC, 1998, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations: New York State Department of Environmental Conservation, Division of Water Technical and Operational Guidance Series (1.1.1), Albany, New York.

NYSDEC, 1999, Technical Guidance for Screening Contaminated Sediments: New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Albany, New York.

NYSDEC, 2006, 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Residential Soil Cleanup Objectives: New York State Department of Environmental Conservation, Division of Environmental Remediation, Albany, New York.

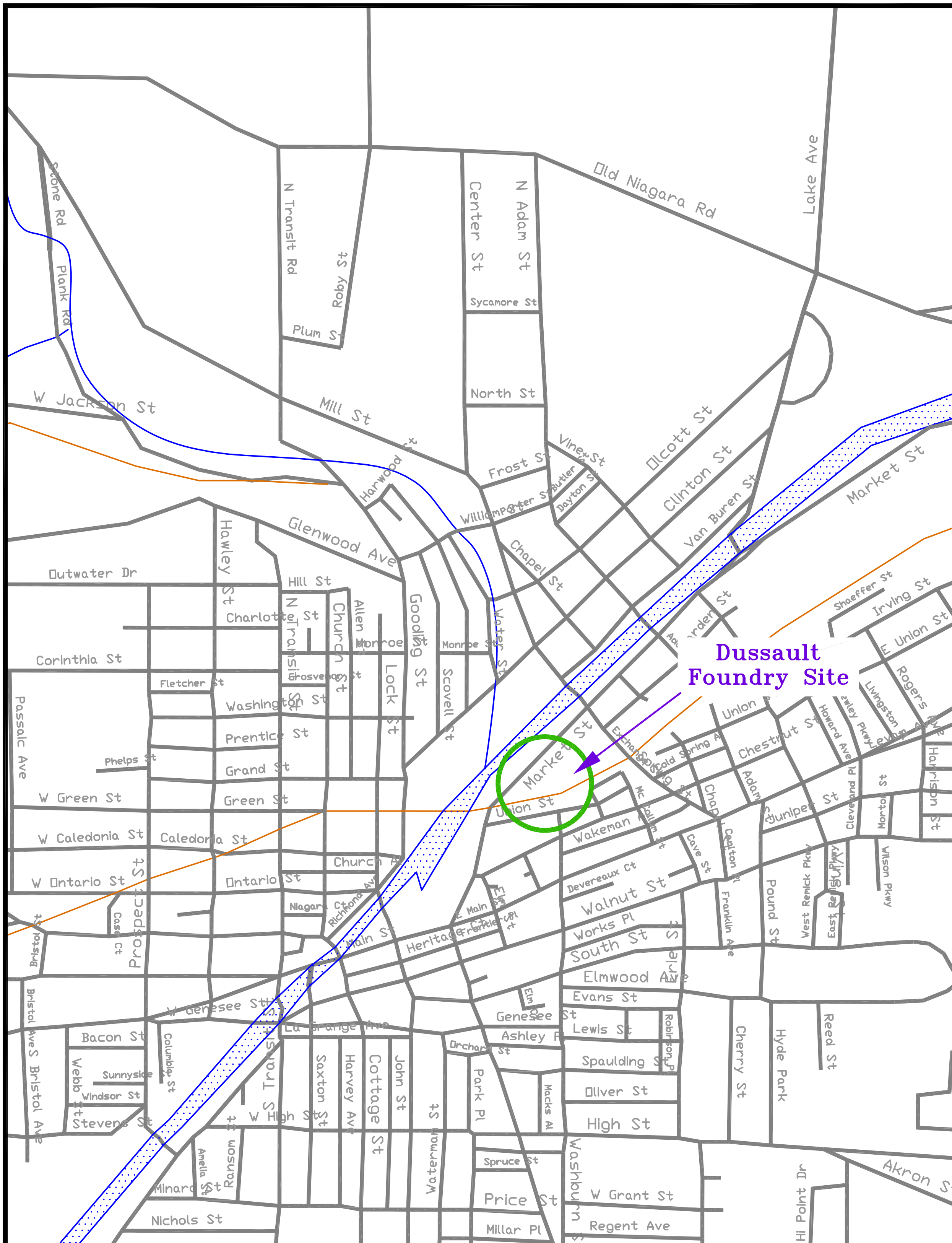
Smith, A., 1990, Glacial Stratigraphy of Niagara County, New York: Master's Thesis, State University of New York at Buffalo, 159p.

Snyder Engineering, 1987, Support Documentation for an Application to Construct and Operate Cell Number Three at the SKW Alloys, Inc. Witmer Road Solid Waste Management Facility: Snyder Engineering, Grand Island, New York.

URS, 2006, Draft Remedial Investigation Report, NYSEG Transit Street Site: URS Corporation, Buffalo, New York.

Woodward-Clyde Consultants and Conestoga Rovers and Associates, 1992, Niagara Falls Regional Ground-Water Assessment: Conestoga Rovers and Associates, Niagara Falls, New York, 126 p. plus appendices.

Yager, R.M., and Kappel, W.M., 1987, Characterization of Fractures in the Lockport Dolomite, Niagara County, New York, in Khanbilvardi, R.M., and Fillos, J., (eds.), Pollution, Risk Assessment and Remediation in Groundwater Systems: Washington, D.C., Scientific Publications Co., p. 149-195.



Lockport Quadrangle

Scale Depends on Final Plotted Size

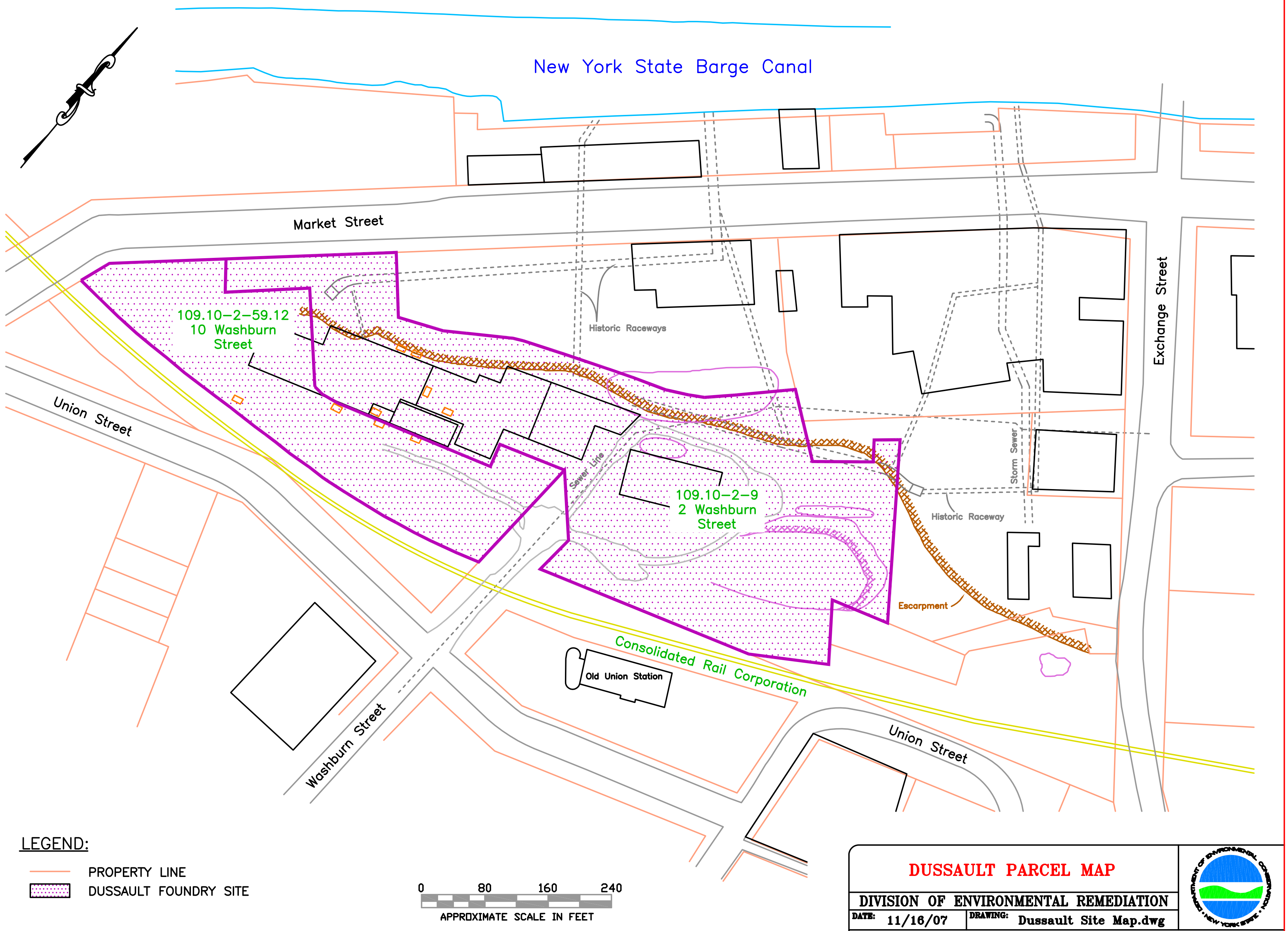
SITE LOCATION MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/16/07	DRAWING: Dussault Location Map.dwg

SITE: DUSSAULT FOUNDRY SITE

FIGURE 1-1

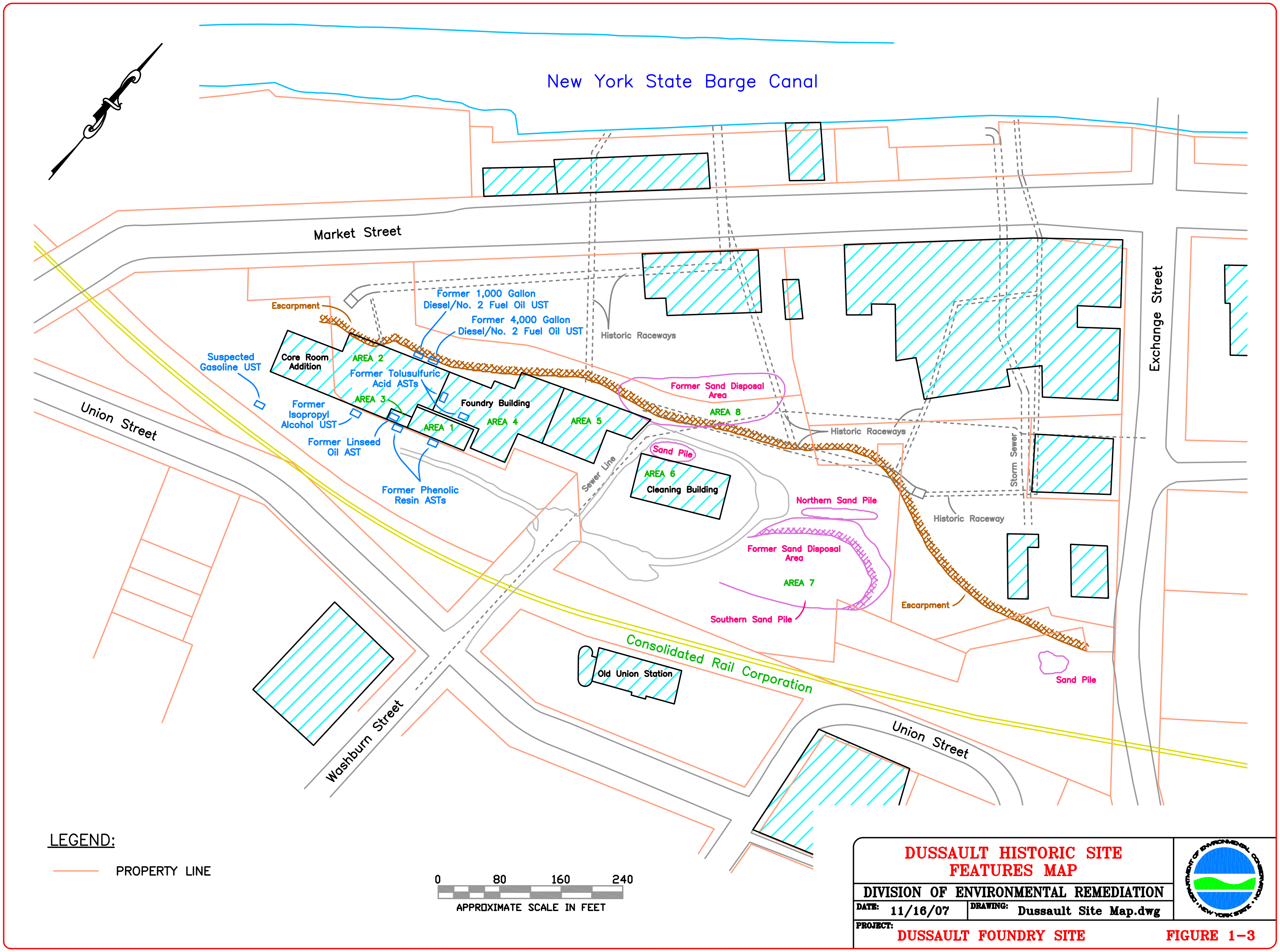


DUSSAULT PARCEL MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/16/07 DRAWING: Dussault Site Map.dwg

PROJECT: DUSSAULT FOUNDRY SITE FIGURE 1-2



DUSSAULT HISTORIC SITE FEATURES MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/16/07 DRAWING: Dussault Site Map.dwg

PROJECT: DUSSAULT FOUNDRY SITE

FIGURE 1-3

Figure 3-1. Photograph of the heavy vegetation at the Dussault Foundry Site. View looking northwest. Photograph taken by Glenn May on September 18, 2000.

Figure 3-2. Photograph of the heavy vegetation at the Dussault Foundry Site. View looking northeast. The building shown is the Cleaning Building. Photograph taken by Glenn May on September 18, 2000.

Figure 3-3. Photograph of the dilapidated buildings of the Dussault Foundry Site. The building in the foreground in the Foundry Building, while the metal building in the background is the Quonset Hut. One of the phenolic resin ASTs can also be observed. View looking west. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-4. Photograph of the dilapidated buildings of the Dussault Foundry Site. The building shown is Area 5. View looking northwest. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-5. Photograph of the dilapidated buildings of the Dussault Foundry Site. The building in the foreground in the Cleaning Building, while the buildings in the background are the Office Building and Area 5. View looking southwest. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-6. Photograph of the dilapidated buildings of the Dussault Foundry Site. Exact location is unknown. Photograph from the Urban Exploration Resource website at www.uer.ca.

Figure 3-7. Photograph of the dilapidated buildings of the Dussault Foundry Site. The building shown is the Foundry Building. The Transformer Area is in the foreground. View looking northwest. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-8. Photograph of the dilapidated buildings of the Dussault Foundry Site. Exact location is unknown. Photograph from the Urban Exploration Resource website at www.uer.ca.

Figure 3-9. Photograph of spent foundry sand in the on-site landfill. The Cleaning Building can be observed in the background. View looking west. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-10. Photograph of spent foundry sand behind the Cleaning Building. View looking southwest. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-11. Photograph of spent foundry sand behind the Cleaning Building. View looking southwest. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 3-12. Photograph of spent foundry sand behind the Foundry Building. View looking northeast. Photograph taken by Glenn May on September 18, 2000.

Figure 3-13. Photograph of a tolusulfuric acid tank in the Foundry Building. View looking west. Photograph taken by Glenn May on September 18, 2000.

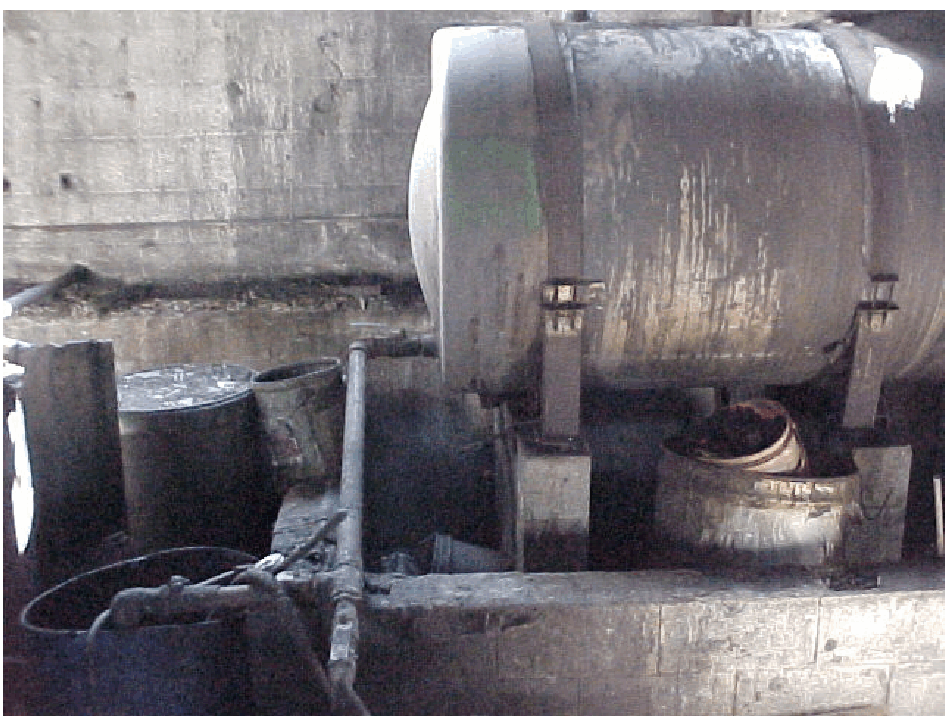
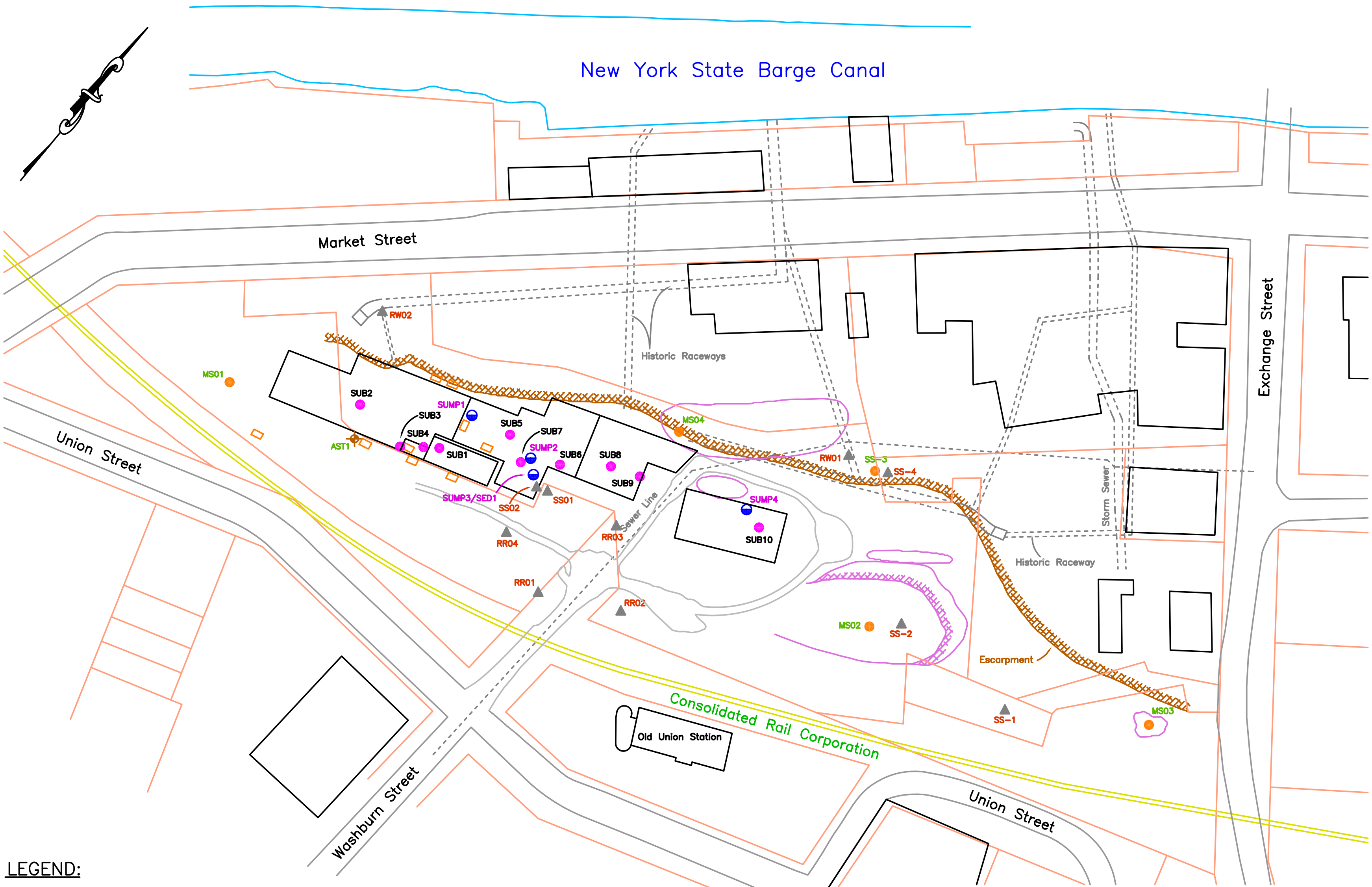


Figure 3-14. Photograph of the second tolusulfuric acid tank in the Foundry Building. View looking south. Photograph taken by Brian Sadowski on April 10, 2003.



LEGEND:

- FOUNDRY SAND/WASTE SAMPLE
- SUBFLOOR SAMPLE
- SUMP WATER/SEDIMENT SAMPLE
- SURFACE SOIL SAMPLE
- SUBSURFACE SOIL SAMPLE

ALL SAMPLE LOCATIONS ARE APPROXIMATE

0 80 160 240

APPROXIMATE SCALE IN FEET

HISTORIC SAMPLE LOCATION MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/16/07 DRAWING: Dussault Site Map.dwg

PROJECT: **DUSSAULT FOUNDRY SITE** **FIGURE 4-1**

Figure 4-2. Photograph of the fill port and vent for the isopropyl alcohol UST. View looking northwest. Photograph taken by Glenn May on September 18, 2000.

Figure 4-3. Photograph of drums scattered throughout the Dussault Foundry Site. Exact location is unknown. Photograph taken by Ron Voelkel on December 15, 1999.

Figure 4-4. Photograph of drums located east of the on-site landfill. View looking northeast. Photograph taken by Ron Voelkel on December 15, 1999.

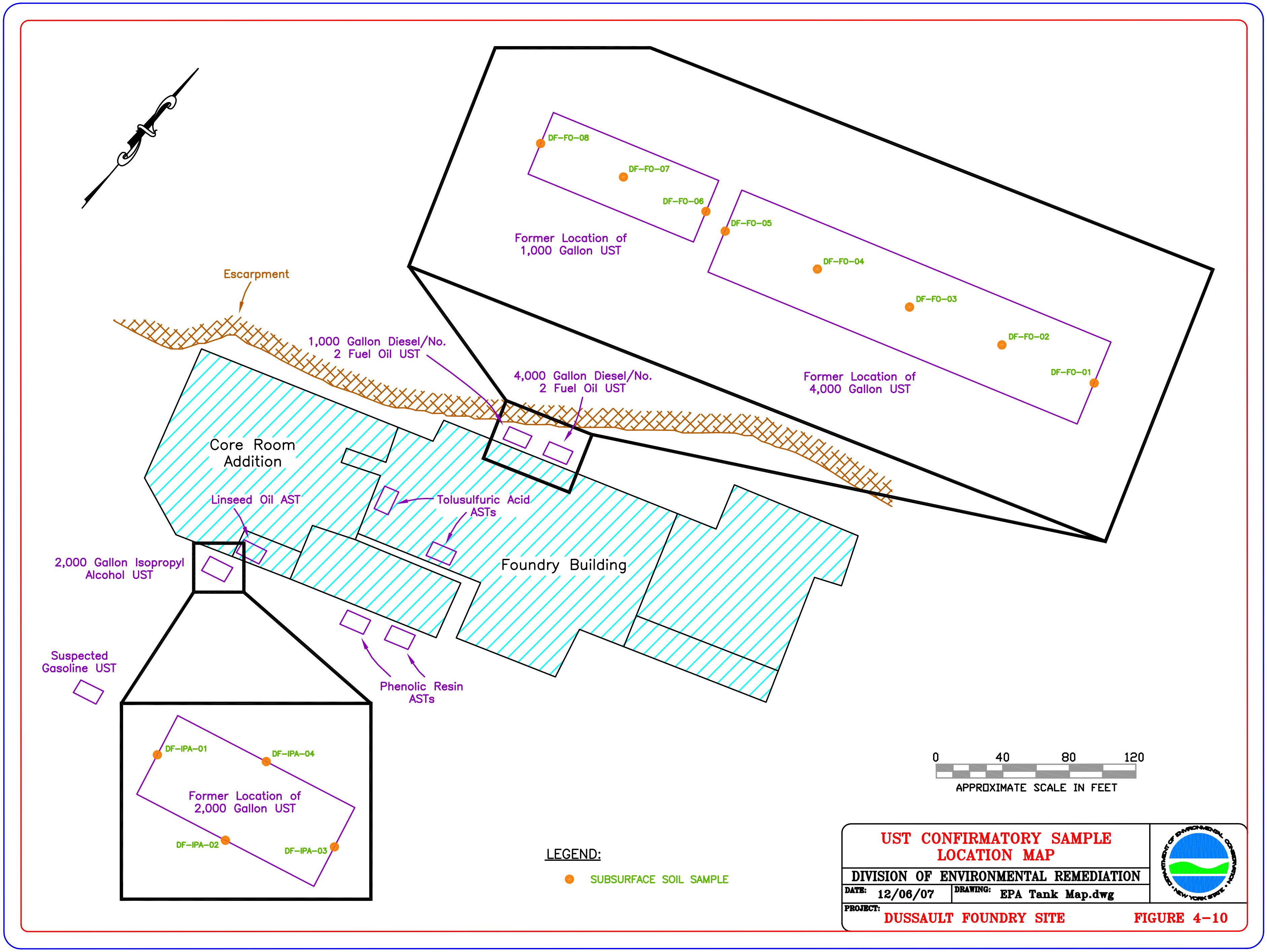
Figure 4-5. Photograph of drums on the slope of the Niagara Escarpment near Market Street (background). View looking northwest. Photograph taken by Glenn May on September 18, 2000.

Figure 4-6. Photograph of the segregated drums at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.

Figure 4-7. Photograph of the segregated drums at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.

Figure 4-8. Photograph of the fill port and vent for the 1,000 gallon diesel/no. 2 fuel oil UST behind the Foundry Building. View looking east. Photograph taken by Glenn May on September 18, 2000.

Figure 4-9. Photograph of the fill port and vent for the 4,000 gallon diesel/no. 2 fuel oil USTs behind the Foundry Building. View looking east. Photograph taken by Glenn May on September 18, 2000.



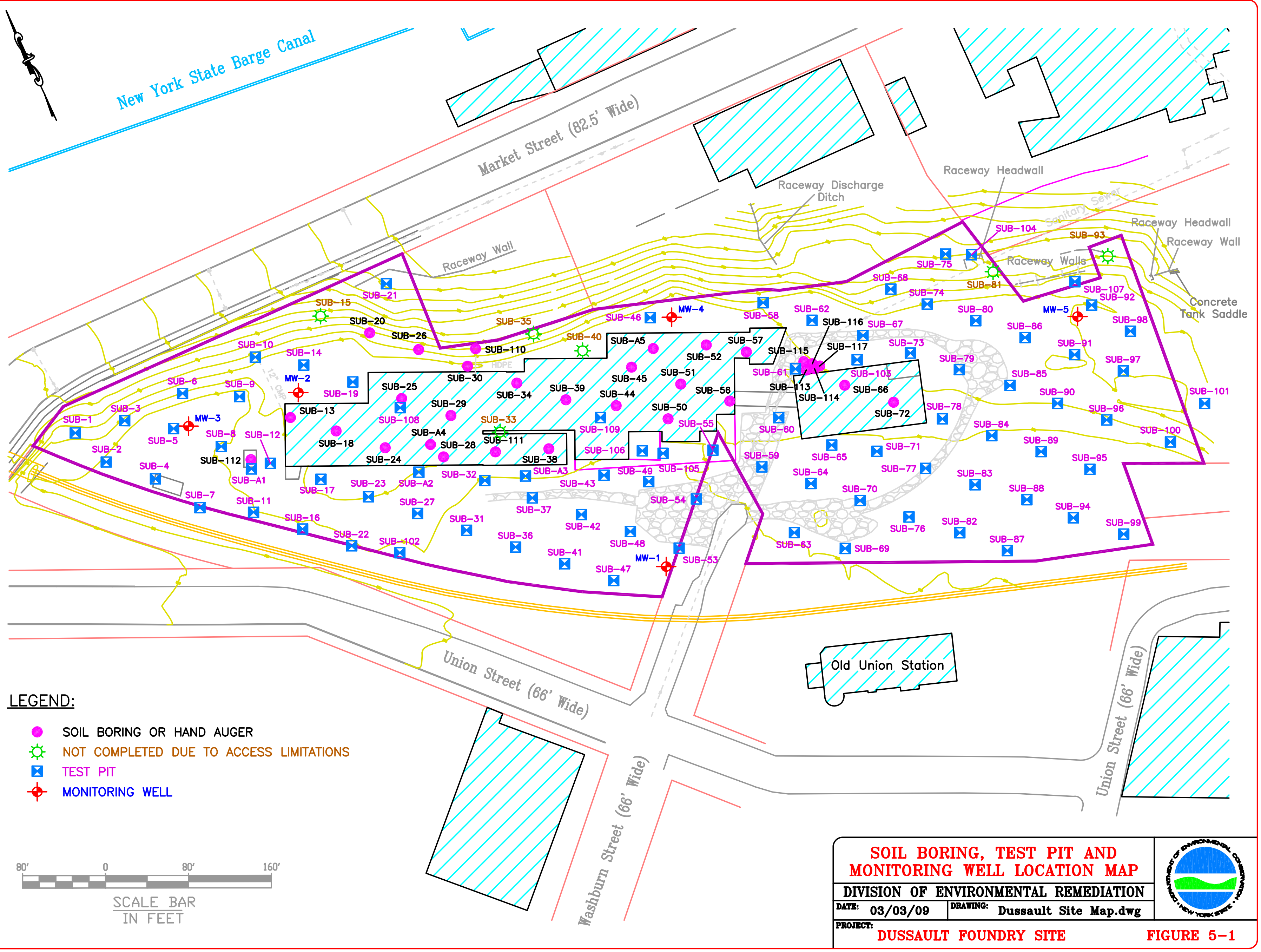
DF-FO-08
DF-FO-07
DF-FO-06
DF-FO-05
DF-FO-04
DF-FO-03
DF-FO-02
DF-FO-01
Former Location of 1,000 Gallon UST
Former Location of 4,000 Gallon UST
Escarpment
1,000 Gallon Diesel/No. 2 Fuel Oil UST
4,000 Gallon Diesel/No. 2 Fuel Oil UST
Core Room Addition
Linseed Oil AST
Tolusulfuric Acid ASTs
Foundry Building
2,000 Gallon Isopropyl Alcohol UST
Suspected Gasoline UST
Phenolic Resin ASTs
DF-IPA-01
DF-IPA-04
Former Location of 2,000 Gallon UST
DF-IPA-02
DF-IPA-03
0 40 80 120
APPROXIMATE SCALE IN FEET
LEGEND:
SUBSURFACE SOIL SAMPLE
UST CONFIRMATORY SAMPLE LOCATION MAP
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 12/06/07
DRAWING: EPA Tank Map.dwg
PROJECT: DUSSAULT FOUNDRY SITE
FIGURE 4-10

Figure 4-11. Photograph of the debris stockpiling operation at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.

Figure 4-12. Photograph of the stockpiled debris at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.

Figure 4-13. Photograph of the stockpiled debris at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.

Figure 4-14. Photograph of the stockpiled debris at the Dussault Foundry Site. Photograph taken by Brian Sadowski on April 10, 2003.



SOIL BORING, TEST PIT AND MONITORING WELL LOCATION MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 03/03/09 DRAWING: Dussault Site Map.dwg

PROJECT: DUSSAULT FOUNDRY SITE FIGURE 5-1

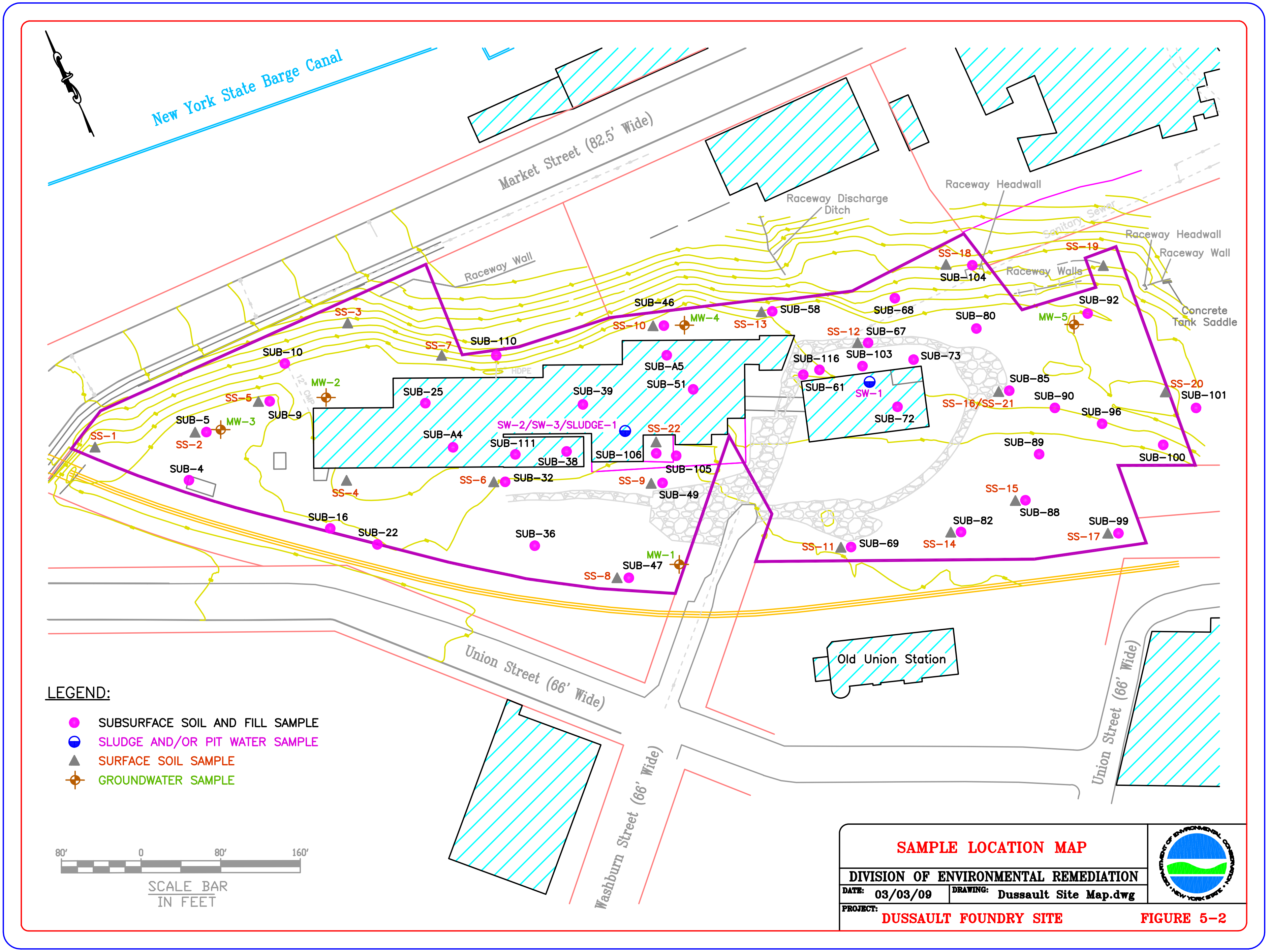

New York State Barge Canal
Market Street (82.5' Wide)
Union Street (66' Wide)
Washburn Street (66' Wide)
Union Street (66' Wide)
Old Union Station
Raceway Wall
Raceway Discharge Ditch
Raceway Headwall
Raceway Walls
Raceway Headwall
Raceway Wall
Concrete Tank Saddle
Sanitary Sewer
HDPE
12" CMP
SUB-10
SUB-5
SUB-4
SUB-9
SUB-16
SUB-22
SUB-25
SUB-A4
SUB-110
SUB-111
SUB-38
SUB-32
SUB-36
SUB-39
SUB-46
SUB-A5
SUB-51
SUB-106
SUB-105
SUB-49
SUB-47
SUB-58
SUB-116
SUB-61
SUB-103
SUB-67
SUB-68
SUB-73
SUB-72
SUB-104
SUB-80
SUB-92
SUB-85
SUB-90
SUB-96
SUB-89
SUB-100
SUB-101
SUB-88
SUB-82
SUB-99
SUB-69
SS-1
SS-2
SS-3
SS-4
SS-5
SS-6
SS-7
SS-8
SS-9
SS-10
SS-11
SS-12
SS-13
SS-14
SS-15
SS-16/SS-21
SS-17
SS-18
SS-19
SS-20
SS-22
MW-1
MW-2
MW-3
MW-4
MW-5
SW-1
SW-2/SW-3/SLUDGE-1
LEGEND:
SUBSURFACE SOIL AND FILL SAMPLE
SLUDGE AND/OR PIT WATER SAMPLE
SURFACE SOIL SAMPLE
GROUNDWATER SAMPLE
80' 0 80' 160'
SCALE BAR
IN FEET
SAMPLE LOCATION MAP
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 03/03/09
DRAWING: Dussault Site Map.dwg
PROJECT: DUSSAULT FOUNDRY SITE
FIGURE 5-2

Figure 6-1. Photograph of the foundry sand at the western portion of the Dussault Foundry Site. View looking northwest. Photograph taken by Glenn May on July 28, 2008.

Figure 6-2. Photograph of the foundry sand at the eastern portion of the Dussault Foundry Site. View looking southeast. Photograph taken by Glenn May on July 28, 2008.

Figure 6-3. Photograph of the foundry sand excavated from test pit SUB-46 behind the Foundry Building. View looking southeast. Photograph taken by Glenn May on September 4, 2008.

Figure 6-4. Photograph of the drum excavated from test pit SUB-8 that contained suspected paint waste. Photograph taken by Glenn May on August 28, 2008.

Figure 6-5. Photograph of the drum excavated from test pit SUB-90 that contained a tar-like waste. Photograph taken by Glenn May on September 9, 2008.

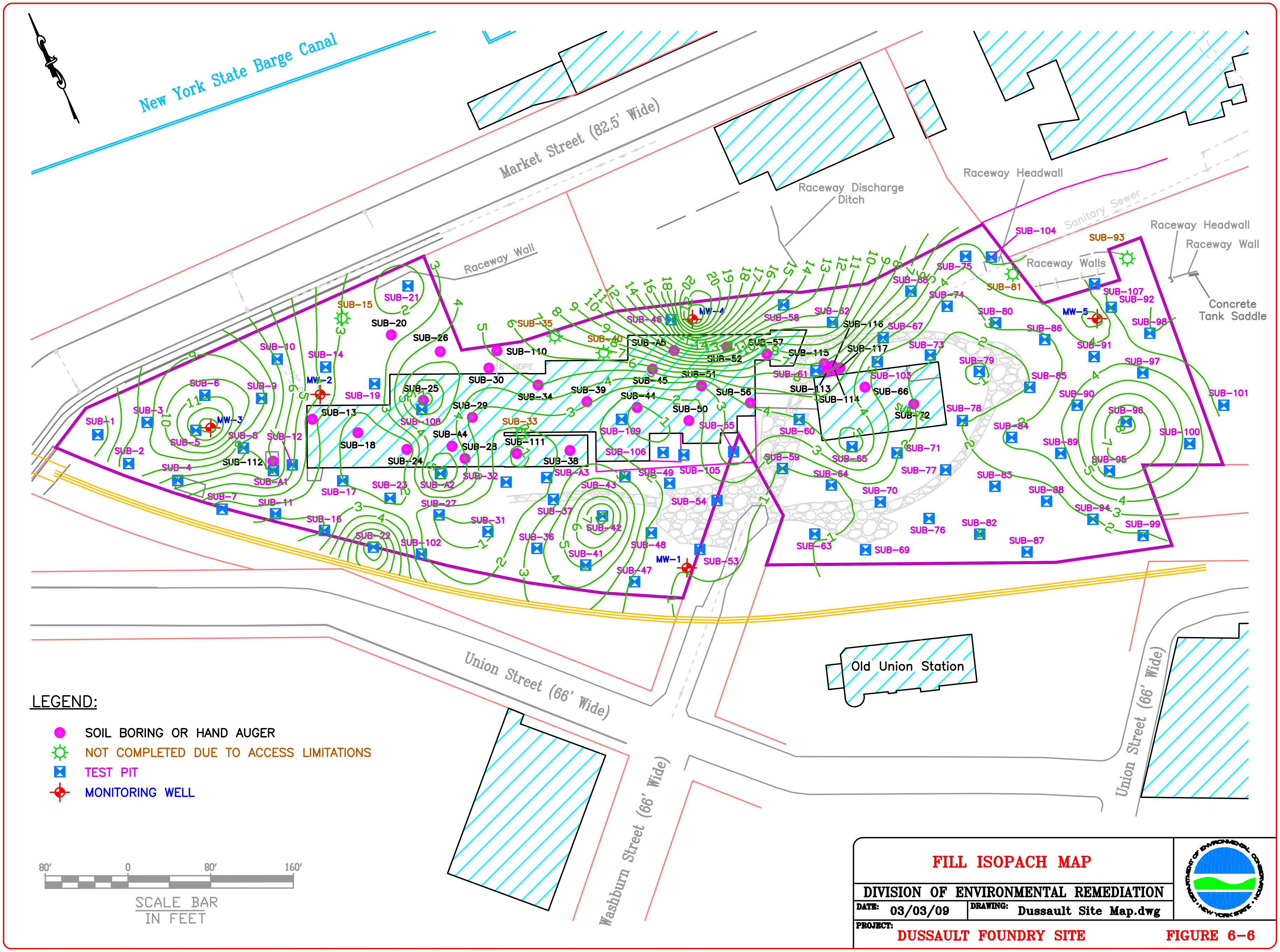

New York State Barge Canal
Market Street (82.5' Wide)
Raceway Wall
Raceway Discharge Ditch
Raceway Headwall
Sanitary Sewer
Raceway Walls
Raceway Headwall
Raceway Wall
Concrete Tank Saddle
Union Street (66' Wide)
Washburn Street (66' Wide)
Union Street (66' Wide)
Old Union Station
MW-1
MW-2
MW-3
MW-4
MW-5
LEGEND:
SOIL BORING OR HAND AUGER
NOT COMPLETED DUE TO ACCESS LIMITATIONS
TEST PIT
MONITORING WELL
80' 0 80' 160'
SCALE BAR IN FEET
FILL ISOPACH MAP
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 03/03/09
DRAWING: Dussault Site Map.dwg
PROJECT: DUSSAULT FOUNDRY SITE
FIGURE 6-6

Figure 6-7. Photograph of the reworked soil in test pit SUB-60. Photograph taken by Glenn May on September 3, 2008.

Figure 6-8. Photograph of the native sand excavated from test pit SUB-22. View looking south. Photograph taken by Glenn May on September 2, 2008.

Figure 6-9. Photograph of the fill/native sand interface in test pit SUB-7. View looking southwest. Photograph taken by Glenn May on August 28, 2008.

Figure 6-10. Photograph of the fill/native sand interface in test pit SUB-22. View looking south. Photograph taken by Glenn May on September 2, 2008.

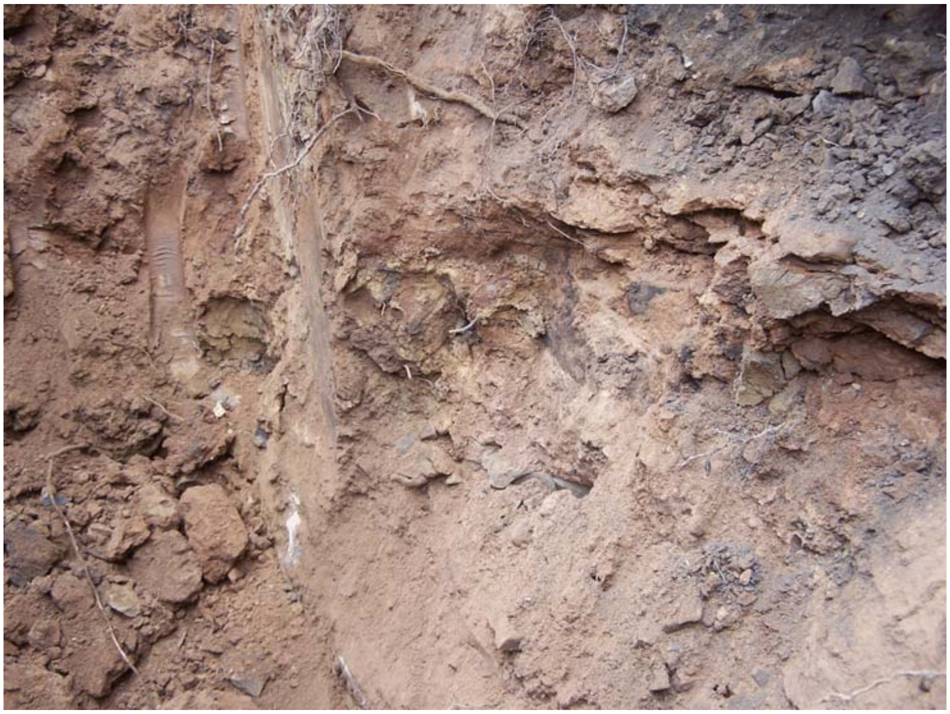


Figure 6-11. Photograph of the native silty clay in test pit SUB-78. Note the grey and black mottling in the center of the photo. Photograph taken by Glenn May on September 5, 2008.

Figure 6-12. Photograph of the native silty clay (below the fill layer) in test pit SUB-80. Photograph taken by Glenn May on September 8, 2008.

Figure 6-13. Photograph of the weathered upper bedrock in test pit SUB-17. View looking west. Photograph taken by Glenn May on August 29, 2008.

Figure 6-14. Photograph of the bedrock outcrop at the western portion of the Dussault Foundry Site along Market Street. The grey dolostone unit overlies the softer brown to grey mudstone. View looking east. Photograph taken by Glenn May on July 14, 2008.

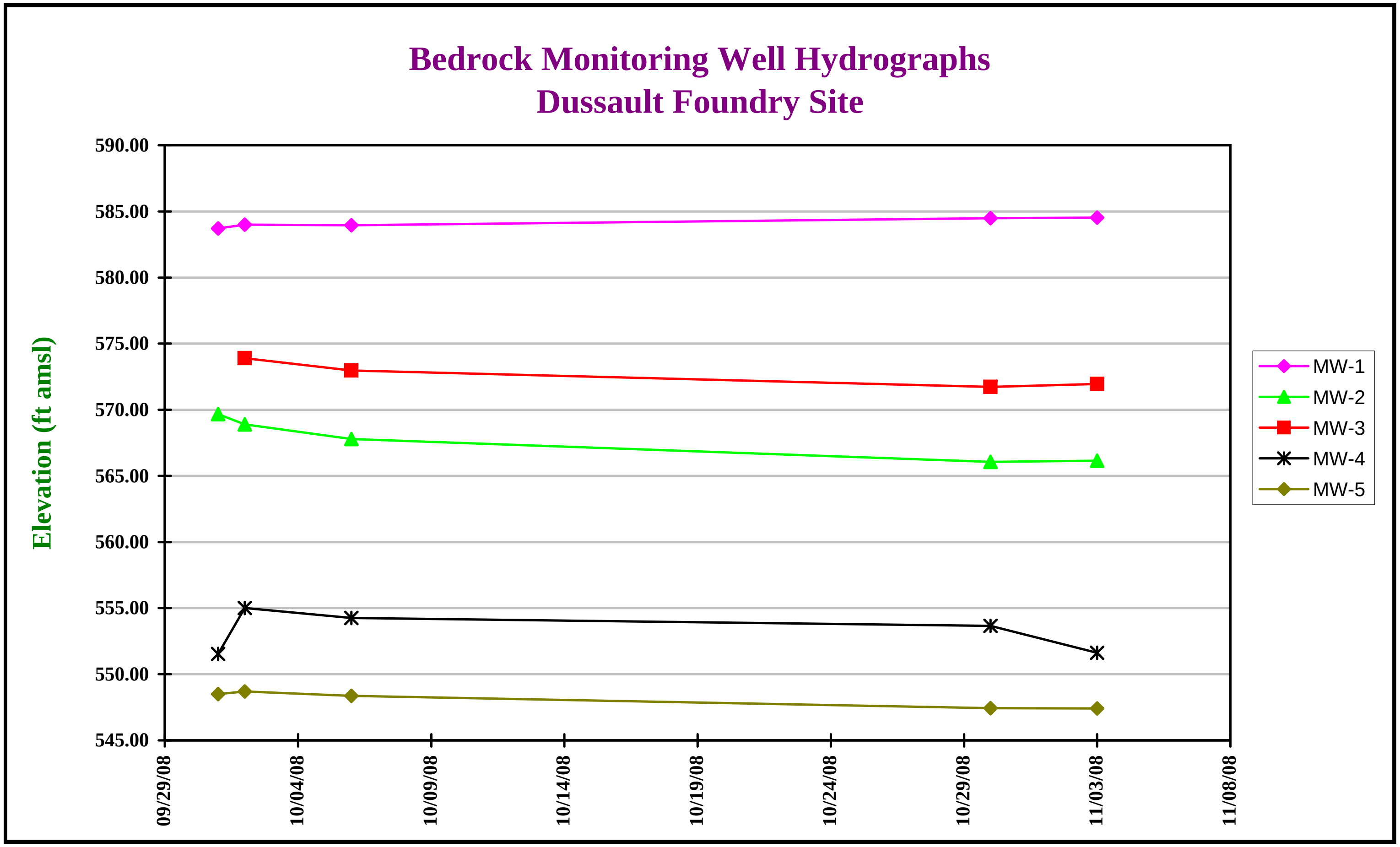


Figure 6-15. Bedrock monitoring well hydrographs for the monitoring wells installed during the 2008 Site Investigation of the Dussault Foundry site.

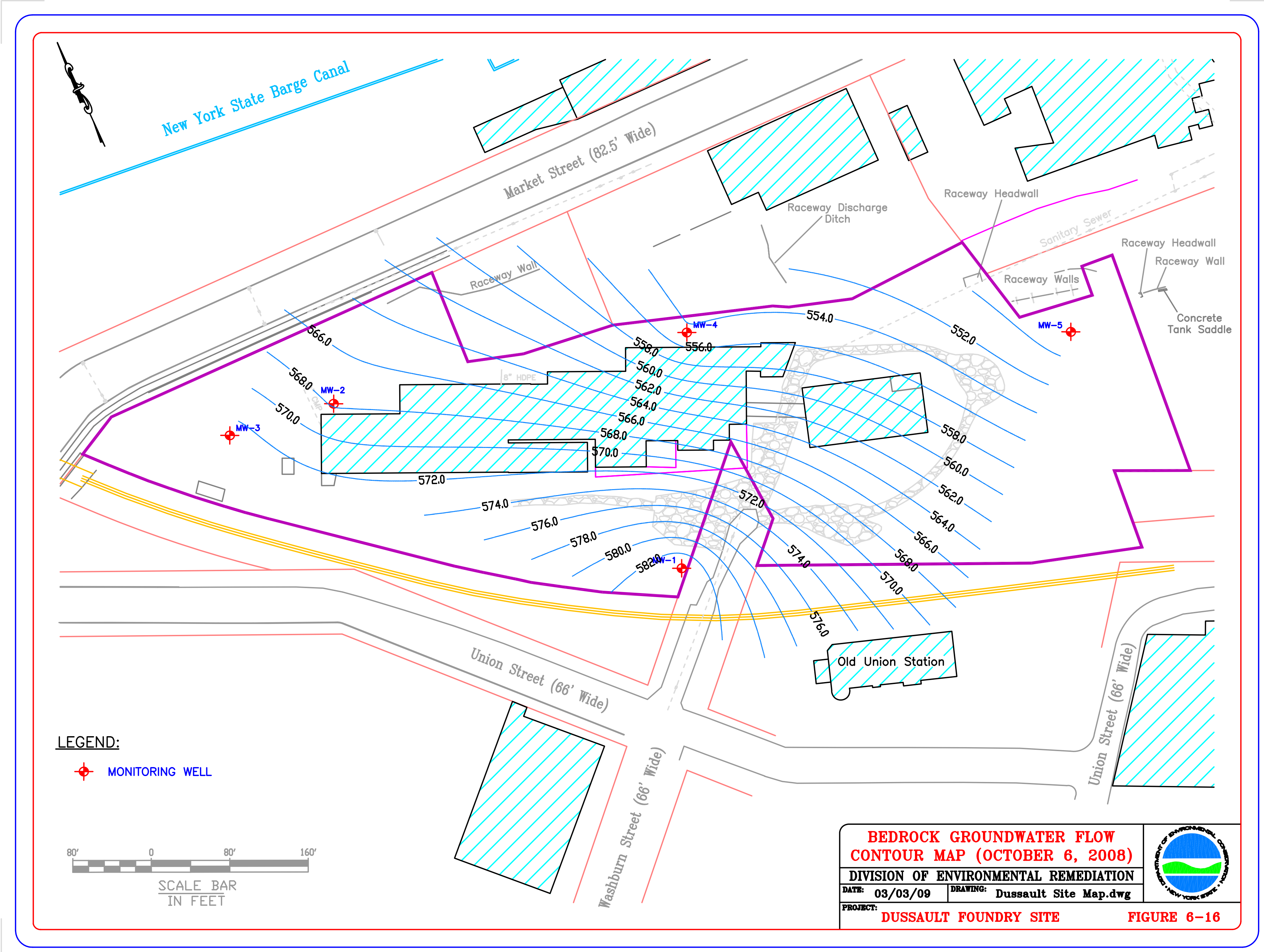

New York State Barge Canal
Market Street (82.5' Wide)
Raceway Wall
Raceway Discharge Ditch
Raceway Headwall
Sanitary Sewer
Raceway Headwall
Raceway Wall
Raceway Walls
Concrete Tank Saddle
8" HDPE
MW-1
MW-2
MW-3
MW-4
MW-5
552.0
554.0
556.0
558.0
560.0
562.0
564.0
566.0
568.0
570.0
572.0
574.0
576.0
578.0
580.0
582.0
Old Union Station
Union Street (66' Wide)
Washburn Street (66' Wide)
LEGEND:
MONITORING WELL
80'
0
80'
160'
SCALE BAR IN FEET
BEDROCK GROUNDWATER FLOW CONTOUR MAP (OCTOBER 6, 2008)
DIVISION OF ENVIRONMENTAL REMEDIATION
DATE: 03/03/09
DRAWING: Dussault Site Map.dwg
PROJECT: DUSSAULT FOUNDRY SITE
FIGURE 6-16

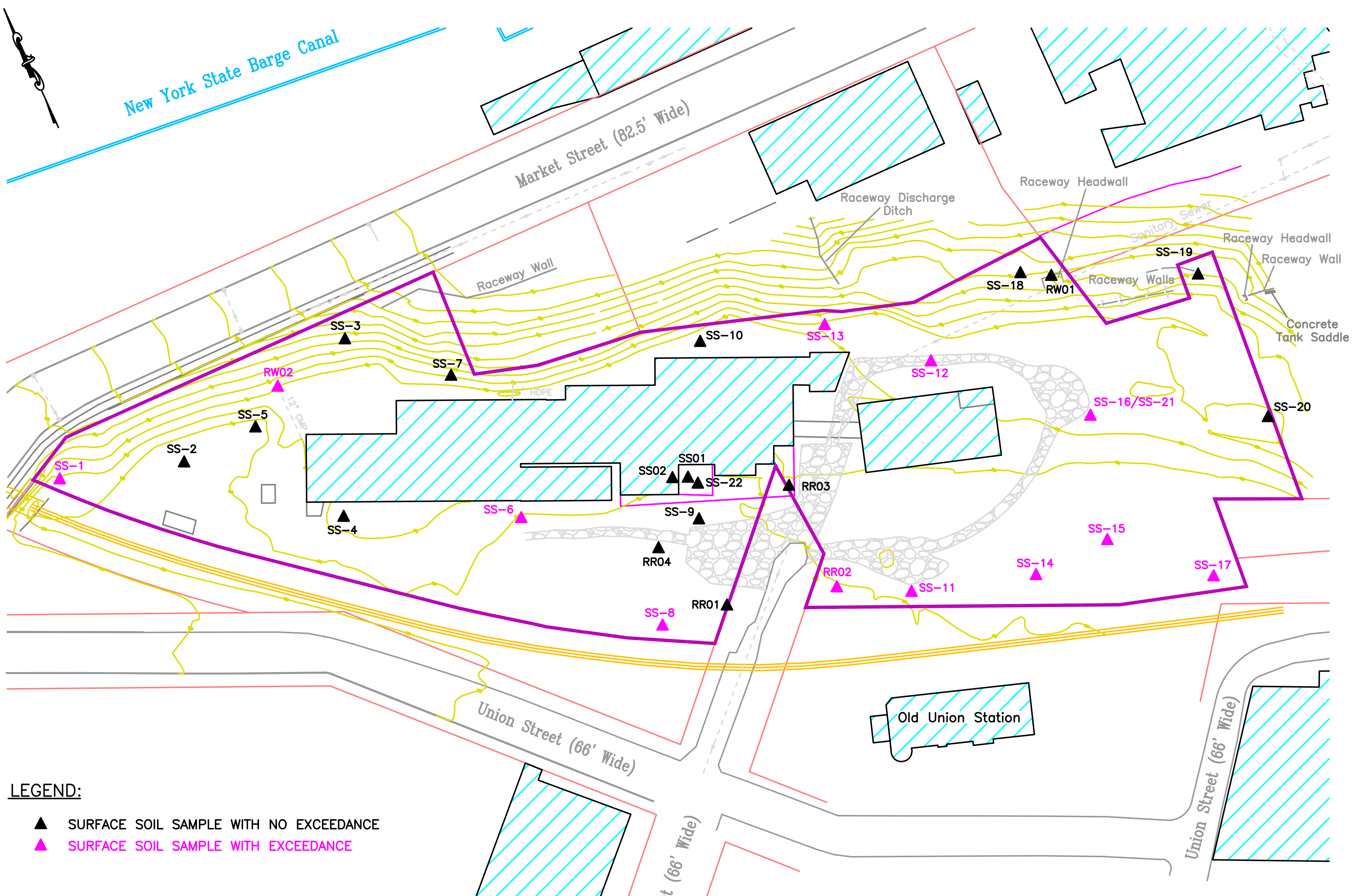
Figure 6-17. Photograph of the thick mantle of foundry sand overlying the Niagara Escarpment. View looking northeast. Photograph taken by Glenn May on July 14, 2008.

Figure 7-1. Photograph of the cleared vegetation in front of the Foundry Building. View looking west. Photograph taken by Glenn May on July 28, 2008.

Figure 7-2. Photograph of the cleared vegetation at the eastern portion of the Dussault Foundry Site. View looking east. Photograph taken by Glenn May on July 28, 2008.

Figure 7-3. Photograph of drums on the slope of the Niagara Escarpment at the eastern portion of the Dussault Foundry Site. Photograph taken by Glenn May on January 8, 2008.

Figure 7-4. Photograph of a drum on the slope of the Niagara Escarpment at the western portion of the Dussault Foundry Site. Photograph taken by Glenn May on September 15, 2008.

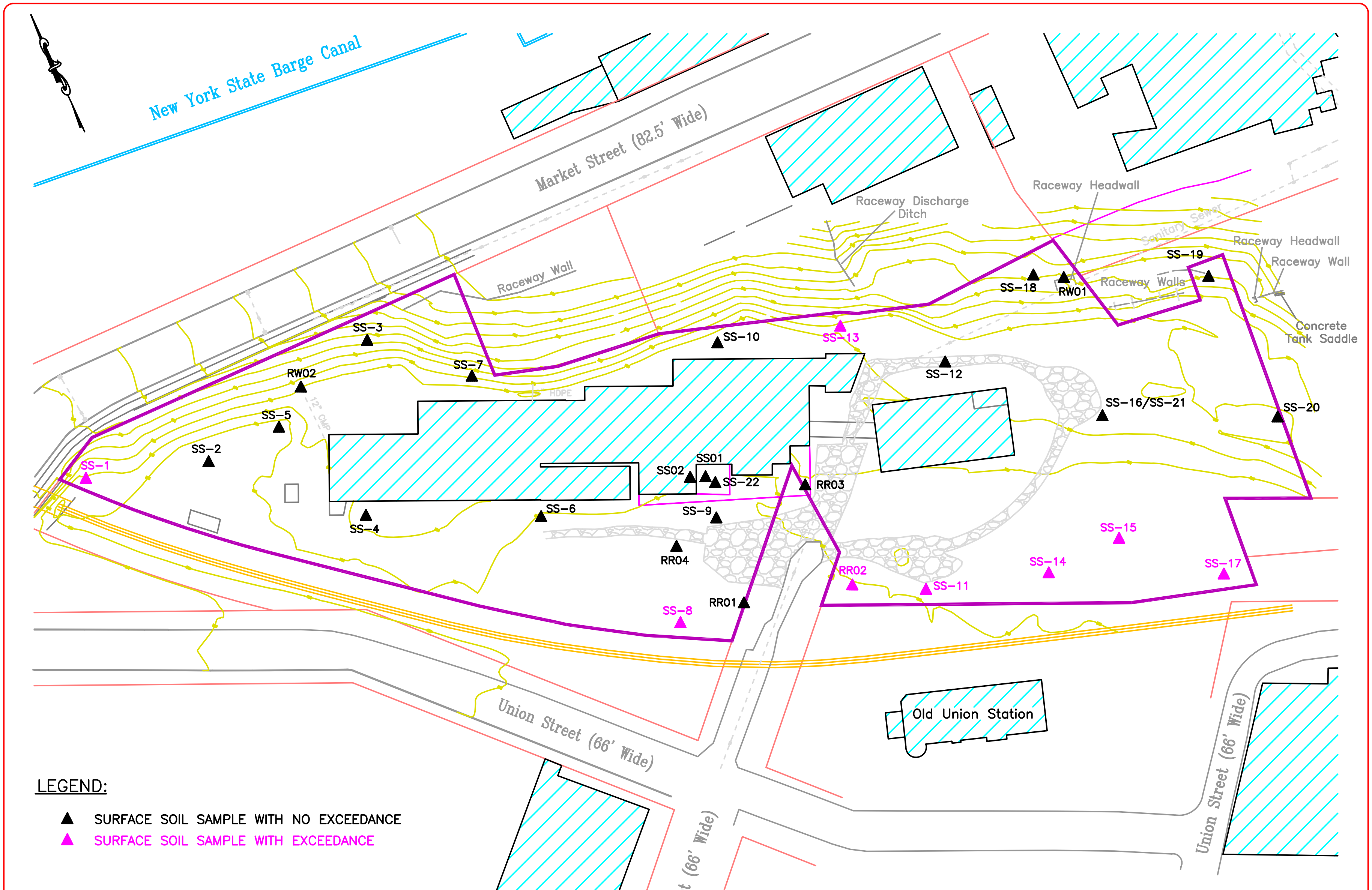


RESIDENTIAL SOIL CLEANUP OBJECTIVE EXCEEDANCE MAP FOR SURFACE SOIL

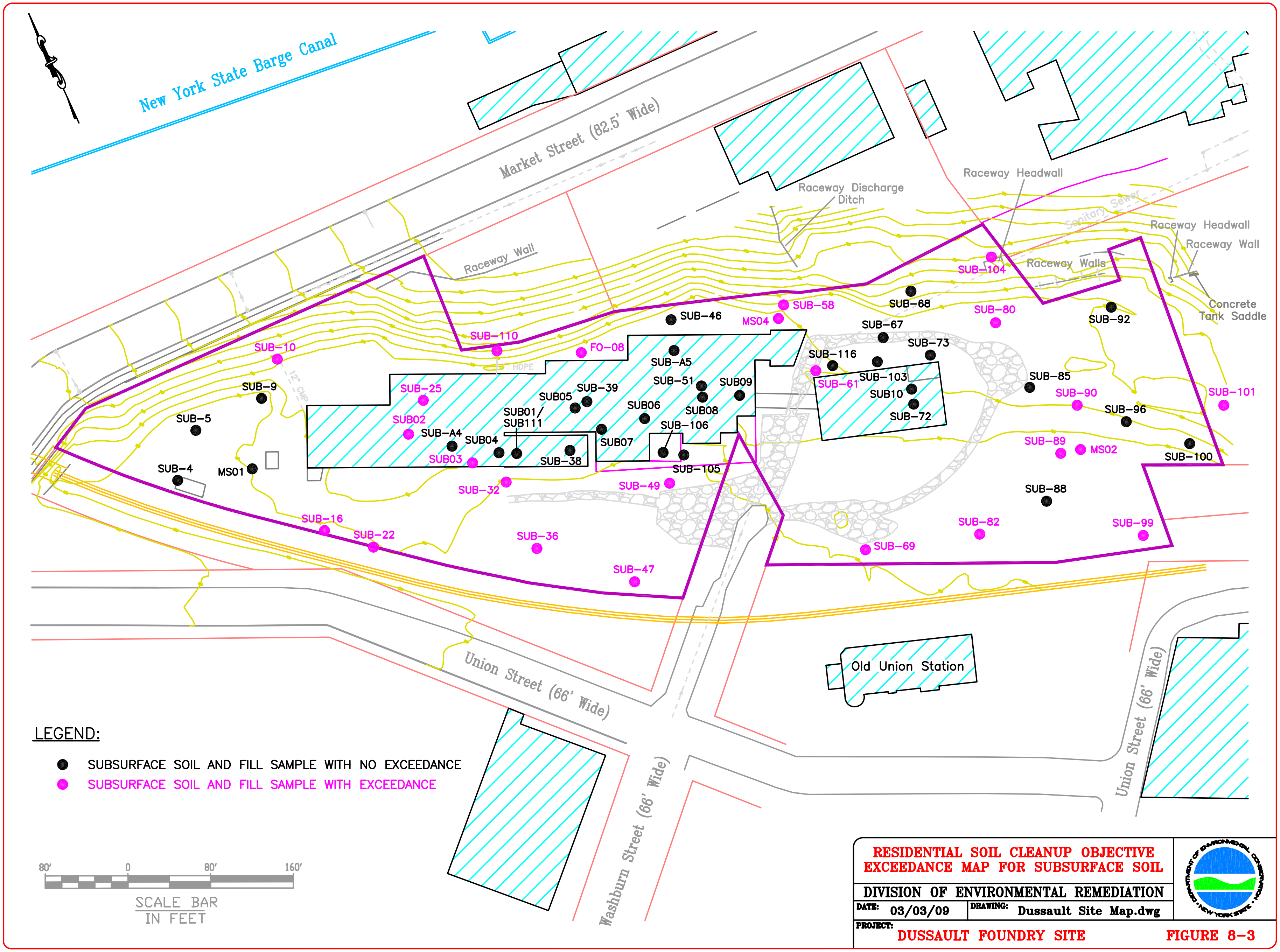
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 03/03/09 DRAWING: Dussault Site Map.dwg

PROJECT: DUSSAULT FOUNDRY SITE FIGURE 8-1



COMMERCIAL SOIL CLEANUP OBJECTIVE EXCEEDANCE MAP FOR SURFACE SOIL	
DIVISION OF ENVIRONMENTAL REMEDIATION	
DATE: 03/03/09	DRAWING: Dussault Site Map.dwg
PROJECT: DUSSAULT FOUNDRY SITE	FIGURE 8-2

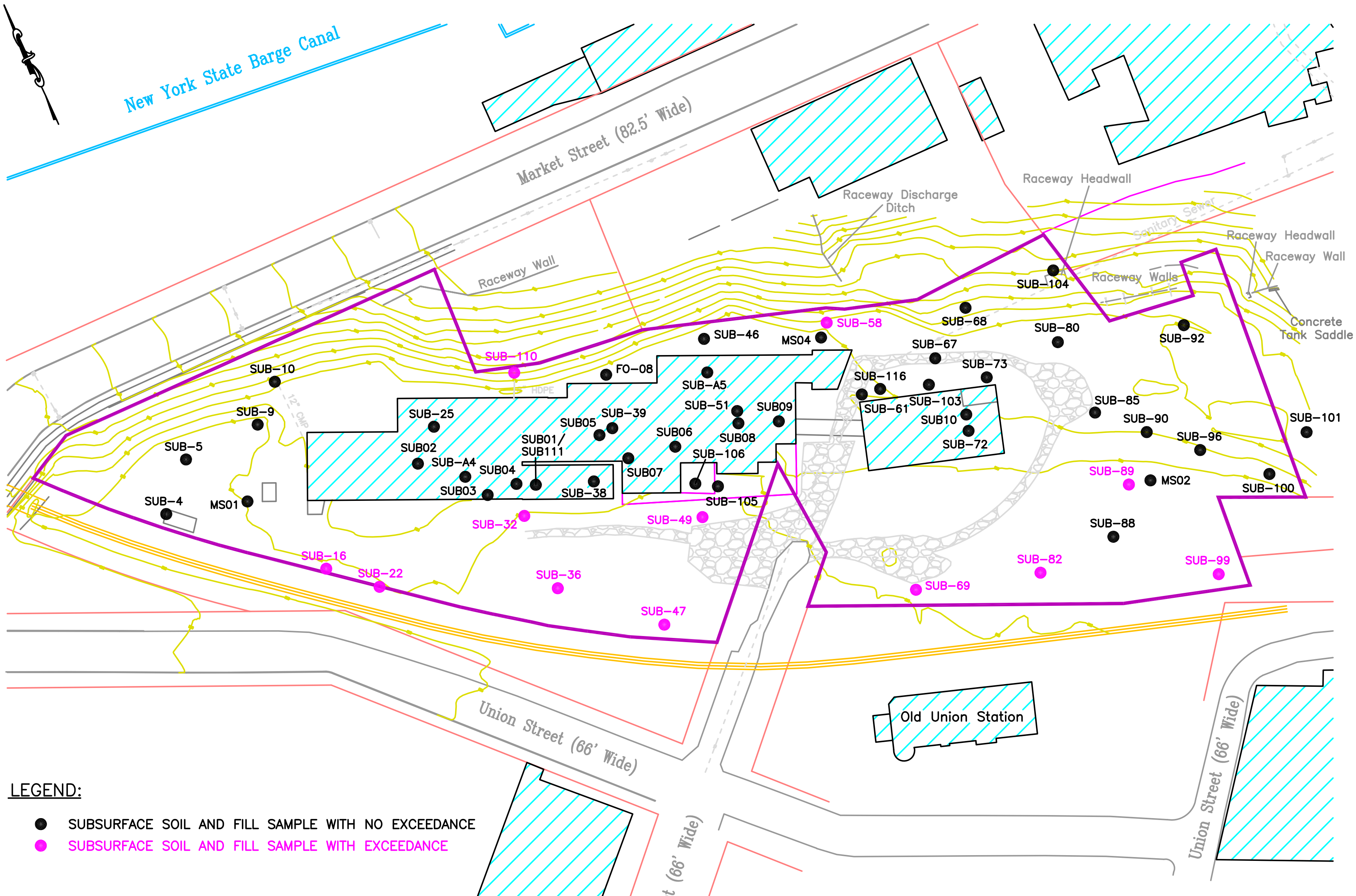


RESIDENTIAL SOIL CLEANUP OBJECTIVE EXCEEDANCE MAP FOR SUBSURFACE SOIL

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 03/03/09 DRAWING: Dussault Site Map.dwg

PROJECT: **DUSSAULT FOUNDRY SITE** **FIGURE 8-3**



LEGEND:

● SUBSURFACE SOIL AND FILL SAMPLE WITH NO EXCEEDANCE

● SUBSURFACE SOIL AND FILL SAMPLE WITH EXCEEDANCE

80' 0 80' 160'

SCALE BAR
IN FEET

COMMERCIAL SOIL CLEANUP OBJECTIVE
EXCEEDANCE MAP FOR SUBSURFACE SOIL

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 03/03/09 DRAWING: Dussault Site Map.dwg

PROJECT: DUSSAULT FOUNDRY SITE FIGURE 8-4

Figure 9-1. Photograph of the southern wall of the historic raceway on the eastern portion of the Dussault property. View looking southeast. Photograph taken by Glenn May on January 8, 2008.

Figure 9-2. Photograph of the northern wall of the historic raceway on the eastern portion of the Dussault property. View looking northwest. Photograph taken by Glenn May on July 14, 2008.

Figure 9-3. Photograph of the historic raceway spillway on the eastern portion of the Dussault property. View looking south. Photograph taken by Glenn May on January 8, 2008.

Figure 9-4. Photograph of the historic raceway discharge culvert on the eastern portion of the Dussault property. View looking north. Photograph taken by Glenn May on September 10, 2008.

Figure 9-5. Photograph of the historic raceway wall west of the spillway. View looking southwest. Photograph taken by Glenn May on July 14, 2008.

Figure 9-6. Photograph of the historic raceway wall west of the wall shown in Figure 9-5. View looking southwest. Photograph taken by Glenn May on July 14, 2008.

Figure 9-7. Photograph of the historic raceway spillway on the western portion of the Dussault property. View looking northwest. Photograph taken by Glenn May on July 18, 2008.

Figure 9-8. Photograph of the historic raceway wall on the westernmost portion of the Dussault property. View looking southwest. Photograph taken by Glenn May on July 14, 2008.

Figure 9-9. Photograph of the historic raceway wall on the westernmost portion of the Dussault property. View looking south. Photograph taken by Glenn May on July 14, 2008.

Figure 9-10. Photograph of the historic raceway wall shown in Figure 9-9 from a different angle. Market Street is in the background. View looking northeast. Photograph taken by Glenn May on July 14, 2008.

Figure 9-11. Photograph of the historic raceway wall shown in Figures 9-9 and 9-10, and the third spillway (center) on the Dussault property. View looking east. Photograph taken by Glenn May on July 14, 2008.

Figure 9-12. Photograph of the backfill material in the historic raceway spillway (Figure 9-3) on the eastern portion of the Dussault property. View looking southeast. Photograph taken by Glenn May on September 10, 2008.

Figure 9-13. Photograph of the fill material in test pit SUB-10 that was excavated at the end of a 10-inch corrugated metal pipe. View looking south. Photograph taken by Glenn May on September 16, 2008.

Figure 9-14. Photograph of the fill material in test pit SUB-21 that was excavated in the historic raceway along Market Street. Photograph taken by Brian sadowski on September 16, 2008.

Table 4-1. Summary Key for Historic Samples Collected from the Dussault Foundry Site, Site No. 932012.							
Lab ID	**Sample ID**	**Date Sampled**	**Time Sampled**	**Interval Sampled***	**Analytical Parameters**	**Comments**	**Table Reference**
Soil Samples							
BD-458	BD-458	01/21/87	unknown	unknown	VOCs, SVOCs	Location unknown	Table 4-2
BD-459	BD-459	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-460	BD-460	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-461	BD-461	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-462	BD-462	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-463	BD-463	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-464	BD-464	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BD-465	BD-465	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BI-458	BI-458	01/21/87	unknown	unknown	SVOCs	Location unknown	Table 4-2
BI-543	BI-543	01/21/87	unknown	unknown	VOCs, SVOCs	Location unknown	Table 4-2
SS-1	A59801	07/27/93	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals, cyanide	Background surface soil	Table 4-2
SS-2	A59802	07/27/93	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals, cyanide	Surface soil underlying the former on-site foundry sand landfill	Table 4-2
SS-4	A59804	07/27/93	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals, cyanide	Surface soil near drums protruding from the Niagara Escarpment	Table 4-2
DF-AST1-SO	DF-AST1-SO	12/04/01	unknown	unknown	VOCs, Isopropyl Alcohol	Subsurface soil near AST with an alcohol odor	Table 4-10
DF-AST1-SD	DF-AST1-SD	12/04/01	unknown	unknown	VOCs, Isopropyl Alcohol	Duplicate of sample DF-AST1-SO	Table 4-10
DF-RR01-SO	DF-RR01-SO	12/04/01	unknown	0.0' - 0.17'	SVOCs	Black surface soil in rail yard	Table 4-3
DF-RR02-SO	DF-RR02-SO	12/04/01	unknown	0.0' - 0.17'	SVOCs	Black surface soil in rail yard	Table 4-3
DF-RR02-SD	DF-RR02-SD	12/04/01	unknown	0.0' - 0.17'	SVOCs	Duplicate of sample DF-RR02-SO	Table 4-3
DF-RR03-SO	DF-RR03-SO	12/04/01	unknown	0.0' - 0.17'	SVOCs	Black stained soil pile in rail yard	Table 4-3
DF-RR04-SO	DF-RR04-SO	12/05/01	unknown	0.0' - 0.17'	SVOCs	Black surface soil in rail yard	Table 4-3
DF-SUB01-SO	DF-SUB01-SO	12/05/01	unknown	unknown	Total Phenols	Coarse gravel and reddish silt beneath building slab	Table 4-7
DF-SUB02-SO	DF-SUB02-SO	12/05/01	unknown	unknown	Total Phenols, Metals	Black soil and red crusty soil beneath building slab	Table 4-7

Table 4-1 (Continued).
Summary Key for Historic Samples Collected from the Dussault Foundry Site, Site No. 932012.

Lab ID	Sample ID	Date Sampled	Time Sampled	Interval Sampled*	Analytical Parameters	Comments	Table Reference
Soil Samples (Continued)							
DF-SUB03-SO	DF-SUB03-SO	12/05/01	unknown	unknown	VOCs, Total Phenols, PCBs, Pesticides, Metals	Unknown media beneath building slab	Table 4-7
DF-SUB03-SD	DF-SUB03-SD	12/05/01	unknown	unknown	VOCs, PCBs, Pesticides, Metals	Duplicate of sample DF-SUB03-SO	Table 4-7
DF-SUB04-SO	DF-SUB04-SO	12/05/01	unknown	unknown	Total Phenols, Metals	Black soil and gravel beneath building slab	Table 4-7
DF-SUB05-SO	DF-SUB05-SO	12/05/01	unknown	unknown	VOCs, Total Phenols	Black soil beneath building slab	Table 4-7
DF-SUB06-SO	DF-SUB06-SO	12/05/01	unknown	unknown	Total Phenols	Gravel beneath building slab	Table 4-7
DF-SUB07-SO	DF-SUB07-SO	12/05/01	unknown	unknown	Total Phenols, PCBs, Pesticides, Metals	Powdered concrete beneath building slab	Table 4-7
DF-SUB08-SO	DF-SUB08-SO	12/05/01	unknown	unknown	Total Phenols, Metals	Black silty sand beneath building slab	Table 4-7
DF-SUB09-SO	DF-SUB09-SO	12/05/01	unknown	unknown	Total Phenols	Black soil beneath building slab	Table 4-7
DF-SUB10-SO	DF-SUB10-SO	12/05/01	unknown	unknown	Total Phenols	Black soil and gravel beneath building slab	Table 4-7
DF-RW01-SO	DF-RW01-SO	12/04/01	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals	Black silty loam	Table 4-5
DF-SS01-SO	DF-SS01-SO	12/05/01	unknown	0.0' - 0.17'	PCBs, Pesticides	Black silty loam	Table 4-6
DF-IPA-01	DF-IPA-01	04/17/03	1430	5.83' - 6.33'	VOCs, Isopropyl Alcohol	2,000 gallon isopropyl alcohol UST	Table 4-11
DF-IPA-02	DF-IPA-02	04/17/03	1440	5.83' - 6.33'	VOCs, Isopropyl Alcohol	2,000 gallon isopropyl alcohol UST	Table 4-11
DF-IPA-03	DF-IPA-03	04/17/03	1450	5.83' - 6.33'	VOCs, Isopropyl Alcohol	2,000 gallon isopropyl alcohol UST	Table 4-11
DF-IPA-04	DF-IPA-04	04/17/03	1500	5.83' - 6.33'	VOCs, Isopropyl Alcohol	2,000 gallon isopropyl alcohol UST	Table 4-11
DF-FO-01	DF-FO-01	04/17/03	1815	9.33' - 9.83'	VOCs, SVOCs	4,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-02	DF-FO-02	04/17/03	1820	9.33' - 9.83'	VOCs, SVOCs	4,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-03	DF-FO-03	04/17/03	1825	9.33' - 9.83'	VOCs, SVOCs	4,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-04	DF-FO-04	04/17/03	1830	9.33' - 9.83'	VOCs, SVOCs	4,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-05	DF-FO-05	04/17/03	1835	9.33' - 9.83'	VOCs, SVOCs	4,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-06	DF-FO-06	04/17/03	1840	8.0' - 8.5'	VOCs, SVOCs	1,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-07	DF-FO-07	04/17/03	1845	8.0' - 8.5'	VOCs, SVOCs	1,000 gallon diesel/no. 2 fuel oil UST	Table 4-11
DF-FO-08	DF-FO-08	04/17/03	1850	8.0' - 8.5'	VOCs, SVOCs	1,000 gallon diesel/no. 2 fuel oil UST	Table 4-11

Table 4-1 (Continued). Summary Key for Historic Samples Collected from the Dussault Foundry Site, Site No. 932012.							
Lab ID	**Sample ID**	**Date Sampled**	**Time Sampled**	**Interval Sampled***	**Analytical Parameters**	**Comments**	**Table Reference**
Waste Samples							
SS-3	A59803	07/27/93	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals, cyanide	Waste sample from a drum protruding from the Niagara Escarpment	Table 4-2
DF-MS01-SO	DF-MS01-SO	12/04/01	unknown	unknown	SVOCs, Total Phenols, Metals	Black foundry sand	Table 4-4
DF-MS02-SO	DF-MS02-SO	12/04/01	unknown	unknown	SVOCs, Total Phenols, Metals	Black foundry sand	Table 4-4
DF-MS03-SO	DF-MS03-SO	12/04/01	unknown	unknown	SVOCs, Total Phenols, Metals	Black foundry sand	Table 4-4
DF-MS04-SO	DF-MS04-SO	12/04/01	unknown	unknown	SVOCs, Total Phenols, Metals	Black foundry sand	Table 4-4
DF-MS04-SD	DF-MS04-SD	12/04/01	unknown	unknown	SVOCs, Total Phenols, Metals	Duplicate of sample DF-MS04-SO	Table 4-4
DF-RW02-SO	DF-RW02-SO	12/04/01	unknown	0.0' - 0.17'	VOCs, SVOCs, PCBs, Pesticides, Metals	Black foundry sand mixed with black silty loam	Table 4-5
DF-SS02-SO	DF-SS02-SO	12/05/01	unknown	0.0' - 0.17'	PCBs, Pesticides	Black foundry sand	Table 4-6
Water Samples							
DF-Sump1-WO	DF-Sump1-WO	12/04/01	unknown	N/A	VOCs, Total Phenols, PCBs, Pesticides, Metals	Sump water with sheen near doorway to Core Room addition	Table 4-8
DF-Sump1-WD	DF-Sump1-WD	12/04/01	unknown	N/A	VOCs, Total Phenols, PCBs, Pesticides, Metals	Duplicate of sample DF-Sump1-WO	Table 4-8
DF-Sump2-WO	DF-Sump2-WO	12/04/01	unknown	N/A	VOCs, Total Phenols, PCBs, Pesticides, Metals	Sump water with sheen west of electrical control room in Foundry Building	Table 4-8
DF-Sump3-WO	DF-Sump3-WO	12/04/01	unknown	N/A	VOCs, Total Phenols, PCBs, Pesticides, Metals	Sump water at base of electrical control room in Foundry Building	Table 4-8
DF-Sump4-WO	DF-Sump4-WO	12/04/01	unknown	N/A	VOCs, Total Phenols, PCBs, Pesticides, Metals	Sump water along north wall in central part of Cleaning Building	Table 4-8
Sludge Samples							
DF-SED01-DO	DF-SED01-DO	12/05/01	unknown	unknown	SVOCs, PCBs, Pesticides	Sludge from bottom of sump in electrical control room	Table 4-9
DF-SED01-DD	DF-SED01-DD	12/05/01	unknown	unknown	SVOCs, PCBs, Pesticides	Duplicate of sample DF-SED01-DO	Table 4-9

Table 4-2.
Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	BD-458 01/21/87 Unknown Soil	BD-459 01/21/87 Unknown Soil	BD-460 01/21/87 Unknown Soil	BD-461 01/21/87 Unknown Soil	BD-462 01/21/87 Unknown Soil
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	130 B	NA	NA	NA	NA
2-Butanone	100,000	500,000		″	″	″	″
Ethylbenzene	30,000	390,000		″	″	″	″
Methylene Chloride	51,000	500,000	20 B	″	″	″	″
Toluene	100,000	500,000		″	″	″	″
Xylene (Total)	100,000	500,000		″	″	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Anthracene	100,000	500,000					
Benzo(a)pyrene	1,000	1,000	(730.0)				760.0
Benzo(a)anthracene	1,000	5,600	680.0 (820.0)				560.0
Benzo(b)fluoranthene	1,000	5,600	**1,200 (1,500)**				**1,700**
Benzo(g,h,i)perylene	100,000	500,000	(620.0)				570.0
Benzo(k)fluoranthene	1,000	56,000					
Bis(2-ethylhexyl)phthalate	50,000 +	NS			160 J		
Butylbenzylphthalate	50,000 +	NS					
Chrysene	1,000	56,000	**980.0 (1,100)**				750.0
Dibenzo(a,h)anthracene	330.0	560.0					
Dibenzofuran	14,000	350,000	200 J (300 J)				
Di-n-butylphthalate	8,100 +	NS	(550.0)	630.0	560.0	390.0	730.0

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**BD-458 01/21/87 Unknown Soil**	**BD-459 01/21/87 Unknown Soil**	**BD-460 01/21/87 Unknown Soil**	**BD-461 01/21/87 Unknown Soil**	**BD-462 01/21/87 Unknown Soil**
Semivolatile Organic Compounds (Continued)							
Di-n-octylphthalate	50,000 +	NS	(360.0)				
Fluoranthene	100,000	500,000	900.0 (1,200)				630.0
Indeno(1,2,3-cd)pyrene	500.0	5,600	**(620.0)**				**630.0**
2-Methylnaphthalene	36,400 +	NS	710.0 (1,100)				210 J
2-Methylphenol	100,000	500,000		770.0			
4-Methylphenol	34,000	500,000		**23,000 (34,000)**			
Naphthalene	100,000	500,000	480.0 (670.0)			74 J	160 J
Phenanthrene	100,000	500,000	920.0 (1,200)				250 J
Phenol	100,000	500,000		**110,000 E (160,000)**	270 J		
Pyrene	100,000	500,000	990.0 (910.0)				610.0
Pesticides (µg/kg or ppb)							
4,4'-DDT	1,700	47,000	NA	NA	NA	NA	NA
Endrin Ketone	NS	NS	″	″	″	″	″
Methoxychlor	NS	NS	″	″	″	″	″
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----	NA	NA	NA	NA	NA
Aroclor-1254	-----	-----	″	″	″	″	″
Total PCBs	1,000	1,000	″	″	″	″	″

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**BD-458 01/21/87 Unknown Soil**	**BD-459 01/21/87 Unknown Soil**	**BD-460 01/21/87 Unknown Soil**	**BD-461 01/21/87 Unknown Soil**	**BD-462 01/21/87 Unknown Soil**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	NA	NA	NA	NA	NA
Antimony	SB (1.8)	NS	″	″	″	″	″
Arsenic	16.0	16.0	″	″	″	″	″
Barium	350.0	400.0	″	″	″	″	″
Beryllium	14.0	590.0	″	″	″	″	″
Cadmium	2.5	9.3	″	″	″	″	″
Chromium	36.0	1,500	″	″	″	″	″
Cobalt	30.0 +	NS	″	″	″	″	″
Copper	270.0	270.0	″	″	″	″	″
Cyanide	27.0	27.0	″	″	″	″	″
Iron	SB (17,300)	NS	″	″	″	″	″
Lead	400.0	1,000	″	″	″	″	″
Manganese	2,000	10,000	″	″	″	″	″
Mercury	0.81	2.8	″	″	″	″	″
Nickel	140.0	310.0	″	″	″	″	″
Selenium	36.0	1,500	″	″	″	″	″
Silver	36.0	1,500	″	″	″	″	″
Vanadium	150.0 +	NS	″	″	″	″	″
Zinc	2,200	10,000	″	″	″	″	″

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**BD-463 01/21/87 Unknown Soil**	**BD-464 01/21/87 Unknown Soil**	**BD-465 01/21/87 Unknown Soil**	**BI-458 01/21/87 Unknown Soil**	**BI-543 01/21/87 Unknown Soil**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	3,700 B
2-Butanone	100,000	500,000	″	″	″	″	8,600 B
Ethylbenzene	30,000	390,000	″	″	″	″	1,100
Methylene Chloride	51,000	500,000	″	″	″	″	720 BJ
Toluene	100,000	500,000	″	″	″	″	550 J
Xylene (Total)	100,000	500,000	″	″	″	″	18,000
Semivolatile Organic Compounds (µg/kg or ppb)							
Anthracene	100,000	500,000	160 J				
Benzo(a)pyrene	1,000	1,000	**1,800**			410.0	
Benzo(a)anthracene	1,000	5,600	**2,300**			380 J	
Benzo(b)fluoranthene	1,000	5,600	**3,400**			790.0	
Benzo(g,h,i)perylene	100,000	500,000	950.0			320 J	
Benzo(k)fluoranthene	1,000	56,000					
Bis(2-ethylhexyl)phthalate	50,000 +	NS		260 J			
Butylbenzylphthalate	50,000 +	NS		680.0			
Chrysene	1,000	56,000	**2,700**			450.0	
Dibenzo(a,h)anthracene	330.0	560.0	**360 J**				
Dibenzofuran	14,000	350,000	79 J				
Di-n-butylphthalate	8,100 +	NS	560.0	600.0	780.0		

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**BD-463 01/21/87 Unknown Soil**	**BD-464 01/21/87 Unknown Soil**	**BD-465 01/21/87 Unknown Soil**	**BI-458 01/21/87 Unknown Soil**	**BI-543 01/21/87 Unknown Soil**
Semivolatile Organic Compounds (Continued)							
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000	3,100			510.0	
Indeno(1,2,3-cd)pyrene	500.0	5,600	**1,100**			360 J	
2-Methylnaphthalene	36,400 +	NS	150 J			47 J	12,000
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000				160 J	
Naphthalene	100,000	500,000	170 J	99 J	62 J		98,000
Phenanthrene	100,000	500,000	1,000			430.0	
Phenol	100,000	500,000				2,200	
Pyrene	100,000	500,000	2,900			680.0	
Pesticides (µg/kg or ppb)							
4,4'-DDT	1,700	47,000	NA	NA	NA	NA	NA
Endrin Ketone	NS	NS	″	″	″	″	″
Methoxychlor	NS	NS	″	″	″	″	″
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----	NA	NA	NA	NA	NA
Aroclor-1254	-----	-----	″	″	″	″	″
Total PCBs	1,000	1,000	″	″	″	″	″

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**BD-463 01/21/87 Unknown Soil**	**BD-464 01/21/87 Unknown Soil**	**BD-465 01/21/87 Unknown Soil**	**BI-458 01/21/87 Unknown Soil**	**BI-543 01/21/87 Unknown Soil**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	NA	NA	NA	NA	NA
Antimony	SB (1.8)	NS	″	″	″	″	″
Arsenic	16.0	16.0	″	″	″	″	″
Barium	350.0	400.0	″	″	″	″	″
Beryllium	14.0	590.0	″	″	″	″	″
Cadmium	2.5	9.3	″	″	″	″	″
Chromium	36.0	1,500	″	″	″	″	″
Cobalt	30.0 +	NS	″	″	″	″	″
Copper	270.0	270.0	″	″	″	″	″
Cyanide	27.0	27.0	″	″	″	″	″
Iron	SB (17,300)	NS	″	″	″	″	″
Lead	400.0	1,000	″	″	″	″	″
Manganese	2,000	10,000	″	″	″	″	″
Mercury	0.81	2.8	″	″	″	″	″
Nickel	140.0	310.0	″	″	″	″	″
Selenium	36.0	1,500	″	″	″	″	″
Silver	36.0	1,500	″	″	″	″	″
Vanadium	150.0 +	NS	″	″	″	″	″
Zinc	2,200	10,000	″	″	″	″	″

Table 4-2 (Continued).
Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-1 07/27/93 0.0' - 0.17' Surface Soil	SS-2 07/27/93 0.0' - 0.17' Surface Soil	SS-3 07/27/93 0.0' - 0.17' Drum Contents	SS-4 07/27/93 0.0' - 0.17' Surface Soil	
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000					
2-Butanone	100,000	500,000					
Ethylbenzene	30,000	390,000					
Methylene Chloride	51,000	500,000					
Toluene	100,000	500,000					
Xylene (Total)	100,000	500,000					
Semivolatile Organic Compounds (µg/kg or ppb)							
Anthracene	100,000	500,000					
Benzo(a)pyrene	1,000	1,000					
Benzo(a)anthracene	1,000	5,600			57 J (55 J)	29 J (29 J)	
Benzo(b)fluoranthene	1,000	5,600			82 J (75 J)	36 J (34 J)	
Benzo(g,h,i)perylene	100,000	500,000					
Benzo(k)fluoranthene	1,000	56,000			29 J (22 J)	11 J (11 J)	
Bis(2-ethylhexyl)phthalate	50,000 +	NS	56 J		3,300 E (2,900)	360 J (380.0)	
Butylbenzylphthalate	50,000 +	NS			130 J (110 J)		
Chrysene	1,000	56,000			67 J (61 J)	34 J (35 J)	
Dibenzo(a,h)anthracene	330.0	560.0					
Dibenzofuran	14,000	350,000					
Di-n-butylphthalate	8,100 +	NS					

Table 4-2 (Continued).
Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-1 07/27/93 0.0' - 0.17' Surface Soil	SS-2 07/27/93 0.0' - 0.17' Surface Soil	SS-3 07/27/93 0.0' - 0.17' Drum Contents	SS-4 07/27/93 0.0' - 0.17' Surface Soil	
Semivolatile Organic Compounds (Continued)							
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000			150 J (120 J)	62 J (63 J)	
Indeno(1,2,3-cd)pyrene	500.0	5,600					
2-Methylnaphthalene	36,400 +	NS		60 J (66 J)	(120 J)	66 J (69 J)	
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000		72 J (73 J)	(120 J)	67 J (70 J)	
Phenanthrene	100,000	500,000		(53 J)	120 J (110 J)	75 J (78 J)	
Phenol	100,000	500,000					
Pyrene	100,000	500,000			82 J (99 J)	50 J (53 J)	
Pesticides (µg/kg or ppb)							
4,4'-DDT	1,700	47,000		4.4		2.7 J	
Endrin Ketone	NS	NS		0.33 JP		0.65 JP	
Methoxychlor	NS	NS		3.2 J			
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----		37 P	46 P	63.0	
Aroclor-1254	-----	-----			130.0		
Total PCBs	1,000	1,000			176.0	63.0	

Table 4-2 (Continued). Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-1 07/27/93 0.0' - 0.17' Surface Soil**	**SS-2 07/27/93 0.0' - 0.17' Surface Soil**	**SS-3 07/27/93 0.0' - 0.17' Drum Contents**	**SS-4 07/27/93 0.0' - 0.17' Surface Soil**	
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	6,200	1,060	1,450	1,080	
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	2.3 B	4.9	14.2	1.4 B	
Barium	350.0	400.0	34.6 B	57.7	32.2 B	27.3 B	
Beryllium	14.0	590.0					
Cadmium	2.5	9.3	0.07 B	0.40 B	0.44 B	0.31 B	
Chromium	36.0	1,500	10.4	**43.6**	**267.0**	**44.3**	
Cobalt	30.0 +	NS	5.5 B		**32.2**	4.7 B	
Copper	270.0	270.0	10.4	105.0	**286.0**	33.7	
Cyanide	27.0	27.0				3.7	
Iron	SB (17,300)	NS	11,500	**29,500**	**141,000**	**22,700**	
Lead	400.0	1,000	4.7	23.7	40.8	40.9	
Manganese	2,000	10,000	487.0	269.0	1,310	261.0	
Mercury	0.81	2.8					
Nickel	140.0	310.0	17.5	41.1	**817.0**	35.5	
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	11.4 B				
Zinc	2,200	10,000	29.5	45.5	71.3	40.5	

Table 4-2 (Continued).
Analytical Results for Historic Soil and Waste Samples Collected by the NYSDEC and the EPA from the Dussault Foundry Site.

*	6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+	NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B	Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
E	Compound reported at an estimated concentration that exceeds the calibration range.
J	Compound reported at an estimated concentration below the sample quantitation limit.
NA	Not analyzed.
NS	No standard or guidance value available.
P	>25% difference between the analytical results on two GC columns. The lower value is reported.
SB	Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( )	Results of a duplicate analysis.
	Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
	Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
	Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-3.
Analytical Results for Surface Soil Samples Collected from the Former Rail Yard during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RR01-SO 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR02-SO 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR02-SD 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR03-SO 12/04/01 0.0' - 0.17' Black Soil Pile	DF-RR04-SO 12/04/01 0.0' - 0.17' Black Surface Soil
Semivolatile Organic Compounds (µg/kg or ppb)							
Acetophenone	NS	NS	91 J	(210 J)	210 J (270 J)	140 J	51 J
Acenaphthylene	100,000	500,000	120 J	4,400 (4,700)	5,600 (5,900)		
Anthracene	100,000	500,000	80 J	2,400 (2,600)	3,000 (3,200)	81 J	
Benzaldehyde	NS	NS	49 J			230 J	54 J
Benzo(a)pyrene	1,000	1,000	260 J	**5,100 (5,200)**	**5,900 (6,300)**		85 J
Benzo(a)anthracene	1,000	5,600	280 J	**6,000 (5,900)**	**6,900 (6,900)**		110 J
Benzo(b)fluoranthene	1,000	5,600	270 J	**4,400 (5,200)**	**7,000 (7,700)**		79 J
Benzo(g,h,i)perylene	100,000	500,000	200 J	2,300 (1,300 J)	1,600 J (1,200 J)		72 J
Benzo(k)fluoranthene	1,000	56,000	240 J	**5,200 (5,800)**	**5,300 (7,200)**		91 J
1,1'-Biphenyl	NS	NS	59 J			270 J	44 J
Butylbenzylphthalate	50,000 +	NS	40 J				
Carbazole	NS	NS	43 J	490 J (500 J)	630 J (660 J)		
Chrysene	1,000	56,000	400.0	**6,200 (6,200)**	**7,300 (7,300)**		140 J
Dibenzo(a,h)anthracene	330.0	560.0	100 J	**1,800 J (1,200 J)**	**1,400 J (1,100 J)**		39 J
Dibenzofuran	14,000	350,000	72 J		(180 J)	280 J	67 J
Di-n-butylphthalate	8,100 +	NS			990 J (1,100 J)	58 J	
Fluoranthene	100,000	500,000	530.0	5,800 (6,300)	6,700 (7,700)	74 J	200 J
Indeno(1,2,3-cd)pyrene	500.0	5,600	260 J	**4,000 (2,500)**	**2,900 (2,400)**		84 J
2-Methylnaphthalene	36,400 +	NS	260 J	260 J (290 J)	310 J (310 J)	420 J	200 J

Table 4-3 (Continued).
Analytical Results for Surface Soil Samples Collected from the Former Rail Yard during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RR01-SO 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR02-SO 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR02-SD 12/04/01 0.0' - 0.17' Black Surface Soil	DF-RR03-SO 12/04/01 0.0' - 0.17' Black Soil Pile	DF-RR04-SO 12/04/01 0.0' - 0.17' Black Surface Soil
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000				110 J	
Naphthalene	100,000	500,000	250 J	250 J (260 J)	270 J (270 J)	1,100	210 J
Phenanthrene	100,000	500,000	340 J	1,200 J (1,200 J)	1,300 J (1,300 J)	270 J	190 J
Phenol	100,000	500,000	73 J		220 J (230 J)	200 J	41 J
Pyrene	100,000	500,000	460.0	5,900 (4,600)	5,400 (4,800)		180 J

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-4. Analytical Results for Foundry Sand Samples Collected during the Phase II ESA at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-MS01-SO 12/04/01 Unknown Foundry Sand**	**DF-MS02-SO 12/04/01 Unknown Foundry Sand**	**DF-MS03-SO 12/04/01 Unknown Foundry Sand**	**DF-MS04-SO 12/04/01 Unknown Foundry Sand**	**DF-MS04-SD 12/04/01 Unknown Foundry Sand**
Semivolatile Organic Compounds (µg/kg or ppb)							
Acetophenone	NS	NS	65 J	66 J	81 J	53 J (86 J)	54 J
Acenaphthylene	100,000	500,000				140 J (120 J)	94 J
Anthracene	100,000	500,000			50 J	110 J (89 J)	92 J
Benzaldehyde	NS	NS	47 J	55 J	49 J		
Benzo(a)pyrene	1,000	1,000			85 J	170 J (170 J)	170 J
Benzo(a)anthracene	1,000	5,600	38 J	38 J	110 J	210 J (190 J)	220 J
Benzo(b)fluoranthene	1,000	5,600	36 J		100 J	180 J (180 J)	160 J
Benzo(g,h,i)perylene	100,000	500,000	40 J		61 J	87 J (73 J)	120 J
Benzo(k)fluoranthene	1,000	56,000	40 J		70 J	190 J (180 J)	160 J
1,1'-Biphenyl	NS	NS	59 J	47 J	74 J	39 J (39 J)	38 J
Butylbenzylphthalate	50,000 +	NS	44 J	64 J	73 J	(44 J)	59 J
Chrysene	1,000	56,000	59 J	53 J	150 J	250 J (250 J)	240 J
Dibenzo(a,h)anthracene	330.0	560.0			39 J	49 J (45 J)	68 J
Dibenzofuran	14,000	350,000	41 J	65 J	45 J	40 J (43 J)	50 J
Di-n-butylphthalate	8,100 +	NS					
Fluoranthene	100,000	500,000	61 J	70 J	270 J	390.0 (320 J)	420.0
Fluorene	100,000	500,000					37 J
Indeno(1,2,3-cd)pyrene	500.0	5,600			78 J	130 J (110 J)	170 J
2-Methylnaphthalene	36,400 +	NS	180 J	210 J	69 J	100 J (110 J)	110 J

Table 4-4 (Continued). Analytical Results for Foundry Sand Samples Collected during the Phase II ESA at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-MS01-SO 12/04/01 Unknown Foundry Sand**	**DF-MS02-SO 12/04/01 Unknown Foundry Sand**	**DF-MS03-SO 12/04/01 Unknown Foundry Sand**	**DF-MS04-SO 12/04/01 Unknown Foundry Sand**	**DF-MS04-SD 12/04/01 Unknown Foundry Sand**
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000			41 J		
Naphthalene	100,000	500,000	150 J	220 J	150 J	110 J (100 J)	120 J
Phenanthrene	100,000	500,000	130 J	140 J	270 J	220 J (220 J)	320 J
Phenol	100,000	500,000	38 J	58 J	2,900	57 J (150 J)	84 J
Phenols - Total	100,000	500,000	685.0	1,110	5,090	1,000	653.0
Pyrene	100,000	500,000	62 J	68 J	160 J	200 J (220 J)	340 J
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	990.0	730.0	1,790	3,640	1,960
Antimony	SB (1.8)	NS	0.94 BN	0.66 BN	0.79 BN	0.53 BN	1.1 BN
Arsenic	16.0	16.0	2.5	1.8 B	2.5	3.5	3.6
Barium	350.0	400.0	24.2 B	97.7	40.8 B	116.0	107.0
Beryllium	14.0	590.0	0.20 B		0.14 B	0.36 B	0.16 B
Cadmium	2.5	9.3	0.49 B	0.39 B	0.48 B	0.53 B	0.84 B
Chromium	36.0	1,500	32.8	**45.5**	23.7	20.3	**43.0**
Cobalt	30.0 +	NS	4.8 B	2.1 B	4.0 B	4.4 B	5.3 B
Copper	270.0	270.0	68.8 N	48.0 N	199 N	75.4 N	133 N
Iron	SB (17,300)	NS	**29,100**	**19,500**	**18,700**	**19,600**	**39,000**
Lead	400.0	1,000	21.7	10.2	59.2	34.7	41.6
Manganese	2,000	10,000	268 N	176 N	200 N	364 N	353 N

Table 4-4 (Continued).
Analytical Results for Foundry Sand Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-MS01-SO 12/04/01 Unknown Foundry Sand	DF-MS02-SO 12/04/01 Unknown Foundry Sand	DF-MS03-SO 12/04/01 Unknown Foundry Sand	DF-MS04-SO 12/04/01 Unknown Foundry Sand	DF-MS04-SD 12/04/01 Unknown Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Mercury	0.81	2.8					
Nickel	140.0	310.0	37.7	25.4	32.9	39.5	45.9
Selenium	36.0	1,500	0.80 BN		0.61 BN	0.68 BN	0.96 BN
Silver	36.0	1,500	0.074 B	0.094 B	0.15 B	0.096 B	0.16 B
Thallium	SB (2.6)	NS					
Vanadium	150.0 +	NS	4.6 B	4.3 B	5.1 B	8.5 B	7.2 B
Zinc	2,200	10,000	31.6	34.1	85.6	72.5	63.8

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
J Compound reported at an estimated concentration below the sample quantitation limit.
N Spike sample recovery is not within the control limits.
NS No standard or guidance value available.
( ) Results of a duplicate analysis or a re-analysis.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-5. Analytical Results for Raceway Soil and Waste Samples Collected during the Phase II ESA at the Dussault Foundry Site.				
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375** **Residential** **Soil Cleanup** **Objective ***	**Part 375** **Commercial** **Soil Cleanup** **Objective ***	**DF-RW01-SO** **12/04/01** **0.0' - 0.17'** **Black Silty Loam**	**DF-RW02-SO** **12/04/01** **0.0' - 0.17'** **Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)				
Methylcyclohexane	NS	NS	1 J	
Tetrachloroethene	5,500	150,000	8 J (6 J)	
Trichloroethene	10,000	200,000	23.0 (19.0)	
Semivolatile Organic Compounds (µg/kg or ppb)				
Acetophenone	NS	NS	56 J (56 J)	92 J (140 J)
Acenaphthylene	100,000	500,000	190 J (210 J)	400.0 (360 J)
Anthracene	100,000	500,000	160 J (160 J)	290 J (260 J)
Benzaldehyde	NS	NS	(42 J)	66 J (74 J)
Benzo(a)pyrene	1,000	1,000	340 J (350 J)	870.0 (870.0)
Benzo(a)anthracene	1,000	5,600	370 J (360 J)	890.0 (940.0)
Benzo(b)fluoranthene	1,000	5,600	320 J (320 J)	**1,100 J (970.0)**
Benzo(g,h,i)perylene	100,000	500,000	190 J (190 J)	320 J (300 J)
Benzo(k)fluoranthene	1,000	56,000	310 J (370 J)	**970.0 (1,000)**
1,1'-Biphenyl	NS	NS	78 J (84 J)	62 J (62 J)
Carbazole	NS	NS	66 J (64 J)	91 J (85 J)
Chrysene	1,000	56,000	430.0 (440.0)	**1,100 (1,100)**
Dibenzo(a,h)anthracene	330.0	560.0	110 J (100 J)	190 J (190 J)
Dibenzofuran	14,000	350,000	80 J (84 J)	81 J (82 J)
Fluoranthene	100,000	500,000	610.0 (590.0)	1,300 (1,100)
Indeno(1,2,3-cd)pyrene	500.0	5,600	270 J (260 J)	470.0 (460.0)
2-Methylnaphthalene	36,400 +	NS	280 J (280 J)	360 J (350 J)
4-Methylphenol	34,000	500,000		(39 J)
Naphthalene	100,000	500,000	190 J (200 J)	280 J (280 J)
Phenanthrene	100,000	500,000	450.0 (440.0)	400.0 (400.0)
Phenol	100,000	500,000	45 J (45 J)	46 J (47 J)
Pyrene	100,000	500,000	450.0 (380 J)	760.0 (890.0)

Table 4-5 (Continued).
Analytical Results for Raceway Soil and Waste Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam	DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand
Pesticides (µg/kg or ppb)				
4,4-DDD	2,600	92,000	1.3 JP	
4,4-DDE	1,800	62,000	4.5 P	4.9 P
4,4'-DDT	1,700	47,000	11.0	6.3
Aldrin	19.0	680.0	1.9 JP	3.2 P
alpha-Chlordane	910.0	24,000	1.3 JP	1.3 JP
Dieldrin	39.0	1,400	0.83 BJP	0.29 BJP
Endosulfan I	4,800	200,000	1.7 JP	2.3 P
Endosulfan II	4,800	200,000	2.2 JP	1.1 JP
Endosulfan Sulfate	4,800	200,000		7.6 P
Endrin	2,200	89,000	2.0 JP	1.7 JP
Endrin Aldehyde	NS	NS	2.4 BJP	2.0 BJP
Endrin Ketone	NS	NS	10.0	14.0 P
gamma-Chlordane	540.0 +	NS	0.83 JP	1.4 J
Heptachlor Epoxide	NS	NS	2.4 P	8.4 P
Methoxychlor	NS	NS	15 J	
PCBs (µg/kg or ppb)				
Aroclor-1242	-----	-----		
Aroclor-1254	-----	-----	40 BP	
Total PCBs	1,000	1,000	40 BP	
Inorganic Compounds (mg/kg or ppm)				
Aluminum	SB (11,670)	NS	3,540	2,410
Antimony	SB (1.8)	NS	0.59 BN	0.47 BN
Arsenic	16.0	16.0	6.0	2.6
Barium	350.0	400.0	42.4 B	36.9 B
Beryllium	14.0	590.0	0.45 B	0.24 B
Cadmium	2.5	9.3	0.63 B	1.1 B
Chromium	36.0	1,500	13.4	8.5
Cobalt	30.0 +	NS	5.9 B	9.6 B

Table 4-5 (Continued).
Analytical Results for Raceway Soil and Waste Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam	DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand
Inorganic Compounds (Continued)				
Copper	270.0	270.0	39.5 N	70.8 N
Iron	SB (17,300)	NS	13,400	13,000
Lead	400.0	1,000	69.5	59.7
Manganese	2,000	10,000	357 N	1,230 N
Mercury	0.81	2.8	0.13	0.073 BN
Nickel	140.0	310.0	18.0	38.1
Selenium	36.0	1,500	0.64 BN	1.1 BN
Silver	36.0	1,500	0.22 B	0.084 B
Thallium	SB (2.6)	NS		
Vanadium	150.0 +	NS	8.1 B	6.3 B
Zinc	2,200	10,000	83.6	**2,630**

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-6.
Analytical Results for Transformer Area Soil and Waste Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-SS01-SO 12/05/01 0.0' - 0.17' Black Silty Loam	DF-SS02-SO 12/05/01 0.0' - 0.17' Foundry Sand
Pesticides (µg/kg or ppb)				
4,4-DDD	2,600	92,000	0.98 JP	28 P (11 JP)
4,4-DDE	1,800	62,000	1.4 JP	27 P (16 JP)
4,4'-DDT	1,700	47,000	2.1 J	(22.0)
Aldrin	19.0	680.0	0.87 JP	14 P (12 P)
alpha-BHC	97.0	3,400		1.6 JP
alpha-Chlordane	910.0	24,000		5.4 P
beta-BHC	72.0	3,000		3.3 P (2.7 JP)
delta-BHC	100,000	500,000		1.3 JP
Dieldrin	39.0	1,400	0.64 BJP	
Endosulfan I	4,800	200,000	0.65 JP	20 P (11 P)
Endosulfan II	4,800	200,000	2.5 J	26 P (18 J)
Endosulfan Sulfate	4,800	200,000	1.8 JP	(16 JP)
Endrin	2,200	89,000	0.69 JP	15 P (10 JP)
Endrin Aldehyde	NS	NS	0.94 BJ	43 BP (14 BJP)
Endrin Ketone	NS	NS	1.4 JP	82 PE (29 P)
gamma-BHC (Lindane)	280.0	9,200		1.0 JP
gamma-Chlordane	540.0 +	NS		21.0 (7.1 JP)
Heptachlor Epoxide	NS	NS	0.83 JP	51 E (39 P)
Methoxychlor	NS	NS		70 P (44 JP)
PCBs (µg/kg or ppb)				
Aroclor-1242	-----	-----		
Aroclor-1254	-----	-----	24 BJP	
Total PCBs	1,000	1,000	24.0	

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample.
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-7. Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB01-SO 12/05/01 Unknown Gravel & Silt**	**DF-SUB02-SO 12/05/01 Unknown Black & Red Soil**	**DF-SUB03-SO 12/05/01 Unknown Unknown**	**DF-SUB03-SD 12/05/01 Unknown Unknown**
Volatile Organic Compounds (µg/kg or ppb)						
Acetone	100,000	500,000	NA	NA	52.0	37.0
Carbon Disulfide	2,700 +	NS	″	″	1 J	
Toluene	100,000	500,000	″	″		1 J
Semivolatile Organic Compounds (µg/kg or ppb)						
Phenols - Total	100,000	500,000		862.0	1,670	NA
Pesticides (µg/kg or ppb)						
4,4-DDE	1,800	62,000	NA	NA		0.70 JP
4,4'-DDT	1,700	47,000	″	″	1.3 JP	0.97 JP
Aldrin	19.0	680.0	″	″	1.8 P	0.87 JP
alpha-Chlordane	910.0	24,000	″	″	0.88 JP	0.17 JP
beta-BHC	72.0	3,000	″	″		
Dieldrin	39.0	1,400	″	″	0.098 BJP	0.16 BJP
Endosulfan I	4,800	200,000	″	″	0.49 JP	0.45 JP
Endosulfan II	4,800	200,000	″	″	0.75 JP	1.7 J
Endrin	2,200	89,000	″	″	0.58 J	
Endrin Aldehyde	NS	NS	″	″	0.33 BJP	
Endrin Ketone	NS	NS	″	″	4.2	2.8 JP
gamma-Chlordane	540.0 +	NS	″	″	0.63 JP	0.30 JP
Heptachlor	420.0	15,000	″	″		
Heptachlor Epoxide	NS	NS	″	″	1.6 JP	1.6 J

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB01-SO 12/05/01 Unknown Gravel & Silt**	**DF-SUB02-SO 12/05/01 Unknown Black & Red Soil**	**DF-SUB03-SO 12/05/01 Unknown Unknown**	**DF-SUB03-SD 12/05/01 Unknown Unknown**
PCBs (µg/kg or ppb)						
Aroclor-1242	-----	-----	NA	NA		
Aroclor-1254	-----	-----	″	″	43 BP	
Total PCBs	1,000	1,000	″	″	43.0	
Inorganic Compounds (mg/kg or ppm)						
Aluminum	SB (11,670)	NS	NA	1,490	1,330	1,510
Antimony	SB (1.8)	NS	″	**3.4 B**	0.65 BN	1.1 BN
Arsenic	16.0	16.0	″	12.1	1.3 B	5.3
Barium	350.0	400.0	″	26.1 B	18.1 B	28.2 B
Beryllium	14.0	590.0	″	0.13 B	0.14 B	0.17 B
Cadmium	2.5	9.3	″	0.89 B	0.44 B	0.87 B
Chromium	36.0	1,500	″	11.0	18.6	**107.0**
Cobalt	30.0 +	NS	″	3.8 B	3.7 B	11.4
Copper	270.0	270.0	″	58.7 EN	22.8 N	102 N
Iron	SB (17,300)	NS	″	12,400	**19,600**	**39,600**
Lead	400.0	1,000	″	36.3	27.4	31.0
Manganese	2,000	10,000	″	148.0	280 N	488 N
Mercury	0.81	2.8	NA	NR	0.055 BN	0.09 BN
Nickel	140.0	310.0	″	14.5	49.0	128.0
Selenium	36.0	1,500	″		0.59 BN	0.90 BN
Silver	36.0	1,500	″		0.18 B	0.085 B

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB01-SO 12/05/01 Unknown Gravel & Silt**	**DF-SUB02-SO 12/05/01 Unknown Black & Red Soil**	**DF-SUB03-SO 12/05/01 Unknown Unknown**	**DF-SUB03-SD 12/05/01 Unknown Unknown**
Inorganic Compounds (Continued)						
Thallium	SB (2.6)	NS	NA			
Vanadium	150.0 +	NS	″		3.8 B	5.8 B
Zinc	2,200	10,000	″	240 N	50.1	57.4

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB04-SO 12/05/01 Unknown Soil & Gravel**	**DF-SUB05-SO 12/05/01 Unknown Black Soil**	**DF-SUB06-SO 12/05/01 Unknown Gravel**	**DF-SUB07-SO 12/05/01 Unknown Concrete**
Volatile Organic Compounds (µg/kg or ppb)						
Acetone	100,000	500,000	NA		NA	NA
Carbon Disulfide	2,700 +	NS	″		″	″
Toluene	100,000	500,000	″		″	″
Semivolatile Organic Compounds (µg/kg or ppb)						
Phenols - Total	100,000	500,000	1,440			2,680
Pesticides (µg/kg or ppb)						
4,4-DDE	1,800	62,000	NA	NA	NA	
4,4'-DDT	1,700	47,000	″	″	″	2.1 JP
Aldrin	19.0	680.0	″	″	″	1.8 JP
alpha-Chlordane	910.0	24,000	″	″	″	
beta-BHC	72.0	3,000	″	″	″	0.47 JP
Dieldrin	39.0	1,400	″	″	″	
Endosulfan I	4,800	200,000	″	″	″	
Endosulfan II	4,800	200,000	″	″	″	
Endrin	2,200	89,000	″	″	″	10 P
Endrin Aldehyde	NS	NS	″	″	″	0.70 BJP
Endrin Ketone	NS	NS	″	″	″	
gamma-Chlordane	540.0 +	NS	″	″	″	1.0 JP
Heptachlor	420.0	15,000	″	″	″	1.1 JP
Heptachlor Epoxide	NS	NS	″	″	″	2.6

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB04-SO 12/05/01 Unknown Soil & Gravel**	**DF-SUB05-SO 12/05/01 Unknown Black Soil**	**DF-SUB06-SO 12/05/01 Unknown Gravel**	**DF-SUB07-SO 12/05/01 Unknown Concrete**
PCBs (µg/kg or ppb)						
Aroclor-1242	-----	-----	NA	NA	NA	33 JP
Aroclor-1254	-----	-----	″	″	″	68 BP
Total PCBs	1,000	1,000	″	″	″	101.0
Inorganic Compounds (mg/kg or ppm)						
Aluminum	SB (11,670)	NS	1,660	NA	NA	3,430
Antimony	SB (1.8)	NS	0.89 BN	″	″	
Arsenic	16.0	16.0	1.7 B	″	″	3.9
Barium	350.0	400.0	17.9 B	″	″	36.4 B
Beryllium	14.0	590.0	0.17 B	″	″	0.32 B
Cadmium	2.5	9.3	0.28 B	″	″	0.87 B
Chromium	36.0	1,500	7.0	″	″	23.2
Cobalt	30.0 +	NS	3.1 B	″	″	3.0 B
Copper	270.0	270.0	16.0 N	″	″	31.4 N
Iron	SB (17,300)	NS	5,980	″	″	16,500
Lead	400.0	1,000	19.1	″	″	38.7
Manganese	2,000	10,000	158 N	″	″	434 N
Mercury	0.81	2.8		″	″	0.21 N
Nickel	140.0	310.0	6.7 B	″	″	17.1
Selenium	36.0	1,500		″	″	
Silver	36.0	1,500	0.079 B	″	″	0.15 B

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB04-SO 12/05/01 Unknown Soil & Gravel**	**DF-SUB05-SO 12/05/01 Unknown Black Soil**	**DF-SUB06-SO 12/05/01 Unknown Gravel**	**DF-SUB07-SO 12/05/01 Unknown Concrete**
Inorganic Compounds (Continued)						
Thallium	SB (2.6)	NS		NA	NA	
Vanadium	150.0 +	NS	4.1 B	″	″	11.1 B
Zinc	2,200	10,000	42.9	″	″	87.7

Table 4-7 (Continued).
Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-SUB08-SO 12/05/01 Unknown Soil & Gravel	DF-SUB09-SO 12/05/01 Unknown Black Soil	DF-SUB10-SO 12/05/01 Unknown Gravel	
Volatile Organic Compounds (μg/kg or ppb)						
Acetone	100,000	500,000	NA	NA	NA	
Carbon Disulfide	2,700 +	NS	″	″	″	
Toluene	100,000	500,000	″	″	″	
Semivolatile Organic Compounds (μg/kg or ppb)						
Phenols - Total	100,000	500,000	867.0	865.0	2,030	
Pesticides (μg/kg or ppb)						
4,4-DDE	1,800	62,000	NA	NA	NA	
4,4'-DDT	1,700	47,000	″	″	″	
Aldrin	19.0	680.0	″	″	″	
alpha-Chlordane	910.0	24,000	″	″	″	
beta-BHC	72.0	3,000	″	″	″	
Dieldrin	39.0	1,400	″	″	″	
Endosulfan I	4,800	200,000	″	″	″	
Endosulfan II	4,800	200,000	″	″	″	
Endrin	2,200	89,000	″	″	″	
Endrin Aldehyde	NS	NS	″	″	″	
Endrin Ketone	NS	NS	″	″	″	
gamma-Chlordane	540.0 +	NS	″	″	″	
Heptachlor	420.0	15,000	″	″	″	
Heptachlor Epoxide	NS	NS	″	″	″	

Table 4-7 (Continued).
Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-SUB08-SO 12/05/01 Unknown Soil & Gravel	DF-SUB09-SO 12/05/01 Unknown Black Soil	DF-SUB10-SO 12/05/01 Unknown Gravel	
PCBs (µg/kg or ppb)						
Aroclor-1242	-----	-----	NA	NA	NA	
Aroclor-1254	-----	-----	″	″	″	
Total PCBs	1,000	1,000	″	″	″	
Inorganic Compounds (mg/kg or ppm)						
Aluminum	SB (11,670)	NS	5,550	NA	NA	
Antimony	SB (1.8)	NS	1.1 BN	″	″	
Arsenic	16.0	16.0	8.6	″	″	
Barium	350.0	400.0	46.4 B	″	″	
Beryllium	14.0	590.0	0.53 B	″	″	
Cadmium	2.5	9.3	0.70 B	″	″	
Chromium	36.0	1,500	12.1	″	″	
Cobalt	30.0 +	NS	4.6 B	″	″	
Copper	270.0	270.0	44.9 N	″	″	
Iron	SB (17,300)	NS	**17,600**	″	″	
Lead	400.0	1,000	120.0	″	″	
Manganese	2,000	10,000	391 N	″	″	
Mercury	0.81	2.8	0.37 N	″	″	
Nickel	140.0	310.0	15.9	″	″	
Selenium	36.0	1,500	1.0 BN	″	″	
Silver	36.0	1,500	0.082 B	″	″	

Table 4-7 (Continued). Analytical Results for Subfloor Soil Samples Collected during the Phase II ESA at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SUB08-SO 12/05/01 Unknown Soil & Gravel**	**DF-SUB09-SO 12/05/01 Unknown Black Soil**	**DF-SUB10-SO 12/05/01 Unknown Gravel**	
Inorganic Compounds (Continued)						
Thallium	SB (2.6)	NS		NA	NA	
Vanadium	150.0 +	NS	13.8	″	″	
Zinc	2,200	10,000	102.0	″	″	

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
J Compound reported at an estimated concentration below the sample quantitation limit.
N Spike sample recovery is not within the control limits.
NR Not reported.
NS No standard or guidance value available.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
( ) Results of a duplicate analysis or a re-analysis.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-8.
Analytical Results for Pit Water Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Location	Surface Water Standard *	DF-Sump1-WO 12/04/01 Foundry Bldg.	DF-Sump2-WO 12/04/01 Foundry Bldg.	DF-Sump3-WO 12/04/01 Foundry Bldg.	DF-Sump4-WO 12/04/01 Cleaning Bldg.
Volatile Organic Compounds (µg/L or ppb)					
Acetone	50 G	15.0 (17.0)	18.0		17.0
Semivolatile Organic Compounds (µg/L or ppb)					
Phenols - Total	1.0	**137.0 (232.0)**		**15.1**	
Pesticides (µg/L or ppb)					
beta-BHC	0.04	0.010 JP (0.016 JP)	0.017 JP		
PCBs (µg/L or ppb)					
Total PCBs	0.09				
Inorganic Compounds (µg/L or ppb)					
Aluminum	100.0	**312.0 (251.0)**	**449.0**	**138 B**	**113 B**
Antimony	3.0	**7.2 B (8.3 B)**			
Arsenic	50.0	2.6 B (1.9 B)	1.9 B		
Barium	1,000	114 B (88.6 B)	107 B	57.7 B	113 B
Beryllium	3.0 G				
Cadmium	5.0	**5.7 (1.4 B)**	2.0 B	**9.3**	0.38 B
Chromium	50.0	37.4 (7.7 B)	8.0 B	5.3 B	8.5 B
Cobalt	5.0	**6.8 B (1.8 B)**	2.5 B	1.5 B	0.93 B
Copper	200.0	83.2 (24.4 B)	32.2	20.4 B	16.4 B
Iron	300.0	**63,300 (19,100)**	**9,290**	**7,130**	**6,460**
Lead	50.0	30.0 (20.7)	**129.0**	**60.3**	6.0
Manganese	300.0	**809.0 (586.0)**	**549.0**	**617.0**	73.8

Table 4-8 (Continued).
Analytical Results for Pit Water Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Location	Surface Water Standard *	DF-Sump1-WO 12/04/01 Foundry Bldg.	DF-Sump2-WO 12/04/01 Foundry Bldg.	DF-Sump3-WO 12/04/01 Foundry Bldg.	DF-Sump4-WO 12/04/01 Cleaning Bldg.
Inorganic Compounds (Continued)					
Mercury	0.7				
Nickel	100.0	30.8 B (4.9 B)	11.3 B	18.7 B	11.7 B
Selenium	10.0	3.6 B (4.1 B)	2.2 B	2.1 B	
Silver	50.0	ND (0.32) (0.43 B)	0.41 B	0.49 B	
Thallium	0.5 G	**4.3 B (5.5 B)**	**5.7 B**	**3.9 B**	**3.4 B**
Vanadium	14.0	3.3 B (1.3 B)	2.6 B	1.5 B	0.94 B
Zinc	2,000 G	748.0 (495.0)	550.0	289.0	144.0

***** **NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.**
B **Value greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).**
G **Guidance value.**
J **Compound reported at an estimated concentration below the reporting limit.**
P **>25% difference between the analytical results on two GC columns. The lower value is reported.**
( ) **Results of a duplicate analysis or a re-analysis.**
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the NYSDEC surface water standards or guidance values.

Table 4-9.
Analytical Results for Sludge Samples Collected during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-SED01-DO 12/05/01 Unknown Sludge**	**DF-SED01-DD 12/05/01 Unknown Sludge**
Semivolatile Organic Compounds (µg/kg or ppb)				
Acetophenone	NS	NS		(1,500 J)
Bis(2-ethylhexyl)phthalate	50,000 +	NS	26,000	31,000 (41,000)
Butylbenzylphthalate	50,000 +	NS	2,300 J	2,300 J (3,600 J)
2,4-Dimethylphenol	NS	NS	5,300 J	4,600 J (4,700 J)
Phenanthrene	100,000	500,000	2,400 J	2,600 J (2,600 J)
Phenol	100,000	500,000	1,900 J	2,700 J (2,500 J)
Pyrene	100,000	500,000		(1,800 J)
Pesticides (µg/kg or ppb)				
4,4-DDE	1,800	62,000	7.1 P	7.8 P
4,4'-DDT	1,700	47,000	2.6 JP	4.8 J
alpha-BHC	97.0	3,400	3.5 P	6.0 P
Dieldrin	39.0	1,400	2.6 BJP	5.2 BJP
Endosulfan I	4,800	200,000	2.8 P	12 P
Endosulfan II	4,800	200,000	3.6 J	1.9 JP
Endrin Aldehyde	NS	NS	5.0 BJP	6.6 BP
gamma-Chlordane	540.0 +	NS	2.6 JP	5.0 P
Heptachlor Epoxide	NS	NS	11.0	10 P
Methoxychlor	NS	NS		5.0 JP
PCBs (µg/kg or ppb)				
Aroclor-1242	-----	-----	260 P	440 P
Aroclor-1254	-----	-----		
Total PCBs	1,000	1,000	260.0	440.0

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics).
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-10.
Analytical Results for Subsurface Soil Samples Collected Near the Isopropyl Alcohol UST during the Phase II ESA at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-AST1-SO 12/04/01 Unknown Soil**	**DF-AST1-SD 12/04/01 Unknown Soil**
Volatile Organic Compounds (µg/kg or ppb)				
Acetone	100,000	500,000	**100,000 E (100,000)**	62,000 E (61,000)
Isopropyl Alcohol	NS	NS	5,400 NJ (5,200 J)	970 J

***** **6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.**
J **Compound reported at an estimated concentration below the sample quantitation limit.**
E **Compound reported at an estimated concentration that exceeds the calibration range.**
N **Spike sample recovery is not within the control limits.**
NS **No standard or guidance value available.**
( ) **Results of a duplicate analysis or a re-analysis.**
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 4-11. Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type Sample Location	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-IPA-01 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-02 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-03 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-04 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**
Volatile Organic Compounds (µg/kg or ppb)						
Acetone	100,000	500,000	7,000			
Benzene	2,900	44,000		1.3	1.4	
Carbon Disulfide	2,700 +	NS	11.0			
Ethylbenzene	30,000	390,000				
Isopropyl Alcohol	NS	NS				
Tetrachloroethene	5,500	150,000				
Toluene	100,000	500,000		5.0	3.1	
Xylene (Total)	100,000	500,000				
Semivolatile Organic Compounds (µg/kg or ppb)						
Acenaphthene	100,000	500,000	NA	NA	NA	NA
Benzo(a)pyrene	1,000	1,000	″	″	″	″
Benzo(a)anthracene	1,000	5,600	″	″	″	″
Benzo(b)fluoranthene	1,000	5,600	″	″	″	″
Benzo(g,h,i)perylene	100,000	500,000	″	″	″	″
Benzo(k)fluoranthene	1,000	56,000	″	″	″	″
Chrysene	1,000	56,000	″	″	″	″
Dibenzo(a,h)anthracene	330.0	560.0	″	″	″	″
Fluoranthene	100,000	500,000	″	″	″	″

Table 4-11 (Continued). Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type Sample Location	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-IPA-01 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-02 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-03 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**	**DF-IPA-04 04/17/03 5.83' - 6.33' Soil 2,000 gallon UST**
Semivolatile Organic Compounds (Continued)						
Fluorene	100,000	500,000	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	500.0	5,600	″	″	″	″
2-Methylnaphthalene	36,400 +	NS	″	″	″	″
Naphthalene	100,000	500,000	″	″	″	″
Phenanthrene	100,000	500,000	″	″	″	″
Pyrene	100,000	500,000	″	″	″	″

Table 4-11 (Continued). Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type Sample Location	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-FO-01 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-02 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-03 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-04 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**
Volatile Organic Compounds (μg/kg or ppb)						
Acetone	100,000	500,000				
Benzene	2,900	44,000		2.9	1.8	2.5
Carbon Disulfide	2,700 +	NS			2.4	
Ethylbenzene	30,000	390,000				
Isopropyl Alcohol	NS	NS	NA	NA	NA	NA
Tetrachloroethene	5,500	150,000			1.2	
Toluene	100,000	500,000				
Xylene (Total)	100,000	500,000		2.2		
Semivolatile Organic Compounds (μg/kg or ppb)						
Acenaphthene	100,000	500,000				
Benzo(a)pyrene	1,000	1,000	360.0	150.0	380.0	
Benzo(a)anthracene	1,000	5,600	210.0	110.0	280.0	
Benzo(b)fluoranthene	1,000	5,600	490.0	350.0	530.0	130.0
Benzo(g,h,i)perylene	100,000	500,000	350.0	140.0	250.0	
Benzo(k)fluoranthene	1,000	56,000	190.0	110.0	180.0	
Chrysene	1,000	56,000	270.0	230.0	370.0	100.0
Dibenzo(a,h)anthracene	330.0	560.0				
Fluoranthene	100,000	500,000	250.0	250.0	500.0	150.0

Table 4-11 (Continued). Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type Sample Location	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-FO-01 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-02 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-03 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**	**DF-FO-04 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST**
Semivolatile Organic Compounds (Continued)						
Fluorene	100,000	500,000				
Indeno(1,2,3-cd)pyrene	500.0	5,600	350.0	140.0	250.0	
2-Methylnaphthalene	36,400 +	NS				
Naphthalene	100,000	500,000				
Phenanthrene	100,000	500,000	130.0	290.0	230.0	120.0
Pyrene	100,000	500,000	240.0	320.0	450.0	140.0

Table 4-11 (Continued).
Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type Sample Location	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-FO-05 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST	DF-FO-06 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST	DF-FO-07 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST	DF-FO-08 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST
Volatile Organic Compounds (µg/kg or ppb)						
Acetone	100,000	500,000	150.0			
Benzene	2,900	44,000	1.9	1.4	2.8	
Carbon Disulfide	2,700 +	NS				
Ethylbenzene	30,000	390,000	3.3			
Isopropyl Alcohol	NS	NS	NA	NA	NA	NA
Tetrachloroethene	5,500	150,000				
Toluene	100,000	500,000	3.3		2.4	
Xylene (Total)	100,000	500,000	24.0			
Semivolatile Organic Compounds (µg/kg or ppb)						
Acenaphthene	100,000	500,000	1,500			230.0
Benzo(a)pyrene	1,000	1,000			490.0	710.0
Benzo(a)anthracene	1,000	5,600			300.0	350.0
Benzo(b)fluoranthene	1,000	5,600			950.0	910.0
Benzo(g,h,i)perylene	100,000	500,000			410.0	570.0
Benzo(k)fluoranthene	1,000	56,000			340.0	300.0
Chrysene	1,000	56,000			460.0	420.0
Dibenzo(a,h)anthracene	330.0	560.0			120.0	150.0
Fluoranthene	100,000	500,000			250.0	400.0

Table 4-11 (Continued).
Analytical Results for Confirmatory Soil Samples Collected by the EPA from the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type Sample Location	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-FO-05 04/17/03 9.33' - 9.83' Soil 4,000 gallon UST	DF-FO-06 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST	DF-FO-07 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST	DF-FO-08 04/17/03 8.0' - 8.5' Soil 1,000 gallon UST
Semivolatile Organic Compounds (Continued)						
Fluorene	100,000	500,000	1,500			
Indeno(1,2,3-cd)pyrene	500.0	5,600			420.0	**580.0**
2-Methylnaphthalene	36,400 +	NS	10,000			
Naphthalene	100,000	500,000	1,100			
Phenanthrene	100,000	500,000	7,600		130.0	220.0
Pyrene	100,000	500,000			260.0	430.0

*** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.**
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
NA Not analyzed.
NS No standard or guidance value available.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 5-1.
Construction Summary for the Monitoring Wells Installed During the 2008 Site Investigation of the Dussault Foundry Site.

Well Designation	Ground Surface Elevation (ft. amsl)	Top of Riser Elevation (ft. amsl)	Filter Pack * Interval (ft. bgs)	Filter Pack Interval (ft. amsl)	Well Screen Interval (ft. bgs)	Well Screen Interval (ft. amsl)	Water Bearing Unit Screened
MW-1	596.20	597.06	14.5 to 26.5	581.70 to 569.70	16.5 to 26.5	579.70 to 569.70	Bedrock
MW-2	587.60	588.93	14.5 to 31.5	573.10 to 556.10	16.5 to 31.5	571.10 to 556.10	Bedrock
MW-3	596.80	598.08	19.0 to 31.0	577.80 to 565.80	21.0 to 31.0	575.80 to 565.80	Bedrock
MW-4	586.70	587.54	26.1 to 38.1	560.60 to 548.60	28.1 to 38.1	558.60 to 548.60	Bedrock
MW-5	580.00	581.18	24.3 to 41.3	555.70 to 538.70	26.3 to 41.3	553.70 to 538.70	Bedrock

ft. amsl Feet above mean sea level.
ft. bgs Feet below ground surface.

Table 5-2. Summary Key for Samples Collected from the Dussault Foundry Site During the 2008 Site Investigation, Site No. 932012.						
Sample ID	**Date Sampled**	**Time Sampled**	**Interval Sampled***	**Analytical Parameters**	**Sample Description**	**Table Reference**
Surface Soil Samples						
SS-1	08/14/08	0920	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with mold pieces and glass	Table 7-1
SS-2	08/14/08	0930	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with slag chunks, small rock fragments and glass	Table 7-1
SS-3	08/14/08	0945	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with mold chunks	Table 7-1
SS-4	08/14/08	1110	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	black topsoil with a trace of foundry sand and rock fragments	Table 7-1
SS-5	08/14/08	1005	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand	Table 7-1
SS-6	08/14/08	1120	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with rock fragments and slag	Table 7-1
SS-7	08/14/08	0955	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with mold chunks and slag	Table 7-1
SS-8	08/14/08	1150	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand mixed with a peat-like material and glass	Table 7-1
SS-9	08/15/08	0915	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	black topsoil mixed with foundry sand and crushed stone	Table 7-1
SS-10	08/15/08	0935	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	black foundry sand mixed with a peat-like material, coke, slag and glass	Table 7-1
SS-11	08/15/08	1040	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with rock fragments (from parking lot)	Table 7-1
SS-12	08/15/08	1005	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with rock fragments	Table 7-1
SS-13	08/15/08	0945	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with metal fragments and mold chunks	Table 7-1
SS-14	08/15/08	1055	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand mixed with decayed vegetation, rock fragments and mold pieces	Table 7-1
SS-15	08/15/08	1105	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with rock fragments	Table 7-1
SS-16	08/15/08	1130	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	black foundry sand with mold pieces and slag	Table 7-1
SS-17	08/15/08	1150	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with slag, coal and wood	Table 7-1

Table 5-2 (Continued). Summary Key for Samples Collected from the Dussault Foundry Site During the 2008 Site Investigation, Site No. 932012.						
Sample ID	**Date Sampled**	**Time Sampled**	**Interval Sampled***	**Analytical Parameters**	**Sample Description**	**Table Reference**
Surface Soil Samples (Continued)						
SS-18	08/15/08	1235	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with topsoil and slag	Table 7-1
SS-19	08/15/08	1245	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown soil with rock fragments	Table 7-1
SS-20	08/15/08	1255	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand	Table 7-1
SS-21	08/15/08	1140	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	duplicate of sample SS-16	Table 7-1
SS-22	08/15/08	1325	0.0' - 0.17'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry	Table 7-1
Subsurface Soil and Fill Samples						
SUB-04	08/28/08	1220	4.0' - 6.0'	SVOCs, PCBs, Pesticides, Metals	gray-white ash	Table 7-2
SUB-05	08/28/08	1105	7.5' - 13.0'	SVOCs, PCBs, Pesticides, Metals	brown foundry sand	Table 7-2
SUB-08	08/28/08; 11/04/08	1410; 1441	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals	paint-like waste in a drum	Table 7-2
SUB-09	08/28/08	1300	7.0' - 10.0'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with rebar	Table 7-2
SUB-10	09/16/08	0830	1.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand beneath corrugated metal pipe	Table 7-2
SUB-16	08/29/08	1315	1.3'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-22	09/02/08	1130	0.5' - 1.0'	SVOCs, PCBs, Pesticides, Metals	black foundry sand with railroad ballast	Table 7-2
SUB-25	09/16/08	0930	0.0' - 2.0'	SVOCs, PCBs, Pesticides, Metals	red brown sand with gravel, foundry sand and silt	Table 7-2
SUB-32	09/02/08	1405	0.5' - 1.0'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand	Table 7-2
DUP-1-9-2-08	09/02/08	1405	0.5' - 1.0'	SVOCs, PCBs, Pesticides, Metals	duplicate of sample SUB-32	Table 7-2
SUB-36	09/02/08	1520	1.5' - 2.0'	SVOCs, PCBs, Pesticides, Metals	dark gray soil with coal and a creosote odor	Table 7-2
SUB-38	09/18/08	1135	4.4' - 4.6'	SVOCs, PCBs, Pesticides, Metals	black sand and clay	Table 7-2
SUB-39	09/16/08	1240	0.5' - 2.0'	SVOCs, PCBs, Pesticides, Metals	brown sand with gravel	Table 7-2
SUB-46	09/04/08	0935	15.0' - 15.5'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-47	09/03/08	1240	1.5'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with crushed stone	Table 7-2
SUB-49	09/03/08	1040	2.0'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with crushed stone	Table 7-2
SUB-51	09/16/08	1300	0.0' - 2.5'	SVOCs, PCBs, Pesticides, Metals	brown to black foundry sand with gravel	Table 7-2
SUB-58	09/04/08	1020	10.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2

Table 5-2 (Continued). Summary Key for Samples Collected from the Dussault Foundry Site During the 2008 Site Investigation, Site No. 932012.						
Sample ID	**Date Sampled**	**Time Sampled**	**Interval Sampled***	**Analytical Parameters**	**Sample Description**	**Table Reference**
Subsurface Soil and Fill Samples (Continued)						
SUB-61	09/03/08	1500	2.5'	VOCs, SVOCs, PCBs, Pesticides, Metals, Hydrocarbon Scan	sandy clay with a slight diesel odor	Table 7-2
SUB-61	09/03/08	1535	4.0'	VOCs, SVOCs, PCBs, Pesticides, Metals, Hydrocarbon Scan	black oil stained sand seam in silt	Table 7-2
SUB-67	09/04/08	1130	2.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-68	09/10/08	1110	3.0' - 6.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand with mold chunks	Table 7-2
SUB-69	09/04/08	1400	0.0' - 1.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-72	09/16/08	1340	1.5' - 2.5'	SVOCs, PCBs, Pesticides, Metals	brown to black sand with silt	Table 7-2
SUB-73	09/05/08	1330	1.1' - 2.0'	SVOCs, PCBs, Pesticides, Metals	white and black ash	Table 7-2
SUB-80	09/08/08	1355	1.5'	SVOCs, PCBs, Pesticides, Metals	foundry sand with gravel and coal	Table 7-2
SUB-82	09/08/08	0915	1.0' - 1.5'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-85	09/08/08	1245	0.0' - 0.5'	SVOCs, PCBs, Pesticides, Metals	black foundry sand	Table 7-2
SUB-88	09/09/08	1005	0.17' - 1.0'	SVOCs, PCBs, Pesticides, Metals	slag fill	Table 7-2
SUB-89	09/09/08	1055	0.5' - 5.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand with coal	Table 7-2
DUP-2	09/09/08	1055	0.5' - 5.0'	SVOCs, PCBs, Pesticides, Metals	duplicate of sample SUB-89	Table 7-2
SUB-90	09/09/08	1420	4.0' - 6.0'	VOCs, SVOCs, PCBs, Pesticides, Metals	foundry sand contaminated with tar-like residuals	Table 7-2
SUB-90	09/09/08	1235	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals	black tar-like material in a drum	Table 7-2
SUB-92	09/08/08	1455	2.0'	SVOCs, PCBs, Pesticides, Metals	black foundry sand with gravel	Table 7-2
SUB-96	09/12/08	1040	2.5'	SVOCs, PCBs, Pesticides, Metals	dark brown foundry sand with metal	Table 7-2
SUB-99	09/15/08	0925	1.0' - 1.8'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-100	09/15/08	1115	4.0'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-101	09/12/08	1100	1.5'	SVOCs, PCBs, Pesticides, Metals	dark brown to black foundry sand with crushed stone	Table 7-2
SUB-103	09/04/08	1255	2.0'	SVOCs, PCBs, Pesticides, Metals	black stained compacted sand	Table 7-2
SUB-104	09/10/08	1335	4.5' - 5.0'	SVOCs, PCBs, Pesticides, Metals	black foundry sand at floor of raceway outfall	Table 7-2
SUB-105	09/11/08	1000	0.0' - 0.8'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-106	09/11/08	1310	3.3' - 3.7'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2

Table 5-2 (Continued).
Summary Key for Samples Collected from the Dussault Foundry Site During the 2008 Site Investigation, Site No. 932012.

Sample ID	Date Sampled	Time Sampled	Interval Sampled*	Analytical Parameters	Sample Description	Table Reference
Subsurface Soil and Fill Samples (Continued)						
SUB-110	09/18/08	0950	0.0' - 0.8'	SVOCs, PCBs, Pesticides, Metals	foundry sand	Table 7-2
SUB-116	09/18/08	1340	4.6'	VOCs, SVOCs, Hydrocarbon Scan	light brown silty clay and mudstone	Table 7-2
SUB-A4	09/16/08	1035	0.5' - 3.0'	VOCs, SVOCs, PCBs, Pesticides, Metals, Corrosivity, Sulfide, Sulfate	red brown sand and clay beneath building slab at former tolusulfuric acid tank location	Table 7-2
SUB-A5	09/16/08	1320	0.0' - 2.0'	SVOCs, PCBs, Pesticides, Metals	black foundry sand	Table 7-2
DUP 9-16-08	09/16/08	1320	0.0' - 2.0'	SVOCs, PCBs, Pesticides, Metals	duplicate of sample SUB-A5	Table 7-2
Sludge Samples						
SLUDGE-1	09/12/08	0930	0.0' - 0.33'	VOCs, SVOCs, PCBs, Pesticides, Metals	sludge from bottom of sump in electrical control room	Table 7-3
Water Samples						
SW-1	11/03/08	1330	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	water from sump in Cleaning Building	Table 7-4
SW-2	11/03/08	1345	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	water from sump in electrical control room	Table 7-4
SW-3	11/03/08	1400	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	duplicate of sample SW-2	Table 7-4
Groundwater Samples						
MW-1	11/03/08	1450	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	groundwater from monitoring well MW-1	Table 7-5
MW-2	11/04/08	1350	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	groundwater from monitoring well MW-2	Table 7-5
MW-3	11/04/08	1320	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	groundwater from monitoring well MW-3	Table 7-5
MW-4	11/04/08	1130	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	groundwater from monitoring well MW-4	Table 7-5
MW-5	11/04/08	1215	Not Applicable	VOCs, SVOCs, PCBs, Pesticides, Metals, Chloride, Sulfate, Alkalinity	groundwater from monitoring well MW-5	Table 7-5

Table 6-1.
Stratigraphic Sequence of the Western New York Area.
Compiled from Buehler and Tesmer (1963) and Brett et al. (1995).

Epoch	Group	Formation	Member
Middle Devonian	Hamilton	Moscow Shale	Windom Shale Kashong Shale
		Ludlowville Formation	Tichenor Limestone Wanakah Shale Ledyard Shale Centerfield Limestone
		Skaneateles Formation	Levanna Shale Stafford Limestone
		Marcellus Shale	Oatka Creek Shale
		Onondaga Limestone	Seneca Limestone Morehouse Limestone Nedrow Limestone Clarence Limestone Edgecliff Limestone
Late Silurian	Salina	Akron Dolomite	
		Bertie Dolomite	Williamsville Dolomite Scajaquada Dolomite Falkirk Dolomite Oatka Dolomite
		Camillus Shale Syracuse Formation Vernon Shale	
Middle Silurian	Lockport	Guelph Dolomite Eramosa Dolomite	
		Goat Island Dolomite	Vinemount Dolomite Ancaster Dolomite Niagara Falls Dolomite
		Gasport Dolomite	Pekin Dolomite Gothic Hill Limestone
	Clinton	Decew Dolomite	
		Rochester Shale	Burleigh Hill Shale Lewiston Shale
		Irondequoit Limestone Rockway Dolomite Williamson Shale Merritton Limestone	
		Reynales Limestone	Hickory Corners Limestone
		Neahga Shale	
Early Silurian	Medina	Kodak Sandstone Cambria Shale Thorold Sandstone Grimsby Formation Devils Hole Shale Power Glen Shale Whirlpool Sandstone	
Late Ordovician	Richmond	Queenston Shale Oswego Sandstone	

Table 6-2.
Groundwater Elevations in Monitoring Wells Installed during the 2008 Site Investigation at the Dussault Foundry Site.
(All water levels and elevations measured in feet)

Well Designation	Top of Riser Elevation	10/01/08		10/02/08		10/06/08		10/30/08		11/03/08	
		Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation	Depth to Water	Elevation
MW-1	597.06	13.35	583.71	13.06	584.00	13.10	583.96	12.58	584.48	12.54	584.52
MW-2	588.93	19.26	569.67	20.03	568.90	21.15	567.78	22.86	566.07	22.78	566.15
MW-3	598.08	NM	NA	24.17	573.91	25.10	572.98	26.36	571.72	26.12	571.96
MW-4 *	587.54	36.00	551.54	32.52	555.02	33.29	554.25	33.88	553.66	35.92	551.62
MW-5	581.18	32.69	548.49	32.48	548.70	32.82	548.36	33.74	547.44	33.76	547.42

NA **Not applicable.**
NM **Not measured.**
***** **Due to a suspected construction problem, this well was reamed out an re-installed on October 2, 2008.**

Table 7-1.
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-1 08/14/08 0.0' - 0.17' Foundry Sand	SS-2 08/14/08 0.0' - 0.17' Foundry Sand	SS-3 08/14/08 0.0' - 0.17' Foundry Sand	SS-4 08/14/08 0.0' - 0.17' Black Topsoil	SS-5 08/14/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000	83 J				
Acenaphthylene	100,000	500,000	220 J				
Anthracene	100,000	500,000	320 J				
Benzo(a)pyrene	1,000	1,000	**1,500**	58 J	170 J	85 J	230 J
Benzo(a)anthracene	1,000	5,600	**1,500**	64 J	130 J	110 J	190 J
Benzo(b)fluoranthene	1,000	5,600	**2,200**	120 J	250 J	120 J	350 J
Benzo(g,h,i)perylene	100,000	500,000	910 J	40 J	120 J	61 J	160 J
Benzo(k)fluoranthene	1,000	56,000	710 J		150 J	140 J	160 J
Biphenyl	NS	NS					
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Carbazole	NS	NS	150 J				
Chrysene	1,000	56,000	**1,600 B**	150 BJ	290 BJ	200 BJ	340 BJ
Dibenzo(a,h)anthracene	330.0	560.0	240 J				49 J
Dibenzofuran	14,000	350,000	82 J				
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000	2,900 B	120 BJ	310 BJ	200 BJ	450 BJ
Fluorene	100,000	500,000	87 J				
Indeno(1,2,3-cd)pyrene	500.0	5,600	**840 J**	38 J	120 J	51 J	150 J
2-Methylnaphthalene	36,400 +	NS	160 J		85 J	76 J	

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-1 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-2 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-3 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-4 08/14/08 0.0' - 0.17' Black Topsoil**	**SS-5 08/14/08 0.0' - 0.17' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	170 J		65 J	110 J	41 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	1,400 B	92 BJ	200 BJ	160 BJ	210 BJ
Pyrene	100,000	500,000	2,700	99 J	270 J	180 J	400 J
Pesticides (μg/kg or ppb)							
alpha-BHC	97.0	3,400					
beta-BHC	72.0	3,000					1.0 J
gamma-BHC (Lindane)	280.0	9,200					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000			0.30 J		
4,4'-DDT	1,700	47,000					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin Aldehyde	NS	NS					
Endrin	2,200	89,000					
Methoxychlor	NS	NS					
PCBs (μg/kg or ppb)							
Aroclor-1254	-----	-----					
Total PCBs	1,000	1,000					

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-1 08/14/08 0.0' - 0.17' Foundry Sand	SS-2 08/14/08 0.0' - 0.17' Foundry Sand	SS-3 08/14/08 0.0' - 0.17' Foundry Sand	SS-4 08/14/08 0.0' - 0.17' Black Topsoil	SS-5 08/14/08 0.0' - 0.17' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	1,940	936.0	2,190	2,110	1,110
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	3.0		3.4		
Barium	350.0	400.0	27.4	17.2	18.5	96.3	16.3
Beryllium	14.0	590.0					
Cadmium	2.5	9.3	0.35		0.44	0.52	0.25
Chromium	36.0	1,500	6.8	16.9	10.5	10.2	6.3
Cobalt	30.0 +	NS	2.1	3.1	6.1	2.2	2.3
Copper	270.0	270.0	23.0	22.6	41.5	87.8	12.4
Iron	SB (17,300)	NS	6,490 N	**20,200 N**	14,400 N	11,100 N	3,340 N
Lead	400.0	1,000	113 N	25.3 N	71.2 N	27.7 N	40.3 N
Manganese	2,000	10,000	135 N	296 N	163 N	374 N	81.5 N
Mercury	0.81	2.8	0.102		0.063	0.043	0.051
Nickel	140.0	310.0	11.8	31.4	23.5	14.3	5.5
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	5.3	2.6	7.5	3.3	2.5
Zinc	2,200	10,000	168.0	22.7	71.6	107.0	45.3

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-6 08/14/08 0.0' - 0.17' Foundry Sand	SS-7 08/14/08 0.0' - 0.17' Foundry Sand	SS-8 08/14/08 0.0' - 0.17' Foundry Sand	SS-9 08/15/08 0.0' - 0.17' Black Topsoil	SS-10 08/15/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000	42 J		310 J		
Acenaphthylene	100,000	500,000	120 J		8,300	76 J	
Anthracene	100,000	500,000	160 J		4,300	43 J	57 J
Benzo(a)pyrene	1,000	1,000	860 J	55 J	**18,000**	270 J	340 J
Benzo(a)anthracene	1,000	5,600	740 J	38 J	**20,000**	210 J	290 J
Benzo(b)fluoranthene	1,000	5,600	**1,200**	75 J	**25,000**	390 J	480 J
Benzo(g,h,i)perylene	100,000	500,000	540 J	50 J	6,300	140 J	210 J
Benzo(k)fluoranthene	1,000	56,000	480 J	93 J	**8,000**	170 J	220 J
Biphenyl	NS	NS			81 J		
Bis(2-ethylhexyl)phthalate	50,000 +	NS			470 J		
Carbazole	NS	NS	70 J		800 J		52 J
Chrysene	1,000	56,000	820 BJ	150 BJ	**20,000 B**	350 BJ	460 BJ
Dibenzo(a,h)anthracene	330.0	560.0	150 J		**2,700**	46 J	65 J
Dibenzofuran	14,000	350,000	43 J		430 J		110 J
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000	1,200 B	78 BJ	28,000 B	390 BJ	560 BJ
Fluorene	100,000	500,000	41 J		930 J		
Indeno(1,2,3-cd)pyrene	500.0	5,600	**500 J**	44 J	**7,500**	140 J	180 J
2-Methylnaphthalene	36,400 +	NS	93 J	41 J	400 J	38 J	300 J

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-6 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-7 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-8 08/14/08 0.0' - 0.17' Foundry Sand**	**SS-9 08/15/08 0.0' - 0.17' Black Topsoil**	**SS-10 08/15/08 0.0' - 0.17' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000			100 J		
Naphthalene	100,000	500,000	70 J	37 J	390 J		260 J
N-nitrosodiphenylamine	NS	NS			140 J		
Phenanthrene	100,000	500,000	620 BJ	100 BJ	10,000 B	170 BJ	490 BJ
Pyrene	100,000	500,000	1,200	56 J	31,000	370 J	560 J
Pesticides (μg/kg or ppb)							
alpha-BHC	97.0	3,400				0.89 J	0.81 J
beta-BHC	72.0	3,000					
gamma-BHC (Lindane)	280.0	9,200				0.71 J	
4,4'-DDD	2,600	92,000	0.38 J				
4,4'-DDE	1,800	62,000					
4,4'-DDT	1,700	47,000			100.0		
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000		0.89 J			0.62 J
Endrin Aldehyde	NS	NS					
Endrin	2,200	89,000	0.78 J				
Methoxychlor	NS	NS			58 BJ	1.4 BJ	
PCBs (μg/kg or ppb)							
Aroclor-1254	-----	-----			22.0		
Total PCBs	1,000	1,000			22.0		

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-6 08/14/08 0.0' - 0.17' Foundry Sand	SS-7 08/14/08 0.0' - 0.17' Foundry Sand	SS-8 08/14/08 0.0' - 0.17' Foundry Sand	SS-9 08/15/08 0.0' - 0.17' Black Topsoil	SS-10 08/15/08 0.0' - 0.17' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	2,130	3,210	3,680	1,560	3,890
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	4.3	2.6	14.2	4.6	4.4
Barium	350.0	400.0	36.0	15.1	87.2	71.3	**598.0**
Beryllium	14.0	590.0	0.27		0.33		
Cadmium	2.5	9.3	0.45	0.23	1.4	0.88	0.56
Chromium	36.0	1,500	10.0	8.8	25.2	17.7	26.2
Cobalt	30.0 +	NS	3.8	3.3	6.9	4.0	5.7
Copper	270.0	270.0	36.5	102.0	112.0	77.0	144.0
Iron	SB (17,300)	NS	12,100 N	15,900 N	**27,700 N**	**20,200 N**	**28,100 N**
Lead	400.0	1,000	75.6 N	37.7 N	351 N	118 N	137 N
Manganese	2,000	10,000	447 N	162 N	449 N	601 N	168 N
Mercury	0.81	2.8	0.143		0.336	0.149	0.108
Nickel	140.0	310.0	11.2	14.8	65.7	27.6	15.6
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	7.1	8.1	12.5	6.1	8.1
Zinc	2,200	10,000	94.9	171.0	294.0	156.0	146.0

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-11 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-12 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-13 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-14 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-15 08/15/08 0.0' - 0.17' Foundry Sand**
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000	79 J		100 J	160 J	
Acenaphthylene	100,000	500,000	700 J		56 J	2,700	350 J
Anthracene	100,000	500,000	440 J		140 J	1,800 J	180 J
Benzo(a)pyrene	1,000	1,000	**2,300**	140 J	**1,100**	**8,600**	**1,100**
Benzo(a)anthracene	1,000	5,600	**2,400**	110 J	690 J	**10,000**	**1,000**
Benzo(b)fluoranthene	1,000	5,600	**3,800**	190 J	**1,200**	**12,000**	**1,800**
Benzo(g,h,i)perylene	100,000	500,000	720 J	82 J	560 J	2,500	360 J
Benzo(k)fluoranthene	1,000	56,000	810 J	140 J	530 J	**4,900**	490 J
Biphenyl	NS	NS					
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Carbazole	NS	NS	320 J		68 J	500 J	98 J
Chrysene	1,000	56,000	**2,700 B**	230 BJ	810 BJ	**9,500 B**	**1,300 B**
Dibenzo(a,h)anthracene	330.0	560.0	**330 J**		170 J	**1,100 J**	160 J
Dibenzofuran	14,000	350,000	120 J		47 J	200 J	77 J
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000	4,600 B	200 BJ	1,000 B	15,000 B	1,700 B
Fluorene	100,000	500,000	110 J		53 J	300 J	
Indeno(1,2,3-cd)pyrene	500.0	5,600	**880 J**	82 J	**570 J**	**3,000**	430 J
2-Methylnaphthalene	36,400 +	NS	200 J	65 J	85 J	270 J	190 J

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-11 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-12 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-13 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-14 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-15 08/15/08 0.0' - 0.17' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	220 J	61 J	61 J	310 J	140 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	2,000 B	140 BJ	540 BJ	2,600 B	560 BJ
Pyrene	100,000	500,000	3,900	180 J	970	15,000	1,500
Pesticides (μg/kg or ppb)							
alpha-BHC	97.0	3,400					
beta-BHC	72.0	3,000					
gamma-BHC (Lindane)	280.0	9,200					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000					
4,4'-DDT	1,700	47,000	13.0		6.0 J		
Endosulfan II	4,800	200,000				5.6 J	
Endosulfan Sulfate	4,800	200,000					
Endrin Aldehyde	NS	NS					
Endrin	2,200	89,000				10 J	
Methoxychlor	NS	NS					3.7 BJ
PCBs (μg/kg or ppb)							
Aroclor-1254	-----	-----			11 J		
Total PCBs	1,000	1,000			11 J		

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-11 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-12 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-13 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-14 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-15 08/15/08 0.0' - 0.17' Foundry Sand**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	3,410	2,200	2,790	3,290	2,700
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	13.4	3.6	6.3	**19.3**	10.5
Barium	350.0	400.0	86.0	136.0	103.0	70.2	88.7
Beryllium	14.0	590.0	0.41			0.44	0.29
Cadmium	2.5	9.3	0.98	0.55	1.7	1.0	0.92
Chromium	36.0	1,500	**147.0**	**76.6**	27.1	17.8	24.0
Cobalt	30.0 +	NS	10.4	3.9	6.6	7.1	6.6
Copper	270.0	270.0	152.0	144.0	148.0	134.0	122.0
Iron	SB (17,300)	NS	**48,700 N**	**28,900 N**	**22,700 N**	**40,000 N**	**34,200 N**
Lead	400.0	1,000	298 N	69.1 N	383 N	304 N	238 N
Manganese	2,000	10,000	567 N	408 N	437 N	457 N	1,030 N
Mercury	0.81	2.8	0.492	0.396	0.430	0.301	0.277
Nickel	140.0	310.0	81.1	64.4	37.3	26.2	28.6
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	15.2	18.4	9.4	12.8	10.0
Zinc	2,200	10,000	207.0	105.0	444.0	247.0	184.0

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-16 08/15/08 0.0' - 0.17' Foundry Sand	SS-17 08/15/08 0.0' - 0.17' Foundry Sand	SS-18 08/15/08 0.0' - 0.17' Foundry Sand	SS-19 08/15/08 0.0' - 0.17' Soil Fill	SS-20 08/15/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000		240 J			
Acenaphthylene	100,000	500,000		4,800			
Anthracene	100,000	500,000		2,800		99 J	
Benzo(a)pyrene	1,000	1,000		**14,000**	120 J	640 J	37 J
Benzo(a)anthracene	1,000	5,600		**17,000**	100 J	460 J	33 J
Benzo(b)fluoranthene	1,000	5,600	8 J (ND(980))	**22,000**	160 J	920 J	51 J
Benzo(g,h,i)perylene	100,000	500,000		3,600	44 J	200 J	32 J
Benzo(k)fluoranthene	1,000	56,000	17 J (ND(980))	**7,100**	140 J	380 J	33 J
Biphenyl	NS	NS					18 J
Bis(2-ethylhexyl)phthalate	50,000 +	NS					80 J
Carbazole	NS	NS		760 J			10 J
Chrysene	1,000	56,000	31 BJ (150 BJ)	**17,000 B**	220 BJ	770 BJ	62 BJ
Dibenzo(a,h)anthracene	330.0	560.0		**1,800 J**		84 J	8 J
Dibenzofuran	14,000	350,000		340 J			35 J
Di-n-octylphthalate	50,000 +	NS	8 J (ND(980))				
Fluoranthene	100,000	500,000	18 BJ (ND(980))	25,000 B	200 BJ	1,100 BJ	81 BJ
Fluorene	100,000	500,000		410 J			
Indeno(1,2,3-cd)pyrene	500.0	5,600		**4,700**	46 J	220 J	26 J
2-Methylnaphthalene	36,400 +	NS	20 J (ND(980))	600 J	44 J	91 J	100 J

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-16 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-17 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-18 08/15/08 0.0' - 0.17' Foundry Sand**	**SS-19 08/15/08 0.0' - 0.17' Soil Fill**	**SS-20 08/15/08 0.0' - 0.17' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	22 J (54 J)	630 J			120 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	42 BJ (66 BJ)	4,600 B	140 BJ	630 BJ	120 BJ
Pyrene	100,000	500,000	13 J (ND(980))	24,000	150 J	880 J	65 J
Pesticides (µg/kg or ppb)							
alpha-BHC	97.0	3,400	(0.46 J)				0.89 J
beta-BHC	72.0	3,000					
gamma-BHC (Lindane)	280.0	9,200					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000	0.25 J (ND(1.9))				
4,4'-DDT	1,700	47,000					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin Aldehyde	NS	NS	1.8 J (ND(1.9))				
Endrin	2,200	89,000					
Methoxychlor	NS	NS	(12 B)				
PCBs (µg/kg or ppb)							
Aroclor-1254	-----	-----					
Total PCBs	1,000	1,000					

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-16 08/15/08 0.0' - 0.17' Foundry Sand	SS-17 08/15/08 0.0' - 0.17' Foundry Sand	SS-18 08/15/08 0.0' - 0.17' Foundry Sand	SS-19 08/15/08 0.0' - 0.17' Soil Fill	SS-20 08/15/08 0.0' - 0.17' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	1,530 (1,500)	3,890	2,450	4,880	1,750
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	3.3 (ND(2.2))	**30.0**	2.9	5.7	2.6
Barium	350.0	400.0	155.0 (161.0)	90.7	37.3	64.7	**378.0**
Beryllium	14.0	590.0		0.57		0.35	
Cadmium	2.5	9.3	0.39 (0.47)	1.5	0.34	0.68	
Chromium	36.0	1,500	**45.4 (19.9)**	21.1	13.7	13.6	31.5
Cobalt	30.0 +	NS	4.3 (1.3)	8.2	4.5	5.2	2.0
Copper	270.0	270.0	65.2 (37.5)	131.0	27.7	49.7	48.7
Iron	SB (17,300)	NS	**30,400 N (16,600 N)**	**45,700 N**	13,200 N	14,300 N	**24,500**
Lead	400.0	1,000	14.8 N (17.1 N)	311 N	44.1 N	162 N	13.9
Manganese	2,000	10,000	275 N (221 N)	454 N	273 N	437 N	286.0
Mercury	0.81	2.8		0.316	0.066	0.241	
Nickel	140.0	310.0	42.7 (17.7)	37.2	16.0	23.0	28.1
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	3.5 (3.9)	15.0	6.0	11.4	4.5
Zinc	2,200	10,000	63.4 (49.0)	426.0	54.3	130.0	32.6

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-22 08/15/08 0.0' - 0.17' Foundry Sand				
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000					
Acenaphthylene	100,000	500,000					
Anthracene	100,000	500,000					
Benzo(a)pyrene	1,000	1,000	120 J				
Benzo(a)anthracene	1,000	5,600	97 J				
Benzo(b)fluoranthene	1,000	5,600	170 J				
Benzo(g,h,i)perylene	100,000	500,000	98 J				
Benzo(k)fluoranthene	1,000	56,000	120 J				
Biphenyl	NS	NS					
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Carbazole	NS	NS					
Chrysene	1,000	56,000	220 BJ				
Dibenzo(a,h)anthracene	330.0	560.0					
Dibenzofuran	14,000	350,000					
Di-n-octylphthalate	50,000 +	NS					
Fluoranthene	100,000	500,000	230 BJ				
Fluorene	100,000	500,000					
Indeno(1,2,3-cd)pyrene	500.0	5,600	79 J				
2-Methylnaphthalene	36,400 +	NS					

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-22 08/15/08 0.0' - 0.17' Foundry Sand				
Semivolatile Organic Compounds (Continued)							
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000					
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	140 BJ				
Pyrene	100,000	500,000	190 J				
Pesticides (µg/kg or ppb)							
alpha-BHC	97.0	3,400					
beta-BHC	72.0	3,000					
gamma-BHC (Lindane)	280.0	9,200					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000	0.36 J				
4,4'-DDT	1,700	47,000					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin Aldehyde	NS	NS					
Endrin	2,200	89,000					
Methoxychlor	NS	NS	1.5 BJ				
PCBs (µg/kg or ppb)							
Aroclor-1254	-----	-----					
Total PCBs	1,000	1,000					

Table 7-1 (Continued). Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SS-22 08/15/08 0.0' - 0.17' Foundry Sand**				
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	843.0				
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0					
Barium	350.0	400.0	92.0				
Beryllium	14.0	590.0					
Cadmium	2.5	9.3	0.44				
Chromium	36.0	1,500	8.6				
Cobalt	30.0 +	NS	0.95				
Copper	270.0	270.0	114.0				
Iron	SB (17,300)	NS	4,470				
Lead	400.0	1,000	40.6				
Manganese	2,000	10,000	61.7				
Mercury	0.81	2.8	0.028				
Nickel	140.0	310.0	5.8				
Selenium	36.0	1,500					
Silver	36.0	1,500	0.97				
Vanadium	150.0 +	NS	2.4				
Zinc	2,200	10,000	226.0				

Table 7-1 (Continued).
Analytical Results for Surface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

*	6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+	NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B	Analyte detected in the associated blank, as well as in the sample (organics).
J	Compound reported at an estimated concentration below the sample quantitation limit.
N	Spike recovery is not within control limits and/or duplicate analysis is not within control limits.
ND	Compound not detected at the reporting limit given in parentheses.
NS	No standard or guidance value available.
SB	Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( )	Results of a duplicate analysis or a re-analysis.
	Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
	Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
	Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 7-2. Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-04 08/28/08 4.0' - 6.0' Ash**	**SUB-05 08/28/08 7.5' - 13.0' Foundry Sand**	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-09 08/28/08 7.0' - 10.0' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA		NA	NA
Benzene	2,900	44,000	″	″		″	″
Cyclohexane	NS	NS	″	″		″	″
1,2-Dibromo-3-chloropropane	NS	NS	″	″		″	″
Ethylbenzene	30,000	390,000	″	″	5,700 J	″	″
Isopropylbenzene	2,300 +	NS	″	″	**56,000**	″	″
Methylcyclohexane	NS	NS	″	″		″	″
Methylene Chloride	51,000	500,000	″	″		″	″
Toluene	100,000	500,000	″	″		″	″
Xylene (Total)	100,000	500,000	″	″	**140,000**	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000		7 J	19,000 J		
Acenaphthylene	100,000	500,000	13 J				96 J
Acetophenone	NS	NS			48,000 J		
Anthracene	100,000	500,000	13 J	14 J		8 J	63 J
Benzo(a)pyrene	1,000	1,000	85 J	36 J		50 J	640 J
Benzo(a)anthracene	1,000	5,600	79 J	41 J	**5,500 J**	41 J	510 J
Benzo(b)fluoranthene	1,000	5,600	120 J	51 J		92 J	**1,100**
Benzo(g,h,i)perylene	100,000	500,000	77 J	32 J		47 J	460 J
Benzo(k)fluoranthene	1,000	56,000	41 J	21 J		24 J	280 J
Biphenyl	NS	NS		54 J	26,000 J	39 J	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-04 08/28/08 4.0' - 6.0' Ash**	**SUB-05 08/28/08 7.5' - 13.0' Foundry Sand**	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-09 08/28/08 7.0' - 10.0' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS		91 J		160 J	
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS	12 J	8 J			
Chrysene	1,000	56,000	130 BJ	56 BJ	**5,700 J**	68 BJ	480 J
Dibenzo(a,h)anthracene	330.0	560.0	22 J	10 J			140 J
Dibenzofuran	14,000	350,000	15 J	25 J		17 J	37 J
Diethylphthalate	7,100 +	NS			6,100 J		
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS		9 J			
2,4-Dimethylphenol	NS	NS			44,000 J		
4,6-Dinitro-2-methylphenol	NS	NS			77,000 J		
Fluoranthene	100,000	500,000	180.0	64 J	19,000 J	59 J	760 J
Fluorene	100,000	500,000		14 J	32,000 J		
Indeno(1,2,3-cd)pyrene	500.0	5,600	66 J	27 J		34 J	430 J
2-Methylnaphthalene	36,400 +	NS	32 J	120 J	**73,000 J**	68 J	150 J
2-Methylphenol	100,000	500,000				9 J	
4-Methylphenol	34,000	500,000		11 J			
Naphthalene	100,000	500,000	20 J	140 J	**640,000**	98 J	140 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	150 J	100 J	**140,000**	79 J	190 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-04 08/28/08 4.0' - 6.0' Ash**	**SUB-05 08/28/08 7.5' - 13.0' Foundry Sand**	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-09 08/28/08 7.0' - 10.0' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	130 J	46 J	35,000 J	56 J	570 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000				0.50 J	
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000					0.78 J
4,4'-DDT	1,700	47,000	1.0 BJ	1.4 BJ		0.74 BJ	4.4
Dieldrin	39.0	1,400					0.71 J
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin	2,200	89,000					
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----				5.6 J	
Aroclor-1248	-----	-----		15 J	2,600		
Aroclor-1254	-----	-----		15 J			
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----					
Aroclor-1268	-----	-----					36.0
Total PCBs	1,000	1,000		30 J	**2,600**	5.6 J	36.0

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-04 08/28/08 4.0' - 6.0' Ash**	**SUB-05 08/28/08 7.5' - 13.0' Foundry Sand**	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-09 08/28/08 7.0' - 10.0' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	4,770	1,800		832.0	3,280
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	8.7				4.0
Barium	350.0	400.0	46.7	11.5		12.2	35.6
Beryllium	14.0	590.0	0.41				
Cadmium	2.5	9.3					0.29
Chromium	36.0	1,500	6.0	7.9		7.3	10.8
Cobalt	30.0 +	NS	7.5	4.6	**123.0**	2.4	9.8
Copper	270.0	270.0	87.2	49.8		4.7	61.2
Iron	SB (17,300)	NS	12,200	5,970	212.0	3,770	16,800
Lead	400.0	1,000	122.0	20.8	**2,900**	19.5	60.9
Manganese	2,000	10,000	312.0	62.3	2.3	30.1	626 N
Mercury	0.81	2.8	0.275	0.035			0.072
Nickel	140.0	310.0	12.1	6.9		4.5	53.1
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	16.7	3.0		1.9	6.8
Zinc	2,200	10,000	78.6	35.6	24.0	10.0	575 N
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-16 08/29/08 1.3' Foundry Sand**	**SUB-22 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-25 09/16/08 0.0' - 2.0' Mixed Fill**	**SUB-32 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-36 09/02/08 1.5' - 2.0' Soil Fill with Coal**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	NA
Benzene	2,900	44,000	″	″	″	″	″
Cyclohexane	NS	NS	″	″	″	″	″
1,2-Dibromo-3-chloropropane	NS	NS	″	″	″	″	″
Ethylbenzene	30,000	390,000	″	″	″	″	″
Isopropylbenzene	2,300 +	NS	″	″	″	″	″
Methylcyclohexane	NS	NS	″	″	″	″	″
Methylene Chloride	51,000	500,000	″	″	″	″	″
Toluene	100,000	500,000	″	″	″	″	″
Xylene (Total)	100,000	500,000	″	″	″	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000			94 J		6,700
Acenaphthylene	100,000	500,000	750 J	380 J	67 J	1,600 J (1,200 J)	1,200 J
Acetophenone	NS	NS					
Anthracene	100,000	500,000	480 J	150 J	260 J	770 J (450 J)	6,400
Benzo(a)pyrene	1,000	1,000	**2,000 J**	**1,200 J**	820 J	**5,600 (4,000)**	**6,100**
Benzo(a)anthracene	1,000	5,600	**1,700 J**	**1,000 J**	690 J	**5,200 (3,600 J)**	**6,100**
Benzo(b)fluoranthene	1,000	5,600	**2,800 J**	**1,700 J**	980.0	**7,900 (5,500)**	**8,000**
Benzo(g,h,i)perylene	100,000	500,000	1,800 J	790 J	620 J	3,100 J (2,200 J)	2,600 J
Benzo(k)fluoranthene	1,000	56,000	**1,000 J**	560 J	280 J	**2,600 J (1,900 J)**	**2,600 J**
Biphenyl	NS	NS					1,200 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-16 08/29/08 1.3' Foundry Sand**	**SUB-22 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-25 09/16/08 0.0' - 2.0' Mixed Fill**	**SUB-32 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-36 09/02/08 1.5' - 2.0' Soil Fill with Coal**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS	340 J		94 J	210 J (ND(3,800))	2,000 J
Chrysene	1,000	56,000	**2,700 BJ**	**1,500 BJ**	640 J	**5,300 B (3,800 B)**	**6,900 B**
Dibenzo(a,h)anthracene	330.0	560.0	**480 J**	230 J	150 J	**1,000 J (760 J)**	**860 J**
Dibenzofuran	14,000	350,000	190 J		60 J		5,300
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	3,600 J	1,500 J	1,900	5,500 (3,200 J)	15,000
Fluorene	100,000	500,000			78 J		5,500
Indeno(1,2,3-cd)pyrene	500.0	5,600	**1,500 J**	**740 J**	**510 J**	**3,200 J (2,300 J)**	**2,800 J**
2-Methylnaphthalene	36,400 +	NS	250 J	320 J	130 J	160 J (ND(3,800))	7,100
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	310 J	240 J	100 J	170 J (ND(3,800))	27,000
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	1,400 J	630 J	1,200	1,200 J (420 J)	22,000

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-16 08/29/08 1.3' Foundry Sand**	**SUB-22 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-25 09/16/08 0.0' - 2.0' Mixed Fill**	**SUB-32 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-36 09/02/08 1.5' - 2.0' Soil Fill with Coal**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	2,900 J	1,300 J	1,200	5,300 (3,200 J)	11,000
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000					
4,4'-DDT	1,700	47,000			9.5	100 J (ND(190))	
Dieldrin	39.0	1,400					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin	2,200	89,000			3.1 J		
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					86 J
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----					
Aroclor-1254	-----	-----					41.0
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----				35.0 (26.0)	
Aroclor-1268	-----	-----					29.0
Total PCBs	1,000	1,000				35.0 (26.0)	70.0

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-16 08/29/08 1.3' Foundry Sand**	**SUB-22 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-25 09/16/08 0.0' - 2.0' Mixed Fill**	**SUB-32 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-36 09/02/08 1.5' - 2.0' Soil Fill with Coal**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	3,840 N	3,760 N	3,250	4,750 N (5,990 N)	2,980 N
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	**20.9 N**	**26.1 N**	7.0	7.9 N (9.5 N)	7.8 N
Barium	350.0	400.0	75.3 N	112 N	58.0	58.8 N (74.6 N)	57.5 N
Beryllium	14.0	590.0	0.54	0.60	0.29	0.54 (0.63)	0.21
Cadmium	2.5	9.3	0.73	1.8		0.31 (0.47)	0.73
Chromium	36.0	1,500	12.2 N	14.8 N	9.4	10.7 N (14.1 N)	17.9 N
Cobalt	30.0 +	NS	7.4	7.6	5.3	6.2 (7.7)	7.3
Copper	270.0	270.0	204 N	212 N	43.7	59.1 N (72.6 N)	95.6 N
Iron	SB (17,300)	NS	**41,100 N**	**41,500 N**	12,700	**15,100 N (19,000 N)**	**35,000 N**
Lead	400.0	1,000	399.0	**520.0**	138.0	119.0 (162.0)	193.0
Manganese	2,000	10,000	447.0	481.0	279 N	396.0 (543.0)	511.0
Mercury	0.81	2.8	**1.2**	0.740	0.336	0.232 (0.210)	0.333
Nickel	140.0	310.0	19.2 N	19.9 N	8.3	15.1 N (22.6 N)	17.8 N
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	14.3 N	12.7 N	10.5	10.3 N (12.5 N)	11.1 N
Zinc	2,200	10,000	457.0	717.0	86.5 N	152.0 (196.0)	237.0
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-38 09/18/08 4.4' Sand & Clay**	**SUB-39 09/16/08 0.5' - 2.0' Sand with Gravel**	**SUB-46 09/04/08 15.0' - 15.5' Foundry Sand**	**SUB-47 09/03/08 1.5' Foundry Sand**	**SUB-49 09/03/08 2.0' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	NA
Benzene	2,900	44,000	″	″	″	″	″
Cyclohexane	NS	NS	″	″	″	″	″
1,2-Dibromo-3-chloropropane	NS	NS	″	″	″	″	″
Ethylbenzene	30,000	390,000	″	″	″	″	″
Isopropylbenzene	2,300 +	NS	″	″	″	″	″
Methylcyclohexane	NS	NS	″	″	″	″	″
Methylene Chloride	51,000	500,000	″	″	″	″	″
Toluene	100,000	500,000	″	″	″	″	″
Xylene (Total)	100,000	500,000	″	″	″	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000				290 J	
Acenaphthylene	100,000	500,000				5,600	700 J
Acetophenone	NS	NS					
Anthracene	100,000	500,000			8 J	2,600 J	340 J
Benzo(a)pyrene	1,000	1,000	12 J	180 J	55 J	**14,000**	**2,000 J**
Benzo(a)anthracene	1,000	5,600	16 J	140 J	53 J	**16,000**	**1,800 J**
Benzo(b)fluoranthene	1,000	5,600	18 J	220 J	65 J	**18,000**	**2,700 J**
Benzo(g,h,i)perylene	100,000	500,000		120 J	52 J	5,900	970 J
Benzo(k)fluoranthene	1,000	56,000		70 J	25 J	**7,400**	910 J
Biphenyl	NS	NS					

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-38** **09/18/08** **4.4'** **Sand & Clay**	**SUB-39** **09/16/08** **0.5' - 2.0'** **Sand with Gravel**	**SUB-46** **09/04/08** **15.0' - 15.5'** **Foundry Sand**	**SUB-47** **09/03/08** **1.5'** **Foundry Sand**	**SUB-49** **09/03/08** **2.0'** **Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS			120 J		
Carbazole	NS	NS				480 J	
Chrysene	1,000	56,000		110 J	60 J	**14,000 B**	**2,200 BJ**
Dibenzo(a,h)anthracene	330.0	560.0			14 J	**2,000 J**	**350 J**
Dibenzofuran	14,000	350,000			9 J	290 J	
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	23 J	230 J	61 J	26,000	2,600 J
Fluorene	100,000	500,000				650 J	
Indeno(1,2,3-cd)pyrene	500.0	5,600		120 J	50 J	**6,100**	**1,100 J**
2-Methylnaphthalene	36,400 +	NS			25 J	430 J	420 J
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000			23 J	520 J	370 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	24 J		51 J	6,100	910 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-38 09/18/08 4.4' Sand & Clay**	**SUB-39 09/16/08 0.5' - 2.0' Sand with Gravel**	**SUB-46 09/04/08 15.0' - 15.5' Foundry Sand**	**SUB-47 09/03/08 1.5' Foundry Sand**	**SUB-49 09/03/08 2.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	13 J	140 J	59 J	22,000	2,400 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000					1.7 J
4,4'-DDE	1,800	62,000					4.6
4,4'-DDT	1,700	47,000	36.0			20.0	21.0
Dieldrin	39.0	1,400					1.5 J
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000			15.0	9.7 J	2.1 J
Endrin	2,200	89,000		0.80 J		12 J	2.5 J
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----					
Aroclor-1254	-----	-----					
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----				67.0	
Aroclor-1268	-----	-----					
Total PCBs	1,000	1,000				67.0	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-38 09/18/08 4.4' Sand & Clay**	**SUB-39 09/16/08 0.5' - 2.0' Sand with Gravel**	**SUB-46 09/04/08 15.0' - 15.5' Foundry Sand**	**SUB-47 09/03/08 1.5' Foundry Sand**	**SUB-49 09/03/08 2.0' Foundry Sand**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	6,770	4,610	5,860	4,380 N	3,850 N
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	8.2	3.8	4.6	**19.8 N**	10.1 N
Barium	350.0	400.0	48.2	44.3	42.0	81.3 N	86.3 N
Beryllium	14.0	590.0	0.32		0.48	0.60	0.44
Cadmium	2.5	9.3	0.34			1.3	1.1
Chromium	36.0	1,500	8.5	6.9	8.5	21.2 N	20.5 N
Cobalt	30.0 +	NS	7.4	3.5	3.5	9.0	5.5
Copper	270.0	270.0	36.7	21.4	19.0	196 N	108 N
Iron	SB (17,300)	NS	**21,800**	11,000	**17,800**	**40,400 N**	**31,100 N**
Lead	400.0	1,000	45.1	63.2	14.9	**426.0**	301.0
Manganese	2,000	10,000	495.0	417 N	356.0	476.0	607.0
Mercury	0.81	2.8	0.083	0.093		0.390 N	0.743 N
Nickel	140.0	310.0	13.1	8.5	9.5	34.4 N	20.4 N
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	15.9	10.1	14.5	15.0 N	10.2 N
Zinc	2,200	10,000	132.0	82.5 N	105.0	374.0	264.0
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-51** **09/16/08** **0.0' - 2.5'** **Foundry Sand**	**SUB-58** **09/04/08** **10.0'** **Foundry Sand**	**SUB-61** **09/03/08** **2.5'** **Sandy Clay**	**SUB-61** **09/03/08** **4.0'** **Sand Seam in Silt**	**SUB-67** **09/04/08** **2.0'** **Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	14 BJ	22 BJ	NA
Benzene	2,900	44,000	″	″			″
Cyclohexane	NS	NS	″	″			″
1,2-Dibromo-3-chloropropane	NS	NS	″	″		6.0	″
Ethylbenzene	30,000	390,000	″	″			″
Isopropylbenzene	2,300 +	NS	″	″		2 J	″
Methylcyclohexane	NS	NS	″	″		2 J	″
Methylene Chloride	51,000	500,000	″	″	13 B	12 B	″
Toluene	100,000	500,000	″	″			″
Xylene (Total)	100,000	500,000	″	″			″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000		58 J			
Acenaphthylene	100,000	500,000					37 J
Acetophenone	NS	NS					
Anthracene	100,000	500,000		89 J			56 J
Benzo(a)pyrene	1,000	1,000	10 J	**1,400**			170 J
Benzo(a)anthracene	1,000	5,600		**1,200**			230 J
Benzo(b)fluoranthene	1,000	5,600	15 J	**2,700**			210 J
Benzo(g,h,i)perylene	100,000	500,000	10 J	1,400			150 J
Benzo(k)fluoranthene	1,000	56,000		980.0			98 J
Biphenyl	NS	NS					

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-51 09/16/08 0.0' - 2.5' Foundry Sand**	**SUB-58 09/04/08 10.0' Foundry Sand**	**SUB-61 09/03/08 2.5' Sandy Clay**	**SUB-61 09/03/08 4.0' Sand Seam in Silt**	**SUB-67 09/04/08 2.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS		43 J			
Chrysene	1,000	56,000	8 J	**1,600**	430 BJ	400 BJ	180 J
Dibenzo(a,h)anthracene	330.0	560.0		**460 J**			
Dibenzofuran	14,000	350,000		36 J			
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	14 J	1,600			400 J
Fluorene	100,000	500,000					
Indeno(1,2,3-cd)pyrene	500.0	5,600	8 J	**1,200**			120 J
2-Methylnaphthalene	36,400 +	NS	11 J				
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	8 J				39 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	15 J	510 J			290 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-51 09/16/08 0.0' - 2.5' Foundry Sand**	**SUB-58 09/04/08 10.0' Foundry Sand**	**SUB-61 09/03/08 2.5' Sandy Clay**	**SUB-61 09/03/08 4.0' Sand Seam in Silt**	**SUB-67 09/04/08 2.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	9 J	1,400			350 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000					3.5 J
4,4'-DDE	1,800	62,000	0.53 J				
4,4'-DDT	1,700	47,000		5.3 J			5.6 J
Dieldrin	39.0	1,400					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin	2,200	89,000	0.78 J				
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----					
Aroclor-1254	-----	-----					14 J
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----					13 J
Aroclor-1268	-----	-----					
Total PCBs	1,000	1,000					27 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-51 09/16/08 0.0' - 2.5' Foundry Sand**	**SUB-58 09/04/08 10.0' Foundry Sand**	**SUB-61 09/03/08 2.5' Sandy Clay**	**SUB-61 09/03/08 4.0' Sand Seam in Silt**	**SUB-67 09/04/08 2.0' Foundry Sand**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	3,700	4,570	2,790 N	3,920 N	1,190
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	4.3	3.7	5.5 N	9.9 N	
Barium	350.0	400.0	20.2	19.1	34.0 N	37.0 N	19.0
Beryllium	14.0	590.0		0.34	0.36	0.62	0.25
Cadmium	2.5	9.3					
Chromium	36.0	1,500	8.0	10.0	**204 N**	9.6 N	15.5
Cobalt	30.0 +	NS	4.8	3.3	5.3	5.9	8.2
Copper	270.0	270.0	13.9	42.2	52.0 N	27.2 N	15.6
Iron	SB (17,300)	NS	**22,400**	14,300	**23,500 N**	**20,700 N**	6,440
Lead	400.0	1,000	12.6	11.0	274.0	64.0	51.6
Manganese	2,000	10,000	442 N	211.0	503.0	402.0	178.0
Mercury	0.81	2.8			0.072 N	0.085 N	0.032 N
Nickel	140.0	310.0	14.0	14.4	35.2 N	12.9 N	9.6
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	21.0	9.6	16.0 N	10.0 N	4.1
Zinc	2,200	10,000	49.5 N	26.1	45.6	47.3	28.9
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	300.0	64.0	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-68 09/10/08 3.0' - 6.0' Foundry Sand**	**SUB-69 09/04/08 0.0' - 1.0' Foundry Sand**	**SUB-72 09/16/08 1.5' - 2.5' Black Sand**	**SUB-73 09/05/08 1.1' - 2.0' Ash**	**SUB-80 09/08/08 1.5' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	NA
Benzene	2,900	44,000	″	″	″	″	″
Cyclohexane	NS	NS	″	″	″	″	″
1,2-Dibromo-3-chloropropane	NS	NS	″	″	″	″	″
Ethylbenzene	30,000	390,000	″	″	″	″	″
Isopropylbenzene	2,300 +	NS	″	″	″	″	″
Methylcyclohexane	NS	NS	″	″	″	″	″
Methylene Chloride	51,000	500,000	″	″	″	″	″
Toluene	100,000	500,000	″	″	″	″	″
Xylene (Total)	100,000	500,000	″	″	″	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000		110 J			
Acenaphthylene	100,000	500,000	63 J	2,900			
Acetophenone	NS	NS					
Anthracene	100,000	500,000	75 J	1,500 J			
Benzo(a)pyrene	1,000	1,000	350 J	**6,200**		52 J	58 J
Benzo(a)anthracene	1,000	5,600	280 J	**8,200**		75 J	88 J
Benzo(b)fluoranthene	1,000	5,600	480 J	**9,100**		63 J	92 J
Benzo(g,h,i)perylene	100,000	500,000	160 J	4,300			68 J
Benzo(k)fluoranthene	1,000	56,000	140 J	**2,500**			
Biphenyl	NS	NS		110 J			

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-68 09/10/08 3.0' - 6.0' Foundry Sand	SUB-69 09/04/08 0.0' - 1.0' Foundry Sand	SUB-72 09/16/08 1.5' - 2.5' Black Sand	SUB-73 09/05/08 1.1' - 2.0' Ash	SUB-80 09/08/08 1.5' Foundry Sand
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS					280 J
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS	41 J	600 J			
Chrysene	1,000	56,000	320 J	**6,600**	21 J	45 J	87 J
Dibenzo(a,h)anthracene	330.0	560.0	67 J	**1,400 J**			
Dibenzofuran	14,000	350,000		360 J			
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	420 J	12,000	30 J	69 J	150 J
Fluorene	100,000	500,000		210 J			
Indeno(1,2,3-cd)pyrene	500.0	5,600	170 J	**4,200**			42 J
2-Methylnaphthalene	36,400 +	NS	92 J	640 J			70 J
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	68 J	750 J			120 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	310 J	3,000	39 J		160 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-68 09/10/08 3.0' - 6.0' Foundry Sand**	**SUB-69 09/04/08 0.0' - 1.0' Foundry Sand**	**SUB-72 09/16/08 1.5' - 2.5' Black Sand**	**SUB-73 09/05/08 1.1' - 2.0' Ash**	**SUB-80 09/08/08 1.5' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	280 J	11,000	26 J	51 J	130 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000	8.8 J				
4,4'-DDE	1,800	62,000	6.1 J				
4,4'-DDT	1,700	47,000	27.0	34 J			
Dieldrin	39.0	1,400					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000					
Endrin	2,200	89,000		17 BJ			
Endrin Ketone	NS	NS	11 J				
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----					
Aroclor-1254	-----	-----		43.0			
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----					
Aroclor-1268	-----	-----	28.0				
Total PCBs	1,000	1,000	28.0	43.0			

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-68 09/10/08 3.0' - 6.0' Foundry Sand	SUB-69 09/04/08 0.0' - 1.0' Foundry Sand	SUB-72 09/16/08 1.5' - 2.5' Black Sand	SUB-73 09/05/08 1.1' - 2.0' Ash	SUB-80 09/08/08 1.5' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	1,290	3,540	1,050	7,130	1,750
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0		**16.7**		8.8	2.6
Barium	350.0	400.0	18.8	127.0	15.4	218.0	50.3
Beryllium	14.0	590.0		0.48		0.56	
Cadmium	2.5	9.3		1.6			
Chromium	36.0	1,500	11.1	12.8	9.6	9.9	**43.9**
Cobalt	30.0 +	NS	24.7	6.9	16.1	4.8	7.7
Copper	270.0	270.0	17.8	125.0	13.1	33.6	215.0
Iron	SB (17,300)	NS	6,660	**27,500**	4,520	4,420	**28,600**
Lead	400.0	1,000	137.0	**518.0**	65.0	305.0	47.7
Manganese	2,000	10,000	156.0	451.0	60.0 N	85.3	375.0
Mercury	0.81	2.8	0.025	0.478 N	0.125	0.056	0.131
Nickel	140.0	310.0	10.7	17.5	6.8	11.7	39.3
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	3.3	12.0	2.7	22.7	6.0
Zinc	2,200	10,000	40.5	957.0	25.0 N	217.0	54.6
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-82** **09/08/08** **1.0' - 1.5'** **Foundry Sand**	**SUB-85** **09/08/08** **0.0' - 0.5'** **Foundry Sand**	**SUB-88** **09/09/08** **0.17' - 1.0'** **Slag**	**SUB-89** **09/09/08** **0.5' - 5.0'** **Foundry Sand**	**SUB-90** **09/09/08** **4.0' - 6.0'** **Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	
Benzene	2,900	44,000	″	″	″	″	640.0
Cyclohexane	NS	NS	″	″	″	″	4,900
1,2-Dibromo-3-chloropropane	NS	NS	″	″	″	″	
Ethylbenzene	30,000	390,000	″	″	″	″	1,200
Isopropylbenzene	2,300 +	NS	″	″	″	″	680.0
Methylcyclohexane	NS	NS	″	″	″	″	10,000
Methylene Chloride	51,000	500,000	″	″	″	″	140.0
Toluene	100,000	500,000	″	″	″	″	2,700
Xylene (Total)	100,000	500,000	″	″	″	″	8,000
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000				4,600 (75 J)	
Acenaphthylene	100,000	500,000	480 J		46 J	2,300 (1,700 J)	220 J
Acetophenone	NS	NS					
Anthracene	100,000	500,000	340 J		35 J	8,200 (1,200 J)	280 J
Benzo(a)pyrene	1,000	1,000	**1,200**	130 J	140 J	**5,600 (5,400)**	900 J
Benzo(a)anthracene	1,000	5,600	**1,600**	160 J	200.0	**9,300 (6,600)**	**1,200 J**
Benzo(b)fluoranthene	1,000	5,600	**2,200**	160 J	190.0	**7,800 (7,400)**	**1,200 J**
Benzo(g,h,i)perylene	100,000	500,000	730 J	87 J	65 J	2,400 (3,200)	510 J
Benzo(k)fluoranthene	1,000	56,000	490 J	56 J	46 J	**2,200 (1,900)**	490 J
Biphenyl	NS	NS				120 J (ND(1,800))	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-82 09/08/08 1.0' - 1.5' Foundry Sand**	**SUB-85 09/08/08 0.0' - 0.5' Foundry Sand**	**SUB-88 09/09/08 0.17' - 1.0' Slag**	**SUB-89 09/09/08 0.5' - 5.0' Foundry Sand**	**SUB-90 09/09/08 4.0' - 6.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS					
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS	800 J				
Carbazole	NS	NS	140 J			750 J (200 J)	150 J
Chrysene	1,000	56,000	**1,600**	130 J	200.0	**8,900 (6,400)**	**1,100 J**
Dibenzo(a,h)anthracene	330.0	560.0	220 J		23 J	**750 J (900 J)**	150 J
Dibenzofuran	14,000	350,000	180 J	41 J	11 J	2,000 (270 J)	
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	1,900	270 J	290.0	26,000 (11,000)	2,000
Fluorene	100,000	500,000	38 J			4,200 (ND(1,800))	
Indeno(1,2,3-cd)pyrene	500.0	5,600	**740 J**	74 J	60 J	**2,500 (2,900)**	480 J
2-Methylnaphthalene	36,400 +	NS	340 J	110 J	29 J	840 J (740 J)	
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	250 J	150 J	13 J	660 J (540 J)	210 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	760 J	200 J	120 J	18,000 (2,700)	890 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375** **Residential** **Soil Cleanup** **Objective ***	**Part 375** **Commercial** **Soil Cleanup** **Objective ***	**SUB-82** **09/08/08** **1.0' - 1.5'** **Foundry Sand**	**SUB-85** **09/08/08** **0.0' - 0.5'** **Foundry Sand**	**SUB-88** **09/09/08** **0.17' - 1.0'** **Slag**	**SUB-89** **09/09/08** **0.5' - 5.0'** **Foundry Sand**	**SUB-90** **09/09/08** **4.0' - 6.0'** **Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	2,000	240 J	230.0	17,000 (9,700)	1,700 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000					
4,4'-DDT	1,700	47,000		1.2 J	1.7 BJ		
Dieldrin	39.0	1,400				ND (36) (11 J)	
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000				13 J (ND(36))	
Endrin	2,200	89,000					
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----				12 J (ND(89))	
Aroclor-1254	-----	-----					
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----				46.0 (ND(89))	
Aroclor-1268	-----	-----					
Total PCBs	1,000	1,000				58 J (ND(89))	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-82 09/08/08 1.0' - 1.5' Foundry Sand**	**SUB-85 09/08/08 0.0' - 0.5' Foundry Sand**	**SUB-88 09/09/08 0.17' - 1.0' Slag**	**SUB-89 09/09/08 0.5' - 5.0' Foundry Sand**	**SUB-90 09/09/08 4.0' - 6.0' Foundry Sand**
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	3,630	2,880	1,820	2,790 (4,010)	6,880
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	15.1		6.8	9.2 (8.6)	7.5
Barium	350.0	400.0	61.1	70.0	41.2	78.2 (66.6)	569.0
Beryllium	14.0	590.0	0.45		0.33	0.34 (0.44)	0.52
Cadmium	2.5	9.3				0.57 (0.67)	1.1
Chromium	36.0	1,500	8.8	20.7	4.2	12.6 (12.1)	16.7
Cobalt	30.0 +	NS	6.6	2.7	3.5	4.2 (4.2)	5.2
Copper	270.0	270.0	125.0	65.2	43.1	75.0 (82.9)	84.4
Iron	SB (17,300)	NS	**28,700**	15,000	8,570	**17,100 (17,800)**	15,500
Lead	400.0	1,000	215.0	47.5	55.1	169.0 (173.0)	**811.0**
Manganese	2,000	10,000	247.0	397.0	119.0	318.0 (312.0)	440.0
Mercury	0.81	2.8	0.296	0.243	0.112	0.373 (0.434)	**0.820**
Nickel	140.0	310.0	14.3	22.2	7.6	19.2 (15.2)	21.0
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	12.3	5.1	8.6	7.9 (9.8)	15.0
Zinc	2,200	10,000	83.2	75.8	24.0	149.0 (156.0)	521.0
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-92 09/08/08 2.0' Foundry Sand**	**SUB-96 09/12/08 2.5' Foundry Sand**	**SUB-99 09/15/08 1.0' - 1.8' Foundry Sand**	**SUB-100 09/15/08 4.0' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000		NA	NA	NA	NA
Benzene	2,900	44,000	**54,000**	″	″	″	″
Cyclohexane	NS	NS	540,000	″	″	″	″
1,2-Dibromo-3-chloropropane	NS	NS		″	″	″	″
Ethylbenzene	30,000	390,000	**150,000**	″	″	″	″
Isopropylbenzene	2,300 +	NS	**66,000**	″	″	″	″
Methylcyclohexane	NS	NS	890,000	″	″	″	″
Methylene Chloride	51,000	500,000		″	″	″	″
Toluene	100,000	500,000	**270,000**	″	″	″	″
Xylene (Total)	100,000	500,000	**930,000**	″	″	″	″
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000				130 J	
Acenaphthylene	100,000	500,000				2,100	
Acetophenone	NS	NS					
Anthracene	100,000	500,000				1,800 J	
Benzo(a)pyrene	1,000	1,000		120 J		**7,600**	29 J
Benzo(a)anthracene	1,000	5,600		150 J	16 J	**8,300**	36 J
Benzo(b)fluoranthene	1,000	5,600		140 J	13 J	**11,000**	45 J
Benzo(g,h,i)perylene	100,000	500,000		81 J	7 J	3,000	22 J
Benzo(k)fluoranthene	1,000	56,000		60 J	10 J	**3,100**	
Biphenyl	NS	NS			34 J		

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-92 09/08/08 2.0' Foundry Sand**	**SUB-96 09/12/08 2.5' Foundry Sand**	**SUB-99 09/15/08 1.0' - 1.8' Foundry Sand**	**SUB-100 09/15/08 4.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS			55 J		
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS				470 J	
Chrysene	1,000	56,000		160 J	19 J	**7,400**	29 J
Dibenzo(a,h)anthracene	330.0	560.0				**1,500 J**	
Dibenzofuran	14,000	350,000			15 J	210 J	
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000		230 J	27 J	14,000	60 J
Fluorene	100,000	500,000				260 J	
Indeno(1,2,3-cd)pyrene	500.0	5,600		64 J		**3,400**	17 J
2-Methylnaphthalene	36,400 +	NS	**48,000 J**	62 J	49 J	380 J	20 J
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	**410,000 J**	60 J	48 J	510 J	44 J
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000		150 J	61 J	2,400	52 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-92 09/08/08 2.0' Foundry Sand**	**SUB-96 09/12/08 2.5' Foundry Sand**	**SUB-99 09/15/08 1.0' - 1.8' Foundry Sand**	**SUB-100 09/15/08 4.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000		200 J	20 J	9,600	36 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					0.48 J
4,4'-DDD	2,600	92,000					
4,4'-DDE	1,800	62,000		0.80 J	4.0 J		0.92 J
4,4'-DDT	1,700	47,000					
Dieldrin	39.0	1,400					
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000		0.34 J			
Endrin	2,200	89,000					
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----		4.4 J			
Aroclor-1254	-----	-----			14 J		
Aroclor-1260	-----	-----			7.2 J		
Aroclor-1262	-----	-----					
Aroclor-1268	-----	-----					
Total PCBs	1,000	1,000		4.4 J	21.2 J		

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-90 09/09/08 NA Tar in Drum	SUB-92 09/08/08 2.0' Foundry Sand	SUB-96 09/12/08 2.5' Foundry Sand	SUB-99 09/15/08 1.0' - 1.8' Foundry Sand	SUB-100 09/15/08 4.0' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	15.0	2,110	1,010	4,270 N	1,180 N
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0		2.7		**22.8**	
Barium	350.0	400.0	0.64	57.9	36.3 E	102 N	64.4 N
Beryllium	14.0	590.0				0.54	
Cadmium	2.5	9.3				1.4	
Chromium	36.0	1,500		27.8	34.5 E	20.3 N	28.5 N
Cobalt	30.0 +	NS		3.5	4.0	8.2	2.7
Copper	270.0	270.0		113.0	27.7 E	179 N	30.9 N
Iron	SB (17,300)	NS	73.3	**22,600**	**17,500**	**53,200 N**	9,930 N
Lead	400.0	1,000	2.4	45.5	28.1	320 N	37.3 N
Manganese	2,000	10,000	1.1	284.0	198.0	458 N	142 N
Mercury	0.81	2.8		0.090	0.024	0.328	0.040
Nickel	140.0	310.0	1.6	29.2	19.0	28.1 N	20.3 N
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	10.7	5.3	3.5	14.0	3.1
Zinc	2,200	10,000	2.2	58.8	16.2	565 N	38.1 N
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-101 09/12/08 1.5' Foundry Sand**	**SUB-103 09/04/08 2.0' Stained Sand**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**SUB-105 09/11/08 0.0' - 0.8' Foundry Sand**	**SUB-106 09/11/08 3.3' - 3.7' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	NA	NA	NA	NA
Benzene	2,900	44,000	〃	〃	〃	〃	〃
Cyclohexane	NS	NS	〃	〃	〃	〃	〃
1,2-Dibromo-3-chloropropane	NS	NS	〃	〃	〃	〃	〃
Ethylbenzene	30,000	390,000	〃	〃	〃	〃	〃
Isopropylbenzene	2,300 +	NS	〃	〃	〃	〃	〃
Methylcyclohexane	NS	NS	〃	〃	〃	〃	〃
Methylene Chloride	51,000	500,000	〃	〃	〃	〃	〃
Toluene	100,000	500,000	〃	〃	〃	〃	〃
Xylene (Total)	100,000	500,000	〃	〃	〃	〃	〃
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000		14 J	41 J		
Acenaphthylene	100,000	500,000		14 J	76 J		
Acetophenone	NS	NS					
Anthracene	100,000	500,000		33 J	120 J		
Benzo(a)pyrene	1,000	1,000		110 J	360 J	61 J	120 J
Benzo(a)anthracene	1,000	5,600	16 J	130 J	400 J	50 J	79 J
Benzo(b)fluoranthene	1,000	5,600	13 J	130 J	490 J	140 J	220 J
Benzo(g,h,i)perylene	100,000	500,000		93 J	140 J	45 J	87 J
Benzo(k)fluoranthene	1,000	56,000		56 J	190 J		47 J
Biphenyl	NS	NS	15 J				

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-101 09/12/08 1.5' Foundry Sand	SUB-103 09/04/08 2.0' Stained Sand	SUB-104 09/10/08 4.5' - 5.0' Foundry Sand	SUB-105 09/11/08 0.0' - 0.8' Foundry Sand	SUB-106 09/11/08 3.3' - 3.7' Foundry Sand
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS	73 J			1,100	
Butylbenzylphthalate	50,000 +	NS					
Caprolactam	NS	NS					
Carbazole	NS	NS		15 J	57 J		
Chrysene	1,000	56,000	9 J	160 J	410 J	91 J	100 J
Dibenzo(a,h)anthracene	330.0	560.0		24 J	55 J		
Dibenzofuran	14,000	350,000	13 J	20 J	61 J		
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS					
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	28 J	250.0	700 J	110 J	84 J
Fluorene	100,000	500,000		18 J	40 J		
Indeno(1,2,3-cd)pyrene	500.0	5,600		82 J	160 J		81 J
2-Methylnaphthalene	36,400 +	NS	10 J	32 J	140 J		56 J
2-Methylphenol	100,000	500,000					
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000	29 J	25 J	86 J		
N-nitrosodiphenylamine	NS	NS					
Phenanthrene	100,000	500,000	42 J	180 J	460 J	70 J	210 J

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-101 09/12/08 1.5' Foundry Sand**	**SUB-103 09/04/08 2.0' Stained Sand**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**SUB-105 09/11/08 0.0' - 0.8' Foundry Sand**	**SUB-106 09/11/08 3.3' - 3.7' Foundry Sand**
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	18 J	240.0	490 J	60 J	68 J
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000					
4,4'-DDD	2,600	92,000			13 J	5.9 J	0.80 J
4,4'-DDE	1,800	62,000	6.2		13 J		0.94 J
4,4'-DDT	1,700	47,000	1.3 J	2.0	54.0	22.0	2.3
Dieldrin	39.0	1,400					2.4
Endosulfan II	4,800	200,000					
Endosulfan Sulfate	4,800	200,000		1.6 J		5.2 J	1.0 J
Endrin	2,200	89,000		1.6 BJ			
Endrin Ketone	NS	NS					
Heptachlor Epoxide	NS	NS					
Methoxychlor	NS	NS					
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----					
Aroclor-1248	-----	-----					
Aroclor-1254	-----	-----			26.0		
Aroclor-1260	-----	-----					
Aroclor-1262	-----	-----					
Aroclor-1268	-----	-----			26.0		
Total PCBs	1,000	1,000			52.0		

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-101 09/12/08 1.5' Foundry Sand	SUB-103 09/04/08 2.0' Stained Sand	SUB-104 09/10/08 4.5' - 5.0' Foundry Sand	SUB-105 09/11/08 0.0' - 0.8' Foundry Sand	SUB-106 09/11/08 3.3' - 3.7' Foundry Sand
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	932.0	4,000	3,820	525.0	1,290
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0		10.7	6.7		
Barium	350.0	400.0	16.9 E	70.8	61.5	119.0	12.9
Beryllium	14.0	590.0		0.79	0.30		
Cadmium	2.5	9.3		0.31	0.38		
Chromium	36.0	1,500	**50.6 E**	7.7	19.4	3.7	9.3
Cobalt	30.0 +	NS	1.0	5.8	7.2		10.7
Copper	270.0	270.0	41.9 E	36.4	72.3	98.4	14.0
Iron	SB (17,300)	NS	7,220	**34,700**	**27,500**	2,460	6,610
Lead	400.0	1,000	18.5	96.1	**478.0**	7.3	37.1
Manganese	2,000	10,000	48.8	315.0	433.0	24.7	84.3
Mercury	0.81	2.8		0.208 N	0.305		
Nickel	140.0	310.0	11.4	16.1	29.8	1.4	11.8
Selenium	36.0	1,500					
Silver	36.0	1,500					
Vanadium	150.0 +	NS	2.9	14.0	9.4	1.8	3.0
Zinc	2,200	10,000	6.8	67.4	104.0	56.4	18.8
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	NA	NA	NA	NA

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-110 09/18/08 0.0' - 0.8' Foundry Sand	SUB-116 09/18/08 4.6' Silty Clay	SUB-A4 09/16/08 0.5' - 3.0' Sand & Clay	SUB-A5 09/16/08 0.0' - 2.0' Foundry Sand	
Volatile Organic Compounds (µg/kg or ppb)							
Acetone	100,000	500,000	NA	46 B	13 BJ	NA	
Benzene	2,900	44,000	″			″	
Cyclohexane	NS	NS	″			″	
1,2-Dibromo-3-chloropropane	NS	NS	″			″	
Ethylbenzene	30,000	390,000	″			″	
Isopropylbenzene	2,300 +	NS	″	2 J		″	
Methylcyclohexane	NS	NS	″	2 J		″	
Methylene Chloride	51,000	500,000	″	7 B	10 B	″	
Toluene	100,000	500,000	″			″	
Xylene (Total)	100,000	500,000	″			″	
Semivolatile Organic Compounds (µg/kg or ppb)							
Acenaphthene	100,000	500,000					
Acenaphthylene	100,000	500,000					
Acetophenone	NS	NS					
Anthracene	100,000	500,000		64 J		58 J (15 J)	
Benzo(a)pyrene	1,000	1,000	500 J				
Benzo(a)anthracene	1,000	5,600	320 J	55 J	12 J	70 J (ND(370))	
Benzo(b)fluoranthene	1,000	5,600	780 J	50 J			
Benzo(g,h,i)perylene	100,000	500,000	410 J				
Benzo(k)fluoranthene	1,000	56,000	470 J				
Biphenyl	NS	NS				68 J (38 J)	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-110 09/18/08 0.0' - 0.8' Foundry Sand**	**SUB-116 09/18/08 4.6' Silty Clay**	**SUB-A4 09/16/08 0.5' - 3.0' Sand & Clay**	**SUB-A5 09/16/08 0.0' - 2.0' Foundry Sand**	
Semivolatile Organic Compounds (Continued)							
Bis(2-ethylhexyl)phthalate	50,000 +	NS	910 J				
Butylbenzylphthalate	50,000 +	NS				340 J (290 J)	
Caprolactam	NS	NS					
Carbazole	NS	NS					
Chrysene	1,000	56,000	450 J			62 J (ND(370))	
Dibenzo(a,h)anthracene	330.0	560.0	140 J				
Dibenzofuran	14,000	350,000		53 J		110 J (56 J)	
Diethylphthalate	7,100 +	NS					
Di-n-butylphthalate	8,100 +	NS				340 J (140 J)	
Di-n-octylphthalate	50,000 +	NS					
2,4-Dimethylphenol	NS	NS					
4,6-Dinitro-2-methylphenol	NS	NS					
Fluoranthene	100,000	500,000	760 J	61 J	15 J	100 J (66 J)	
Fluorene	100,000	500,000		55 J			
Indeno(1,2,3-cd)pyrene	500.0	5,600	280 J				
2-Methylnaphthalene	36,400 +	NS		84 J		480 J (260 J)	
2-Methylphenol	100,000	500,000				ND (940) (20 J)	
4-Methylphenol	34,000	500,000					
Naphthalene	100,000	500,000		50 J		570 J (280 J)	
N-nitrosodiphenylamine	NS	NS		170 J			
Phenanthrene	100,000	500,000	330 J	220 J	16 J	320 J (160 J)	

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-110 09/18/08 0.0' - 0.8' Foundry Sand**	**SUB-116 09/18/08 4.6' Silty Clay**	**SUB-A4 09/16/08 0.5' - 3.0' Sand & Clay**	**SUB-A5 09/16/08 0.0' - 2.0' Foundry Sand**	
Semivolatile Organic Compounds (Continued)							
Pyrene	100,000	500,000	400 J	40 J	10 J	79 J (39 J)	
Pesticides (µg/kg or ppb)							
delta-BHC	100,000	500,000		NA			
4,4'-DDD	2,600	92,000		″			
4,4'-DDE	1,800	62,000		″			
4,4'-DDT	1,700	47,000		″			
Dieldrin	39.0	1,400	**170 J**	″			
Endosulfan II	4,800	200,000	160 J	″			
Endosulfan Sulfate	4,800	200,000		″			
Endrin	2,200	89,000	170 J	″	0.88 J		
Endrin Ketone	NS	NS	220 J	″			
Heptachlor Epoxide	NS	NS	120 J	″			
Methoxychlor	NS	NS		″			
PCBs (µg/kg or ppb)							
Aroclor-1242	-----	-----		NA			
Aroclor-1248	-----	-----		″			
Aroclor-1254	-----	-----	680.0	″			
Aroclor-1260	-----	-----	260.0	″			
Aroclor-1262	-----	-----		″			
Aroclor-1268	-----	-----		″			
Total PCBs	1,000	1,000	940.0	″			

Table 7-2 (Continued). Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.							
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-110** **09/18/08** **0.0' - 0.8'** **Foundry Sand**	**SUB-116** **09/18/08** **4.6'** **Silty Clay**	**SUB-A4** **09/16/08** **0.5' - 3.0'** **Sand & Clay**	**SUB-A5** **09/16/08** **0.0' - 2.0'** **Foundry Sand**	
Inorganic Compounds (mg/kg or ppm)							
Aluminum	SB (11,670)	NS	4,290.0	NA	5,410	2,430 (2,810)	
Antimony	SB (1.8)	NS		″			
Arsenic	16.0	16.0	**18.4**	″	3.3		
Barium	350.0	400.0	158.0	″	60.6	42.1 (32.9)	
Beryllium	14.0	590.0		″	0.27	ND (0.24) (0.22)	
Cadmium	2.5	9.3	**6.4**	″		ND (0.24) (0.30)	
Chromium	36.0	1,500	**39.6**	″	7.1	6.8 (5.3)	
Cobalt	30.0 +	NS	12.6	″	5.2	0.97 (1.2)	
Copper	270.0	270.0	214.0	″	24.1	16.1 (20.3)	
Iron	SB (17,300)	NS	**79,200**	″	9,710	12,000 (13,000)	
Lead	400.0	1,000	209.0	″	66.2	9.4 (15.7)	
Manganese	2,000	10,000	1,960	″	504 N	147 N (82.2 N)	
Mercury	0.81	2.8	0.434	″	0.169	0.027 (ND(0.022)	
Nickel	140.0	310.0	40.3	″	9.8	6.3 (8.4)	
Selenium	36.0	1,500		″			
Silver	36.0	1,500		″			
Vanadium	150.0 +	NS	16.8	″	11.9	2.8 (2.2)	
Zinc	2,200	10,000	**6,850**	″	54.6 N	40.5 N (58.2 N)	
Petroleum Products (mg/kg or ppm)							
Fuel Oil # 2	NS	NS	NA	570.0	NA	NA	

Table 7-2 (Continued).
Analytical Results for Subsurface Soil and Fill Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

*	6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+	NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B	Analyte detected in the associated blank, as well as in the sample (organics).
E	Estimated concentration due to the presence of interference (inorganics).
J	Compound reported at an estimated concentration below the sample quantitation limit.
N	Spike recovery is not within control limits and/or duplicate analysis is not within control limits.
NA	Not analyzed.
ND	Compound not detected at the reporting limit given in parentheses.
NS	No standard or guidance value available.
SB	Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( )	Results of a duplicate analysis or a re-analysis.
	Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
	Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
	Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 7-3. Analytical Results for Sludge Samples Collected from the Electrical Control Room during the 2008 Site Investigation at the Dussault Foundry Site.			
Sample Number **Date Sampled** **Sample Depth** **Sample Type**	**Part 375** **Residential** **Soil Cleanup** **Objective ***	**Part 375** **Commercial** **Soil Cleanup** **Objective ***	**SLUDGE-1** **09/12/08** **0.0' - 0.33'** **Sludge**
Volatile Organic Compounds (µg/kg or ppb)			
Acetone	100,000	500,000	240.0 (610 B)
Benzene	2,900	44,000	3 J (9 J)
2-Butanone	100,000	500,000	26 J (73 J)
Carbon Disulfide	2,700 +	NS	12.0 (22 J)
1,4-Dichlorobenzene	9,800	130,000	5 J (ND(43))
Ethylbenzene	30,000	390,000	3 J (ND(43))
Isopropylbenzene	2,300 +	NS	5 J (ND(43))
Methylene Chloride	51,000	500,000	17 B (76 B)
Toluene	100,000	500,000	12.0 (16 J)
Xylene (Total)	100,000	500,000	12 J (ND(130))
Semivolatile Organic Compounds (µg/kg or ppb)			
Bis(2-ethylhexyl)phthalate	50,000 +	NS	28,000
Fluoranthene	100,000	500,000	1,400 J
Phenanthrene	100,000	500,000	6,100 J
Pyrene	100,000	500,000	1,300 J
Pesticides (µg/kg or ppb)			
4,4'-DDE	1,800	62,000	80 J
Endrin Ketone	NS	NS	300.0
PCBs (µg/kg or ppb)			
Aroclor-1242	-----	-----	2,400
Total PCBs	1,000	1,000	**2,400**
Inorganic Compounds (mg/kg or ppm)			
Aluminum	SB (11,670)	NS	7,830
Antimony	SB (1.8)	NS	
Arsenic	16.0	16.0	4.1
Barium	350.0	400.0	220 E
Beryllium	14.0	590.0	2.6
Cadmium	2.5	9.3	**6.2**

Table 7-3 (Continued).
Analytical Results for Sludge Samples Collected from the Electrical Control Room during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SLUDGE-1 09/12/08 0.0' - 0.33' Sludge
Chromium	36.0	1,500	**52.7 E**
Cobalt	30.0 +	NS	13.7
Copper	270.0	270.0	71.3 E
Iron	SB (17,300)	NS	**35,400**
Lead	400.0	1,000	136.0
Manganese	2,000	10,000	285.0
Mercury	0.81	2.8	0.246
Nickel	140.0	310.0	39.9
Selenium	36.0	1,500	
Silver	36.0	1,500	2.8
Vanadium	150.0 +	NS	27.0
Zinc	2,200	10,000	591.0

***** **6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.**
+ **NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.**
B **Analyte detected in the associated blank, as well as in the sample (organics).**
E **Estimated concentration due to the presence of interference (inorganics).**
J **Compound reported at an estimated concentration below the sample quantitation limit.**
ND **Compound not detected at the reporting limit given in parentheses.**
NS **No standard or guidance value available.**
SB **Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).**
( ) **Results of a duplicate analysis or a re-analysis.**
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 7-4.
Analytical Results for Pit Water Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number **Date Sampled** **Sample Location**	**Surface Water Standard ***	**SW-1** **11/03/08** **Cleaning Bldg.**	**SW-2** **11/03/08** **Electrical Room**
Semivolatile Organic Compounds (µg/L or ppb)			
Bis(2-ethylhexyl)phthalate	5.0		**8.0 (10.0)**
Pesticides (µg/L or ppb)			
alpha-BHC	0.01		**0.020 J (0.023 J)**
delta-BHC	0.04		ND (0.048) (0.038 J)
gamma-BHC (Lindane)	0.05		0.025 J (ND(0.049))
4,4'-DDT	0.2		ND (0.048) (0.022 J)
Endrin Aldehyde	5.0 G		0.028 J (ND(0.049))
PCBs (µg/L or ppb)			
Total PCBs	0.09		**0.80 (1.3)**
Inorganic Compounds (µg/L or ppb)			
Aluminum	100.0		**ND (200) (420.0)**
Antimony	3.0		
Arsenic	50.0		
Barium	1,000	22.6	93.3 (112.0)
Beryllium	3.0 G		
Cadmium	5.0		2.0 (3.5)
Chromium	50.0		5.1 (7.3)
Cobalt	5.0		
Copper	200.0		24.5 (44.8)
Iron	300.0	273.0	**12,000 (14,800)**
Lead	50.0		**31.9 (69.9)**
Manganese	300.0	10.0	**337.0 (270.0)**
Mercury	0.7		
Nickel	100.0		16.1 (29.8)
Selenium	10.0		
Silver	50.0		
Thallium	0.5 G		
Vanadium	14.0		
Zinc	2,000 G		158.0 (330.0)

Table 7-4 (Continued).
Analytical Results for Pit Water Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

*****	**NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.**
G	**Guidance value.**
ND	**Compound not detected at the reporting limit given in parentheses.**
J	**Compound reported at an estimated concentration below the reporting limit.**
( )	**Results of a duplicate analysis or a re-analysis.**
	Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
	Shaded values equal or exceed the NYSDEC surface water standards or guidance values.

Table 7-5. Analytical Results for Groundwater Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Location	**Groundwater Standard ***	**MW-1 11/03/08 Well MW-1**	**MW-2 11/04/08 Well MW-2**	**MW-3 11/04/08 Well MW-3**	**MW-4 11/04/08 Well MW-4**	**MW-5 11/04/08 Well MW-5**
Volatile Organic Compounds (µg/L or ppb)						
Acetone	50 G			3.6 J	3.0 J	2.3 J
Carbon Disulfide	NS					0.46 J
cis-1,2-Dichloroethene	5.0				2.2	
Trichloroethene	5.0				2.8	
Vinyl Chloride	2.0				0.36 J	
Semivolatile Organic Compounds (µg/L or ppb)						
Bis(2-ethylhexyl)phthalate	5.0					**8.0**
Pesticides (µg/L or ppb)						
Endrin Aldehyde	5.0			0.058		
gamma-Chlordane	0.05					0.014 J
PCBs (µg/L or ppb)						
Total PCBs	0.09					
Inorganic Compounds (µg/L or ppb)						
Aluminum	NS	826.0	1,040	2,540	7,510	24,200
Antimony	3.0					
Arsenic	25.0					12.8
Barium	1,000	23.4	53.1	40.9	101.0	98.9
Beryllium	3.0 G					
Cadmium	5.0					1.4
Chromium	50.0			5.2	9.1	25.9

Table 7-5 (Continued).
Analytical Results for Groundwater Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.

Sample Number Date Sampled Sample Location	Groundwater Standard *	MW-1 11/03/08 Well MW-1	MW-2 11/04/08 Well MW-2	MW-3 11/04/08 Well MW-3	MW-4 11/04/08 Well MW-4	MW-5 11/04/08 Well MW-5
Inorganic Compounds (Continued)						
Cobalt	NS				4.9	9.8
Copper	200.0					32.0
Iron	300.0	**800.0**	**8,600**	**2,470**	**8,330**	**16,000**
Lead	25.0				10.2	**28.5**
Manganese	300.0	29.7	**385.0**	115.0	**547.0**	**402.0**
Mercury	0.7					
Nickel	100.0				10.7	24.1
Selenium	10.0					
Silver	50.0					6.0
Thallium	0.5 G					
Vanadium	NS				10.7	24.9
Zinc	2,000 G		16.4	12.4	15.3	52.5
Miscellaneous Compounds (µg/L or ppb)						
Chloride	250,000	**614,000**	102,000	165,000	28,800	**462,000**
Sulfate	250,000	112,000	**261,000**	189,000	189,000	**1,140,000**
Alkalinity	NS	275,000	468,000	488,000	423,000	395,000

***** **NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.**
G **Guidance value.**
J **Compound reported at an estimated concentration below the reporting limit.**
NS **No standard or guidance value available.**
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the NYSDEC groundwater standards or guidance values.

Table 8-1.
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Surface Soil and Fill Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RR02-SO 12/04/01 0.0' - 0.17' Black Soil	DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand	SS-1 08/14/08 0.0' - 0.17' Foundry Sand	SS-6 08/14/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (μg/kg or ppb)						
Benzo(a)pyrene	1,000	1,000	**5,100 (5,200)**	870.0 (870.0)	**1,500**	860 J
Benzo(a)anthracene	1,000	5,600	**6,000 (5,900)**	890.0 (940.0)	**1,500**	740 J
Benzo(b)fluoranthene	1,000	5,600	**4,400 (5,200)**	**1,100 J (970.0)**	**2,200**	**1,200**
Benzo(k)fluoranthene	1,000	56,000	**5,200 (5,800)**	**970.0 (1,000)**	710 J	480 J
Chrysene	1,000	56,000	**6,200 (6,200)**	**1,100 (1,100)**	**1,600 B**	820 BJ
Dibenzo(a,h)anthracene	330.0	560.0	**1,800 J (1,200 J)**	190 J (190 J)	240 J	150 J
Indeno(1,2,3-cd)pyrene	500.0	5,600	**4,000 (2,500)**	470.0 (460.0)	**840 J**	**500 J**
Inorganic Compounds (mg/kg or ppm)						
Arsenic	16.0	16.0	NA	2.6	3.0	4.3
Chromium	36.0	1,500	″	8.5	6.8	10.0
Zinc	2,200	10,000	″	**2,630**	168.0	94.9

Table 8-1 (Continued).
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Surface Soil and Fill Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-8 08/14/08 0.0' - 0.17' Foundry Sand	SS-11 08/15/08 0.0' - 0.17' Foundry Sand	SS-12 08/15/08 0.0' - 0.17' Foundry Sand	SS-13 08/15/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (µg/kg or ppb)						
Benzo(a)pyrene	1,000	1,000	**18,000**	**2,300**	140 J	**1,100**
Benzo(a)anthracene	1,000	5,600	**20,000**	**2,400**	110 J	690 J
Benzo(b)fluoranthene	1,000	5,600	**25,000**	**3,800**	190 J	**1,200**
Benzo(k)fluoranthene	1,000	56,000	**8,000**	810 J	140 J	530 J
Chrysene	1,000	56,000	**20,000 B**	**2,700 B**	230 BJ	810 BJ
Dibenzo(a,h)anthracene	330.0	560.0	**2,700**	**330 J**		170 J
Indeno(1,2,3-cd)pyrene	500.0	5,600	**7,500**	**880 J**	82 J	**570 J**
Inorganic Compounds (mg/kg or ppm)						
Arsenic	16.0	16.0	14.2	13.4	3.6	6.3
Chromium	36.0	1,500	25.2	**147.0**	**76.6**	27.1
Zinc	2,200	10,000	294.0	207.0	105.0	444.0

Table 8-1 (Continued).
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Surface Soil and Fill Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SS-14 08/15/08 0.0' - 0.17' Foundry Sand	SS-15 08/15/08 0.0' - 0.17' Foundry Sand	SS-16 08/15/08 0.0' - 0.17' Foundry Sand	SS-17 08/15/08 0.0' - 0.17' Foundry Sand
Semivolatile Organic Compounds (μg/kg or ppb)						
Benzo(a)pyrene	1,000	1,000	**8,600**	**1,100**		**14,000**
Benzo(a)anthracene	1,000	5,600	**10,000**	**1,000**		**17,000**
Benzo(b)fluoranthene	1,000	5,600	**12,000**	**1,800**	8 J (ND(980))	**22,000**
Benzo(k)fluoranthene	1,000	56,000	**4,900**	490 J	17 J (ND(980))	**7,100**
Chrysene	1,000	56,000	**9,500 B**	**1,300 B**	31 BJ (150 BJ)	**17,000 B**
Dibenzo(a,h)anthracene	330.0	560.0	**1,100 J**	160 J		**1,800 J**
Indeno(1,2,3-cd)pyrene	500.0	5,600	**3,000**	430 J		**4,700**
Inorganic Compounds (mg/kg or ppm)						
Arsenic	16.0	16.0	**19.3**	10.5	3.3 (ND(2.2))	**30.0**
Chromium	36.0	1,500	17.8	24.0	**45.4 (19.9)**	21.1
Zinc	2,200	10,000	247.0	184.0	63.4 (49.0)	426.0

*** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.**
B Analyte detected in the associated blank, as well as in the sample (organics).
J Compound reported at an estimated concentration below the sample quantitation limit.
NA Not analyzed.
ND Compound not detected at the reporting limit given in parentheses.
( ) Results of a duplicate analysis or a re-analysis.
For metals, only exceedances of the EPA priority pollutant metals are shown.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 8-2. Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-MS02-SO 12/04/01 Unknown Foundry Sand**	**DF-MS04-SD 12/04/01 Unknown Foundry Sand**	**DF-SUB02-SO 12/05/01 Unknown Black & Red Soil**	**DF-SUB03-SD 12/05/01 Unknown Unknown**	**DF-FO-08 04/17/03 8.0' - 8.5' Soil**
Semivolatile Organic Compounds (µg/kg or ppb)							
Benzo(a)pyrene	1,000	1,000		170 J	NA	NA	710.0
Benzo(a)anthracene	1,000	5,600	38 J	220 J	″	″	350.0
Benzo(b)fluoranthene	1,000	5,600		160 J	″	″	910.0
Benzo(k)fluoranthene	1,000	56,000		160 J	″	″	300.0
Chrysene	1,000	56,000	53 J	240 J	″	″	420.0
Dibenzo(a,h)anthracene	330.0	560.0		68 J	″	″	150.0
Indeno(1,2,3-cd)pyrene	500.0	5,600		170 J	″	″	**580.0**
Pesticides (µg/kg or ppb)							
Dieldrin	39.0	1,400	NA	NA	NA	0.16 BJP	NA
Inorganic Compounds (mg/kg or ppm)							
Antimony	SB (1.8)	NS	0.66 BN	1.1 BN	**3.4 B**	1.1 BN	NA
Arsenic	16.0	16.0	1.8 B	3.6	12.1	5.3	″
Cadmium	2.5	9.3	0.39 B	0.84 B	0.89 B	0.87 B	″
Chromium	36.0	1,500	**45.5**	**43.0**	11.0	**107.0**	″
Lead	400.0	1,000	10.2	41.6	36.3	31.0	″
Mercury	0.81	2.8			NR	0.09 BN	″
Zinc	2,200	10,000	34.1	63.8	240 N	57.4	″

Table 8-2 (Continued). Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-10 09/16/08 1.0' Foundry Sand**	**SUB-16 08/29/08 1.3' Foundry Sand**	**SUB-22 09/02/08 0.5' - 1.0' Foundry Sand**	**SUB-25 09/16/08 0.0' - 2.0' Mixed Fill**	**SUB-32 09/02/08 0.5' - 1.0' Foundry Sand**
Semivolatile Organic Compounds (µg/kg or ppb)							
Benzo(a)pyrene	1,000	1,000	640 J	**2,000 J**	**1,200 J**	820 J	**5,600 (4,000)**
Benzo(a)anthracene	1,000	5,600	510 J	**1,700 J**	**1,000 J**	690 J	**5,200 (3,600 J)**
Benzo(b)fluoranthene	1,000	5,600	**1,100**	**2,800 J**	**1,700 J**	980.0	**7,900 (5,500)**
Benzo(k)fluoranthene	1,000	56,000	280 J	**1,000 J**	560 J	280 J	**2,600 J (1,900 J)**
Chrysene	1,000	56,000	480 J	**2,700 BJ**	**1,500 BJ**	640 J	**5,300 B (3,800 B)**
Dibenzo(a,h)anthracene	330.0	560.0	140 J	**480 J**	230 J	150 J	**1,000 J (760 J)**
Indeno(1,2,3-cd)pyrene	500.0	5,600	430 J	**1,500 J**	**740 J**	**510 J**	**3,200 J (2,300 J)**
Pesticides (µg/kg or ppb)							
Dieldrin	39.0	1,400	0.71 J				
Inorganic Compounds (mg/kg or ppm)							
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	4.0	**20.9 N**	**26.1 N**	7.0	7.9 N (9.5 N)
Cadmium	2.5	9.3	0.29	0.73	1.8		0.31 (0.47)
Chromium	36.0	1,500	10.8	12.2 N	14.8 N	9.4	10.7 N (14.1 N)
Lead	400.0	1,000	60.9	399.0	**520.0**	138.0	119.0 (162.0)
Mercury	0.81	2.8	0.072	**1.2**	0.740	0.336	0.232 (0.210)
Zinc	2,200	10,000	575 N	457.0	717.0	86.5 N	152.0 (196.0)

Table 8-2 (Continued).
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-36 09/02/08 1.5' - 2.0' Soil Fill with Coal	SUB-47 09/03/08 1.5' Foundry Sand	SUB-49 09/03/08 2.0' Foundry Sand	SUB-58 09/04/08 10.0' Foundry Sand	SUB-61 09/03/08 2.5' Sandy Clay
Semivolatile Organic Compounds (µg/kg or ppb)							
Benzo(a)pyrene	1,000	1,000	**6,100**	**14,000**	**2,000 J**	**1,400**	
Benzo(a)anthracene	1,000	5,600	**6,100**	**16,000**	**1,800 J**	**1,200**	
Benzo(b)fluoranthene	1,000	5,600	**8,000**	**18,000**	**2,700 J**	**2,700**	
Benzo(k)fluoranthene	1,000	56,000	**2,600 J**	**7,400**	910 J	980.0	
Chrysene	1,000	56,000	**6,900 B**	**14,000 B**	**2,200 BJ**	**1,600**	430 BJ
Dibenzo(a,h)anthracene	330.0	560.0	**860 J**	**2,000 J**	**350 J**	**460 J**	
Indeno(1,2,3-cd)pyrene	500.0	5,600	**2,800 J**	**6,100**	**1,100 J**	**1,200**	
Pesticides (µg/kg or ppb)							
Dieldrin	39.0	1,400			1.5 J		
Inorganic Compounds (mg/kg or ppm)							
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	7.8 N	**19.8 N**	10.1 N	3.7	5.5 N
Cadmium	2.5	9.3	0.73	1.3	1.1		
Chromium	36.0	1,500	17.9 N	21.2 N	20.5 N	10.0	**204 N**
Lead	400.0	1,000	193.0	**426.0**	301.0	11.0	274.0
Mercury	0.81	2.8	0.333	0.390 N	0.743 N		0.072 N
Zinc	2,200	10,000	237.0	374.0	264.0	26.1	45.6

Table 8-2 (Continued).
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-69 09/04/08 0.0' - 1.0' Foundry Sand	SUB-80 09/08/08 1.5' Foundry Sand	SUB-82 09/08/08 1.0' - 1.5' Foundry Sand	SUB-89 09/09/08 0.5' - 5.0' Foundry Sand	SUB-90 09/09/08 4.0' - 6.0' Foundry Sand
Semivolatile Organic Compounds (µg/kg or ppb)							
Benzo(a)pyrene	1,000	1,000	**6,200**	58 J	**1,200**	**5,600 (5,400)**	900 J
Benzo(a)anthracene	1,000	5,600	**8,200**	88 J	**1,600**	**9,300 (6,600)**	**1,200 J**
Benzo(b)fluoranthene	1,000	5,600	**9,100**	92 J	**2,200**	**7,800 (7,400)**	**1,200 J**
Benzo(k)fluoranthene	1,000	56,000	**2,500**		490 J	**2,200 (1,900)**	490 J
Chrysene	1,000	56,000	**6,600**	87 J	**1,600**	**8,900 (6,400)**	**1,100 J**
Dibenzo(a,h)anthracene	330.0	560.0	**1,400 J**		220 J	**750 J (900 J)**	150 J
Indeno(1,2,3-cd)pyrene	500.0	5,600	**4,200**	42 J	**740 J**	**2,500 (2,900)**	480 J
Pesticides (µg/kg or ppb)							
Dieldrin	39.0	1,400				ND (36) (11 J)	
Inorganic Compounds (mg/kg or ppm)							
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	**16.7**	2.6	15.1	9.2 (8.6)	7.5
Cadmium	2.5	9.3	1.6			0.57 (0.67)	1.1
Chromium	36.0	1,500	12.8	**43.9**	8.8	12.6 (12.1)	16.7
Lead	400.0	1,000	**518.0**	47.7	215.0	169.0 (173.0)	**811.0**
Mercury	0.81	2.8	0.478 N	0.131	0.296	0.373 (0.434)	**0.820**
Zinc	2,200	10,000	957.0	54.6	83.2	149.0 (156.0)	521.0

Table 8-2 (Continued). Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.							
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-99 09/15/08 1.0' - 1.8' Foundry Sand**	**SUB-101 09/12/08 1.5' Foundry Sand**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**SUB-110 09/18/08 0.0' - 0.8' Foundry Sand**	
Semivolatile Organic Compounds (μg/kg or ppb)							
Benzo(a)pyrene	1,000	1,000	**7,600**		360 J	500 J	
Benzo(a)anthracene	1,000	5,600	**8,300**	16 J	400 J	320 J	
Benzo(b)fluoranthene	1,000	5,600	**11,000**	13 J	490 J	780 J	
Benzo(k)fluoranthene	1,000	56,000	**3,100**		190 J	470 J	
Chrysene	1,000	56,000	**7,400**	9 J	410 J	450 J	
Dibenzo(a,h)anthracene	330.0	560.0	**1,500 J**		55 J	140 J	
Indeno(1,2,3-cd)pyrene	500.0	5,600	**3,400**		160 J	280 J	
Pesticides (μg/kg or ppb)							
Dieldrin	39.0	1,400				**170 J**	
Inorganic Compounds (mg/kg or ppm)							
Antimony	SB (1.8)	NS					
Arsenic	16.0	16.0	**22.8**		6.7	**18.4**	
Cadmium	2.5	9.3	1.4		0.38	**6.4**	
Chromium	36.0	1,500	20.3 N	**50.6 E**	19.4	**39.6**	
Lead	400.0	1,000	320 N	18.5	**478.0**	209.0	
Mercury	0.81	2.8	0.328		0.305	0.434	
Zinc	2,200	10,000	565 N	6.8	104.0	**6,850**	

Table 8-2 (Continued).
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Subsurface Soil and Fill Samples Collected at the Dussault Foundry Site.

*	6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
B	Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
E	Estimated concentration due to the presence of interference (inorganics).
J	Compound reported at an estimated concentration below the sample quantitation limit.
N	Spike sample recovery is not within the control limits.
NA	Not analyzed.
ND	Compound not detected at the reporting limit given in parentheses.
NR	Not reported.
P	>25% difference between the analytical results on two GC columns. The lower value is reported.
SB	Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( )	Results of a duplicate analysis or a re-analysis.
	For metals, only exceedances of the EPA priority pollutant metals are shown.
	Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
	Shaded values equal or exceed the Part 375 residential soil cleanup objectives.
	Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 8-3.
Summary of NYSDEC Part 375 Soil Cleanup Objective Exceedances in Sludge Samples Collected from the Electrical Control Room at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-SED01-DO 12/05/01 Unknown Sludge	DF-SED01-DD 12/05/01 Unknown Sludge	SLUDGE-1 09/12/08 0.0' - 0.33' Sludge
PCBs (µg/kg or ppb)					
Total PCBs	1,000	1,000	260 P	440 P	**2,400**
Inorganic Compounds (mg/kg or ppm)					
Cadmium	2.5	9.3	NA	NA	**6.2**
Chromium	36.0	1,500	〃	〃	**52.7 E**

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
E Estimated concentration due to the presence of interference.
NA Not analyzed.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
Shaded values equal or exceed the Part 375 residential soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 8-4.
Summary of NYSDEC Surface Water Exceedances in Pit Water Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Location	Surface Water Standard *	DF-Sump3-WO 12/04/01 Electrical Room	SW-2 11/03/08 Electrical Room	DF-Sump4-WO 12/04/01 Cleaning Bldg.	SW-1 11/03/08 Cleaning Bldg.
Semivolatile Organic Compounds (µg/L or ppb)					
Phenols - Total	1.0	**15.1**			
Bis(2-ethylhexyl)phthalate	5.0		**8.0 (10.0)**		
Pesticides (µg/L or ppb)					
alpha-BHC	0.01		**0.020 J (0.023 J)**		
PCBs (µg/L or ppb)					
Total PCBs	0.09		**0.80 (1.3)**		
Inorganic Compounds (µg/L or ppb)					
Antimony	3.0				
Cadmium	5.0	**9.3**	2.0 (3.5)	0.38 B	
Lead	50.0	**60.3**	**31.9 (69.9)**	6.0	
Thallium	0.5 G	**3.9 B**		**3.4 B**	

***** NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.
B Value greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
G Guidance value.
J Compound reported at an estimated concentration below the reporting limit.
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the NYSDEC surface water standards or guidance values.

Table 8-5.
Summary of NYSDEC Groundwater Exceedances at the Dussault Foundry Site.

Sample Number Date Sampled Sample Location	Groundwater Standard *	MW-1 11/03/08 Well MW-1	MW-2 11/04/08 Well MW-2	MW-3 11/04/08 Well MW-3	MW-4 11/04/08 Well MW-4	MW-5 11/04/08 Well MW-5
Semivolatile Organic Compounds (µg/L or ppb)						
Bis(2-ethylhexyl)phthalate	5.0					**8.0**
Inorganic Compounds (Continued)						
Lead	25.0				10.2	**28.5**
Miscellaneous Compounds (µg/L or ppb)						
Chloride	250,000	**614,000**	102,000	165,000	28,800	**462,000**
Sulfate	250,000	112,000	**261,000**	189,000	189,000	**1,140,000**

*** NYSDEC Ambient Water Quality Standards and Guidance Values, June 1998.**
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the NYSDEC groundwater standards or guidance values.

Table 9-1.
Analytical Results for Samples Collected to Evaluate the Fuel Oil Spill Near the Cleaning Building at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-61 09/03/08 2.5' Sandy Clay	SUB-61 09/03/08 4.0' Sand Seam	SUB-116 09/18/08 4.6' Silty Clay
Volatile Organic Compounds (μg/kg or ppb)					
Acetone	100,000	500,000	14 BJ	22 BJ	46 B
1,2-Dibromo-3-chloropropane	NS	NS		6.0	
Isopropylbenzene	2,300 +	NS		2 J	2 J
Methylcyclohexane	NS	NS		2 J	2 J
Methylene Chloride	51,000	500,000	13 B	12 B	7 B
Semivolatile Organic Compounds (μg/kg or ppb)					
Anthracene	100,000	500,000			64 J
Benzo(a)anthracene	1,000	5,600			55 J
Benzo(b)fluoranthene	1,000	5,600			50 J
Chrysene	1,000	56,000	430 BJ	400 BJ	
Dibenzofuran	14,000	350,000			53 J
Fluoranthene	100,000	500,000			61 J
Fluorene	100,000	500,000			55 J
2-Methylnaphthalene	36,400 +	NS			84 J
Naphthalene	100,000	500,000			50 J
N-nitrosodiphenylamine	NS	NS			170 J
Phenanthrene	100,000	500,000			220 J
Pyrene	100,000	500,000			40 J
Pesticides (μg/kg or ppb)					
Pesticides	Not Applicable	Not Applicable			NA
PCBs (μg/kg or ppb)					
Total PCBs	1,000	1,000			NA
Inorganic Compounds (mg/kg or ppm)					
Aluminum	SB (11,670)	NS	2,790 N	3,920 N	NA
Antimony	SB (1.8)	NS			″
Arsenic	16.0	16.0	5.5 N	9.9 N	″
Barium	350.0	400.0	34.0 N	37.0 N	″
Beryllium	14.0	590.0	0.36	0.62	″

Table 9-1 (Continued).
Analytical Results for Samples Collected to Evaluate the Fuel Oil Spill Near the Cleaning Building at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	SUB-61 09/03/08 2.5' Sandy Clay	SUB-61 09/03/08 4.0' Sand Seam	SUB-116 09/18/08 4.6' Silty Clay
Inorganic Compounds (Continued)					
Cadmium	2.5	9.3			NA
Chromium	36.0	1,500	**204 N**	9.6 N	″
Cobalt	30.0 +	NS	5.3	5.9	″
Copper	270.0	270.0	52.0 N	27.2 N	″
Iron	SB (17,300)	NS	**23,500 N**	**20,700 N**	″
Lead	400.0	1,000	274.0	64.0	″
Manganese	2,000	10,000	503.0	402.0	″
Mercury	0.81	2.8	0.072 N	0.085 N	″
Nickel	140.0	310.0	35.2 N	12.9 N	″
Selenium	36.0	1,500			″
Silver	36.0	1,500			″
Vanadium	150.0 +	NS	16.0 N	10.0 N	″
Zinc	2,200	10,000	45.6	47.3	″
Petroleum Products (mg/kg or ppm)					
Fuel Oil # 2	NS	NS	300.0	64.0	570.0

*** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.**
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics).
J Compound reported at an estimated concentration below the sample quantitation limit.
N Spike recovery is not within control limits and/or duplicate analysis is not within control limits.
NA Not analyzed.
NS No standard or guidance value available.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 9-2. Analytical Results for Raceway Soil and Waste Samples Collected at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Volatile Organic Compounds (μg/kg or ppb)						
Methylcyclohexane	NS	NS	1 J	NA		NA
Tetrachloroethene	5,500	150,000	8 J (6 J)	″		″
Trichloroethene	10,000	200,000	23.0 (19.0)	″		″
Semivolatile Organic Compounds (μg/kg or ppb)						
Acenaphthene	100,000	500,000		41 J		
Acenaphthylene	100,000	500,000	190 J (210 J)	76 J	400.0 (360 J)	96 J
Acetophenone	NS	NS	56 J (56 J)		92 J (140 J)	
Anthracene	100,000	500,000	160 J (160 J)	120 J	290 J (260 J)	63 J
Benzaldehyde	NS	NS	(42 J)		66 J (74 J)	
Benzo(a)pyrene	1,000	1,000	340 J (350 J)	360 J	870.0 (870.0)	640 J
Benzo(a)anthracene	1,000	5,600	370 J (360 J)	400 J	890.0 (940.0)	510 J
Benzo(b)fluoranthene	1,000	5,600	320 J (320 J)	490 J	**1,100 J (970.0)**	**1,100**
Benzo(g,h,i)perylene	100,000	500,000	190 J (190 J)	140 J	320 J (300 J)	460 J
Benzo(k)fluoranthene	1,000	56,000	310 J (370 J)	190 J	**970.0 (1,000)**	280 J
Biphenyl	NS	NS	78 J (84 J)		62 J (62 J)	
Carbazole	NS	NS	66 J (64 J)	57 J	91 J (85 J)	
Chrysene	1,000	56,000	430.0 (440.0)	410 J	**1,100 (1,100)**	480 J
Dibenzo(a,h)anthracene	330.0	560.0	110 J (100 J)	55 J	190 J (190 J)	140 J
Dibenzofuran	14,000	350,000	80 J (84 J)	61 J	81 J (82 J)	37 J
Fluoranthene	100,000	500,000	610.0 (590.0)	700 J	1,300 (1,100)	760 J

Table 9-2 (Continued). Analytical Results for Raceway Soil and Waste Samples Collected at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)						
Fluorene	100,000	500,000		40 J		
Indeno(1,2,3-cd)pyrene	500.0	5,600	270 J (260 J)	160 J	470.0 (460.0)	430 J
2-Methylnaphthalene	36,400 +	NS	280 J (280 J)	140 J	360 J (350 J)	150 J
4-Methylphenol	34,000	500,000			(39 J)	
Naphthalene	100,000	500,000	190 J (200 J)	86 J	280 J (280 J)	140 J
Phenanthrene	100,000	500,000	450.0 (440.0)	460 J	400.0 (400.0)	190 J
Phenol	100,000	500,000	45 J (45 J)		46 J (47 J)	
Pyrene	100,000	500,000	450.0 (380 J)	490 J	760.0 (890.0)	570 J
Pesticides (µg/kg or ppb)						
4,4-DDD	2,600	92,000	1.3 JP	13 J		
4,4-DDE	1,800	62,000	4.5 P	13 J	4.9 P	0.78 J
4,4'-DDT	1,700	47,000	11.0	54.0	6.3	4.4
Aldrin	19.0	680.0	1.9 JP		3.2 P	
alpha-Chlordane	910.0	24,000	1.3 JP		1.3 JP	
Dieldrin	39.0	1,400	0.83 BJP		0.29 BJP	0.71 J
Endosulfan I	4,800	200,000	1.7 JP		2.3 P	
Endosulfan II	4,800	200,000	2.2 JP		1.1 JP	
Endosulfan Sulfate	4,800	200,000			7.6 P	
Endrin	2,200	89,000	2.0 JP		1.7 JP	
Endrin Aldehyde	NS	NS	2.4 BJP		2.0 BJP	

Table 9-2 (Continued). Analytical Results for Raceway Soil and Waste Samples Collected at the Dussault Foundry Site.						
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam**	**SUB-104 09/10/08 4.5' - 5.0' Foundry Sand**	**DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand**	**SUB-10 09/16/08 1.0' Foundry Sand**
Pesticides (Continued)						
Endrin Ketone	NS	NS	10.0		14.0 P	
gamma-Chlordane	540.0 +	NS	0.83 JP		1.4 J	
Heptachlor Epoxide	NS	NS	2.4 P		8.4 P	
Methoxychlor	NS	NS	15 J			
PCBs (μg/kg or ppb)						
Aroclor-1242	-----	-----				
Aroclor-1254	-----	-----	40 BP	26.0		
Aroclor-1268	-----	-----		26.0		36.0
Total PCBs	1,000	1,000	40 BP	52.0		36.0
Inorganic Compounds (mg/kg or ppm)						
Aluminum	SB (11,670)	NS	3,540	3,820	2,410	3,280
Antimony	SB (1.8)	NS	0.59 BN		0.47 BN	
Arsenic	16.0	16.0	6.0	6.7	2.6	4.0
Barium	350.0	400.0	42.4 B	61.5	36.9 B	35.6
Beryllium	14.0	590.0	0.45 B	0.30	0.24 B	
Cadmium	2.5	9.3	0.63 B	0.38	1.1 B	0.29
Chromium	36.0	1,500	13.4	19.4	8.5	10.8
Cobalt	30.0 +	NS	5.9 B	7.2	9.6 B	9.8
Copper	270.0	270.0	39.5 N	72.3	70.8 N	61.2
Iron	SB (17,300)	NS	13,400	**27,500**	13,000	16,800

Table 9-2 (Continued).
Analytical Results for Raceway Soil and Waste Samples Collected at the Dussault Foundry Site.

Sample Number Date Sampled Sample Depth Sample Type	Part 375 Residential Soil Cleanup Objective *	Part 375 Commercial Soil Cleanup Objective *	DF-RW01-SO 12/04/01 0.0' - 0.17' Black Silty Loam	SUB-104 09/10/08 4.5' - 5.0' Foundry Sand	DF-RW02-SO 12/04/01 0.0' - 0.17' Foundry Sand	SUB-10 09/16/08 1.0' Foundry Sand
Inorganic Compounds (Continued)						
Lead	400.0	1,000	69.5	**478.0**	59.7	60.9
Manganese	2,000	10,000	357 N	433.0	1,230 N	626 N
Mercury	0.81	2.8	0.13	0.305	0.073 BN	0.072
Nickel	140.0	310.0	18.0	29.8	38.1	53.1
Selenium	36.0	1,500	0.64 BN		1.1 BN	
Silver	36.0	1,500	0.22 B		0.084 B	
Thallium	SB (2.6)	NS				
Vanadium	150.0 +	NS	8.1 B	9.4	6.3 B	6.8
Zinc	2,200	10,000	83.6	104.0	**2,630**	575 N

***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
B Analyte detected in the associated blank, as well as in the sample (organics) or the value is greater than or equal to the instrument detection limit, but less than the contract required detection limit (inorganics).
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
P >25% difference between the analytical results on two GC columns. The lower value is reported.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
( ) Results of a duplicate analysis or a re-analysis.
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

Table 9-3. Analytical Results for Drum Waste Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.					
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-90 09/09/08 4.0' - 6.0' Foundry Sand**
Volatile Organic Compounds (µg/kg or ppb)					
Benzene	2,900	44,000		**54,000**	640.0
Cyclohexane	NS	NS		540,000	4,900
Ethylbenzene	30,000	390,000	5,700 J	**150,000**	1,200
Isopropylbenzene	2,300 +	NS	**56,000**	**66,000**	680.0
Methylcyclohexane	NS	NS		890,000	10,000
Methylene Chloride	51,000	500,000			140.0
Toluene	100,000	500,000		**270,000**	2,700
Xylene (Total)	100,000	500,000	**140,000**	**930,000**	8,000
Semivolatile Organic Compounds (µg/kg or ppb)					
Acenaphthene	100,000	500,000	19,000 J		
Acenaphthylene	100,000	500,000			220 J
Acetophenone	NS	NS	48,000 J		
Anthracene	100,000	500,000			280 J
Benzo(a)pyrene	1,000	1,000			900 J
Benzo(a)anthracene	1,000	5,600	**5,500 J**		**1,200 J**
Benzo(b)fluoranthene	1,000	5,600			**1,200 J**
Benzo(g,h,i)perylene	100,000	500,000			510 J
Benzo(k)fluoranthene	1,000	56,000			490 J
Biphenyl	NS	NS	26,000 J		
Carbazole	NS	NS			150 J

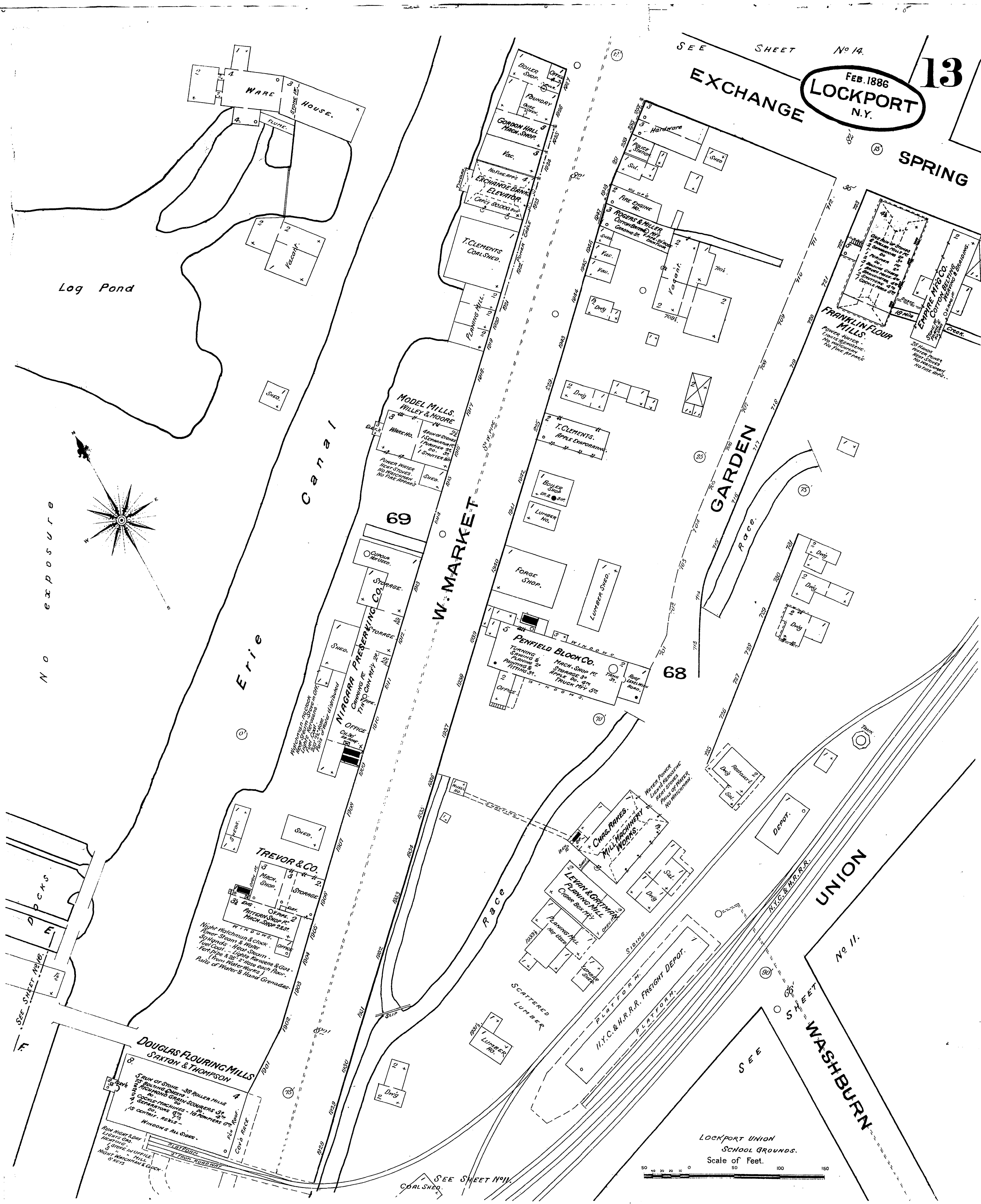
Table 9-3 (Continued). Analytical Results for Drum Waste Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.					
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-90 09/09/08 4.0' - 6.0' Foundry Sand**
Semivolatile Organic Compounds (Continued)					
Chrysene	1,000	56,000	**5,700 J**		**1,100 J**
Dibenzo(a,h)anthracene	330.0	560.0			150 J
Diethylphthalate	7,100 +	NS	6,100 J		
2,4-Dimethylphenol	NS	NS	44,000 J		
4,6-Dinitro-2-methylphenol	NS	NS	77,000 J		
Fluoranthene	100,000	500,000	19,000 J		2,000
Fluorene	100,000	500,000	32,000 J		
Indeno(1,2,3-cd)pyrene	500.0	5,600			480 J
2-Methylnaphthalene	36,400 +	NS	**73,000 J**	**48,000 J**	
Naphthalene	100,000	500,000	**640,000**	**410,000 J**	210 J
Phenanthrene	100,000	500,000	**140,000**		890 J
Pyrene	100,000	500,000	35,000 J		1,700 J
PCBs (µg/kg or ppb)					
Aroclor-1248	-----	-----	2,600		
Total PCBs	1,000	1,000	**2,600**		
Inorganic Compounds (mg/kg or ppm)					
Aluminum	SB (11,670)	NS		15.0	6,880
Antimony	SB (1.8)	NS			
Arsenic	16.0	16.0			7.5
Barium	350.0	400.0		0.64	569.0

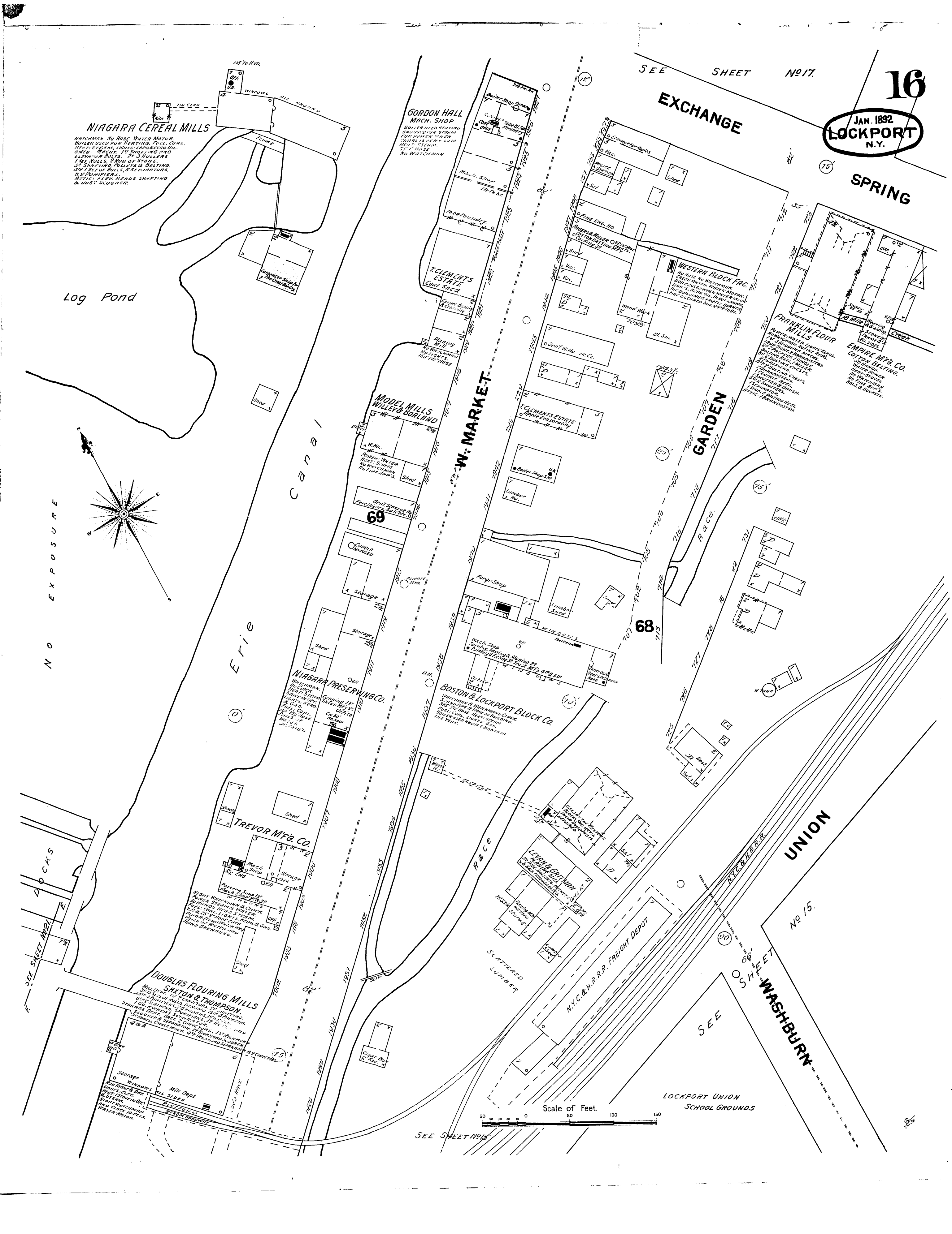
Table 9-3 (Continued). Analytical Results for Drum Waste Samples Collected during the 2008 Site Investigation at the Dussault Foundry Site.					
Sample Number Date Sampled Sample Depth Sample Type	**Part 375 Residential Soil Cleanup Objective ***	**Part 375 Commercial Soil Cleanup Objective ***	**SUB-08 08/28/08; 11/04/08 NA Waste in Drum**	**SUB-90 09/09/08 NA Tar in Drum**	**SUB-90 09/09/08 4.0' - 6.0' Foundry Sand**
Inorganic Compounds (Continued)					
Beryllium	14.0	590.0			0.52
Cadmium	2.5	9.3			1.1
Chromium	36.0	1,500			16.7
Cobalt	30.0 +	NS	**123.0**		5.2
Copper	270.0	270.0			84.4
Iron	SB (17,300)	NS	212.0	73.3	15,500
Lead	400.0	1,000	**2,900**	2.4	**811.0**
Manganese	2,000	10,000	2.3	1.1	440.0
Mercury	0.81	2.8			**0.820**
Nickel	140.0	310.0		1.6	21.0
Selenium	36.0	1,500			
Silver	36.0	1,500			
Vanadium	150.0 +	NS		10.7	15.0
Zinc	2,200	10,000	24.0	2.2	521.0

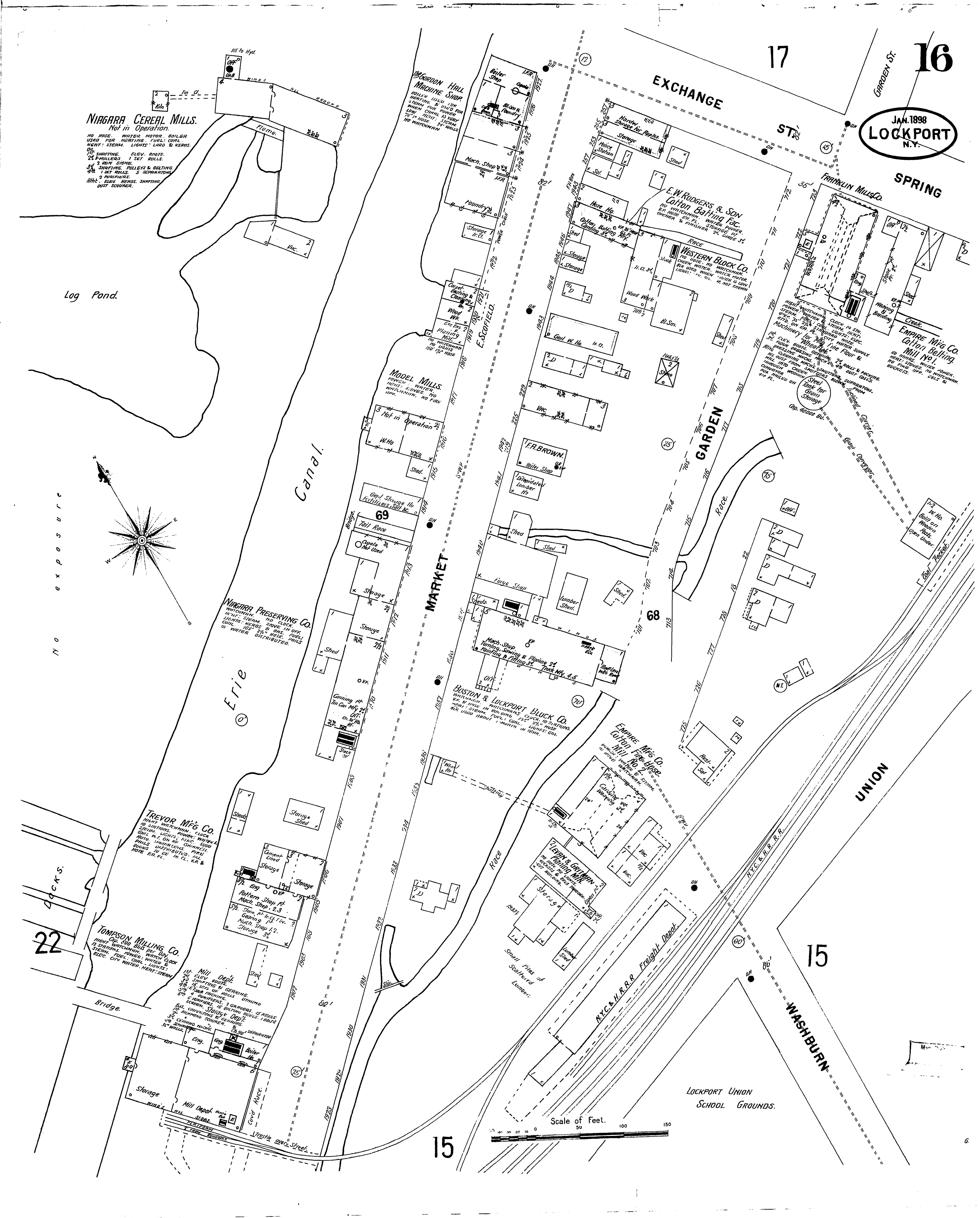
***** 6 NYCRR Part 375: Environmental Remediation Programs, Restricted Use Soil Cleanup Objectives, NYSDEC, 2006.
+ NYSDEC Technical and Guidance Memorandum (TAGM) 4046: Determination of Soil Cleanup Objectives and Cleanup Levels, 1995.
J Compound reported at an estimated concentration below the sample quantitation limit.
NS No standard or guidance value available.
SB Site background concentration as determined during the Site Investigation of the Former Flintkote Plant Site (TVGA, 2005).
Blanks indicate that the sample was analyzed for the associated compound but it was not detected.
Shaded values equal or exceed the Part 375 residential or TAGM 4046 soil cleanup objectives.
Hachured values equal or exceed both the Part 375 residential and commercial soil cleanup objectives.

APPENDIX A

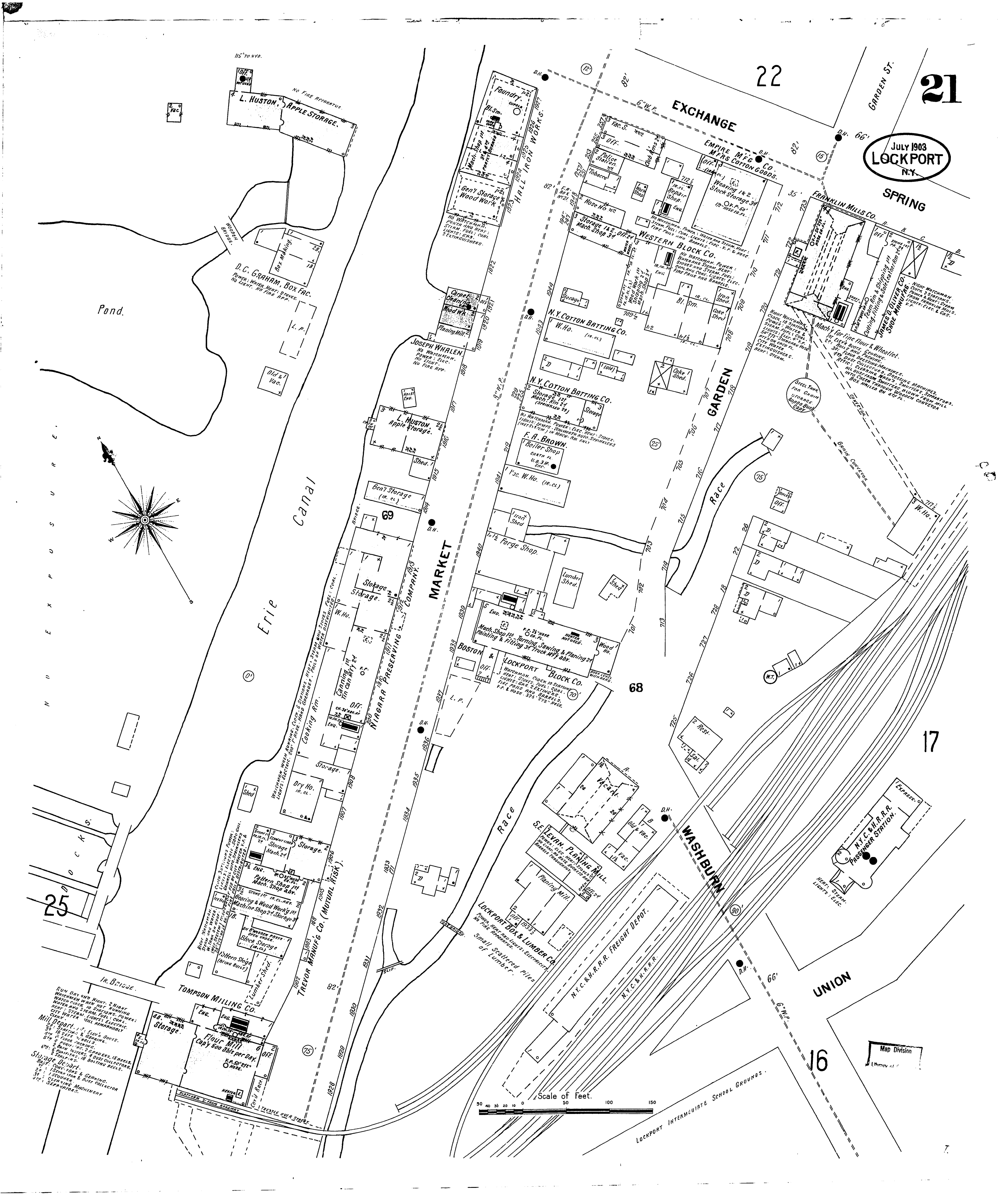
SANBORN FIRE INSURANCE MAPS

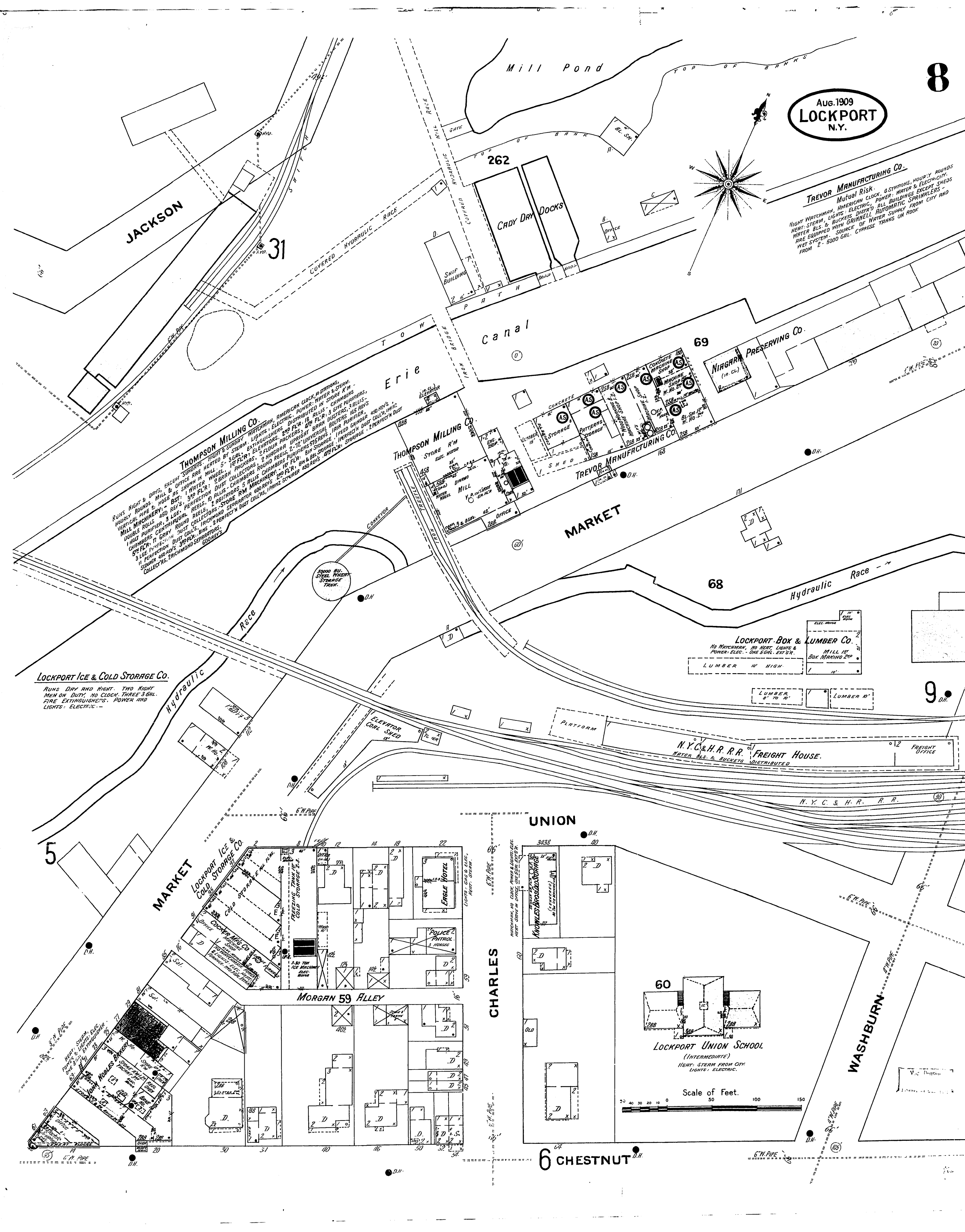

13
FEB. 1886
LOCKPORT
N.Y.
SEE SHEET No. 14.
EXCHANGE
SPRING
WARE HOUSE
FLUME
Log Pond
Vacant
Shed.
No exposure
Erie Canal
W. MARKET
GARDEN
Race
UNION
WASHBURN
No. 11.
SEE SHEET No. 11.
SEE SHEET No. 8.
DOCKS
Boiler Shop.
Foundry
Gordon Hall Mach. Shop.
Vac.
Exchange Bank Elevator.
T. Clements Coal Shed.
Planing Mill.
Model Mills. Willey & Moore
Ware Ho.
Power Water
Heat Stoves
No Watchman
No Fire Apparatus
69
Cupola Not Used.
Storage.
Niagara Preserving Co.
Canning 1st
Tin Can Mfy 2nd
Office
Shed.
Sheds.
Trevor & Co.
Mach. Shop.
Storage.
Pattern Shop 1st
Mach. Shop 2 & 3rd
Night Watchman & Clock.
Power Steam & Water
30 Hands. Heat Steam.
Fuel Coal. Lights Kerosene & Gas.
Douglas Flouring Mills
Saxton & Thompson
Windows All Sides.
Hardware
Police Station.
Sal.
Fire Engine Ho.
Rogers & Miller Cotton Batting Mfy.
Vac.
Dwlg
Vacant.
T. Clements. Apple Evaporating.
Boiler Shop
Lumber Ho.
Forge Shop.
Lumber Shed.
Penfield Block Co.
Turning, Sawing & Planing 2nd
Painting & Fitting 3rd
Mach. Shop 1st
Storage 3rd
Apple Do. 4th
Truck Mfy 5th
Office
68
Franklin Flour Mills.
Power Water
Lights Kerosene
No Watchman
No Fire Apparatus
Empire Mfg Co.
Cotton Belting, Webbing & Braiding
Chas. Rames. Mill Machinery Works.
Water Power
Lights Kerosene
Heat Stoves
Pails of Water
No Watchman
Levan & Grotman Planing Mill Cigar Box Mfy
Planing Mill Not Used.
Lumber Shed
Scattered Lumber
Lumber Ho.
Dwlg
Sal.
Restaurant
Depot.
Tank
Siding
N.Y.C. & H.R.R.R.
Platform
N.Y.C. & H.R.R.R. Freight Depot.
Slip
Coal Shed.
SEE SHEET
Lockport Union School Grounds.
Scale of Feet.
50 40 30 20 10 0 50 100 150

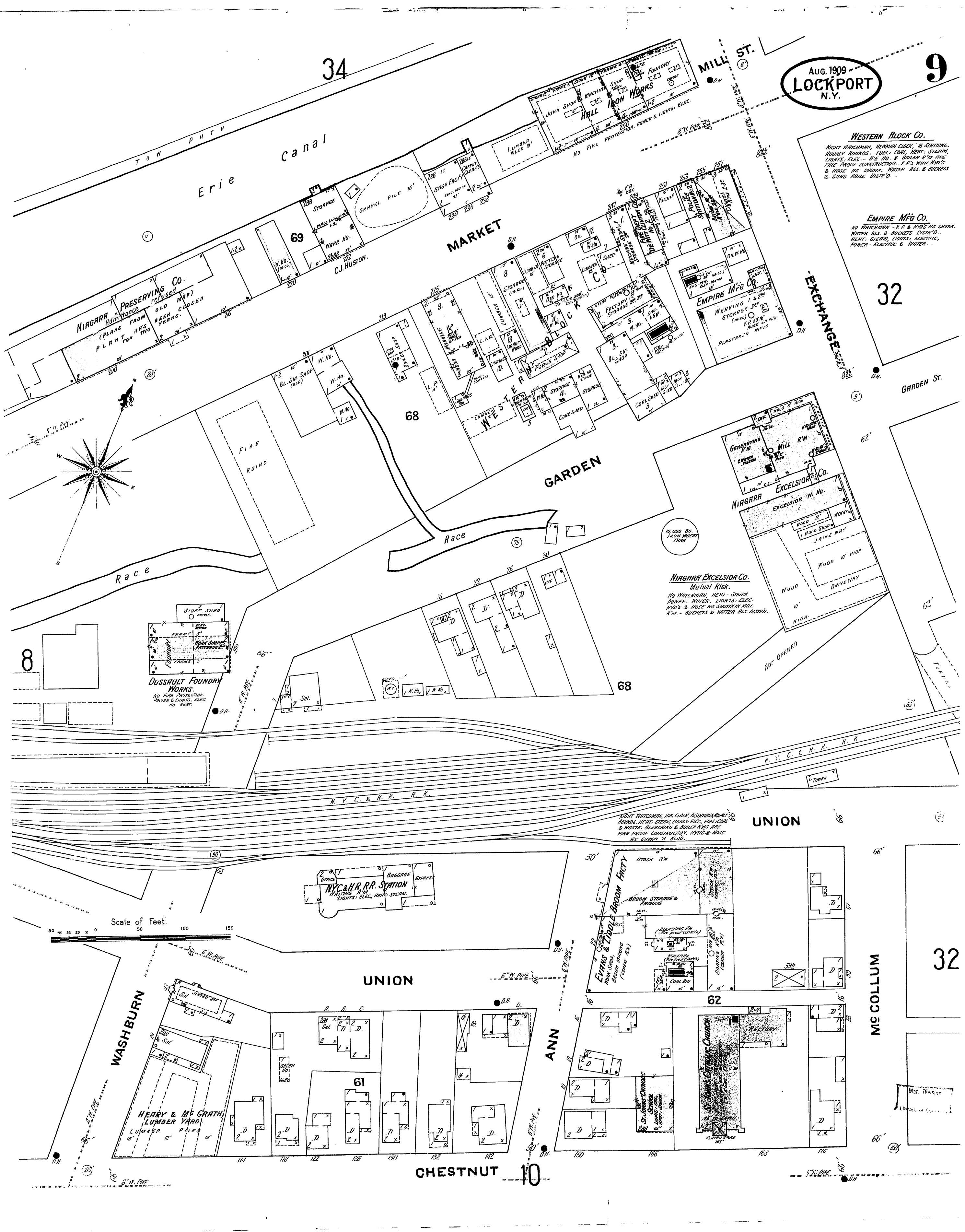

16
JAN. 1892
LOCKPORT
N.Y.
SEE SHEET №17.
EXCHANGE
SPRING
NIAGARA CEREAL MILLS
Log Pond
Erie Canal
NO EXPOSURE
DOCKS
SEE SHEET №21.
GORDON HALL MACH. SHOP
T. CLEMENTS ESTATE Coal Shed
MODEL MILLS WILLEY & BORLAND
69
W. MARKET
NIAGARA PRESERVING CO.
TREVOR MFG. CO.
DOUGLAS FLOURING MILLS SAXTON & THOMPSON
WESTERN BLOCK FAC.
Fire Eng. Ho.
T. CLEMENTS ESTATE
Forge Shop
Lumber Shed
BOSTON & LOCKPORT BLOCK CO.
68
GARDEN
Race
FRANKLIN FLOUR MILLS
EMPIRE MFG. CO. COTTON BELTING
UNION
No. 15.
SEE SHEET
WASHBURN
N.Y.C.&H.R.R.R. FREIGHT DEPOT
N.Y.C.&H.R.R.R.
LEVAN & GRITMAN
SCATTERED LUMBER
LOCKPORT UNION SCHOOL GROUNDS
Scale of Feet.
50 40 30 20 10 0 50 100 150
SEE SHEET №15.



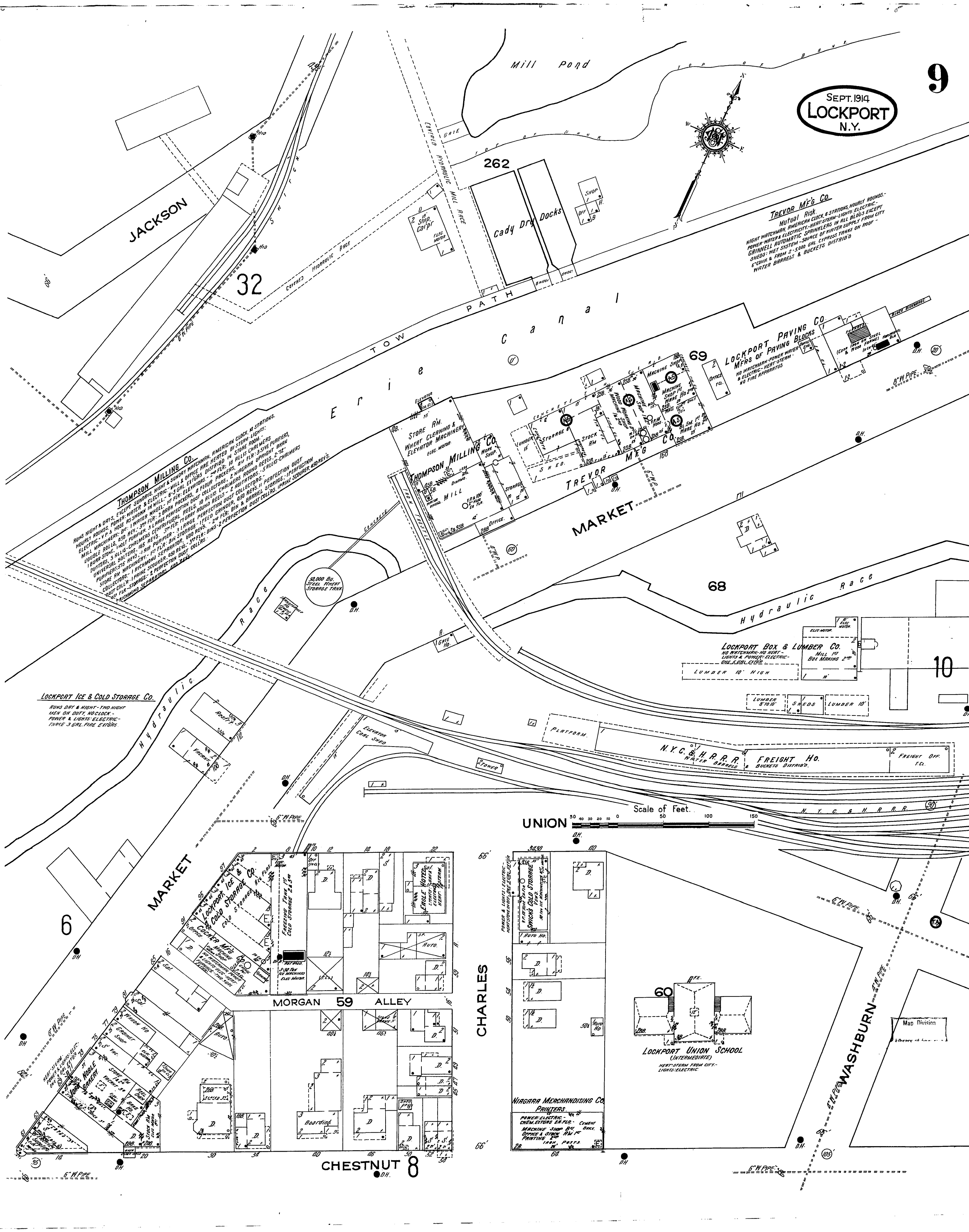
16
JAN. 1898
LOCKPORT
N.Y.
17
EXCHANGE ST.
SPRING
GARDEN ST.
FRANKLIN MILLS CO.
NIAGARA CEREAL MILLS.
Not in Operation.
Flume.
Log Pond.
Erie Canal.
MARKET
GARDEN
E. SCOFIELD.
THE GORDON HALL MACHINE SHOP
MODEL MILLS.
Not in Operation
E.W. RODGERS & SON Cotton Batting Fac.
WESTERN BLOCK CO.
EMPIRE MFG. CO. Cotton Batting. Mill No. 1.
Steel Tank for Grain Storage
F.A. BROWN.
NIAGARA PRESERVING CO.
BOSTON & LOCKPORT BLOCK CO.
EMPIRE MFG. CO. Cotton Fire Hose. Mill No. 2.
LEVAN & GRITMAN Batting Mill.
TREVOR MFG. CO.
TOMPSON MILLING CO.
Race
Tail Race
Docks.
Bridge.
69
68
22
15
UNION
WASHBURN
N.Y.C. & H.R.R.R. Freight Depot.
N.Y.C. & H.R.R.R.
Small Piles of Scattered Lumber.
LOCKPORT UNION SCHOOL GROUNDS.
Scale of Feet.
No exposure
Police Station
Hose Ho.
Forge Shop
Lumber Shed.
Gen'l W. Ho.
Storage
Shed
Mill Depot.
Storage
Cold Race.
Trestle over Street.


21
JULY 1903
LOCKPORT
N.Y.
22
EXCHANGE
SPRING
GARDEN ST.
GARDEN
MARKET
WASHBURN
UNION
Race
Erie
Canal
Pond.
NO EXPOSURE
25
69
68
17
16
L. HUSTON. APPLE STORAGE.
NO FIRE APPARATUS
WOODEN BRIDGE
D. C. GRAHAM, BOX FAC.
Box Making.
HALL IRON WORKS.
Foundry.
Gen'l Storage & Wood Work
EMPIRE MF'G CO. MFRS COTTON GOODS.
Weaving 1 & 2 Stock Storage 3d
Police Station.
Tobacco
Hose Ho.
WESTERN BLOCK CO.
FRANKLIN MILLS CO.
Mach'y for Fine Flour & Wheatlet.
JAMES D. OLIVER CO. SHOE MNF'RS
Carpet Cleaning
Wood Wk.
Planing Mill
JOSEPH WHALEN
N.Y. COTTON BATTING CO.
W. Ho.
Coke Shed.
Storage 1st Mach. Rm 2d
L. HUSTON. Apple Storage.
F. A. BROWN. Boiler Shop
Gen'l Storage
NIAGARA PRESERVING COMPANY.
Storage
Canning 1st Tin can M'f'y 2d
Cooking Rm.
Dry Ho.
Forge Shop.
Lumber Shed.
BOSTON & LOCKPORT BLOCK CO.
Mach. Shop 1st Painting & Fitting 3d
Turning, Sewing & Planing 3d
Wood Ho.
Iron Shed
Steel Tank For Grain Storage
Grain Conveyor
W. Ho.
Vacant.
S. E. LEVAN. PLANING MILL.
Planing Mill.
LOCKPORT BOX & LUMBER CO.
Small Scattered Piles of Lumber.
N.Y.C. & H.R.R.R. FREIGHT DEPOT.
N.Y.C. & H.R.R.R. PASSENGER STATION.
Express
TREVOR MANUF'G CO. (MUTUAL RISK).
Pattern Shop 1st Mach. Shop Abv.
Gearing & Wood Work'g 1st Machine Shop 2d Storage 3d
Stock Storage
Pattern Storage
Lumber Shed
TOMPSON MILLING CO.
Flour Mill Cap'y 500 Bbls per Day.
Storage.
Mill Depart.
Storage Depart.
Ir. Bridge
DOCKS
LOCKPORT INTERMEDIATE SCHOOL GROUNDS.
Scale of Feet.
50 40 30 20 10 0 50 100 150
Map Division

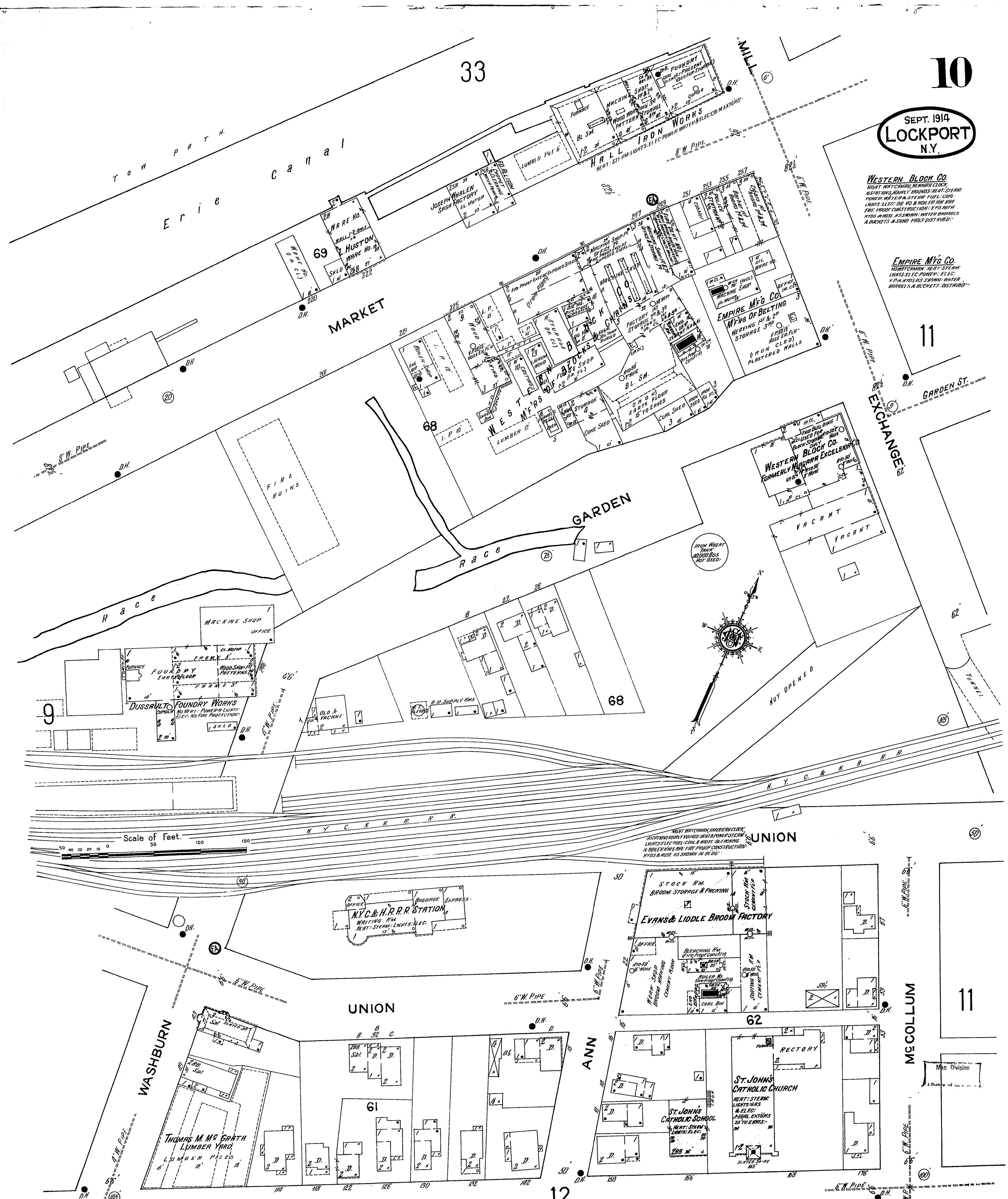

8
Aug. 1909
LOCKPORT
N.Y.
Mill Pond
Top of Banks
Top of Bank
Gate
Mill Race
Covered Hydraulic Race
262
Cady Dry Docks
Office
Ship Building
Tow Path
Bridge
Iron Bridge
Canal
Erie
JACKSON
31
Switch
Trevor Manufacturing Co.
Mutual Risk.
Night Watchman, American Clock, 4 Stations, Hourly Rounds
Heat: Steam. Lights: Electric. Power: Water & Electricity.
Water Bls. & Buckets Distrib'd. All Buildings Except Sheds
Are Equipped with Grinnell Automatic Sprinklers –
Wet System. Source of Water Supply From City and
From 2 - 5000 Gal. Cypress Tanks on Roof
69
Niagara Preserving Co.
Concrete Machine Shop
Machine Shop
Woodworking & Machine Shop
Patterns Storage
Storage
Concrete
Lumber
Shed
Trevor Manufacturing Co.
Thompson Milling Co.
Store R'm
Mill
Office
Elevator
Conveyor
Thompson Milling Co.
Runs Night & Day, Except Sundays. Night & Sunday Watchman, American Clock, 14 Stations,
Hourly Rounds. Mill & Office are Heated by Steam. Lights: Electric. Power: Water & Steam.
Mill Machinery
35000 Bu. Steel Wheat Storage Tank.
MARKET
68
Hydraulic Race
Lockport Box & Lumber Co.
No Watchman, No Heat. Lights & Power: Elec. – One 3 Gal. Ext'g'r.
Mill 1st, Box Making 2nd
Lumber 10' High
Lumber 8' to 10'
Lumber 8'
9
Lockport Ice & Cold Storage Co.
Runs Day and Night. Two Night Men on Duty. No Clock. Three 3 Gal. Fire Extinguishers. Power and Lights: Electric.
Hydraulic Race
Elevator Coal Shed
Platform
N.Y.C. & H.R. R.R.
Water Bls. & Buckets Distributed
Freight House.
Freight Office
N.Y.C. & H.R. R.R.
6" W. Pipe
UNION
5
MARKET
Lockport Ice & Cold Storage Co.
Cold Storage
Freezing Tank
Ice Machine
Crocker Mfg. Co.
Eagle Hotel
Police Patrol
Knowles Bros. Cold Storage
Morgan 59 Alley
John Nobles Bakery
CHARLES
60
Lockport Union School
(Intermediate)
Heat: Steam from City. Lights: Electric.
Scale of Feet.
50 40 30 20 10 0 50 100 150
WASHBURN
6 CHESTNUT



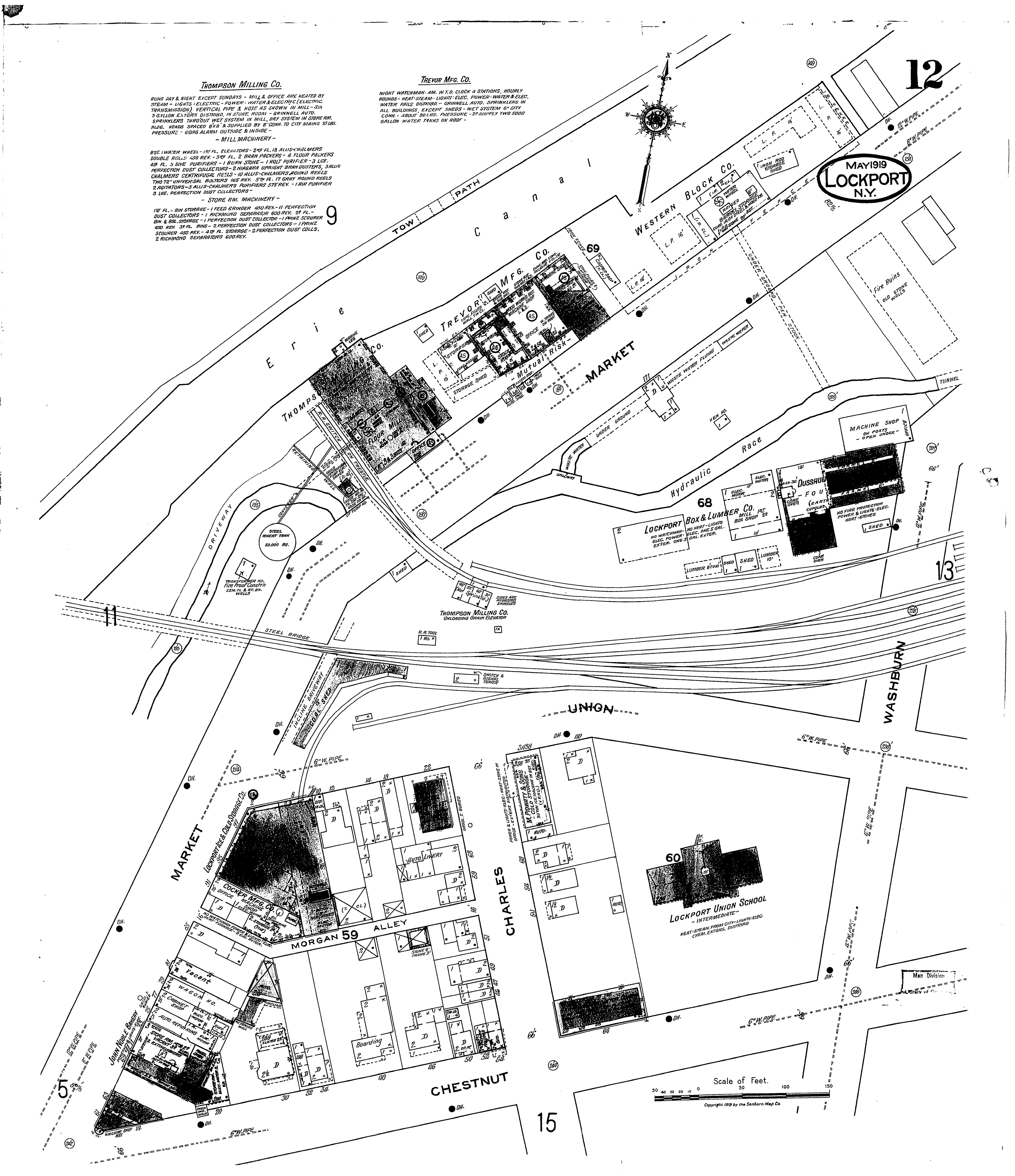
AUG. 1909
LOCKPORT
N.Y.
9
34
32
8
10
Erie Canal
TOW PATH
MILL ST.
MARKET
GARDEN
GARDEN ST.
EXCHANGE
UNION
WASHBURN
ANN
McCOLLUM
CHESTNUT
Race
N.Y.C. & H.R. R.R.
69
68
61
62
HALL IRON WORKS
FOUNDRY
MACHINE SHOP
JUNK SHOP
NO FIRE PROTECTION. POWER & LIGHTS: ELEC.
LUMBER PILED 10'
SASH FAC'TY
GRAVEL PILE 16'
STORAGE
WARE HO.
C.J. HUSTON.
NIAGARA PRESERVING CO.
Admittance refused
(PLANS FROM OLD MAP)
PLANT HAS BEEN CLOSED FOR TWO YEARS.
WESTERN BLOCK CO.
NIGHT WATCHMAN, NEWMAN CLOCK, 16 STATIONS. HOURLY ROUNDS. FUEL: COAL. HEAT: STEAM. LIGHTS: ELEC. D'E HO. & BOILER R'M ARE FIRE PROOF CONSTRUCTION. F.P'S WITH HYD'S & HOSE AS SHOWN. WATER BLS. & BUCKETS & SAND PAILS DIST'D.
EMPIRE MF'G CO.
NO WATCHMAN. F.P. & HYD'S AS SHOWN. WATER BLS. & BUCKETS DIST'D. HEAT: STEAM. LIGHTS: ELECTRIC. POWER: ELECTRIC & WATER.
EMPIRE MF'G CO.
WEAVING
PLASTERED WALLS
PATTERN STORAGE
FORGE SHOP
COKE SHED
COAL SHED
BL. SM. SHOP
FIRE RUINS
NIAGARA EXCELSIOR CO.
NIAGARA EXCELSIOR W. HO.
GENERATING R'M
MILL R'M
DRIVE WAY
WOOD 10' HIGH
10,000 BU. IRON WHEAT TANK
NIAGARA EXCELSIOR CO.
Mutual Risk.
NO WATCHMAN. HEAT: STEAM. POWER: WATER. LIGHTS: ELEC. HYD'S & HOSE AS SHOWN IN MILL R'M. BUCKETS & WATER BLS. DISTR'D.
NOT OPENED
DUSSAULT FOUNDRY WORKS.
NO FIRE PROTECTION. POWER & LIGHTS: ELEC. NO HEAT.
FOUNDRY
WORK SHOP & PATTERNS
STORE SHED
NYC & HR RR STATION
OFFICE
BAGGAGE
EXPRESS
WRITING R'M
LIGHTS: ELEC. HEAT: STEAM.
Scale of Feet.
NIGHT WATCHMAN, HM. CLOCK, 4 STATIONS HOURLY ROUNDS. HEAT: STEAM. LIGHTS: ELEC. FUEL: COAL & WASTE. BLEACHING & BOILER R'MS ARE FIRE PROOF CONSTRUCTION. HYDS & HOSE AS SHOWN IN BLDG.
EVANS & LIDDLE BROOM FAC'TY
BROOM STORAGE & PACKING
STOCK R'M
BLEACHING R'M
BOILER R'M
COAL BIN
SORTING R'M
HENRY & McGRATH LUMBER YARD
LUMBER PILES
ST. JOHN'S CATHOLIC CHURCH
RECTORY
ST. JOHN'S CATHOLIC SCHOOL
SLATED SPIRE
6" W. PIPE



9
SEPT. 1914
LOCKPORT
N.Y.
Mill Pond
262
Cady Dry Docks
Covered Hydraulic Mill Race
JACKSON
32
TOW PATH
Erie Canal
TREVOR M'F'G Co.
Mutual Risk.
THOMPSON MILLING Co.
LOCKPORT PAVING Co.
MFRS of PAVING BLOCKS
69
TREVOR M'F'G Co
MARKET
68
Hydraulic Race
50,000 Bu. Steel Wheat Storage Tank
LOCKPORT BOX & LUMBER Co.
10
LOCKPORT ICE & COLD STORAGE Co.
Runs day & night - two night men on duty. No clock - Power & lights: electric - Three 3 gal. fire extgrs.
Hydraulic
N.Y.C. & H.R.R.R. FREIGHT Ho.
Water Barrels & Buckets Distrib'd.
Freight Off.
PLATFORM
Elevator Coal Shed
Tower
Scale of Feet.
UNION
MARKET
6
LOCKPORT ICE & COLD STORAGE Co.
COCKER M'F'G Co.
Eagle Hotel
MORGAN 59 ALLEY
CHARLES
Smith's Cold Storage
60
LOCKPORT UNION SCHOOL (INTERMEDIATE)
Heat: steam from city - Lights: electric
NIAGARA MERCHANDISING Co. PRINTERS
John Noble Bakery
Boarding
WASHBURN
CHESTNUT 8
N.Y.C. & H.R.R.R.
Map Division



10
SEPT. 1914
LOCKPORT
N.Y.
33
MILL
Tow Path
Erie Canal
HALL IRON WORKS
HEAT: STEAM. LIGHTS: ELEC. POWER: WATER & ELEC. CH. M. EXTGRS.
FOUNDRY
MACHINE SHOP
WOOD WORKING
PATTERN STORAGE
FURNACE
BL. SM.
LUMBER PILE 6'
8" W. PIPE
JOSEPH WHALEN SASH FACTORY
EL. MOTOR
L. HUSTON
WARE HO.
69
MARKET
WESTERN BLOCK CO.
MACHINE SHOP
FORGE SHOP
LUMBER
EMPIRE M'F'G CO.
M'F'RS OF BELTING
WEAVING 1ST & 2ND
STORAGE 3RD
(IRON CLAD)
PLASTERED WALLS
OIL WARE HO.
OFFICE
COKE SHED
COAL SHED
68
Western Block Co.
NIGHT WATCHMAN, NEWMAN CLOCK
Empire M'f'g Co.
11
GARDEN ST.
EXCHANGE
WESTERN BLOCK CO.
FORMERLY NIAGARA EXCELSIOR CO.
VACANT
IRON WHEAT TANK
40,000 BUS.
NOT USED
GARDEN
Race
FIRE RUINS
MACHINE SHOP
OFFICE
FOUNDRY
EARTH FLOOR
WOOD SHOP & PATTERNS
DUSSAULT FOUNDRY WORKS
CUPOLA. NO HEAT: POWER & LIGHTS: ELEC. NO FIRE PROTECTION.
9
OLD & VACANT
R.R. SUPPLY HOS.
68
NOT OPENED
TUNNEL
N.Y.C. & H.R.R.R.
Scale of Feet.
50 40 30 20 10 0 50 100 150
UNION
N.Y.C. & H.R.R.R. STATION
OFFICE
BAGGAGE
EXPRESS
WAITING RM.
HEAT: STEAM. LIGHTS: ELEC.
STOCK RM.
BROOM STORAGE & PACKING
EVANS & LIDDLE BROOM FACTORY
BLEACHING RM.
BOILER RM.
COAL BIN
SORTING RM.
WORK SHOP
62
6" W. PIPE
UNION
WASHBURN
ANN
McCOLLUM
11
61
THOMAS M. McGRATH LUMBER YARD
LUMBER PILES
RECTORY
ST. JOHN'S CATHOLIC CHURCH
ST. JOHN'S CATHOLIC SCHOOL
SLATED SPIRE
CHESTNUT
12



12
MAY 1919
LOCKPORT
N.Y.
THOMPSON MILLING CO.
RUNS DAY & NIGHT EXCEPT SUNDAYS - MILL & OFFICE ARE HEATED BY STEAM - LIGHTS: ELECTRIC - POWER: WATER & ELECTRIC (ELECTRIC TRANSMISSION) VERTICAL PIPE & HOSE AS SHOWN IN MILL - SIX 3 GALLON EXTGRS DISTRIBD. IN STORE ROOM - GRINNELL AUTO. SPRINKLERS THRO'OUT WET SYSTEM IN MILL, DRY SYSTEM IN STORE RM. BLDG. HEADS SPACED 8'X8' & SUPPLIED BY 8" CONN. TO CITY MAINS 75 LBS. PRESSURE - GONG ALARM OUTSIDE & INSIDE -
- MILL MACHINERY -
BST. 1 WATER WHEEL - 1ST FL. ELEVATORS - 2ND FL. 18 ALLIS-CHALMERS DOUBLE ROLLS 450 REV. - 3RD FL. 2 BRAN PACKERS - 4 FLOUR PACKERS 4TH FL. 3 SIVE PURIFIERS - 1 BURN STONE - 1 HOLT PURIFIER - 3 LGE. PERFECTION DUST COLLECTORS - 2 NIAGARA UPRIGHT BRAN DUSTERS, 3 ALLIS CHALMERS CENTRIFUGAL REELS - 10 ALLIS-CHALMERS ROUND REELS TWO 72" UNIVERSAL BOLTERS 165 REV. 5TH FL. 17 GRAY ROUND REELS 2 AGITATORS - 5 ALLIS-CHALMERS PURIFIERS 575 REV. - 1 AIR PURIFIER 3 LGE. PERFECTION DUST COLLECTORS -
- STORE RM. MACHINERY -
1ST FL. - BIN STORAGE - 1 FEED GRINDER 450 REV. - 11 PERFECTION DUST COLLECTORS - 1 RICHMOND SEPARATOR 600 REV. 2D FL. - BIN & BBL. STORAGE - 1 PERFECTION DUST COLLECTOR - 1 PRINZ SCOURER 450 REV. 3D FL. BINS - 2 PERFECTION DUST COLLECTORS - 1 PRINZ SCOURER 450 REV. - 4TH FL. STORAGE - 2 PERFECTION DUST COLLS. 2 RICHMOND SEPARATORS 600 REV.
9
TREVOR MFG. CO.
NIGHT WATCHMAN - AM. W.T.D. CLOCK 4 STATIONS, HOURLY ROUNDS - HEAT: STEAM - LIGHTS: ELEC. POWER: WATER & ELEC. WATER PAILS DISTRIBD. - GRINNELL AUTO. SPRINKLERS IN ALL BUILDINGS, EXCEPT SHEDS - WET SYSTEM 6" CITY CONN. - ABOUT 90 LBS. PRESSURE - 2D SUPPLY TWO 5000 GALLON WATER TANKS ON ROOF -
TOW PATH
Erie Canal
WESTERN BLOCK CO.
IRON ROD STORAGE SHED
BARREL STORAGE
69
TREVOR MFG. CO.
STORAGE SHED
Mutual Risk
MARKET
THOMPSON MILLING CO.
FLOUR MILL
STEEL WHEAT TANK 50,000 BU.
DRIVEWAY
TRANSFORMER HO.
WASTE WATER FLUME
UNDER GROUND
Hydraulic Race
TUNNEL
MACHINE SHOP ON POSTS - OPEN UNDER -
Fire Ruins OLD STONE WALLS
68
LOCKPORT BOX & LUMBER CO.
DUSSAULT FOUNDRY
NO FIRE PROTECTION
LUMBER STG.
SHED
13
11
STEEL BRIDGE
THOMPSON MILLING CO. UNLOADING GRAIN ELEVATOR
R.R. TOOL
SWITCH & SIGNAL TOWER
INCLINE DRIVEWAY
COAL SHED
UNION
WASHBURN
6" W. PIPE
MARKET
LOCKPORT ICE & COLD STORAGE CO.
COCKER MFG. CO.
MACHINE SHOP
OFFICE
AUTO LIVERY
MORGAN 59 ALLEY
Vacant
WAGON HO.
CABINET SHOP
AUTO REPAIRING
JOHN NOBLE BAKERY
Boarding
CHARLES
M. DOWATT & SONS
60
LOCKPORT UNION SCHOOL
- INTERMEDIATE -
HEAT: STEAM FROM CITY - LIGHTS: ELEC. CHEM. EXTGRS. DISTRIBD.
CHESTNUT
5
15
Scale of Feet.
50 40 30 20 10 0 50 100 150
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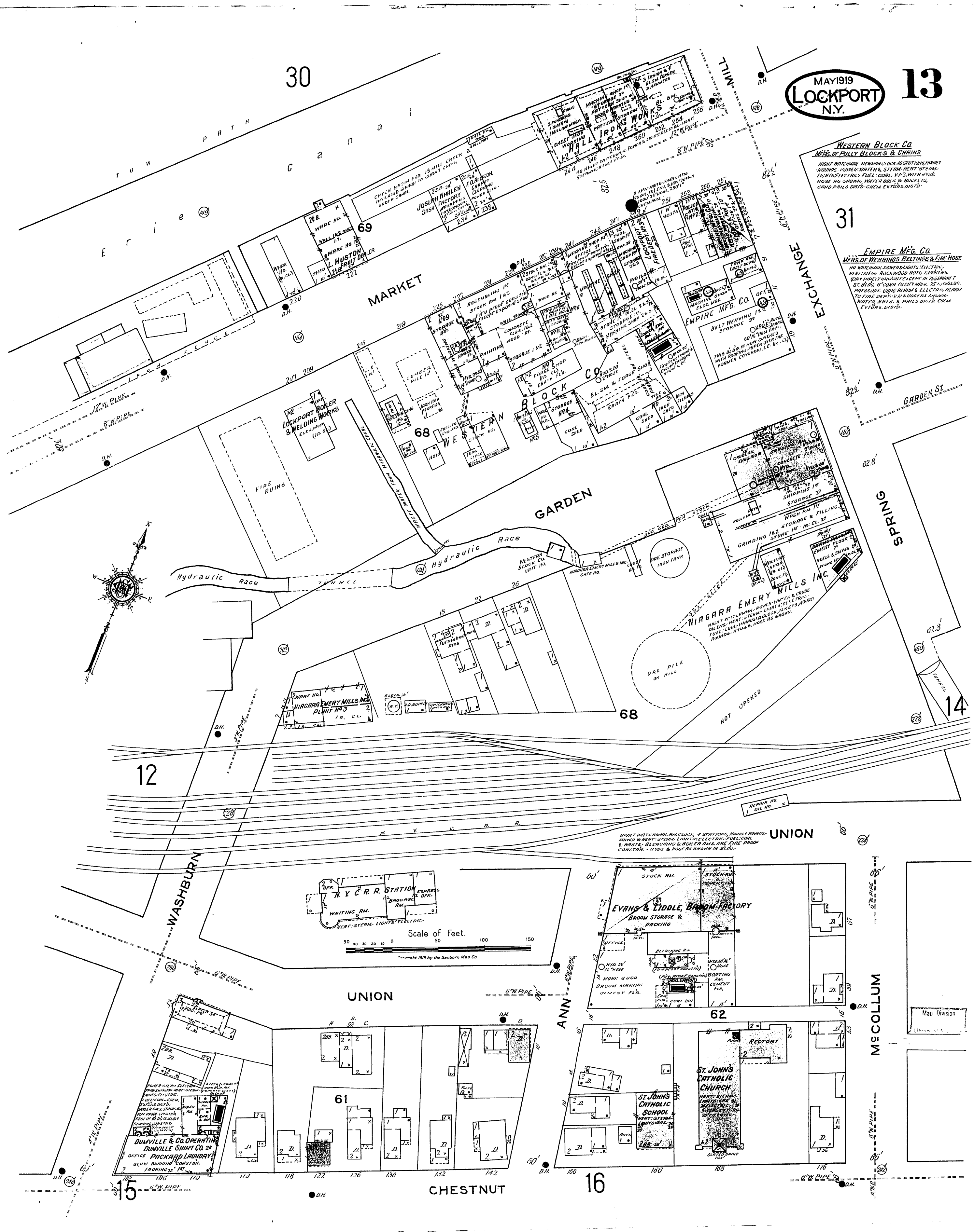
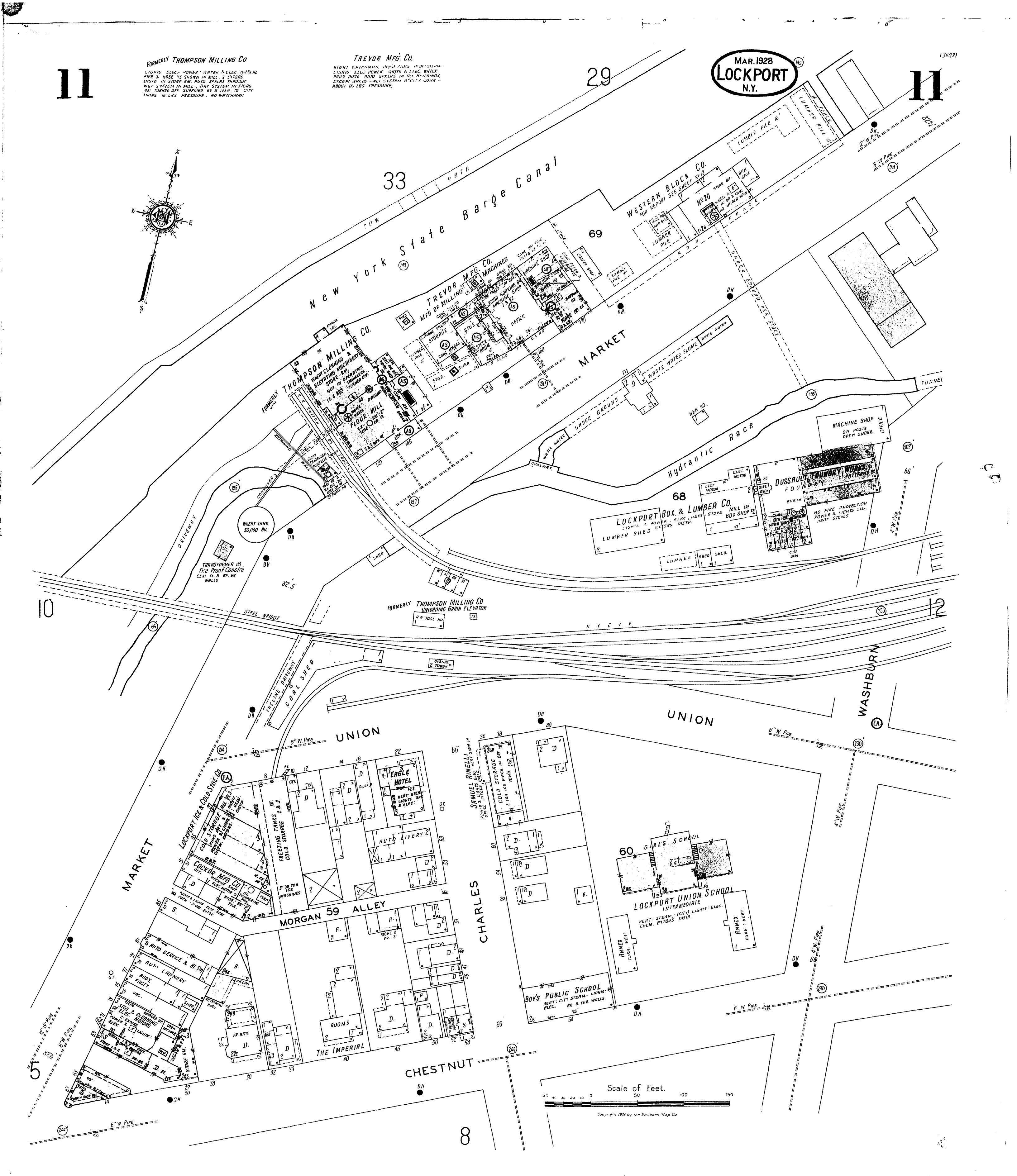


MAY 1919
LOCKPORT
N.Y.
13
30
31
12
14
15
16
TOW PATH
Erie Canal
MARKET
GARDEN
UNION
CHESTNUT
WASHBURN
ANN
MILL
EXCHANGE
SPRING
McCOLLUM
GARDEN ST.
HALL IRON WORKS
L. HUSTON FRUIT DEALER
JOSEPH WHALEN SASH FACTORY
WESTERN BLOCK CO.
EMPIRE MFG. CO.
LOCKPORT BOILER & WELDING WORKS
FIRE RUINS
Hydraulic Race
TUNNEL
NIAGARA EMERY MILLS INC.
NIAGARA EMERY MILLS INC. PLANT No 3
ORE STORAGE IRON TANK
ORE PILE ON HILL
NOT OPENED
N. Y. C. R. R.
N. Y. C. R. R. STATION
EVANS & LIDDLE, BROOM FACTORY
ST. JOHN'S CATHOLIC CHURCH
ST. JOHN'S CATHOLIC SCHOOL
RECTORY
DUMVILLE & CO. OPERATING DUMVILLE SHIRT CO.
PACKARD LAUNDRY
WESTERN BLOCK CO. MFRS. OF PULLY BLOCKS & CHAINS
EMPIRE MFG. CO. MFRS. OF WEBBINGS BELTINGS & FIRE HOSE
Scale of Feet.
50 40 30 20 10 0 50 100 150
Copyright 1919 by the Sanborn Map Co.
68
69
61
62


FORMERLY THOMPSON MILLING CO.
LIGHTS ELEC. POWER: WATER & ELEC. VERTICAL PIPE & HOSE AS SHOWN IN MILL & EXTGRS DISTD IN STORE RM. AUTO SPKLRS THROUGHOUT WET SYSTEM IN MILL, DRY SYSTEM IN STORE RM TURNED OFF. SUPPLIED BY 8" CONN. TO CITY MAINS 75 LBS PRESSURE. NO WATCHMAN
TREVOR MFG. CO.
NIGHT WATCHMAN, HAND CLOCK, HEAT: STEAM LIGHTS ELEC. POWER WATER & ELEC. WATER PAILS DISTD. AUTO SPKLRS IN ALL BUILDINGS, EXCEPT SHEDS. WET SYSTEM 6" CITY CONN. ABOUT 80 LBS PRESSURE.
MAR. 1928
LOCKPORT
N.Y.
29
33
New York State Barge Canal
TOW PATH
WESTERN BLOCK CO.
FOR REPORT SEE SHEET No. 12
No. 20
LUMBER PILE
69
TREVOR MFG. CO.
MFG. OF MILLING MACHINES
MACHINE SHOP
WOOD WORKING & MACHINE SHOP
STORAGE
OFFICE
STOCK ROOM
THOMPSON MILLING CO.
WHEAT CLEANING & ELEVATING MACHINERY
STORE RM.
FLOUR MILL
MARKET
WASTE WATER FLUME
UNDER GROUND
HEN HO.
Hydraulic Race
TUNNEL
SPILLWAY
WHEAT TANK 50,000 BU.
TRANSFORMER HO. Fire Proof Constn
DRIVEWAY
MACHINE SHOP ON POSTS OPEN UNDER
OFFICE
DUSSAULT FOUNDRY WORKS
PATTERNS
FOUNDRY
NO FIRE PROTECTION POWER & LIGHTS ELEC. HEAT: STOVES
68
LOCKPORT BOX & LUMBER CO.
LIGHTS & POWER: ELEC. HEAT: STOVE EXTGRS DISTD.
MILL 1ST BOX SHOP 2D
LUMBER SHED
SHED
10
12
STEEL BRIDGE
N.Y.C.R.R.
FORMERLY THOMPSON MILLING CO UNLOADING GRAIN ELEVATOR
R.R. TOOL HO.
SIGNAL TOWER
INCLINE DRIVEWAY
COAL SHED
WASHBURN
UNION
6" W. Pipe
MARKET
LOCKPORT ICE & COLD STGE. CO.
COLD STORAGE
FREEZING TANKS 1ST. COLD STORAGE 2 & 3.
ICE MACHINES
COCKER MFG. CO.
EAGLE HOTEL
AUTO LIVERY
SAMUEL RINELLI
COLD STORAGE
CHARLES
GIRLS SCHOOL
60
LOCKPORT UNION SCHOOL
INTERMEDIATE
HEAT: STEAM (CITY) LIGHTS: ELEC. CHEM. EXTGRS DISTD.
ANNEX
MORGAN 59 ALLEY
AUTO SERVICE & BL. SM.
AUTO LAUNDRY
BODY FACTY.
ROOMS
THE IMPERIAL
BOY'S PUBLIC SCHOOL
HEAT: CITY STEAM. LIGHTS: ELEC.
CHESTNUT
5
8
Scale of Feet.
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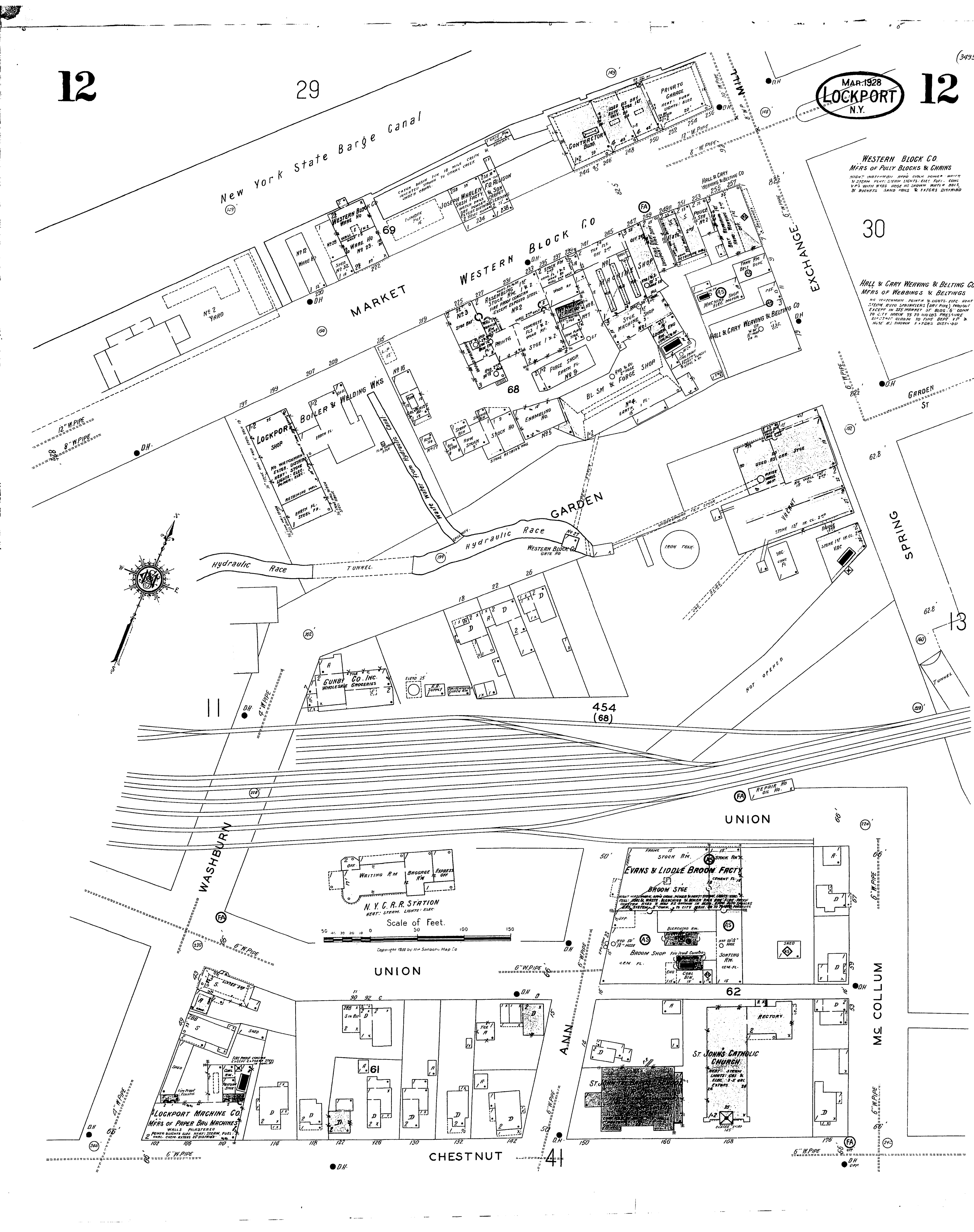
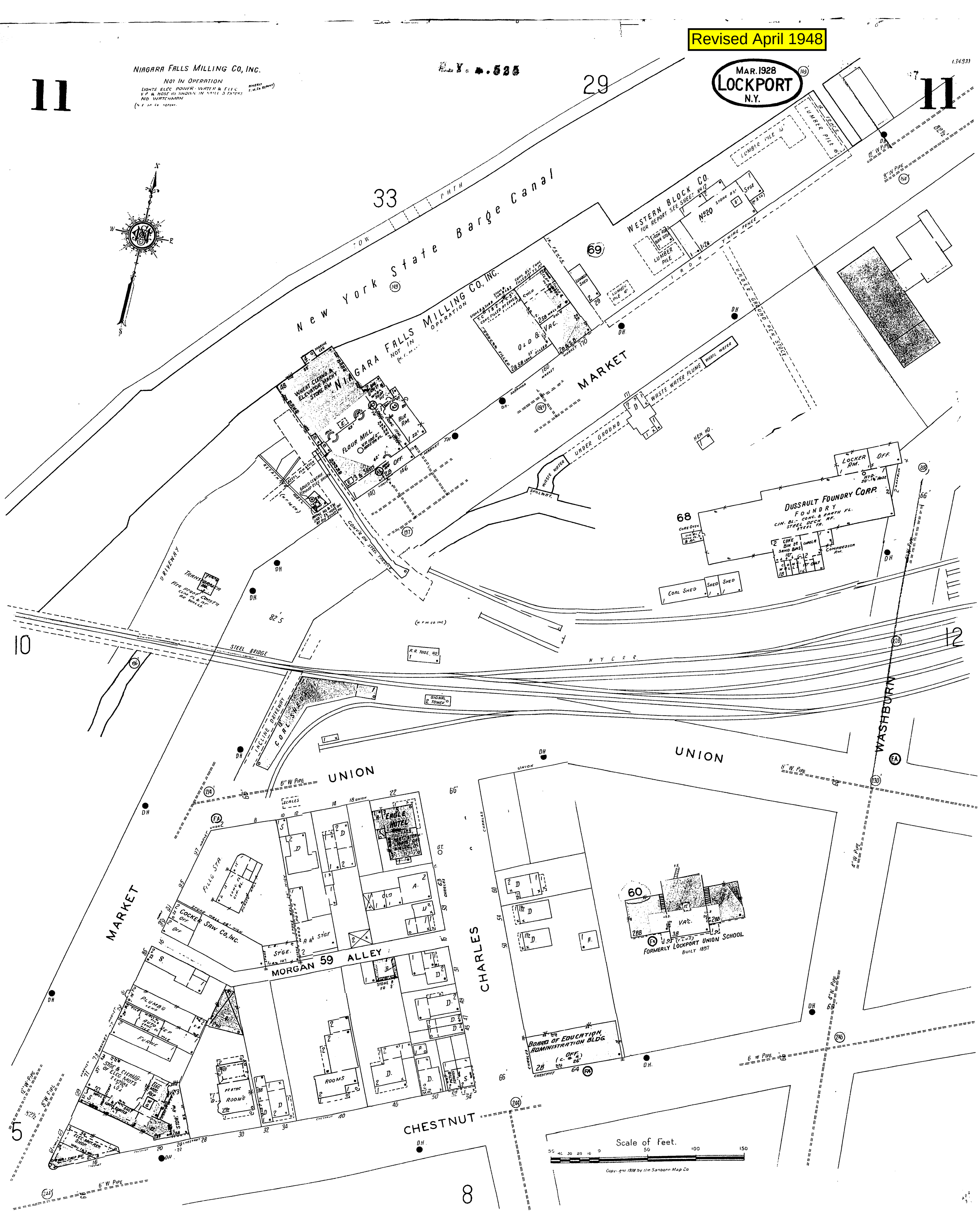

12
29
MAR. 1928
LOCKPORT
N.Y.
12
New York State Barge Canal
MILL
EXCHANGE
30
WESTERN BLOCK CO.
MFRS OF PULLY BLOCKS & CHAINS
HALL & CARY WEAVING & BELTING CO
MFRS OF WEBBINGS & BELTINGS
WESTERN BLOCK CO
MARKET
CONTRACTOR'S BLDG.
PRIVATE GARAGE
JOSEPH WHALEN SASH FACTY
F.D. ALLISON & SON
WESTERN BLOCK CO WARE HO
LUMBER PILE
No 2 YARD
69
68
ASSEMBLING STOCK RM
PRINTG
FORGE SHOP
MACHINE SHOP
BL. SM & FORGE SHOP
ENAMELING
STOCK HO
RAW STOCK
LOCKPORT BOILER & WELDING WKS
HALL & CARY WEAVING & BELTING CO
POLICE STA No 2
USED AUTO GAR. STGE
GARDEN ST
GARDEN
Hydraulic Race
TUNNEL
WESTERN BLOCK CO GATE HO
IRON TANK
VACANT
SPRING
13
NOT OPENED
TUNNEL
GUNBY CO. INC. WHOLESALE GROCERIES
11
454
(68)
WASHBURN
UNION
REPAIR HO
N. Y. C. R. R. STATION
WRITING RM
BAGGAGE RM
EXPRESS OFF
Scale of Feet.
50 40 30 20 10 0 50 100 150
Copyright 1928 by the Sanborn Map Co
EVANS & LIDDLE BROOM FACTY
BROOM STGE
BROOM SHOP
BLEACHING RM
SORTING RM
62
UNION
ANN
MC COLLUM
ST. JOHNS CATHOLIC CHURCH
RECTORY
61
LOCKPORT MACHINE CO
MFRS OF PAPER BAG MACHINES
CHESTNUT
41
6" W. PIPE
12" W. PIPE
8" W. PIPE


11
Revised April 1948
MAR. 1928
LOCKPORT
N.Y.
11
NIAGARA FALLS MILLING CO, INC.
NOT IN OPERATION
NO WATCHMAN
New York State Barge Canal
TOW PATH
33
29
NIAGARA FALLS MILLING CO. INC.
NOT IN OPERATION
WHEAT CLEANING & ELEVATOR MACH'Y STORE RM.
FLOUR MILL
OFF.
BLR RM.
OLD & VAC.
WESTERN BLOCK CO.
FOR REPORT SEE SHEET No 12
No 20
LUMBER PILE
MARKET
WASTE WATER FLUME
UNDER GROUND
SPILLWAY
HEN HO.
DUSSAULT FOUNDRY CORP.
FOUNDRY
LOCKER RM.
OFF.
COMPRESSION RM.
COAL SHED
SHED
68
69
60
TRANSFORMER
DRIVEWAY
STEEL BRIDGE
N.Y.C. R.R.
R.R. TOOL HO.
SIGNAL TOWER
INCLINE DRIVEWAY
COAL SHED
10
12
WASHBURN
UNION
6" W. PIPE
MARKET
FILLG STA.
COCKER SAW CO. INC.
EAGLE HOTEL
MORGAN 59 ALLEY
CHARLES
PLUMBG
AUTO REP.
FURNIT.
ELEC. MOTOR SHOP
ROOMS
BOARD OF EDUCATION ADMINISTRATION BLDG
FORMERLY LOCKPORT UNION SCHOOL
BUILT 1897
VAC.
CHESTNUT
5
8
Scale of Feet.
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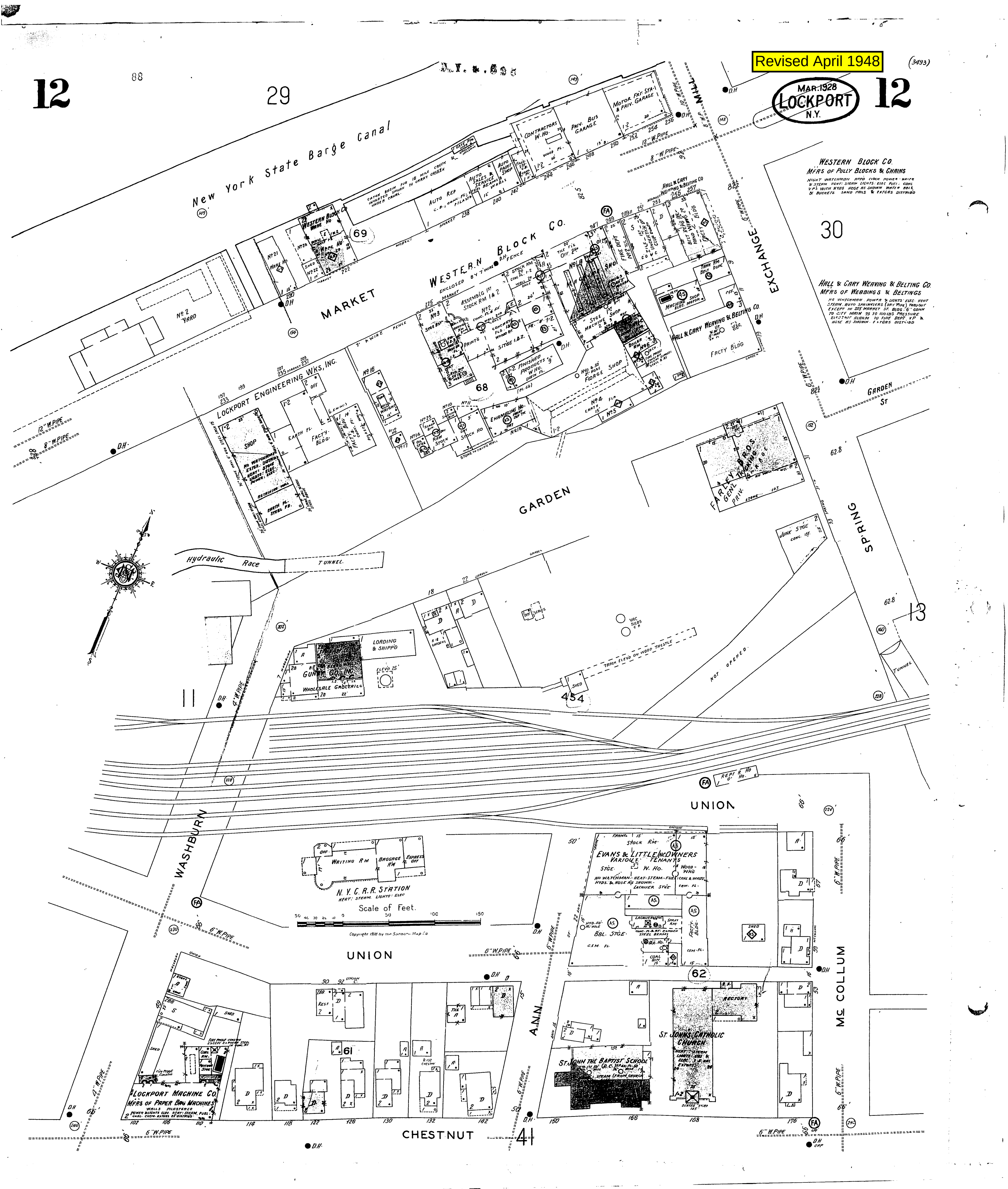
12
88
29
Revised April 1948
(3493)
MAR. 1928
LOCKPORT
N.Y.
12
New York State Barge Canal
MARKET
WESTERN BLOCK CO.
Western Block Co.
Mfrs of Pully Blocks & Chains
30
Hall & Cary Weaving & Belting Co.
Mfrs of Webbings & Belting
EXCHANGE
MILL
GARDEN ST
Lockport Engineering Wks, Inc.
GARDEN
Farley Bros. Genl Trucking
SPRING
Hydraulic Race
TUNNEL
Loading & Shipp'g
Gunn Co. Inc.
Wholesale Groceries
Track Elevd on Wood Trestle
Not Opened
13
11
WASHBURN
UNION
Evans & Little Co. Owners
Various Tenants
N.Y.C. R.R. Station
Scale of Feet.
50 40 30 20 10 0 50 100 150
Copyright 1928 by the Sanborn Map Co.
Writing Rm
Baggage Rm
Express Off
UNION
ANN
McCOLLUM
St. John's Catholic Church
St. John the Baptist School (R.C.)
Rectory
Lockport Machine Co.
Mfrs of Paper Bag Machines
CHESTNUT
61
62
68
69
454
41

APPENDIX B

STRATIGRAPHIC LOGS AND WELL CONSTRUCTION DIAGRAMS

TEST PIT LOGS

Western New York Office
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB01
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Cloudy, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	588.00	MAKE/ MODEL	New Holland
TIME STARTED	1250	CAPACITY	0.3 CY
TIME FINISHED	1324	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown to Grey Foundry SAND, mixed with f-c Gravel, lesser amounts of cobble, coal, vitrification f-c gravel, roots, rebar, and sand molds (moist, FILL)	E	BG
2'		E	BG
3'	Contains Rock Fragments	E	BG
4'		E	BG
5'		E	BG
6'	Test Pit Complete at 5.0' Top of Dolostone		
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

Western New York Office
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB02
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Sl. Drizzle, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	595.69'	MAKE/ MODEL	New Holland
TIME STARTED	0958	CAPACITY	0.3 CY
TIME FINISHED	1025	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown with Light Brown Pockets f-m Foundry SAND mixed with lesser amounts of brick and wood (moist, FILL)	E	BG
2'	Metal frame excavated Contains f-c Gravel, lesser amounts of cobble	E	BG
3'		E	BG
4'	Becomes Grey	E	BG
5'	Contains lesser amounts of metal, cloth and rubber	E	BG
6'		E	BG
7'		E	BG
8'	Contains lesser amounts cobble sized coal and rebar	E	BG
9'		E	BG
10	Red- Brown Silty CLAY (moist) Grey DOLOSTONE	M	BG
11'	Test Pit Complete at 10.0'		
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

Western New York Office
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB03
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Mostly Cloudy, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	591.38	MAKE/ MODEL	New Holland
TIME STARTED	1325	CAPACITY	0.3 CY
TIME FINISHED	1427	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown to Grey Fine Foundry SAND, mixed with Metal and Slag, lesser amounts f-c gravel, foundry sand molds, and topsoil (moist, FILL)	E	BG
2'	Contains greater amounts f-c Gravel, pockets Light Brown "clean" Foundry Sand and Metal Pipes	E	BG
3'		E	BG
4'	Contains Cobble	E	BG
5'		E	BG
6'		E	BG
7'	Contains Cobble layer Excavated metal bucket	E	BG
8'		E	BG
9'	Light Brown SILT, tr. sand (moist)	E	BG
10	Light Brown to Grey Weathered MUDSTONE	E	BG
11'	Test Pit Complete at 10.0'		
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

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Fax: (716) 649-8051

TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB04
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Rainy, Sl. Breeze, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	595.92'	MAKE/ MODEL	New Holland
TIME STARTED	1142	CAPACITY	0.3 CY
TIME FINISHED	1235	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL mixed with f-c Sand, lesser amounts brick, cobble (moist, FILL/ crush stone)	E	BG
2'	Contains Ash Excavated railroad ballast and roots	E	BG
3'	Contains reinforced Concrete Fragments Grey Ash mixed with Cobble and f-c Gravel, lesser amounts	E	BG
4'	of glass (moist, FILL)	E	BG
5'		E	BG
6'		E	BG
7'	- - - - - - - - - - Light Brown f-m SAND, little f-c Gravel, tr. clay (moist)	E	BG
8'		E	BG
9'		E	BG
10	Contains Rock Fragments and tr. chert nodules	E	BG
11'	Test Pit Complete at 10.5'		
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB05
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Sl. Drizzle, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	596.38'	MAKE/ MODEL	New Holland
TIME STARTED	1026	CAPACITY	0.3 CY
TIME FINISHED	1117	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-m Foundry SAND, mixed with Cobble, f-c Gravel, lesser amounts of plastic sheeting (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'	Contains lesser amounts of metal	E	BG
5'	Becomes Orange- Brown, contains metal drum lids, reinforced concrete fragments Topsoil and Fill mixture (moist, FILL)	E	BG
6'		E	BG
7'	Topsoil (moist, reworked)	E	BG
8'	Brown to Grey f-m Foundry SAND with lesser amounts of metal (moist, FILL)	E	BG
9'		E	BG
10		E	BG
11'		E	BG
12'		E	BG
13'	Contains lesser amounts of cinder blocks, wood, rubber Black to Grey Silty CLAY, inpacted with f-c gravel sized Coal (moist, FILL)	E	BG
14'	Brown Silty CLAY, tr. sand (moist)		
	Test Pit Complete at 13.0'		

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB06
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Cloudy, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	591.73'	MAKE/ MODEL	New Holland
TIME STARTED	1445	CAPACITY	0.3 CY
TIME FINISHED	1535	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown to Grey Fine Foundry SAND, mixed with lesser amounts of f-c gravel, silt, sand molds, glass bottles, metal (moist, FILL)	E	BG
2'	Contains pockets of Light Brown clean Foundry Sand and Cobble (moist, FILL)	E	BG
3'	Contains lesser amounts of ash	E	BG
4'		E	BG
5'		E	BG
6'	Contains lesser amounts of cloth	E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'	Light Brown to Grey Weathered MUDSTONE	E	BG
12'	Test Pit Complete at 11.0'		
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB07
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Sl. Breeze, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	594.45'	MAKE/ MODEL	New Holland
TIME STARTED	1435	CAPACITY	0.3 CY
TIME FINISHED	1447	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Grey f-c GRAVEL, tr. metal (moist, FILL/ crush stone)	E	BG
1'-2'	Grey f-m Foundry SAND mixed with f-c Gravel, lesser amounts silt (moist, FILL)	E	BG
2'-3'		E	BG
3'-4'	Brown f-m SAND, little f-c Gravel, tr. silt, occasional Silt laminations (moist)	E	BG
4'-5'		E	BG
5'-6'	Test Pit Complete at 6.0'		
6'-7'			
7'-8'			
8'-9'			
9'-10			
10-11'			
11'-12'			
12'-13'			
13'-14'			
14'-			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB08
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Windy, Rain, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	594.71'	MAKE/ MODEL	New Holland
TIME STARTED	1320	CAPACITY	0.3 CY
TIME FINISHED	1430	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Brown to Dark Grey f-m Foundry SAND mixed with Cobble, f-c Gravel, Roots, Metal Rods (moist, FILL)	E	BG
1'-2'	Tire excavated	E	BG
2'-3'	Brown SILT and f-m Sand, mixed with f-c Gravel, Roots (moist, FILL)	E	BG
3'-4'	Concrete flooters exposed at 3.5', two 55 gallon drums excavated, Contains Cobble, Plastic sheeting, Cinder Blocks	E	BG
4'-5'		E	BG
5'-6'		E	BG
6'-7'		E	BG
7'-8'	Brown f-m SAND mixed with f-c Gravel, lesser amounts of silt, wood and metal (moist, possible reworked native soils)	E	BG
8'-9'		E	BG
9'-10		E	BG
10-11'	Brown f-m SAND, little f-c Gravel, tr. rock fragments, tr. clay (moist)		
11'-12'	Test Pit Complete at 10.0'		
12'-13'			
13'-14'			
14'-			

Remarks:

Sample paint- sludge 55- gallon drum (PID +300 ppm)

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	8/28/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB09
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Rainy, Sl. Breeze, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	596.26'	MAKE/ MODEL	New Holland
TIME STARTED	1238	CAPACITY	0.3 CY
TIME FINISHED	1316	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown to Black f-m Foundry SAND, mixed with Cobble, lesser amounts of tin cans, bottles, metal, and roots (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'	Excavated metal 55- gallon drum lid	E	BG
7'		E	BG
8'	Excavated plastic bucket and lid	E	BG
9'		E	BG
10	Grey cobble sized DOLOSTONE (moist)	M	BG
11'			
12'	Test Pit Complete at 10.0' (Top of Rock)		
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

TEST PIT FIELD LOG

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		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB10
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	583.77'	MAKE/ MODEL	New Holland
TIME STARTED	0810	CAPACITY	0.3 CY
TIME FINISHED	0902	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of cobble, rebar, wood, slag, and sand molds (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'		E	BG
12'		E	BG
13'		E	BG
14'		E	BG
	Test Pit Complete at 14.0'		

Remarks:
Collect sample under pipe (1.0' below ground surface) for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB11
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.11'	MAKE/ MODEL	New Holland
TIME STARTED	0822	CAPACITY	0.3 CY
TIME FINISHED	0837	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black f-m Foundry SAND mixed with Cobble, f-c Gravel, and Roots with lesser amounts of metal (moist, FILL)	E	BG
2'		E	BG
3'	Brown f-m SAND, little f-c Gravel, tr. silt (moist)	E	BG
4'		E	BG
5'	Test Pit Complete at 3.9'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB12
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	593.89'	MAKE/ MODEL	New Holland
TIME STARTED	0925	CAPACITY	0.3 CY
TIME FINISHED	1003	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black Fine Foundry SAND mixed with lesser amounts of silt, metal and roots (moist, FILL)	E	BG
2'	Railroad tie excavated	E	BG
3'	Brown Fine SAND mixed with Cobble, f-c Gravel, lesser amounts of brick and glass	E	BG
4'		E	BG
5'		E	BG
6'	Brown Silty f-m SAND and Cobble, little f-c Gravel (moist, possible reworked native soils)	M	BG
7'	Becomes Fine SAND and Cobble, contains lesser amounts of wood	D	BG
8'	Test Pit Complete with Refusal at 7.0'		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB14
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Cloudy, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	587.55'	MAKE/ MODEL	New Holland
TIME STARTED	1005	CAPACITY	0.3 CY
TIME FINISHED	1026	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Grey Fine Foundry SAND mixed with Cobble, f-c Gravel, lesser amount of silt (moist, FILL)	E	BG
2'		E	BG
3'	Contains lesser amounts of brick and vitrification- like f-c gravel	E	BG
4'	Brown to Light Brown Weathered MUDSTONE, lesser amounts of Subsoils	D	BG
5'	Test Pit Complete with Refusal at 4.0'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB16
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.40	MAKE/ MODEL	New Holland
TIME STARTED	1317	CAPACITY	0.3 CY
TIME FINISHED	1350	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'–1'	Brown f-c GRAVEL, mixed with f-c Sand, lesser amounts silt and roots (moist, FILL)	E	BG
1'–2'	Black f-m Foundry SAND, mixed with lesser amounts of silt (moist, FILL)	E	BG
2'–3'	Brown f-m SAND, little f-c Gravel, little Silt (moist)	E	BG
3'–4'		E	BG
4'–5'		E	BG
5'–6'		E	BG
6'–7'		E	BG
7'–8'	Contains tr. clay	E	BG
8'–9'		E	BG
9'–10		M	BG
10–11'	Brown Mottled Grey Silty CLAY, little f-c Sand (moist)	M	BG
11'–12'	Test Pit Complete at 11.0' (Top of Weathered Light Brown- Grey Mudstone)		
12'–13'			
13'–14'			
14'–			

Remarks:

Collect sample at 1.3' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB17
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	588.12	MAKE/ MODEL	New Holland
TIME STARTED	1200	CAPACITY	0.3 CY
TIME FINISHED	1230	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c GRAVEL, mixed with f-c Sand, lesser amounts of silt (moist, FILL)	E	BG
2'	Contains lesser amounts of cobble	E	BG
3'	Red- Brown Clayey SILT, little fine Sand, tr. gravel (moist)	E	BG
4'	Brown f-m SAND, tr. clay (moist)	E	BG
5'	Brown Mottled Light Brown Silty CLAY, tr. sand (moist)	E	BG
6'		E	BG
7'	Light Brown to Grey Weathered MUDSTONE	E	BG
8'	Test Pit Complete at 7.5'		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

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		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB19
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Cloudy, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	587.40'	MAKE/ MODEL	New Holland
TIME STARTED	1037	CAPACITY	0.3 CY
TIME FINISHED	1113	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown to Grey with "pockets" of Light Brown f-m Foundry SAND, mixed with f-c Gravel, lesser amount of cobble, topsoil and roots (moist, FILL)	E	BG
2'	Brown COBBLE mixed with f-c Gravel, f-c Sand and Silt (moist, FILL)	E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'	Brown Fine SAND, mixed with Silt (moist, possible FILL)	E	BG
7'	Orange- Brown SILT, some fine Sand, tr. roots (moist)	E	BG
8'		E	BG
9'	Brown to Light Brown Weathered MUDSTONE some Subsoils (moist)	E	BG
10	Test Pit Complete at 9.5'	E	BG
11'			
12'			
13'			
14'			

Remarks:

Bedding planes dip to the northeast.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

SJB SERVICES, INC.

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HAND AUGER FIELD LOG

		DATE	9/18/08
PROJECT	DUSSAULT FOUNDRY	LOCATION	LOCKPORT, NEW YORK
CLIENT	NYSDEC- REGION 9	TEST PIT NO.	SUB20
CONTRACTOR	SJB SERVICES	PROJECT NO.	BEV-08-020
FIELD REP	S. BOCHENEK	WEATHER / TEMP	OVERCAST, COOL
GROUND ELEV	576.46	TIME STARTED	0905
		TIME FINISHED	0912

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown to Grey Fine Foundry SAND mixed with lesser amounts of gravel, metal and slag (moist, FILL)	E	BG
2'		E	BG
3'	Hand Auger Complete with Refusal at 2.2'	M	BG
4'			
5'			
6'			
7'			
8'			
9'			
10'			

Remarks:

PID= Photoionization Detector
BG= Background, measured in parts per million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB21
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	544.11'	MAKE/ MODEL	New Holland
TIME STARTED	0952	CAPACITY	0.3 CY
TIME FINISHED	1040	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND, mixed with Gravel, Metal, lesser amounts of bricks (moist, FILL)	E	BG
2'	Brown f-c SAND, some f-c Gravel and Cobble, tr. roots (moist, reworked native soils)	E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'	Brown SILT, little f-c Sand, tr. gravel (moist)	E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'	Brown to Grey Silty CLAY, little weathered Mudstone	E	BG
12'		E	BG
13'		E	BG
14'		E	BG
	Test Pit Complete at 14.0'		

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB22
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.32'	MAKE/ MODEL	New Holland
TIME STARTED	1109	CAPACITY	0.3 CY
TIME FINISHED	1145	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'–1'	TOPSOIL	E	BG
1'–2'	Brown f-m Foundry SAND mixed with lesser amounts of silt (moist, FILL)	E	BG
2'–3'	Becomes Light Brown	E	BG
3'–4'		E	BG
4'–5'		E	BG
5'–6'		E	BG
6'–7'		E	BG
7'–8'		E	BG
8'–9'		E	BG
9'–10		E	BG
10–11'	Test Pit Complete at 9.5'		
11'–12'			
12'–13'			
13'–14'			
14'			

Remarks:

Collect sample at 0.2'- 2.0' fpr analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB23
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	589.84'	MAKE/ MODEL	New Holland
TIME STARTED	1240	CAPACITY	0.3 CY
TIME FINISHED	1300	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown COBBLE and f-c Gravel, mixed with f-c Sand, lesser amounts of silt (moist, FILL)	D	BG
2'	Red- Brown f-m SAND, little f-c Gravel, tr. silt (moist)	E	BG
3'		E	BG
4'	Grey Silty CLAY, tr. sand (moist)	E	BG
5'	Light Brown Silty CLAY and Weathered MUDSTONE (moist)	E	BG
6'		E	BG
7'	Test Pit Complete at 6.0'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:
Water entering excavation at 5.0'

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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HAND AUGER FIELD LOG

		DATE	9/18/08
PROJECT	DUSSAULT FOUNDRY	LOCATION	LOCKPORT, NEW YORK
CLIENT	NYSDEC- REGION 9	TEST PIT NO.	SUB26
CONTRACTOR	SJB SERVICES	PROJECT NO.	BEV-08-020
FIELD REP	S. BOCHENEK	WEATHER / TEMP	OVERCAST, COOL
GROUND ELEV	579.23	TIME STARTED	0915
		TIME FINISHED	0923

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND mixed with f-c Gravel, lesser amounts of silt and roots (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'	Hand Auger Complete at 2.8' (Auger Hole Collapsing)		
5'			
6'			
7'			
8'			
9'			
10'			

Remarks:

PID= Photoionization Detector
BG= Background, measured in parts per million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

TEST PIT FIELD LOG

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		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB27
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	594.21'	MAKE/ MODEL	New Holland
TIME STARTED	1352	CAPACITY	0.3 CY
TIME FINISHED	1417	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Topsoil with f-c Gravel (moist, FILL) Excavated Railroad Tie	E	BG
2'	Brown SILT, mixed with fine Sand, lesser amounts of wood (moist, reworked native soil)	E	BG
3'	Light Brown Silty CLAY, little f-c Gravel, tr. sand, occasional Sand laminations (moist)	E	BG
4'		E	BG
5'	Grey f-c gravel sized DOLOSTONE Fragments, little cobble sized Dolostone Fragments mixed with Mudstone Fragments	E	BG
6'		E	BG
7'	Test Pit Complete at 6.0'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB31
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.68'	MAKE/ MODEL	New Holland
TIME STARTED	1030	CAPACITY	0.3 CY
TIME FINISHED	1107	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Dark Brown TOPSOIL (moist, FILL)	E	BG
1'	Contains f-m Foundry SAND		
	Red- Brown Silty CLAY, some fine sand, little fine Gravel	E	BG
2'	(moist, possible reworked native soils)		
		E	BG
3'			
		E	BG
4'			
	Excavated wood	E	BG
5'			
		E	BG
6'			
	Red- Brown Fine SAND and Silt, little Gravel	E	BG
7'	(moist)		
		E	BG
8'			
		E	BG
9'			
10	Test Pit Complete at 9.0'		
	(Top of Bedrock)		
11'			
12'			
13'			
14'			

Remarks:

Water entering test pit at 9.0'.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB32
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.21'	MAKE/ MODEL	New Holland
TIME STARTED	1331	CAPACITY	0.3 CY
TIME FINISHED	1420	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND, mixed with lesser amounts of silt (moist, FILL)	E	BG
2'	Light Brown f-c SAND mixed Clay laminations (moist, FILL)	E	BG
3'	Excavated railroad ties	E	BG
4'		E	BG
5'		E	BG
6'	Dark Brown Mottled f-m SAND, some Silty Clay (moist)	E	BG
7'		E	BG
8'		E	BG
9'	Grey Mottled Red- Brown Clayey SILT, tr. sand (moist)	E	BG
10		E	BG
11'	Test Pit Complete at 10.0' (Top of Dolostone)		
12'			
13'			
14'			

Remarks:
Collect sample and duplicate at 0.5'- 1.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB36
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.80'	MAKE/ MODEL	New Holland
TIME STARTED	1505	CAPACITY	0.3 CY
TIME FINISHED	1541	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND, mixed with lesser amounts of coal (moist, FILL)	E	BG
2'	Contains f-c Gravel, lesser amounts Railroad ties	E	BG
3'		E	0.9 ppm
4'	Becomes Light Grey	E	BG
5'	Red- Brown Clayey SILT, little fine Sand (moist) Orange- Brown f-m SAND, some Silt, little f-c Gravel, occasional Silty Clay laminations (moist)	E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'	Becomes Dark Grey, contains some Silty Clay	E	BG
10	Test Pit Complete at 9.0' (Top of Dolostone)		
11'			
12'			
13'			
14'			

Remarks:
Collect sample at 3.0' for analytical tests.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB37
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV		MAKE/ MODEL	New Holland
TIME STARTED	1435	CAPACITY	0.3 CY
TIME FINISHED	1503	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Light Brown f-c GRAVEL mixed with f-c Sand, lesser amounts of silt (moist, FILL)	E	BG
2'	Becomes Dark Brown	E	BG
3'	Light Brown f-c SAND, little Silt, tr. gravel (moist)	E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'	Becomes Dark Brown Mottled f-c Sand and Silt (moist)	E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'	Test Pit Complete at 10.0' (Top of Brown to Grey Mudstone)		
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB41
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.70'	MAKE/ MODEL	New Holland
TIME STARTED	0932	CAPACITY	0.3 CY
TIME FINISHED	1008	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND mixed with Silt, lesser amounts of wood (moist, FILL)	E	BG
2'		E	BG
3'	Becomes Light Brown	E	BG
4'		E	BG
5'	Mixed with lesser amounts of f-c Gravel	E	BG
6'		E	BG
7'	Test Pit Complete at 5.2' (Top of Mudstone)		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB42
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.39'	MAKE/ MODEL	New Holland
TIME STARTED	0848	CAPACITY	0.3 CY
TIME FINISHED	0931	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown TOPSOIL mixed with lesser amounts of f-c gravel and f-c sand (moist, FILL)	E	BG
2'	Dark Brown f-m Foundry SAND mixed with lesser amounts of silt (moist, FILL)	E	BG
3'		E	BG
4'	Becomes Light Brown	E	BG
5'	Grey cobble sized DOLOSTONE Fragments mexed with lesser amounts of f-c gravel, f-c sand, silt and wood (moist, FILL)	E	BG
6'		M	BG
7'		M	BG
8'		M	BG
9'		M	BG
10	Test Pit Complete at 9.0' (Top of Dolostone)		
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB43
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.17'	MAKE/ MODEL	New Holland
TIME STARTED	0820	CAPACITY	0.3 CY
TIME FINISHED	0847	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	TOPSOIL mixed with f-c Gravel, lesser amounts of silt (moist, FILL/ Crush Gravel)	E	BG
2'	Dark Brown f-m Foundry SAND mixed with f-c Gravel, lesser amounts of silt (moist, FILL)	E	BG
3'		E	BG
4'	Light Brown f-m SAND and Silty Clay (moist)	E	BG
5'	Contains tr. silty clay	E	BG
6'		E	BG
7'		E	BG
8'	Becomes Red- Brown Clayey f-m Sand, tr. gravel (moist)	E	BG
9'		M	BG
10	Test Pit Complete at 9.0' (Top of Dolostone)		
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB46
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	586.27	MAKE/ MODEL	New Holland
TIME STARTED	0905	CAPACITY	0.3 CY
TIME FINISHED	0950	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Dark Brown to Grey Fine Foundry SAND mixed with Cobble,	E	BG
1'	f-c Gravel and Roots (moist, FILL)	E	BG
2'	Excavated railroad tie pieces, lesser amount glass	E	BG
3'		E	BG
4'	Contains lesser amount of wood	E	BG
5'		E	BG
6'	Contains lesser amount of metal	E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'	Contains "pockets" Light Brown fine foundry Sand	E	BG
12'		E	BG
13'		E	BG
14'	Contains lesser amounts of slag, fire bricks, and little f-c gravel sized coke	E	BG

Remarks:

Collected sample at 15.6' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB46
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV		MAKE/ MODEL	New Holland
TIME STARTED	0905	CAPACITY	0.3 CY
TIME FINISHED	0950	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
15'		D	BG
16'	Test Pit Complete at 15.6' Top of Light Brown Weathered Mudstone	D	BG
17'			
18'			
19'			
20'			
21'			
22'			
23'			
24'			
25'			
26'			
27'			
28'			

Remarks:
Collected sample at 15.6'

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB47
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.67'	MAKE/ MODEL	New Holland
TIME STARTED	1225	CAPACITY	0.3 CY
TIME FINISHED	1240	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND mixed with Railroad Ties (moist, FILL)	E	BG
2'	Orange- Brown f-c SAND, little f-c Gravel (moist)	E	BG
3'	Brown to Grey DOLOSTONE	E	BG
4'		E	BG
5'	Test Pit Complete at 4.5'	E	BG
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 1.5' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB48
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	B. Fabian	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.86'	MAKE/ MODEL	New Holland
TIME STARTED	1057	CAPACITY	0.3 CY
TIME FINISHED	1221	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0-1'	Brown f-m Foundry SAND mixed with lesser amounts of silt (moist, FILL)	E	BG
1'-2'	Brown f-c SAND mixed with lesser amounts of silt	E	BG
2'-3'		E	BG
3'-4'		E	BG
4'-5'	Brown DOLOSTONE	M	BG
5'-6'		M	BG
6'-7'		M	BG
7'-8'	Brown MUDSTONE		
8'-9'	Test Pit Complete at 7.5'		
9'-10			
10-11'			
11'-12'			
12'-13'			
13'-14'			
14'-			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

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		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB49
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	595.49'	MAKE/ MODEL	New Holland
TIME STARTED	1010	CAPACITY	0.3 CY
TIME FINISHED	1049	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0-1'	Dark Brown f-m Foundry SAND mixed with Topsoil (moist, FILL)	E	BG
1'-2'	Contains f-c Gravel	E	BG
2'-3'	Light Brown f-m SAND, mixed with Silt, contains Clay laminations (moist, possible FILL)	E	BG
3'-4'		E	BG
4'-5'		E	BG
5'-6'		E	BG
6'-7'		E	BG
7'-8'		E	BG
8'-9'			
9'-10	Test Pit Complete at 8.0' (Top of Rock)		
10-11'			
11'-12'			
12'-13'			
13'-14'			
14'-			

Remarks:
Collect sample at 2.0' for analytical testing includes MS/ MSD

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

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		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB53
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.15	MAKE/ MODEL	New Holland
TIME STARTED	1312	CAPACITY	0.3 CY
TIME FINISHED	1335	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown Fine Foundry SAND mixed with Crush Stone, Railroad ties and spikes (moist, FILL)	E	BG
2'	Red- Brown to Brown Fine SAND, some Silt, tr. gravel, occasional Silt laminations (moist)	E	BG
3'		E	BG
4'		E	BG
5'	Grey Weathered DOLOSTONE (moist)	M	BG
6'	Test Pit Complete with Refusal at 5.5' (Competent Bedrock)	D	BG
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB54
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	B. Fabian	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	596.11'	MAKE/ MODEL	New Holland
TIME STARTED	1250	CAPACITY	0.3 CY
TIME FINISHED	1340	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Grey f-c GRAVEL, mixed with f-c Sand (moist, FILL)	E	BG
1'	Brown f-m Foundry SAND, mixed with lesser amounts of silt (moist, FILL)	E	BG
2'	Brown Silty CLAY, tr. sand (moist, possible reworked native soils) Contains some f-c Sand, tr. gravel	E	BG
3'	10- inch steel pipe exposed	E	BG
4'	Brown f-c SAND, tr. gravel, tr. silt (moist)	E	BG
5'		M	BG
6'	Brown to Grey DOLOSTONE FRAGMENTS and some f-c Sand (moist)	M	BG
7'		M	BG
8'			
9'	Test Pit Complete at 8.4'		
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

TEST PIT FIELD LOG

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		DATE	9/10/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB55
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	595.48'	MAKE/ MODEL	New Holland
TIME STARTED	1418	CAPACITY	0.3 CY
TIME FINISHED	1456	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown- Grey f-c SAND mixed with f-c Gravel, lesser amounts silt, and organics (moist, possible topsoil)	E	BG
2'	Dark Grey Fine Foundry SAND (moist, FILL)	E	BG
3'	Red- Brown Silty CLAY mixed with lesser amounts of f-c gravel and f-c sand (moist, reworked native soils)	E	BG
4'	Dark Grey Fine Foundry SAND mixed with lesser amounts of glass, metal, brick, contains occasional Ash laminations (moist, FILL)	E	BG
5'	Contains Cobble layer at 4.0' Contains f-c Sand, f-c Gravel and Silty Clay	E	BG
6'	Light Brown Silty CLAY, tr. sand (moist)	E	BG
7'		E	BG
8'	Contains occasional f-m Sand seams	M	BG
9'	Test Pit Complete at 8.0' Top of Dolomite		
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB58
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV		MAKE/ MODEL	New Holland
TIME STARTED	1000	CAPACITY	0.3 CY
TIME FINISHED	1100	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown to Grey Fine Foundry SAND mixed with Cobble, lesser amounts metal and roots (moist, FILL)	E	BG
2'	Contains f-c Gravel, excavated foundry sand frame Contains lesser amounts of brick and ash	E	BG
3'		E	BG
4'	Contains lesser amounts of slag, tin cans, "hard" foundry sand molds	M	BG
5'		M	BG
6'	Contains f-c gravel and sand sized Slag fragments, lesser amounts of white brick fragments	M	BG
7'		E	BG
8'	Contains lesser amounts of rubber and coke	E	BG
9'		E	BG
10		E	BG
11'	Contains "pockets" Light Brown Foundry Sand	E	BG
12'		E	BG
13'		E	BG
14'		E	BG
	Test Pit Complete at 15.0'	E	BG

Remarks:
Test pit contains more "garbage" compared to others.
Collect sample at 10.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB59
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	594.68'	MAKE/ MODEL	New Holland
TIME STARTED	1343	CAPACITY	0.3 CY
TIME FINISHED	1419	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL, mixed with lesser amounts of silt (moist, FILL)	E	BG
2'	Red- Brown Silty CLAY mixed with some f-m Sand (moist, possible reworked native soils)	E	BG
3'	Clay pipe excavated	E	BG
4'	Contains Mudstone fragments	E	BG
5'		E	BG
6'	Grey to Light Brown Weathered MUDSTONE	E	BG
7'	Test Pit Complete at 5.5'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB60
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	587.63'	MAKE/ MODEL	New Holland
TIME STARTED	1430	CAPACITY	0.3 CY
TIME FINISHED	1444	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown TOPSOIL mixed with f-c Gravel and f-c Sand (moist, FILL)	E	BG
2'		E	BG
3'	Becomes Brown f-c GRAVEL mixed with Cobble and lesser amounts of f-c sand (moist)	E	BG
4'	Test Pit Complete at 2.8' (Top of Mudstone)		
5'			
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB61
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Partly Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	585.30'	MAKE/ MODEL	New Holland
TIME STARTED	1446	CAPACITY	0.3 CY
TIME FINISHED	1600	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Light Brown CLAY mixed with f-c Sand (moist, FILL)	E	BG
2'		E	10 ppm
3'	Brown f-m SAND mixed with lesser amounts of silt (moist, FILL)	E	45 ppm
4'	Becomes Dark Grey mixed with f-c Gravel, petroleum odor noted	E	120 ppm
5'	Brown SILT mixed with f-m Sand, contains occasional fine Sand seams, oil staining noted (moist, FILL)	E	120 ppm
6'		E	120 ppm
7'	Test Pit Complete at 5.5'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect samples at 2.5' and 4.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB62
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	B. Fabian	WEATHER / TEMP	Cloudy, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	583.88'	MAKE/ MODEL	New Holland
TIME STARTED	0825	CAPACITY	0.3 CY
TIME FINISHED	0900	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND mixed with lesser amounts of slag, metal, brick and miscellaneous debris (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10		E	BG
11'		E	BG
12'	Brown Silty CLAY, tr. sand (moist)	E	BG
13'	Test Pit Complete at 12.0' (Top of Dolostone)		
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB63
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	593.40'	MAKE/ MODEL	New Holland
TIME STARTED	0810	CAPACITY	0.3 CY
TIME FINISHED	0842	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Brown f-c GRAVEL, mixed with Cobble, f-c Sand, Silt (moist, FILL)	E	BG
1'	Red- Brown f-m SAND mixed with lesser amounts of f-c gravel, cobble, silt (moist, reworked native soils)	E	BG
2'		E	BG
3'		E	BG
4'	Contains f-c Gravel and Cobble	E	BG
5'	Grey Rock Fragments (Dolostone)		
6'	Test Pit Complete at 5.0'		
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB64
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	594.34'	MAKE/ MODEL	New Holland
TIME STARTED	0849	CAPACITY	0.3 CY
TIME FINISHED	0914	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL, mixed with f-c Sand, lesser amounts of silt (moist, FILL/ crush stone)	E	BG
2'	Black Fine Foundry SAND (moist, FILL)	E	BG
3'	Red- Brown SILT, mixed with fine Sand, lesser amounts of roots, occasional fine Sand laminations (moist, reworked native soils) Contains Cobble	E	BG
4'		E	BG
5'		E	BG
6'		M	BG
7'	Brown Rock Fragments (Dolostone) mixed with f-c Sand, lesser amounts of f-c gravel and roots (moist, FILL)	M	BG
8'	Test Pit Complete at 7.0'		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

TEST PIT FIELD LOG

SJB SERVICES, INC.
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Hamburg, NY 14075
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Fax: (716) 649-8051

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB65
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	590.79	MAKE/ MODEL	New Holland
TIME STARTED	0918	CAPACITY	0.3 CY
TIME FINISHED	9057	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	TOPSOIL mixed with Cobble, f-c Gravel and lesser amounts of f-c sand, brick, wood, and metal (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'	Cobble and Metal become more numerous	D	BG
5'		D	BG
6'		D	BG
7'	Test Pit Complete at 6.0' (Top of Light Brown to Grey Weathered Mudstone)		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB67
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	583.38'	MAKE/ MODEL	New Holland
TIME STARTED	1110	CAPACITY	0.3 CY
TIME FINISHED	1143	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND, mixed with f-c Gravel, Cobble, and Rebar (moist, FILL)	E	BG
2'	Excavated boulder sized Concrete	E	BG
3'	Red- Brown f-m Sand, little f-c Gravel, little Silt (moist, reworked native soils)	E	BG
4'	Dark Grey fine Foundry Sand, mixed with f-c Gravel and Cobble, lesser amounts wood (moist, FILL) Becomes Light Brown f-m Foundry Sand	E	BG
5'	Light Brown Silty CLAY, tr. sand (moist)	E	BG
6'	Light Brown to Grey Weathered MUDSTONE	D	BG
7'	Test Pit Complete at 5.4'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 2.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/10/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB68
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	M. Gaudy
GROUND ELEV	574.49'	MAKE/ MODEL	New Holland
TIME STARTED	1040	CAPACITY	0.3 CY
TIME FINISHED	1132	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Dark Brown Fine Foundry SAND mixed with roots (moist, FILL)	E	BG
1'-2'		E	BG
2'-3'	Contains numerous Light Brown foundry molds/ casts, lesser amounts of rebar	E	BG
3'-4'		M	BG
4'-5'	Contains Cobble and f-c Gravel	M	BG
5'-6'		E	BG
6'-7'	Contains lesser amount of plastic	E	BG
7'-8'	Light Brown f-m SAND, little f-c Gravel (moist)	E	BG
8'-9'		D	BG
9'	Grey DOLOSTONE		
10	Test Pit Complete at 8.9'		
11'			
12'			
13'			
14'			

Remarks:
Collect sample at 3'- 6' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB69
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV		MAKE/ MODEL	New Holland
TIME STARTED	1342	CAPACITY	0.3 CY
TIME FINISHED	1412	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND mixed with lesser amounts of f-c gravel and cobble (moist, FILL)	E	BG
2'	Contains Clay Pipe	E	BG
3'	Red- Brown f-m SAND, little f-c Gravel, some Silt (moist)	E	BG
4'		E	BG
5'	Brown Rounded COBBLE, some f-c Gravel, little f-c Sand (moist)	E	BG
6'		E	BG
7'		E	BG
8'	Test Pit Complete at 7.5'	E	BG
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 0- 1.0' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB70
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	593.76'	MAKE/ MODEL	New Holland
TIME STARTED	1442	CAPACITY	0.3 CY
TIME FINISHED	1502	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown to Grey f-c GRAVEL, mixed with f-c Sand, lesser amounts of silt (moist, FILL/ crush stone)	E	BG
2'	Black to Brown COBBLE mixed with f-c Sand and Silt, lesser amounts of gravel and brick (moist, FILL)	E	BG
3'	Red- Brown f-m SAND, mixed with f-c Gravel, lesser amounts of brick and metal	E	BG
4'	Pipe exposed Grades to Brown to Light Brown	E	BG
5'	Pipe exposed Railroad ties excavated	E	BG
6'		M	BG
7'		D	BG
8'	Test Pit Complete with Refusal at 6.8' (Top of Dolostone)		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB71
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	592.65	MAKE/ MODEL	New Holland
TIME STARTED	1057	CAPACITY	0.3 CY
TIME FINISHED	1136	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Grey Fine Foundry SAND mixed with f-c Gravel, lesser amounts	E	BG
1'	of silt (moist, FILL)		
	Grey f-c GRAVEL (moist, FILL/ crush stone)	M	BG
2'	Red- Brown Silty Fine SAND mixed with f-c Gravel, lesser		
	amounts of cobble, rebar, plastic, and brick	D	BG
3'	(moist, reworked native soils)		
	Brick fragments become numerous	D	BG
4'	Contains reinforced Concrete		
		D	BG
5'			
		D	BG
6'	Red- Brown Fine SAND, little f-c Gravel, little Silt		
	(moist, possible FILL)		
7'			
	Test Pit Complete with Refusal at 6.0'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Small diameter pipe exposed at 3.9' (north end.)

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB73
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	583.39	MAKE/ MODEL	New Holland
TIME STARTED	1318	CAPACITY	0.3 CY
TIME FINISHED	1400	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Dark Brown Foundry SAND mixed with f-c Gravel, Topsoil, and	E	BG
1'	Roots and lesser amounts of cobble and slag (moist, FILL)		
	White to Black ASH (moist, FILL)	E	BG
2'	Contains Silty Clay		
	Light Brown Silty CLAY mixed with fine Sand (moist, FILL)	E	BG
3'			
	Small diameter pipe exposed	E	BG
4'	Small diameter pipe exposed		
		E	BG
5'			
	Light Brown Weathered MUDSTONE	E	BG
6'			
	Test Pit Complete at 5.5'		
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Colect sample from 1.1' to 2.0' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

TEST PIT FIELD LOG

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		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB74
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s

EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	580.49'	MAKE/ MODEL	New Holland
TIME STARTED	1400	CAPACITY	0.3 CY
TIME FINISHED	1437	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND mixed with f-c Gravel, Topsoil, Roots and lesser amounts of cobble and slag (moist, FILL)	E	BG
2'	Contains "pockets" of Light Brown fine Foundry Sand	E	BG
3'	Light Brown Clayey SILT, tr. gravel (moist, possible reworked native soils) (2.2 southend, 6.2 northend)	E	BG
4'	Contains tr. metal	E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'	Light Brown to Grey Weathered MUDSTONE	E	BG
9'		M	BG
10	Test Pit Complete at 9.0'		
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/10/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB75
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	M. Gaudy
GROUND ELEV	555.68'	MAKE/ MODEL	New Holland
TIME STARTED	1239	CAPACITY	0.3 CY
TIME FINISHED	1310	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Dark Grey f-c GRAVEL mixed with fine foundry Sand and Cobble, lesser amounts of brick and silt (moist, FILL)	E	BG
1'-2'	Dark Brown Fine Foundry SAND mixed with f-c Gravel, lesser amounts of metal, brick, and silt (moist, FILL)	E	BG
2'-3'		E	BG
3'-4'	Contains Cobble	E	BG
4'-5'	Brown Weathered MUDSTONE	E	BG
5'-6'			
6'-7'	Test Pit Complete at 6.0'		
7'-8'			
8'-9'			
9'-10			
10-11'			
11'-12'			
12'-13'			
13'-14'			
14'-			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB76
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	594.13'	MAKE/ MODEL	New Holland
TIME STARTED	1010	CAPACITY	0.3 CY
TIME FINISHED	1051	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of silt (moist, FILL)	E	BG
2'	Red- Brown Silty CLAY, some fine Sand, little f-c Gravel (moist, reworked native soils)	E	BG
3'		E	BG
4'	Red- Brown Silty CLAY, some fine Sand, tr. gravel (moist) 3.9- top of pipe exposed	E	BG
5'	bottom of pipe	E	BG
6'		E	BG
7'	Red- Brown Fine SAND, some Silty Clay (moist)	E	BG
8'	Light Brown to Grey DOLOSTONE	D	BG
9'	Test Pit Complete at 8.0'		
10			
11'			
12'			
13'			
14'			

Remarks:
Fill to 5.0' southside
Fill to 1.0' northside

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/4/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB77
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	591.79'	MAKE/ MODEL	New Holland
TIME STARTED	1414	CAPACITY	0.3 CY
TIME FINISHED	1430	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND mixed with f-c Gravel, lesser amounts topsoil and silt (moist, FILL)	E	BG
2'	Red- Brown to Brown Fine SAND, some Silt, little f-c Gravel, tr. cobble (moist, reworked native soils)	E	BG
3'		E	BG
4'	Red- Brown Fine SAND, some Silt, little f-c Gravel (moist)	E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'	Light Brown to Grey Weathered MUDSTONE	E	BG
9'	Test Pit Complete at 7.5'		
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB78
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s

EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	587.90'	MAKE/ MODEL	New Holland
TIME STARTED	1224	CAPACITY	0.3 CY
TIME FINISHED	1250	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown f-c GRAVEL, mixed with f-c Sand, little Cobble, lesser mounts of silt and brick (moist, FILL/ crush stone)	E	BG
2'	Becomes Red- Brown, mixed with Silty Clay, lesser amounts of coke	E	BG
3'	Red- Brown Silty CLAY, tr. sand (moist) Contains weathered rock fragments	E	BG
4'	Top of Light Brown Weathered MUDSTONE	E	BG
5'	Test Pit Complete at 3.4'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/5/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB79
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Cloudy, Windy, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	583.30'	MAKE/ MODEL	New Holland
TIME STARTED	1300	CAPACITY	0.3 CY
TIME FINISHED	1316	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL, mixed with f-c Sand, lesser amounts of silt and cobble (moist, FILL)	E	BG
2'	Light Brown to Grey Weathered MUDSTONE	E	BG
3'		M	BG
4'	Contains occasional Clay seams	M	BG
5'	Test Pit Complete at 4.2'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

Western New York Office
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB80
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	581.95'	MAKE/ MODEL	New Holland
TIME STARTED	1330	CAPACITY	0.3 CY
TIME FINISHED	1405	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey to Black layered f-c GRAVEL mixed with fine Foundry Sand, Cobble, f-c Sand and lesser amounts of coal (moist, FILL)	E	BG
2'		E	BG
3'	Becomes Red- Brown, large Cement Fragment (southend) unable to excavate	D	BG
4'	Red- Brown f-m Sand, mixed with Silt, lesser amounts coal (moist, FILL)	D	BG
5'	Red- Brown Silty CLAY, tr. sand (moist)	M	BG
	Light Brown to Grey Weathered MUDSTONE		
6'	Test Pit Complete at 5.5'	E	BG
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 1.5' for analytical testing

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB82
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Calm, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	594.47'	MAKE/ MODEL	New Holland
TIME STARTED	0832	CAPACITY	0.3 CY
TIME FINISHED	1009	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND mixed with f-c Gravel and Coal, lesser amounts of wood and railroad ties (moist, FILL)	E	BG
2'		E	BG
3'	Light Brown f-m SAND, tr. silt, tr. gravel, tr. clay pipe (moist, reworked native soils)	E	BG
4'	Brown f-m SAND, tr. silt, tr. gravel, occasional Silty Clay laminations (moist)	E	BG
5'	Exposed Clay pipe pieces	E	BG
6'	Contains some rock fragments	E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10	Brown Fine SAND, some f-c Gravel, some Rock Fragments (moist)	E	BG
11'	Test Pit Complete at 10.0' Top of Dolostone		
12'			
13'			
14'			

Remarks:
Collect sample 0'- 2.0' for analytical testing
2.7'- 10.0' appears native except for "vertical cut" placement of clay pipe.
PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB83
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Warm, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	592.67'	MAKE/ MODEL	New Holland
TIME STARTED	1012	CAPACITY	0.3 CY
TIME FINISHED	1054	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'–4'	Black Fine Foundry SAND mixed with f-c Gravel, lesser amounts of silt and metal (moist, FILL) Brown Fine SAND, mixed with f-c Gravel and Silt, occasional Silty Clay laminations (moist, reworked native soils)		
4'–7'	Brown Clayey SILT, some Dolostone Fragments, little fine Sand (moist, possible reworked native soils)		
7'–9'	Red- Brown Silty CLAY, some fine Sand, little rock fragments (moist)		
9'–10	Light Brown to Grey Weathered MUDSTONE		
10–14'	Test Pit Complete at 10.0'		

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB84
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Sl. Breeze, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	591.11'	MAKE/ MODEL	New Holland
TIME STARTED	1102	CAPACITY	0.3 CY
TIME FINISHED	1152	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown Fine SAND and Silt, mixed with lesser amounts of roots (moist, FILL)	E	BG
2'	Black Fine Foundry SAND mixed with lesser amounts of coal, wood, f-c gravel, metal, and cobble (moist, FILL)	E	BG
3'	Contains brick and slag	E	BG
4'		E	BG
5'	Brown Clayey SILT, tr. sand, tr. roots, occasional vertical desiccation deposit of foundry Sand (moist)	E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'	Red- Brown Silty CLAY, tr. gravel, tr. sand (moist)	E	BG
10	Light Brown to Grey Weathered MUDSTONE	E	BG
11'	Test Pit Complete at 9.6'		
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB85
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	583.10'	MAKE/ MODEL	New Holland
TIME STARTED	1220	CAPACITY	0.3 CY
TIME FINISHED	1250	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of silt and rebar (moist, FILL)	E	BG
2'	Grey f-c GRAVEL, mixed with f-c Sand and Silt, lesser amounts of rebar (moist, FILL)	E	BG
3'	Brown SILT, some f-m Sand, tr. cobble, tr. plastic, clay pipe (moist, reworked native soils)	E	BG
4'	Red- Brown Silty CLAY, tr. sand (moist)	E	BG
	Light Brown Severely Weathered MUDSTONE		
5'	Test Pit Complete at 4.2'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 0.0'- 0.5' for analytical testing

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB86
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	581.97'	MAKE/ MODEL	New Holland
TIME STARTED	1300	CAPACITY	0.3 CY
TIME FINISHED	1328	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey Fine Foundry SAND and Topsoil, mixed with f-c Gravel (moist, FILL)	E	BG
2'	Grey f-c GRAVEL, mixed with Silty Clay and f-c Sand (moist, FILL) Becomes Brown	E	BG
3'		E	BG
4'	Brown Silty CLAY, little fine Sand, tr. gravel (moist, reworked native soils) Small diameter pipe excavated, tr. concrete	E	BG
5'	Light Brown to Grey Weathered MUDSTONE, occasional Clay seams	E	BG
6'	Test Pit Complete at 5.4'	E	BG
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/9/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB87
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Cloudy, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	594.65'	MAKE/ MODEL	New Holland
TIME STARTED	0909	CAPACITY	0.3 CY
TIME FINISHED	0935	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with f-c Gravel, Railroad Ties, lesser amounts of wood and roots (moist, FILL)	E	BG
2'		E	BG
3'	Red- Brown Silty Fine SAND, little fine Gravel, tr. roots (moist, possible reworked native soils)	E	BG
4'		E	BG
5'	Red- Brown Silty CLAY, tr. sand (moist)	E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'	Contains Cobble (possible rock fragments)	E	BG
10		E	BG
11'		E	BG
12'	Test Pit Complete at 11.4' Top of Light Brown to Grey Weathered Mudstone		
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/9/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB88
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	593.22'	MAKE/ MODEL	New Holland
TIME STARTED	0938	CAPACITY	0.3 CY
TIME FINISHED	1030	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND mixed with f-c Gravel, lesser amount of coal and silt (moist, FILL)	E	BG
2'	Grey f-c gravel sized SLAG, mixed with f-c sand sized Slag, lesser amount of silt (moist, FILL)	E	BG
3'	Red- Brown Fine SAND, some Silt, some f-c Gravel, occasional Silty Clay laminations (moist)	E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'		E	BG
10	Red- Brown to Light Brown Silty CLAY, tr. gravel, tr. sand (moist)	E	BG
11'	Contains weathered Mudstone laminations	E	BG
12'	Test Pit Complete at 10.9' (Top of Mudstone)		
13'			
14'			

Remarks:

Collect sample from 2" to 1.0' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/9/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB89
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Mostly Cloudy, Calm 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	592.22'	MAKE/ MODEL	New Holland
TIME STARTED	1032	CAPACITY	0.3 CY
TIME FINISHED	1131	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'–1'	Brown Fine SAND and Silt mixed with Topsoil (moist, FILL)	E	BG
1'–2'	Black Fine Foundry SAND mixed with f-c Gravel, lesser amounts of coal and silt (moist, FILL)	E	2.0
2'–3'	Contains Railroad ties and lesser amounts of brick and metal	E	BG
3'–4'		E	BG
4'–5'	Brown f-c SAND mixed with Silt and f-c Gravel, lesser amounts of plastic and glass (moist, FILL)	E	BG
5'–6'	Large flat stone excavated (northend, possible cut stone)	D	BG
6'–7'	Red- Brown SILT, some f-c Sand, some f-c Gravel, tr. clay (moist, possible reworked)	E	BG
7'–8'		E	BG
8'–9'		E	BG
9'–10		E	BG
10–11'		E	BG
11'–12'	Test Pit Complete at 10.8'		
12'–13'			
13'–14'			
14'–			

Remarks:

Collect sample from 0.5'- 5.0' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/9/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB90
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Cloudy, Sl. Breeze, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	585.00'	MAKE/ MODEL	New Holland
TIME STARTED	1215	CAPACITY	0.3 CY
TIME FINISHED	1452	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Topsoil	E	BG
1'	Brown Fine SAND, mixed with Silt, lesser amounts of gravel and roots (moist, FILL)	E	BG
2'	Black Fine Foundry SAND mixed with Topsoil and f-c Gravel, lesser amounts of brick and wood (moist, FILL)	E	BG
3'	Brown f-c SAND mixed with Silt and fine Gravel, lesser amounts of cobble, brick, and plastic and glass (moist, FILL)	E	BG
4'	Cobble becomes more numerous Topsoil mixed with f-c Gravel and f-c Sand (moist, FILL)	E	70 ppm
5'	Grey to White ASH (moist, FILL)	E	220 ppm
6'	Tar like substance entering excavation at 6.0' (220 ppm)		
	Brown Silty CLAY, tr. sand (moist, possible reworked native soil)	E	40 ppm
7'		E	20 ppm
8'		E	20 ppm
9'	Red- Brown Silty CLAY, tr. sand (moist)		
10	Test Pit Complete at 8.9'		
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 6.0' for analytical testing

Collect sample at 4.0'- 6.0' for analytical testing

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/10/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB91
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	581.73'	MAKE/ MODEL	New Holland
TIME STARTED	0918	CAPACITY	0.3 CY
TIME FINISHED	1012	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of silt (moist, FILL)	E	BG
2'	Contains Cobble	D	7.2
3'	Grey f-c GRAVEL mixed with f-c Sand, lesser amounts of Silt (moist, FILL)	D	2.0
4'	Black to Brown Fine Foundry Sand, lesser amounts of rebar and plastic (moist, FILL)	M	BG
5'	Grey to Brown TOPSOIL, mixed with lesser amounts of foundry sand (moist, FILL)	E	BG
6'	Brown f-c GRAVEL, mixed with Cobble and f-c Sand, lesser amounts of glass (moist, FILL) Clay pipe excavated	E	BG
7'	Light Brown Silty CLAY, tr. sand (moist) Contains some f-c Gravel (possible rock fragments)	E	BG
8'	Light Brown to Grey Weathered MUDSTONE		
9'	Test Pit Complete at 7.2'		
10			
11'			
12'			
13'			
14'			

Remarks: Extend pit to north; south end (towards landfill area', numerous rocks), extend 5'.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/8/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB92
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Few Clouds, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	579.17'	MAKE/ MODEL	New Holland
TIME STARTED	1408	CAPACITY	0.3 CY
TIME FINISHED	1507	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with Topsoil, f-c Gravel, Cobble and lesser amounts of metal (moist, FILL)	E	BG
2'	Gravel content increases Black Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of silt (moist, FILL)	E	BG
3'	Red- Brown SILT, some fine Sand, tr. gravel (moist, reworked native soil)	E	BG
4'	Grey TOPSPOIL, mixed with Roots, f-c Gravel, f-c Sand, lesser amounts of glass (moist, FILL)	M	BG
5'	Cutstone (possible sidewalk)	M	BG
6'	Red- Brown Silty CLAY, tr. sand (moist)	M	BG
7'	Test Pit Complete at 6.2'		
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:
Collect sample at 2.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB94
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	593.30'	MAKE/ MODEL	New Holland
TIME STARTED	1003	CAPACITY	0.3 CY
TIME FINISHED	1052	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with f-c Gravel, lesser amounts of wood and roots (moist, FILL)	E	BG
2'	Black to Grey SLAG (moist, FILL)	E	BG
3'	Brown f-m SAND, little f-c Gravel, little Silt, tr. brick (moist, reworked native soils)	E	BG
4'		E	BG
5'	Light Brown f-m SAND and Silt (moist)	E	BG
6'		E	BG
7'		E	BG
8'	Contains little f-c Gravel, tr. cobble	E	BG
9'	Red Brown Clayey SILT, little f-c Gravel, little f-c Sand (moist)	E	BG
10		E	BG
11'	Light Brown to Grey Silty CLAY and Mudstone (moist)	E	BG
12'	Light Brown to Grey Weathered MUDSTONE		
13'	Test Pit Complete at 11.2'		
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

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TEST PIT FIELD LOG

		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB95
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	591.37'	MAKE/ MODEL	New Holland
TIME STARTED	1405	CAPACITY	0.3 CY
TIME FINISHED	1447	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed lesser amounts of f-c gravel, silt, and roots (moist, FILL)	E	BG
2'		E	BG
3'		E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'	Red- Brown to Grey CUTSTONE, excavated grinding wheel (moist, FILL)	E	BG
8'	Red- Brown Silty CLAY, tr. sand (moist)	E	BG
9'		E	BG
10		E	BG
11'	Light Brown to Grey Weathered MUDSTONE	E	BG
12'	Test Pit Complete at 10.7'		
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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TEST PIT FIELD LOG

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		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB96
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	585.88'	MAKE/ MODEL	New Holland
TIME STARTED	1024	CAPACITY	0.3 CY
TIME FINISHED	1253	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Brown Fine SAND, MIXED WITH Silt and lesser amounts of roots (moist, FILL)	E	BG
2'	Dark Brown Fine Foundry SAND, mixed with lesser amounts of metal and roots (moist, FILL)	E	BG
3'	Contains lesser amounts of f-c gravel and cobble	E	BG
4'		E	BG
5'		E	BG
6'		E	BG
7'		E	BG
8'		E	BG
9'	Red- Brown f-c SAND, little f-c Gravel, little Silt, tr. foundry sand (moist, reworked native soils)	E	BG
10		M	BG
11'	Test Pit Complete at 9.5' (Top of Weathered MUDSTONE)		
12'			
13'			
14'			

Remarks:

Collect sample at 2.5' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB97
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	578.83'	MAKE/ MODEL	New Holland
TIME STARTED	1320	CAPACITY	0.3 CY
TIME FINISHED	1402	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Topsoil	E	BG
1'	Grey f-c GRAVEL, mixed with f-c Sand, lesser amounts of silty clay (moist, FILL)	E	BG
2'	Grey- Brown f-c SAND, mixed with f-c Gravel, lesser amounts of silt, wire, brick, contains occasional Silty Clay laminations	E	BG
3'	(moist, possible foundry Sand) Contains metal pipe pieces	E	BG
4'	Black f-c GRAVEL, mixed f-c Sand, lesser amounts of Silt (moist, possible deteriorated Asphalt)	E	BG
5'	Test Pit Complete at 4.7' (Refusal) Possible Cut Stone		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/11/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB98
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	579.35'	MAKE/ MODEL	New Holland
TIME STARTED	1026	CAPACITY	0.3 CY
TIME FINISHED	1326	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL mixed with f-c Sand, lesser amounts of silt, cobble, brick (moist, FILL)	E	BG
2'	Becomes Brown, contains metal cast, wire, and glass Black Fine Foundry SAND (moist, FILL)	E	BG
3'	Grey ASH (moist, FILL) Red- Brown f-c SAND, little f-c Gravel, little Cobble, tr. silt,	E	BG
4'	tr. clay, tr. glass, and tr. metal (moist, reworked native soils)	E	BG
5'	Wires excavated Grey to Brown f-c GRAVEL (moist, FILL)	E	BG
6'	Red- Brown f-c SAND, little f-c Gravel, little Cobble, tr. silt, tr. clay, and tr. metal, occasional Foundry Sand laminations	E	BG
7'	(moist, reworked native soils)	E	BG
8'	Light Brown to Grey Weathered MUDSTONE	E	BG
9'		E	BG
10	Test Pit Complete at 8.6'		
11'			
12'			
13'			
14'			

Remarks:
South end of excavation- sand and foundry sand more prevalent.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB99
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	593.80'	MAKE/ MODEL	New Holland
TIME STARTED	0856	CAPACITY	0.3 CY
TIME FINISHED	0955	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Dark Brown Fine Foundry SAND mixed with f-c Gravel, and Roots, lesser amounts of silt (moist, FILL)	E	BG
1'-2'	Black SLAG mixed with Ash (moist, FILL)	E	BG
2'-3'	Red- Brown f-m SAND, little f-c Gravel, little Silt (moist)	E	BG
3'-4'		E	BG
4'-5'		E	BG
5'-6'		E	BG
6'-7'	Red- Brown SILT, little f-c Gravel, little f-c Sand, little Clay, tr. roots (moist)	E	BG
7'-8'		E	BG
8'-9'	Red- Brown COBBLE (possible rock fragments)	E	BG
9'-10'	Test Pit Complete at 9.0' Top of Mudstone		
10			
11'			
12'			
13'			
14'			

Remarks:

Collected sample at 1.0'- 1.8' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

TEST PIT FIELD LOG

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		DATE	9/15/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB100
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Mostly Cloudy, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	590.09'	MAKE/ MODEL	New Holland
TIME STARTED	1100	CAPACITY	0.3 CY
TIME FINISHED	1200	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Topsoil (0.2')	E	BG
1'	Light Brown Fine SAND mixed with Silt (moist, FILL)		
	Black Fine Foundry SAND mixed with f-c Gravel, lesser amounts	E	BG
2'	cobble, silt, wood, and metal (moist, FILL)		
	Contains occasional Silt laminations	E	BG
3'			
		E	BG
4'	Excavated multiple metal rods/ tie- downs, and plastic		
		E	BG
5'			
		E	BG
6'			
		E	BG
7'			
		E	BG
8'			
		E	BG
9'	Contains lesser amounts of brick		
		E	BG
10	Contains lesser amounts of metal cans		
		E	BG
11'			
		E	BG
12'	Test Pit Complete at 11.5'		
13'			
14'			

Remarks:
Sample collected at 4.0' (includes MS/ MSD) for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB101
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Raining, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	576.04'	MAKE/ MODEL	New Holland
TIME STARTED	1044	CAPACITY	0.3 CY
TIME FINISHED	1236	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c SAND mixed with Silty Clay and f-c Gravel, lesser amounts cobble (moist, FILL)	E	BG
2'		E	BG
3'	Dark Brown Fine Foundry SAND, mixed lesser amounts of f-c gravel and silt (moist, FILL)	E	BG
4'	Brown f-c SAND mixed with f-c gravel, lesser amounts of silt, cobble, metal (moist, reworked native soils)	E	BG
5'	Brown to Red- Brown COBBLE mixed with Brick, lesser amounts porcelain fragments, metal, contains occasional 'rust' colored f-c gravel laminations (moist, FILL)	E	BG
6'	Contains Concrete Slab/ Cut Stone (east end)	D	BG
7'	Contains Concrete Slab/ Cut Stone (west end)	D	BG
8'	Test Pit Complete at 6.9'		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 1.5' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

TEST PIT FIELD LOG

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		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB102
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Partly Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	595.60'	MAKE/ MODEL	New Holland
TIME STARTED	1419	CAPACITY	0.3 CY
TIME FINISHED	1450	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black Fine Foundry SAND, mixed with lesser amounts of fine gravel and roots (moist, FILL)	E	BG
2'		E	BG
3'	Brown Fine SAND, little f-c Gravel, tr. silt (moist)	E	BG
4'		E	BG
5'		E	BG
6'	Red- Brown to Brown Silty CLAY, tr. sand (moist) Becomes Grey	E	BG
7'		M	BG
8'	Test Pit Complete at 7.3' (Top of Dolostone)		
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/3/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB103
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Humid, 70s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	583.95'	MAKE/ MODEL	New Holland
TIME STARTED	1235	CAPACITY	0.3 CY
TIME FINISHED	1307	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown Fine Foundry SAND, mixed with lesser amounts of f-c gravel, roots (moist, FILL)	E	BG
2'	Light Brown f-c GRAVEL, little f-c Sand, tr. silt (moist, FILL/ crush stone)	E	BG
3'	Becomes Red- Brown to Brown- Black staining	M	BG
	Light Brown Silty CLAY and Cobble (moist, possible reworked native soils)	D	BG
4'	Light Brown to Grey Weathered MUDSTONE		
5'	Test Pit Complete at 3.7'		
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:
Black staining approximately 0.3'- 0.7' in thickness.
Collect sample at 2.0' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/10/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB104
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	558.21'	MAKE/ MODEL	New Holland
TIME STARTED	1310	CAPACITY	0.3 CY
TIME FINISHED	1357	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Grey to Dark Brown COBBLE mixed with f-c Gravel, lesser amounts of f-c sand, silty clay, and metal (moist, FILL)	M	BG
2'	Mixed with fine Foundry Sand and Topsoil	D	BG
3'		D	BG
4'		D	BG
5'		D	BG
6'	Test Pit Complete with Refusal at 5.4' (Base of Raceway)	D	BG
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collected sample at 4.5'- 5.0' (base of raceway) for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/11/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB105
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	597.17'	MAKE/ MODEL	New Holland
TIME STARTED	0942	CAPACITY	0.3 CY
TIME FINISHED	1022	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Black Fine Foundry SAND mixed with roots (moist, FILL)	E	BG
1'	Grey Fine GRAVEL mixed with lesser amounts of sand and silt (moist, FILL)	E	BG
2'	Red- Brown f-c SAND, some f-c Gravel, some Silt (moist) (moist, reworked native soils)	E	BG
3'	Test Pit Complete at 1.8'		
4'			
5'			
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Collect sample at 0- 0.8' for analytical testing.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/11/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB106
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, Cool, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	595.61'	MAKE/ MODEL	New Holland
TIME STARTED	1026	CAPACITY	0.3 CY
TIME FINISHED	1326	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Black Fine Foundry SAND mixed with roots, lesser amounts of f-c Gravel (moist, FILL)	E	BG
2'	Grey to Red- Brown (alternate bands) Fine GRAVEL, mixed with lesser amounts of sand (moist, FILL)	E	BG
3'	Red- Brown f-c SAND, some f-c Gravel, little Silt, tr. cobble, copper wire (moist, reworked native soils)	E	BG
4'	Black Fine Foundry SAND (moist, FILL) Vertical grounding pole excavated	E	BG
5'	Grey f-c gravel sized COKE, lesser amounts of f-c sand and silt (moist, FILL)	E	BG
6'	Red- Brown f-c GRAVEL mixed with f-c Sand, lesser amounts of cobble, silt, cement, slag, brick, roots, and wood (moist, FILL)	E	BG
7'	Cobble increases	E	BG
8'		M	BG
9'		M	BG
10	Test Pit Complete at 9.0'		
11'			
12'			
13'			
14'			

Remarks:

8" Cement wall on east wall just below surface.
Collect sample 3.3'- 3.7' for analytical testing.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

Western New York Office
5167 South Park Avenue
Hamburg, NY 14075
Phone: (716) 649-8110
Fax: (716) 649-8051

TEST PIT FIELD LOG

		DATE	9/11/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB107
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	578.09'	MAKE/ MODEL	New Holland
TIME STARTED	1330	CAPACITY	0.3 CY
TIME FINISHED	1500	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Topsoil mixed with Fine Foundry Sand, lesser amounts of roots (moist, FILL)	E	BG
2'	Red- Brown SILT, little f-c Gravel, little f-c Sand (moist, reworked native soils	E	BG
3'	Grey Fine SAND mixed with f-c Gravel and Cobble, lesser amounts glass (moist, FILL)	E	BG
4'	Light Brown Cast Mold SAND (south and west sides), Grey Ash mixed with Metal (east side), Brown to Grey Cobble, mixed	E	BG
5'	with lesser amounts of f-c gravel, glass and metal (north side) (moist, FILL)	E	BG
6'	Red- Brown f-c SAND, mixed with f-c Gravel, lesser amounts roots and glass (moist, FILL)	E	BG
7'		E	BG
8'	Becomes Silty Clay mixed with f-c Gravel and f-c Sand, lesser amounts of cobble and glass (moist, FILL)	E	BG
9'		E	BG
10		E	BG
11'	Test Pit Complete at 9.9' (Top of Mudstone)		
12'			
13'			
14'			

Remarks:

Bedding slopes to the south.

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB108
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	587.56'	MAKE/ MODEL	New Holland
TIME STARTED	0849	CAPACITY	0.3 CY
TIME FINISHED	0917	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL mixed with lesser amounts of sand and silt (moist, FILL/ crush stone)	E	BG
2'		E	BG
3'	Test Pit Complete at 2.0' (Refusal) (Top of Concrete)		
4'			
5'			
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:
Location Sump #1 of Facility

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	9/12/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUB109
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Overcast, Rain, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	S. Davis
GROUND ELEV	587.86'	MAKE/ MODEL	New Holland
TIME STARTED	0927	CAPACITY	0.3 CY
TIME FINISHED	1010	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL mixed with lesser amounts of sand and silt (moist, FILL/ crush stone)	M	BG
2'	Contains lesser amounts of cinder blocks, metal, wires, conduit piping	D	BG
3'	Test Pit Complete at 2.1', Top of Concrete	D	BG
4'		D	BG
5'		D	BG
6'		D	BG
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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HAND AUGER FIELD LOG

		DATE	9/18/08
PROJECT	DUSSAULT FOUNDRY	LOCATION	LOCKPORT, NEW YORK
CLIENT	NYSDEC- REGION 9	TEST PIT NO.	SUB110
CONTRACTOR	SJB SERVICES	PROJECT NO.	BEV-08-020
FIELD REP	S. BOCHENEK	WEATHER / TEMP	OVERCAST, COOL
GROUND ELEV	576.24	TIME STARTED	0942
		TIME FINISHED	0950

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown TOPSOIL and Organics (moist)	E	BG
2'	Hand Auger Complete with Refusal at 1.0'		
3'			
4'			
5'			
6'			
7'			
8'			
9'			
10'			

Remarks:

Collect sample 0- 1.0' for analytical testing

PID= Photoionization Detector

BG= Background, measured in parts per million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

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TEST PIT FIELD LOG

		DATE	8/29/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUBA1
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	S. Bochenek	WEATHER / TEMP	Party Sunny, 60s
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	T. Delude
GROUND ELEV	594.61'	MAKE/ MODEL	New Holland
TIME STARTED	0840	CAPACITY	0.3 CY
TIME FINISHED	0907	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Grey f-c GRAVEL, mixed with f-c Sand and Silt (moist, FILL, crush stone)	E	BG
2'	Grey Fine Foundry SAND mixed with Topsoil, f-c Gravel and Cobble (moist, FILL)	E	4 ppm
3'	Contains Metal and Wood	E	3.5 ppm
4'		E	0.3 ppm
5'	Brown TOPSOIL and fine Foundry Sand, mixed with f-c Gravel, Cobble, and Roots (moist, FILL)	E	BG
6'	Dark Brown Fine Foundry SAND mixed with f-c Gravel, Cobble, Roots and Wood	E	BG
7'	Brown COBBLE, mixed with f-c Gravel, lesser amounts of sand (moist, FILL)	E	BG
8'	Contains metal and vitrification coarse Gravel and Cobble	E	BG
9'	Test Pit Complete at 7.5' (Top of Grey Dolostone)		
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUBA2-A
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	590.91	MAKE/ MODEL	New Holland
TIME STARTED	1222	CAPACITY	0.3 CY
TIME FINISHED	1330	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
	Brown- Grey f-m SAND mixed with lesser amounts fine gravel and silt (moist, FILL)	D	BG
1'			
2'	Test Pit Complete at 0.5' (Refusal- Railroad ties)		
3'			
4'			
5'			
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

Move test pit to the east and excavated for SUBA2-B.

PID= Photoionization Detector

BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

SJB SERVICES, INC.

TEST PIT FIELD LOG

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		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUBA2-B
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool
EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	590.91	MAKE/ MODEL	New Holland
TIME STARTED	1222	CAPACITY	0.3 CY
TIME FINISHED	1330	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
0'-1'	Railroad Ties and Rebar	E	BG
1'-2'	Dark Brown f-m Foundry SAND mixed with lesser amounts of fine gravel and silt (moist, FILL)	E	BG
2'-3'	Becomes Light Brown	E	BG
3'-4'		E	BG
4'-5'		E	BG
5'-6'		E	BG
6'-7'		E	BG
7'-8'	Light Brown f-m SAND, little Silt (moist, possible FILL)	E	BG
8'-9'	Brown Mottled Grey f-c SAND, little Clay (moist)	E	BG
9'-10	Test Pit Complete at 9.0' (Top of Mudstone)		
10-11'			
11'-12'			
12'-13'			
13'-14'			
14'-			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS	
F - FINE	F/M - FINE TO MEDIUM
C - COARSE	F/C-FINE/COARSE
GR - GRAY	M - MEDIUM
BN - BROWN	V-VERY
YEL-YELLOW	

PROP USED	
TRACE (TR.)	0-10%
LITTLE (LI.)	10 - 20%
SOME (SO.)	20 -35%
AND	35 - 50%

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SJB SERVICES, INC.

TEST PIT FIELD LOG

		DATE	9/2/08
PROJECT	Dussault Foundry	LOCATION	Lockport, New York
CLIENT	NYSDEC- Region 9	TEST PIT NO.	SUBA3
CONTRACTOR	SJB Services	PROJECT NO.	BEV-08-020
FIELD REP	T. Hellert	WEATHER / TEMP	Sunny, Cool

EXCAVATION EQUIP	Ford 555 Backhoe	OPERATOR	R. Steiner
GROUND ELEV	594.97	MAKE/ MODEL	New Holland
TIME STARTED	1420	CAPACITY	0.3 CY
TIME FINISHED	1434	REACH	18.5 FT

DEPTH	SOIL DESCRIPTION	EXCAV EFFORT	REMARK NO.
1'	Dark Brown f-m Foundry SAND mixed with lesser amounts of silt (moist, FILL)	E	BG
2'	Becomes Light Brown	E	BG
3'	Test Pit Complete at 2.5' (Refusal- Concrete)	E	BG
4'			
5'			
6'			
7'			
8'			
9'			
10			
11'			
12'			
13'			
14'			

Remarks:

PID= Photoionization Detector
BG= Background Measured in Parts Per Million

ABREVIATIONS		PROP USED	
F - FINE	F/M - FINE TO MEDIUM	TRACE (TR.)	0-10%
C - COARSE	F/C-FINE/COARSE	LITTLE (LI.)	10 - 20%
GR - GRAY	M - MEDIUM	SOME (SO.)	20 -35%
BN - BROWN	V-VERY	AND	35 - 50%
YEL-YELLOW			

DIRECT PUSH LOGS

DATE:
STARTED 9/15/2008
FINISHED 9/15/2008
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. SUB13
SURF. ELEV 587.94'
G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.5')	PID= Photoionization
1		Black f-c GRAVEL and f. Foundry Sand, tr. silt (moist, FILL)	Detector
2	BG		
			Sample Recovery
3			S-1: 3.6'
		Black f-c Sand, little f-c Gravel (moist, FILL)	S-2: 3.4'
4			
		Dark Brown to Brown SILT, little f-c Sand, tr. gravel, tr. clay, tr. roots (moist)	BG= Background,
5			measured in parts per
	BG		million (ppm)
6			
		Becomes Light Brown, contains tr. sand	
7			
		Light Brown to Grey Weathered MUDSTONE	
8			
9		Direct Push Complete with Refusal at 7.75'	No Free Standing Water
			Encountered at Direct
10			Push Completion
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 9/15/2008
FINISHED 9/15/2008
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. SUB18
SURF. ELEV 587.97'
G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.45')	PID= Photoionization
1	BG	Black f. Foundry SAND, little fine Gravel, tr. silt, tr. slag (moist, FILL)	Detector
2			
		Red- Brown f-c SAND, little fine Gravel, tr. silt (moist, FILL)	Sample Recovery
3	BG		S-1: 2.7'
		Becomes Black, contains little f-c Gravel	S-2: 0.6'
4			S-3: 0.1'
		Brown f-c GRAVEL, little f-c Sand, tr. silty clay (moist- wet, possible FILL)	
5	BG		BG= Background,
			measured in parts per
6			million (ppm)
7			
	BG		
8		Light Brown Silty CLAY, little f. Gravel, little f-c Sand	
		(moist, possible highly weathered Mudstone)	Top of rock anticipated at
9	BG		8.0'. Mudstone fragments
			in sampling shoe of
10			Sample #'s 2 & 3.
11			
	BG		
12			
13		Direct Push Complete at 12.0'	No Free Standing Water
			Encountered at Direct
14			Push Completion
15			
16			

DRILLER: N. HINTZ
DRILL RIG TYPE: SIMCO
CLASSIFIED BY: GEOLOGIST
METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB24
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV 587.85'
FINISHED	9/16/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.5')	PID= Photoionization
1	BG	Black f-m Foundry SAND, little Silt (moist, FILL)	Detector
		Grades to Brown	
2		Grades to Black, contains some Silt	
		Dark Brown SILT, little f-c Sand, tr. clay (moist, possible reworked native soils)	Sample Recovery
3		Light Brown Clayey SILT, tr. sand, tr. gravel, tr. organics (moist)	S-1: 4.0
	BG		S-2: 2.0
4		Light Brown Fine SAND and Silt, tr. clay (moist)	
			BG= Background,
5		Light Brown to Grey Weathered MUDSTONE	measured in parts per
	BG		million (ppm)
6			
7		Direct Push Complete at 6.0' (Refusal)	
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:				
STARTED	9/16/2008	**SJB SERVICES, INC.**	HOLE NO.	SUB25
FINISHED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV	587.52'
SHEET	1 OF 1		G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Concrete (0.55')	PID= Photoionization
1		Red- Brown f-c SAND, tr. sand (moist, FILL)	Detector
		Dark Brown to Black f-m Foundry SAND, little fine Gravel, tr. coal (moist, FILL)	
2			
		Red- Brown to Brown SILT, little fine Gravel, little f-c Sand, tr. coal, tr. brick,	Sample Recovery
3		tr. clay (moist, FILL)	S-1: 2.4'
			S-2: 2.0'
4			S-3: 4.0'
		Black f-c Foundry SAND, little Silt, little fine Gravel, tr. coal (moist, FILL)	S-4: 2.0'
5			
			BG= Background,
6			measured in parts per
			million (ppm)
7			
8		Grades to Brown	
9		Brown Clayey SILT, little f-c Sand, little fine Gravel, tr. coal	
		(moist, FILL)	Collect sample from
10			0-2.0' for analytical testing.
		Red- Brown Fine SAND, some Silt, tr. gravel (moist)	TCLP not collected, lack
11			of material.
12			
		Grey to Brown Clayey SILT, little f-c Sand, little fine Gravel	
13		(moist, possible highly weathered mudstone)	
14			
		Brown to Grey MUDSTONE	
15			
16		Direct Push Complete at 16.0'	

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB28
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV 587.89'
FINISHED	9/16/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.6')	PID= Photoionization
1	BG	Brown f-c SAND, little fine Gravel, tr. silt (moist- wet, FILL)	Detector
		Red- Brown Clayey SILT, little fine Gravel, tr. sand (moist, FILL)	
2		Brown Clayey SILT, tr. sand, tr. organics (moist)	
			Sample Recovery
3			S-1: 2.3'
	BG	Light Brown to Grey SILT, little fine Gravel, little fine Sand, tr. clay (moist)	S-2: 0.1'
4			
		Light Brown to Grey Weathered MUDSTONE	
5			
		Direct Push Complete with Refusal at 4.1'	BG= Background,
6			measured in parts per
			million (ppm)
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:			SJB SERVICES, INC. DIRECT PUSH LOG	HOLE NO.	SUB29
STARTED	9/16/2008			SURF. ELEV	587.73'
FINISHED	9/16/2008			G.W. DEPTH	See Notes
SHEET	1 OF 1				

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.5')	PID= Photoionization
1	BG	Brown to Dark Brown f-c SAND, some fine Gravel, little Silt, tr. coal, occasional f-m foundry Sand seams (moist, FILL)	Detector
2			
3	BG		Sample Recovery: S-1= 2.4'
4		Red- Brown f-m SAND, little fine Gravel, little Silt, occasional Silt partings (moist)	S-2= 2.0'
5	BG	Light Brown Clayey SILT, little fine Sand, little fine Gravel (moist)	BG= Background, measured in parts per million (ppm)
6			
7	BG	Light Brown to Grey Weathered MUDSTONE (moist)	
8		Direct Push Complete with Refusal at 7.0'	
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ DRILL RIG TYPE: SIMCO CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:	
STARTED	9/18/2008
FINISHED	9/18/2008
SHEET	1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB30
SURF. ELEV	583.71'
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Brown Fine Foundry SAND and Topsoil (moist, FILL)	PID= Photoionization
1			Detector
	BG	Brown f-c gravel sized SLAG, some fine Foundry Sand, frequent Light Brown	BG= Background
2		to Red- Brown fine Foundry Sand seams (moist, FILL)	measurements in
			parts per million (ppm)
3			
	BG		REC S-1= 2.6'
4			
			REC S-2= 2.4'
5			
	BG		
6			
7			
	BG		
8			
		Brown to Dark Brown Fine Foundry SAND and f-c gravel sized Slag,	REC S-3= 3.4'
9		occasional Light Brown fine foundry Sand seams (moist, FILL)	
	BG		
10			
11			
	BG		
12			
13		Direct Push Complete at 12.0'	
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB34
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV 587.68'
FINISHED	9/16/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT   LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020   LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.5')	PID= Photoionization
1	BG	Brown to Black f-c gravel sized SLAG, some f-c Sand, tr. silt, tr. coal	Detector
		(moist, FILL)	
2			
			Sample Recovery
3			S-1: 1.4'
	BG		S-2: 2.1'
4			
			BG= Background,
5			measured in parts per
	BG		million (ppm)
6		Grey f-c GRAVEL, little f-c Sand, tr. silt (moist, FILL)	
		Black f-c SAND, little f-c Gravel, little Silt (moist, FILL)	
7			
	BG		
8		Grey to Black Silty CLAY, tr. fine sand (moist, possible reworked native soils)	
		Light Brown to Grey Weathered MUDSTONE	
9			
		Direct Push Complete at 8.0'	
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ   **DRILL RIG TYPE:** SIMCO   **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:

STARTED	9/18/2008	
FINISHED	9/18/2008	
SHEET	1 OF 1	

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB38
SURF. ELEV	592.70'
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Dark Brown to Black Silty CLAY, little f-c Gravel, little f-c Sand, tr. organics,	PID= Photoionization
1	BG	tr. slag (moist, FILL)	Detector
			BG= Background
2			measurements in
			parts per million (ppm)
3			
	BG	Becomes Grey to Brown	REC S-1= 3.0'
4			
		Black f-c SAND, little fine Gravel, tr. silt (wet)	REC S-2= 1.7'
5			
	BG	Red- Brown Silty CLAY, tr. sand (moist)	
6		Light Brown MUDSTONE and Silty Clay (moist)	
7		Direct Push Complete with Refusal at 6.0'	Sample 4.4' to 4.6' for
			analytical testing.
8			(1 jar only)
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ   DRILL RIG TYPE: ELECTRIC JACKHAMMER   CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

SJB SERVICES, INC.
DIRECT PUSH LOG

DATE:		HOLE NO.	SUB39
STARTED	9/16/2008	SURF. ELEV	587.75'
FINISHED	9/16/2008	G.W. DEPTH	See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK
PROJ. NO.: BEV-08-020

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
	BG	CONCRETE (0.5')	PID= Photoionization
1		Brown f-c SAND, little fine Gravel, tr. silt (moist- wet, FILL)	Detector
	BG		
2			
3		Direct Push Complete with Refusal at 2.0'	Sample collected at 0.5'- 2.0' for analytical
4			testing.
5			Sample Recovery: S-1= 0.7'
6			
7			BG= Background, measured in parts per million (ppm)
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ DRILL RIG TYPE: SIMCO CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB44
STARTED	9/14/2008	**DIRECT PUSH LOG**	SURF. ELEV 588.36'
FINISHED	9/14/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT — LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

PROJ. NO.: BEV-08-020

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.4')	PID= Photoionization
1	BG	Grey f-c GRAVEL, little f-c Sand, tr. silt (moist, FILL)	Detector
		Light Brown Silty CLAY, tr. sand (moist)	
2		Light Brown to Grey Weathered MUDSTONE	
	BG		Sample Recovery
3			S-1: 2.1'
4		Direct Push Complete with Refusal at 3.0'	BG= Background,
			measured in parts per
5			million (ppm)
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO.	SUB45
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV	588.04
FINISHED	9/16/2008		G.W. DEPTH	See Notes
SHEET	1 OF 1			

PROJECT: NYSDEC- DUSSAULT   LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020   LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.3')	PID= Photoionization
1	BG	Brown to Black Fine SAND, some Silt (moist, FILL)	Detector
		Red Brick Fragments, occasional f-c Gravel, f-m foundry Sand seams	BG= Background,
2		(moist, FILL)	measured in parts per
			million (ppm)
3			
	BG		Sample Recovery
4		Brown f-c GRAVEL, little f-c Sand, little Silty Clay, tr. slag (moist, FILL)	S-1: 2.5'
			S-2: 1.5'
5			
	BG		
6			
	BG	Grey Silty CLAY and f-c gravel sized Mudstone Fragments	
7			
		Direct Push Complete with Refusal at 6.2'	Mudstone fragments
8			present in sampling shoe.
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ   **DRILL RIG TYPE:** SIMCO   **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		SJB SERVICES, INC. DIRECT PUSH LOG	HOLE NO.	SUB50
STARTED	9/16/2008		SURF. ELEV	587.88
FINISHED	9/16/2008		G.W. DEPTH	See Notes
SHEET	1 OF 1			

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (1.0')	PID= Photoionization
1	BG		Detector
		Light Brown Silty CLAY, some f-c Gravel (moist)	
2	BG		
3		Direct Push Complete with Refusal at 2.0'	Mudstone fragments
			present in sampling shoe.
4			
			Sample Recovery
5			S-1: 1.7'
6			BG= Background,
			measured in parts per
7			million (ppm)
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ DRILL RIG TYPE: SIMCO CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB51
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV 588.05'
FINISHED	9/16/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
1		Black and Brown f-m Foundry SAND, little fine Gravel, tr. silt, occasional f-c Sand seams (moist, FILL)	PID= Photoionization Detector
2	BG		
3		Light Brown to Grey Weathered MUDSTONE, occasional Silty Clay seams	Sample Recovery S-1: 4.0'
4	BG		
5		Direct Push Complete at 4.0'	Collect sample from 0- 2.5' for analytical testing (incl. ms/msd).
6			
7			BG= Background, measured in parts per million (ppm)
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

SJB SERVICES, INC.
DIRECT PUSH LOG

DATE:		HOLE NO.	SUB52
STARTED	9/18/2008	SURF. ELEV	587.89'
FINISHED	9/18/2008	G.W. DEPTH	See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.4')	PID= Photoionization
1	BG	Red- Brown f-c GRAVEL, some f-c Sand, tr. silt (moist, FILL)	Detector
			BG= Background
2		Black f-c SAND and f-c gravel sized Slag (moist, FILL)	measurements in
			parts per million (ppm)
3			
	BG	Red- Brown to Brown f-c GRAVEL, some f-c Sand, tr. slag (moist, FILL)	REC S-1= 1.5'
4			
	BG		REC S-2= 1.4'
5		Black f-c gravel sized SLAG, some f-c Sand, tr. silt (moist, FILL)	
6		Direct Push Complete with Refusal at 5.0'	
7			
8			
9			
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11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ DRILL RIG TYPE: ELECTRIC JACKHAMMER CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		
STARTED	9/16/2008	
FINISHED	9/16/2008	
SHEET	1 OF 1	

SJB SERVICES, INC.
DIRECT PUSH LOG

SJB SERVICES, INC.

HOLE NO.	SUB56
SURF. ELEV	594.00'
G.W. DEPTH	See Notes

PROJECT:	NYSDEC- DUSSAULT	LOCATION:	DUSSAULT FOUNDRY
PROJ. NO.:	BEV-08-020		LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
	BG	CONCRETE (0.5')	
1		Concrete Fragments	
		Direct Push Complete with Refusal at 0.7'	PID= Photoionization Detector
2			
			BG= Background, measured in parts per
3			million (ppm)
4			
			Sample Recovery
5			S-1: 0.2'
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER:	H. HINTZ	**DRILL RIG TYPE:**	SIMCO	**CLASSIFIED BY:**	GEOLOGIST
METHOD OF INVESTIGATION:	ASTM 6282 - DIRECT PUSH SAMPLING				

DATE:
STARTED 9/18/2008
FINISHED 9/18/2008
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. SUB57
SURF. ELEV 587.83'
G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.25')	PID= Photoionization
1	BG	Red- Brown f-c SAND, little f-c Gravel, tr. silt (moist, FILL)	Detector
		Black f-c gravel sized SLAG and f. Foundry Sand (moist, FILL)	BG= Background
2			measurements in
			parts per million (ppm)
3			
	BG		REC S-1= 2.2'
4			
		Becomes Black to brown, little f-c Sand, tr. foundry sand, tr. silt (moist, FILL)	REC S-2= 1.8'
5			
	BG	Brown f-c GRAVEL, some f-c Sand, little Silt, tr. brick (moist, FILL)	
6			
			REC S-3= 1.3'
7		Contains little Brick, occasional Silt seams	
	BG		
8		Light Brown Silty CLAY, tr. gravel, tr. sand (moist)	
		Light Brown to Grey Weathered MUDSTONE and Silty Clay	
9			
		Direct Push Complete with Refusal at 8.0'	
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ DRILL RIG TYPE: ELECTRIC JACKHAMMER CLASSIFIED BY: GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		
STARTED	9/15/2008	
FINISHED	9/15/2008	
SHEET	1 OF 1	

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB66
SURF. ELEV	587.26
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.5')	PID= Photoionization
1	BG	Brown f-c SAND, some Silty Clay, little fine Gravel (moist, FILL)	Detector
			BG= Background,
2		Black Fine Foundry SAND, tr. silt, contains frequent Brown fine Foundry Sand	measured in parts per
		seams (moist, FILL)	million (ppm)
3			
	BG	Brown Silty CLAY, tr. gravel, tr. sand, tr. brick, tr. coal	Sample Recovery
4		(moist, FILL)	S-1: 3.5'
		Brown Silty CLAY, tr. gravel, tr. sand (moist)	S-2: 2.6'
5	BG		
		Becomes Light Brown	
6			
		Becomes Light Brown to Grey, contains little fine Gravel, little f-c Sand	
7		(possible highly weathered Mudstone)	
	BG	Light Brown to Grey Weathered MUDSTONE	
8			
9		Direct Push Complete with Refusal at 7.0'	
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		SJB SERVICES, INC. DIRECT PUSH LOG	HOLE NO. SUB72
STARTED	9/15/2008		SURF. ELEV 587.22'
FINISHED	9/15/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK
PROJ. NO.: BEV-08-020

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (1.5')	PID= Photoionization
1	BG		Detector
			BG= Background,
2		Brown to Black Fine SAND, tr. silt (moist, FILL)	measured in parts per
			million (ppm)
3	BG	Contains some Silty Clay	
		Red BRICK Fragments (moist, FILL)	Sample Recovery
4		Light Brown to Grey Clayey SILT (moist)	S-1: 2.1'
		Light Brown to Grey Weathered MUDSTONE (moist)	
5			
		Direct Push Complete at 4.0'	Sample collected at 1.5' to 2.5' for analytical testing.
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB111
STARTED	9/18/2008	**DIRECT PUSH LOG**	SURF. ELEV
FINISHED	9/18/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Black ORGANICS, some f-c Gravel (moist, FILL)	PID= Photoionization
1	BG	Red- Brown f-c GRAVEL, little f-c Sand, tr. silt (moist, FILL)	Detector
		Light Brown Silty CLAY, little fine Gravel, little fine Sand (moist)	BG= Background
2			measurements in
			parts per million (ppm)
3			
	BG		REC S-1= 3.3'
4			
		Becomes Red- Brown	
5			
	BG	Contains occasional f-c Sand seams	
6			REC S-2= 2.6'
		Becomes Light Brown, contains frequent Silt partings	
7			
8		Direct Push Complete with Refusal at 7.0'	
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:			
STARTED	9/18/2008		
FINISHED	9/18/2008		
SHEET	1 OF 1		

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB112
SURF. ELEV	595.08'
G.W. DEPTH	See Notes

PROJECT:	NYSDEC- DUSSAULT	LOCATION:	DUSSAULT FOUNDRY
PROJ. NO.:	BEV-08-020		LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
	BG	CONCRETE	REC S-1= 0.5'
1		Light Brown to Brown f-c GRAVEL, little f-c Sand, little Silt	
2		Direct Push Complete with Refusal at 1.0'	
3			PID= Photoionization Detector
4			BG= Background measurement in
5			parts per million (ppm)
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:			
STARTED	9/18/2008		
FINISHED	9/18/2008		
SHEET	1	OF	1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB113
SURF. ELEV	584.88'
G.W. DEPTH	See Notes

PROJECT:	NYSDEC- DUSSAULT	LOCATION:	DUSSAULT FOUNDRY
PROJ. NO.:	BEV-08-020		LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		TOPSOIL	PID= Photoionization
1	BG	Brown f-c SAND, some f-c Gravel, little Silt, tr. roots (moist, FILL)	Detector
			BG= Background
2		Brown SAND, little f-c Gravel, little Silt (moist, possible reworked native soils)	measurements in
	BG		parts per million (ppm)
3			
	BG		REC S-1= 2.5'
4	2.0	Grey f-c GRAVEL, some f-c Sand, little Silt (moist)	
		Grey to Light Brown Weathered MUDSTONE (moist)	
5			
		Direct Push Complete with Refusal at 4.0'	
6			
7			
8			
9			
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11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:			
STARTED	9/18/2008		
FINISHED	9/18/2008		
SHEET	1 OF 1		

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO.	SUB114
SURF. ELEV	584.55'
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Dark Grey f-c GRAVEL, little f-c Sand, tr. silt (moist, FILL)	PID= Photoionization
1	BG		Detector
		Becomes Brown, contains some f-c Sand, little Silty Clay	BG= Background
2			measurements in
	BG		parts per million (ppm)
3			
	BG		REC S-1= 2.5'
4			
	BG		REC S-2= 0.5'
5			
		Direct Push Complete with Refusal at 4.6'	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB115
STARTED	9/18/2008	**DIRECT PUSH LOG**	SURF. ELEV 584.88'
FINISHED	9/18/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT — LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

PROJ. NO.: BEV-08-020

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Brown to Black f-c GRAVEL, some f-c Sand, tr. silt (moist, FILL)	PID= Photoionization Detector
1	BG		BG= Background measurements in parts per million (ppm)
2	BG		
3	BG		REC S-1= 2.3'
4	BG		
5		Direct Push Complete with Refusal at 4.0'	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUB116
STARTED	9/18/2008	**DIRECT PUSH LOG**	SURF. ELEV 584.60'
FINISHED	9/18/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Brown to Grey f-c GRAVEL, some f-c Sand, little Silt, tr. clay (moist, FILL)	PID= Photoionization
1	BG		Detector
			BG= Background
2	BG		measurements in
			parts per million (ppm)
3	BG		
			REC S-1= 2.7'
4	18 ppm		
	40 ppm	Light Brown Silty CLAY and Mudstone	REC S-2= 0.4'
5			
		Direct Push Complete with Refusal at 4.6'	Collect sample at 4.6'
6			for analytical testing.
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:
STARTED 9/18/2008
FINISHED 9/18/2008
SHEET 1 OF 1

SJB SERVICES, INC.
DIRECT PUSH LOG

HOLE NO. SUB117
SURF. ELEV 584.63'
G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		Red- Brown f-c GRAVEL, little f-c Sand, little Silt (moist, FILL)	PID= Photoionization
1	BG		Detector
			BG= Background
2	BG		measurements in
			parts per million (ppm)
3	BG		
			REC S-1= 3.0'
4	BG	Black Fine Foundry SAND and f-c Gravel (moist, FILL)	
5		Direct Push Complete with Refusal at 4.0'	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** ELECTRIC JACKHAMMER **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:		**SJB SERVICES, INC.**	HOLE NO. SUBA4
STARTED	9/16/2008	**DIRECT PUSH LOG**	SURF. ELEV 587.93'
FINISHED	9/16/2008		G.W. DEPTH See Notes
SHEET	1 OF 1		

PROJECT: NYSDEC- DUSSAULT — LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

PROJ. NO.: BEV-08-020

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
		CONCRETE (0.55')	PID= Photoionization
1	BG	Red- Brown f-m SAND, little fine Gravel, tr. silt (moist- wet, FILL)	Detector
		Dark Brown Clayey SILT, little Clayey Silt, tr. gravel, tr. coal (moist, FILL)	BG= Background,
2			measured in parts per
		Brown Silty CLAY, tr. sand (moist)	million (ppm)
3			Sample Recovery
	BG		S-1: 3.8
4			
		Light Brown to Grey Weathered MUDSTONE	
5			
		Direct Push Complete with Refusal at 4.0'	Sample collected at
6			0.5- 3.0' for analytical
			testing.
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: H. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

DATE:				
STARTED	9/15/2008	**SJB SERVICES, INC.**	HOLE NO.	SUBA-5
FINISHED	9/15/2008	**DIRECT PUSH LOG**	SURF. ELEV	587.94'
SHEET	1 OF 1		G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	PID READING	SOIL OR ROCK CLASSIFICATION	NOTES
	BG	Black f-m Foundry SAND, little fine Gravel, little Silty Clay (moist, FILL)	PID= Photoionization
1			Detector
	BG	Contains occasional Silty Clay seams	
2			
3		Direct Push Complete with Refusal at 2.0'	Sample collected at 0- 2.0'
			for analytical testing.
4			
			Possible concrete present
5			in sampling shoe
6			Sample Recovery
			S-1= 1.8'
7			
			BG= Background,
8			measured in parts per
			million (ppm)
9			
10			
11			
12			
13			
14			
15			
16			

DRILLER: N. HINTZ **DRILL RIG TYPE:** SIMCO **CLASSIFIED BY:** GEOLOGIST

METHOD OF INVESTIGATION: ASTM 6282 - DIRECT PUSH SAMPLING

MONITORING WELL LOGS AND COMPLETION RECORDS

DATE	
START	9/3/2008
FINISH	9/29/2008
SHEET	1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO.	MW-1
SURF. ELEV	596.2'
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT   LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020   LOCKPORT, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	6			Black Fine Foundry SAND, some f-c Gravel,	
		8	23		14	little Silt, tr. roots (moist, FILL)	
	2	8	10			Brown f-c SAND, some f-c Gravel, little Silt	
		11	17		21	(moist, reworked natvie soils)	
5	3	50/0.4			REF	Brown to Dark Brown SILT, tr. sand (moist, firm)	Poor Recovery Sample #3
							Split Spoon Refusal at 4.4'
10						Grey DOLOSTONE, hard to very hard, slightly weathered to weathered, laminated to thin bedded, occasional horizontal fractures, occasional horizontal mechanical breaks	Run #1 9.5'- 11.5' REC= 50% RQD= 34%
15						Becomes laminated to bedded, contains occasional vertical fractures	Run #2 11.5'- 16.5' REC= 100% RQD= 60%
						Contains frequent horizontal mechanical breaks	Run #3 16.5'- 21.5' REC= 100% RQD= 75%
20							
25							Run #4 21.5'- 26.5' REC= 97% RQD= 17%
						Boring Complete at 26.5'	Driller noted a void at 16.5'
30							
35							
40							

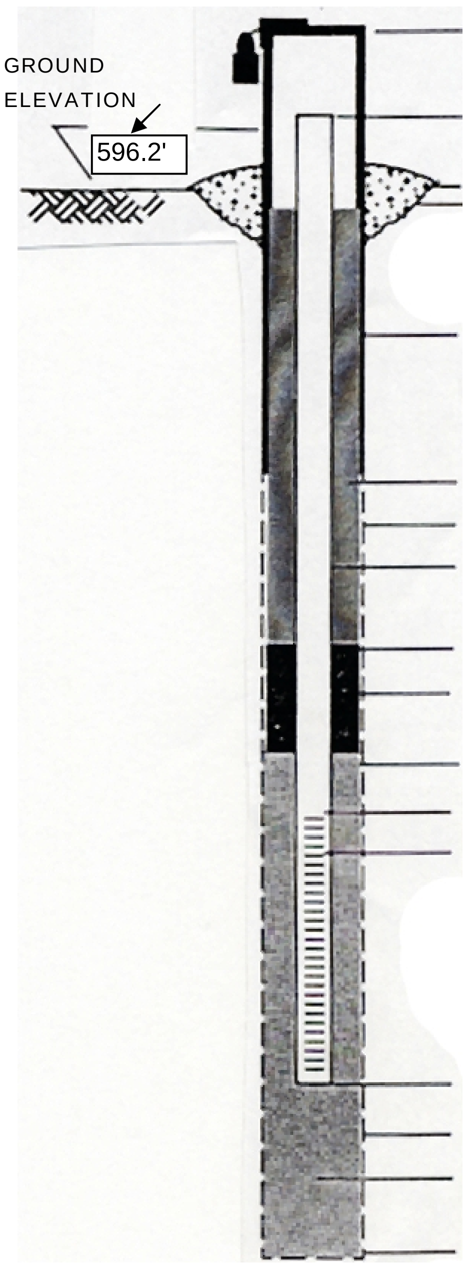
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW   CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK   DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: NYSDEC- DUSSAULT	
PROJECT NUMBER: BEV-08-020	DRILLING METHOD: ASTM D-1586
WELL NUMBER: MW-1	GEOLOGIST: S. BOCHENEK
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 9/29/2008



ELEVATIONS/ TOP OF SURFACE CASING: 597.50'

STICK- UP/ TOP OF SURFACE CASING: N/A

ELEVATION/ TOP OF RISER PIPE: 597.06'

STICK- UP/ TOP OF RISER PIPE: N/A

TYPE OF SURFACE SEAL: Bentonite Grout

I.D. OF SURFACE CASING: 6"

TYPE OF SURFACE CASING: Steel

TYPE OF BACKFILL: Bentonite Grout

BOREHOLE DIAMETER: 3"

I.D. OF RISER PIPE: 2"

TYPE OF RISER PIPE: PVC

DEPTH OF SEAL: 12.5'

TYPE OF SEAL: Granular Bentonite

DEPTH OF SAND PACK: 14.5'

DEPTH TOP OF SCREEN: 16.5'

TYPE OF SCREEN: PVC

SLOT SIZE X LENGTH: 0.10"x10.0'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #0 Silica Sand

DEPTH BOTTOM OF SCREEN: 26.5'

DEPTH BOTTOM OF SAND PACK: 26.5'

TYPE OF BACKFILL BELOW OBSERVATION WELL:

N/A

ELEVATION/ DEPTH OF HOLE: 569.7'

DATE START 9/3/2008 FINISH 10/1/2008 SHEET 1 OF 1	**SJB SERVICES, INC.** **SUBSURFACE LOG**	HOLE NO. MW-2 SURF. ELEV 587.6' G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT — LOCATION: DUSSAULT FOUNDRY, LOCKPORT, NEW YORK

PROJ. NO.: BEV-08-020

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	9			Brown Fine Foundry SAND, little fine Gravel,	
		12	15		21	tr. silt, tr. cinders (moist, FILL)	
	2	22	15			Contains some fine Gravel, tr. ash	
		9	12		24		
5	3	5	6			Brown to Rust SILT, some f-c Gravel, little f-c Sand	
		7	7		13	(moist, reworked native soils)	
	4	9	11			Brown f-c Sand, some f-c Gravel, little Silt, tr. ash,	
		12	15		23	tr. brick (moist, reworked native soils)	
	5	38	50	50/0.1	REF	Brown Weathered MUDSTONE (moist)	
10							Split Spoon Refusal at 9.1'
15						Brown to Grey MUDSTONE, soft, weathered, laminated to thin bedded, numerous fractures and mechanical breaks	Run #1 14.0'- 16.5' REC= 73% RQD= 0%
						Grey DOLOSTONE, hard to very hard, weathered, laminated to thin bedded, numerous fractures and mechanical breaks, occasional vugs and styolites	Run #2 16.5'- 21.5' REC= 96% RQD= 0%
20							
							Run #3 21.5'- 26.5' REC= 98% RQD= 0%
25							
						Becomes laminated to bedded, contains occasional angular to vertical fractures	Run #4 26.5'- 31.5' REC= 92% RQD= 35%
30							
						Boring Complete at 31.5'	
35							
40							

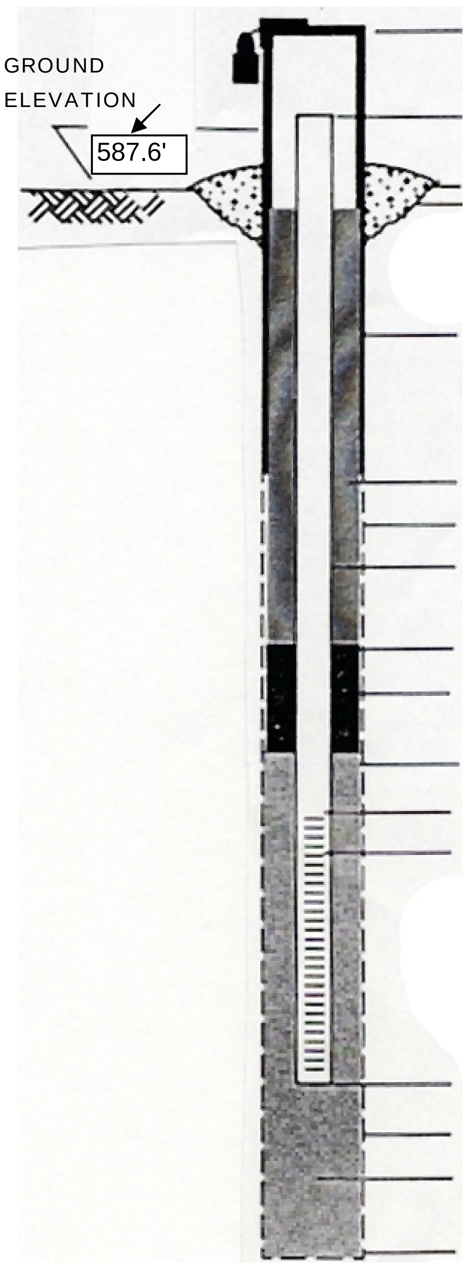
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW — CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK — DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: NYSDEC- DUSSAULT	
PROJECT NUMBER: BEV-08-020	DRILLING METHOD: ASTM D-1586
WELL NUMBER: MW-2	GEOLOGIST: S. BOCHENEK
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 10/1/2008



ELEVATIONS/ TOP OF SURFACE CASING: 589.15'

STICK- UP/ TOP OF SURFACE CASING: N/A

ELEVATION/ TOP OF RISER PIPE: 588.93'

STICK- UP/ TOP OF RISER PIPE: N/A

TYPE OF SURFACE SEAL: Bentonite Grout

I.D. OF SURFACE CASING: 6"

TYPE OF SURFACE CASING: Steel

TYPE OF BACKFILL: Bentonite Grout

BOREHOLE DIAMETER: 3"

I.D. OF RISER PIPE: 2"

TYPE OF RISER PIPE: PVC

DEPTH OF SEAL: 12.5'

TYPE OF SEAL: Granular Bentonite

DEPTH OF SAND PACK: 14.5'

DEPTH TOP OF SCREEN: 16.5'

TYPE OF SCREEN: PVC

SLOT SIZE X LENGTH: 0.10"x15.0'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #0 Silica Sand

DEPTH BOTTOM OF SCREEN: 31.5'

DEPTH BOTTOM OF SAND PACK: 31.5'

TYPE OF BACKFILL BELOW OBSERVATION WELL:

N/A

ELEVATION/ DEPTH OF HOLE: 556.1'

SJB SERVICES, INC.
SUBSURFACE LOG

DATE
START 9/4/2008
FINISH 10/2/2008
SHEET 1 OF 1

HOLE NO. MW-3
SURF. ELEV 596.8'
G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT
PROJ. NO.: BEV-08-020
LOCATION: DUSSAULT FOUNDRY
LOCKPORT, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	1	1			Black to Brown Fine Foundry SAND, little fine Gravel,	
		3	1		4	tr. silt, tr. slag (moist, FILL)	
	2	6	3			Contains occasional Light Brown Fine Foundry Sand	
		9	11		12	laminations	
5	3	7	5				
		4	8		9		
	4	8	7			Becomes Brown, contains tr. brick	
		5	10		12		
	5	4	3			Contains tr. gravel	
10		3	4		6		
	6	8	11				
		10	14		21		
	7	5	7				
		8	11		15		
15	8	9	12			Light Brown Weathered MUDSTONE (moist)	Split Spoon Refusal at
		17	50/0.4		29		15.9'
20							
						Grey DOLOSTONE, hard to very hard, weathered,	Run #1 19.5'- 21.0'
						laminated to thin bedded, occasional horizontal to	REC= 91% RQD= 7%
						vertical fractures and mechanical breaks	Run #2 21.0'- 26.0'
							REC= 100%
25							RQD= 0%
						Contains frequent fractures and mechanical breaks	
							Run #3 26.0'- 31.0'
							REC= 100%
							RQD= 0%
30							
						Boring Complete at 31.0'	
35							
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW

CLASSIFIED BY: Geologist

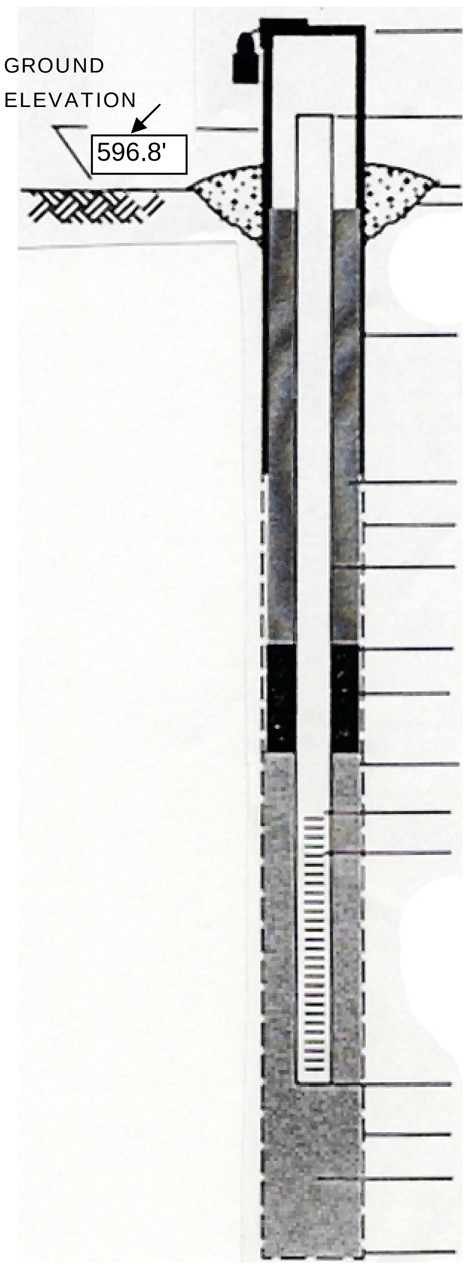
DRILLER: A. JAKUBCZAK

DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT:	NYSDEC- DUSSAULT		
PROJECT NUMBER:	BEV-08-020	DRILLING METHOD:	ASTM D-1586
WELL NUMBER:	MW-3	GEOLOGIST:	S. BOCHENEK
DRILLER:	A. JAKUBCZAK	INSTALLATION DATE(S):	10/1/08-10/2/08



ELEVATIONS/ TOP OF SURFACE CASING: 598.32'

STICK- UP/ TOP OF SURFACE CASING: N/A

ELEVATION/ TOP OF RISER PIPE: 598.08'

STICK- UP/ TOP OF RISER PIPE: N/A

TYPE OF SURFACE SEAL: Bentonite Grout

I.D. OF SURFACE CASING: 6"

TYPE OF SURFACE CASING: Steel

TYPE OF BACKFILL: Bentonite Grout

BOREHOLE DIAMETER: 3"

I.D. OF RISER PIPE: 2"

TYPE OF RISER PIPE: PVC

DEPTH OF SEAL: 17.0'

TYPE OF SEAL: Granular Bentonite

DEPTH OF SAND PACK: 19.0'

DEPTH TOP OF SCREEN: 21.0'

TYPE OF SCREEN: PVC

SLOT SIZE X LENGTH: 0.10"x10.0'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #0 Silica Sand

DEPTH BOTTOM OF SCREEN: 31.0'

DEPTH BOTTOM OF SAND PACK: 31.0'

TYPE OF BACKFILL BELOW OBSERVATION WELL:

N/A

ELEVATION/ DEPTH OF HOLE: 565.8'

DATE		SJB SERVICES, INC. SUBSURFACE LOG	
START	9/4/2008		HOLE NO. MW-4
FINISH	9/30/2008		SURF. ELEV 586.7'
SHEET	1 OF 1		G.W. DEPTH See Notes

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	SMPL NO.	0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	6	35			Black to Brown Fine Foundry SAND, tr. gravel,	
		43	16		78	tr. slag, tr. silt (moist, FILL)	
	2	12	17			Becomes Brown	
		19	20		36		
5	3	6	5			Contains little fine Gravel, tr. brick	
		4	4		9		
	4	3	3			Contains tr. gravel	
		3	3		6		
	5	4	5			Contains little fine gravel size Slag	Poor Recovery Sample #5
10		2	3		7		
	6	2	2				
		2	2		4		
	7	2	WOH				No Recovery Sample #7
		WOH	WOH		WOH		
15	8	4	3				
		3	3		6		
	9	4	6				
		7	7		13		
	10	4	7				
20		6	9		13		
	11	10	6				
		19	45		25		REF= Sample Spoon
	12	12	19				Refusal
		33	35		52		
25	13	50/0.0			REF		No Recovery Sample #13
							Split Spoon Refusal at 24'
						Grey to Brown MUDSTONE, soft, very weathered to	Run #1 26.2'- 31.2'
						weathered, laminated to thin bedded, numerous	REC= 72%
30						fractures and mechanical breaks	RQD= 0%
							Run #2 31.2'- 36.2'
							REC= 38%
35							RQD= 0%
						Boring Complete at 38.1'	
40						(Roller Bit from 36.2'- 38.1')	

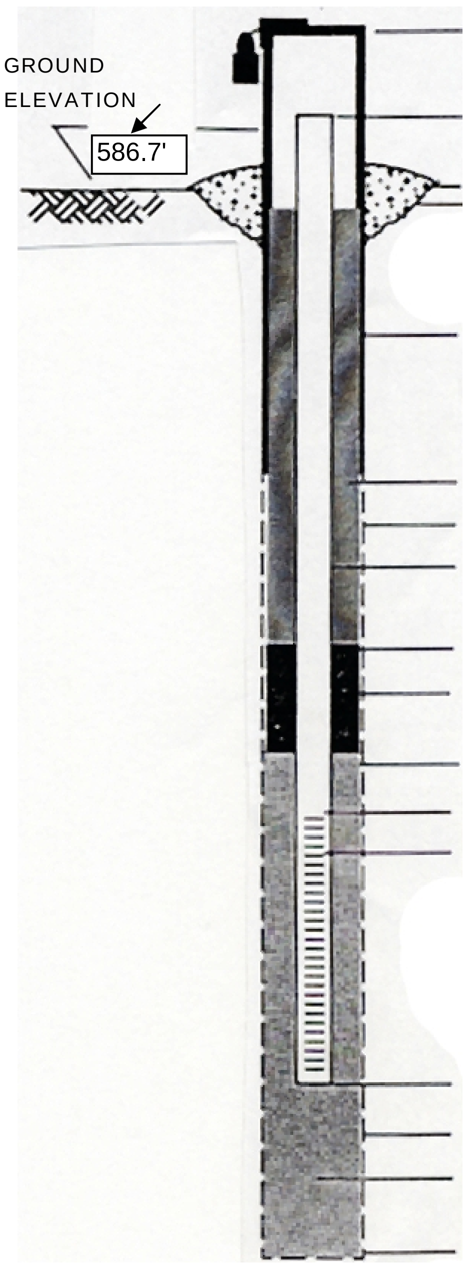
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT: NYSDEC- DUSSAULT	
PROJECT NUMBER: BEV-08-020	DRILLING METHOD: ASTM D-1586
WELL NUMBER: MW-4	GEOLOGIST: S. BOCHENEK
DRILLER: A. JAKUBCZAK	INSTALLATION DATE(S): 9/29-9/30/08, 10/2/08



ELEVATIONS/ TOP OF SURFACE CASING: 587.73'

STICK- UP/ TOP OF SURFACE CASING: N/A

ELEVATION/ TOP OF RISER PIPE: 587.54'

STICK- UP/ TOP OF RISER PIPE: N/A

TYPE OF SURFACE SEAL: Bentonite Grout

I.D. OF SURFACE CASING: 6"

TYPE OF SURFACE CASING: Steel

TYPE OF BACKFILL: Bentonite Grout

BOREHOLE DIAMETER: 3"

I.D. OF RISER PIPE: 2"

TYPE OF RISER PIPE: PVC

DEPTH OF SEAL: 24.2'

TYPE OF SEAL: Granular Bentonite

DEPTH OF SAND PACK: 26.1'

DEPTH TOP OF SCREEN: 28.1'

TYPE OF SCREEN: PVC

SLOT SIZE X LENGTH: 0.10"x10.0'

I.D. OF SCREEN: 2"

TYPE OF SAND PACK: #0 Silica Sand

DEPTH BOTTOM OF SCREEN: 38.1'

DEPTH BOTTOM OF SAND PACK: 38.1'

TYPE OF BACKFILL BELOW OBSERVATION WELL:

N/A

ELEVATION/ DEPTH OF HOLE: 548.6'

DATE	
START	9/5/2008
FINISH	9/30/2008
SHEET	1 OF 2

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO.	MW-5
SURF. ELEV	580.0'
G.W. DEPTH	See Notes

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
	1	8	10			Black to Brown Fine Foundry SAND, tr. gravel,	
		20	36		30	tr. silt (moist, FILL)	
	2	22	21				
		28	37		49		
5	3	8	7				
		8	8		15		
	4	9	15			Brown Weathered MUDSTONE (moist)	
		9	20		24		
	5	28	33				
10		32	46		65		
	6	39	39				
		40	48		79		
15							Auger Refusal at 14.0'
20						Grey to Brown MUDSTONE, soft, very weathered to weathered, laminated to thin bedded Contains numerous horizontal to angular fractures and mechanical breaks	Run #1 18.3'- 21.3' REC= 29% RQD= 0% mud noted from 18.3' to 19.0'
25							Run #2 21.3'- 26.3' REC= 69% RQD= 0%
						Grey DOLOSTONE, hard to very hard, weathered, laminated to thin bedded, contains numerous horizontal to vertical fractures and mechanical breaks, contains occasional vugs	Run #3 26.3'- 31.3' REC= 89% RQD= 0%
30							
						Contains occasional fossils	Run #4 31.3'- 36.3' REC= 88% RQD= 14%
35						Becomes laminated to bedded Contains occasional Clay seams Contains occasional horizontal fractures and mechanical breaks	Run #5 36.3'- 41.3' REC= 100% RQD= 45%
40							

N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE		**SJB SERVICES, INC.**	HOLE NO. MW-5
START	9/30/2008	**SUBSURFACE LOG**	SURF. ELEV 580.0'
FINISH	9/30/2008		G.W. DEPTH See Notes
SHEET	2 OF 2		

PROJECT: NYSDEC- DUSSAULT LOCATION: DUSSAULT FOUNDRY
PROJ. NO.: BEV-08-020 LOCKPORT, NEW YORK

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	SOIL OR ROCK CLASSIFICATION	NOTES
						Boring Complete at 41.3'	
45							
50							
55							
60							
65							
70							
75							
80							

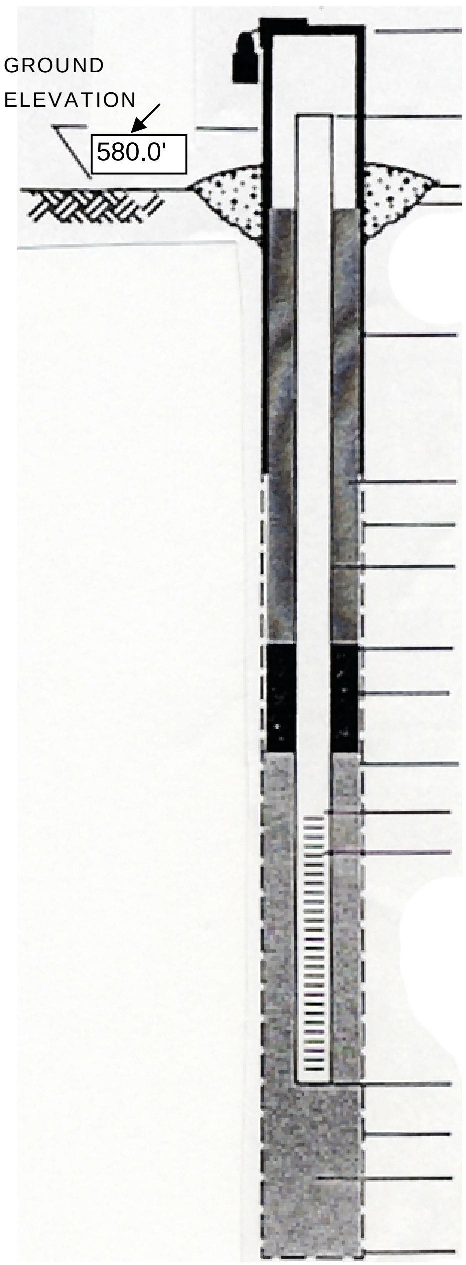
N = NO. BLOWS TO DRIVE 2-INCH SPOON 12-INCHES WITH A 140 LB. PIN WT. FALLING 30-INCHES PER BLOW CLASSIFIED BY: Geologist

DRILLER: A. JAKUBCZAK DRILL RIG TYPE : CME-75

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

MONITORING WELL COMPLETION RECORD

PROJECT:	NYSDEC- DUSSAULT		
PROJECT NUMBER:	BEV-08-020	DRILLING METHOD:	ASTM D-1586
WELL NUMBER:	MW-5	GEOLOGIST:	S. BOCHENEK
DRILLER:	A. JAKUBCZAK	INSTALLATION DATE(S):	9/30/08 & 10/1/08



ELEVATIONS/ TOP OF SURFACE CASING:	581.40'
STICK- UP/ TOP OF SURFACE CASING:	N/A
ELEVATION/ TOP OF RISER PIPE:	581.18'
STICK- UP/ TOP OF RISER PIPE:	N/A
TYPE OF SURFACE SEAL:	Bentonite Grout
I.D. OF SURFACE CASING:	6"
TYPE OF SURFACE CASING:	Steel
TYPE OF BACKFILL:	Bentonite Grout
BOREHOLE DIAMETER:	3"
I.D. OF RISER PIPE:	2"
TYPE OF RISER PIPE:	PVC
DEPTH OF SEAL:	22.3'
TYPE OF SEAL:	Granular Bentonite
DEPTH OF SAND PACK:	24.3'
DEPTH TOP OF SCREEN:	26.3'
TYPE OF SCREEN:	PVC
SLOT SIZE X LENGTH:	0.10"x15.0'
I.D. OF SCREEN:	2"
TYPE OF SAND PACK:	#0 Silica Sand
DEPTH BOTTOM OF SCREEN:	41.3'
DEPTH BOTTOM OF SAND PACK:	41.3'
TYPE OF BACKFILL BELOW OBSERVATION WELL:	N/A
ELEVATION/ DEPTH OF HOLE:	538.7'

APPENDIX C

SOIL BORING, TEST PIT AND MONITORING WELL STRATIGRAPHIC SUMMARY TABLE

Table C-1.
Stratigraphic Summary of Borings, Test Pits, and Monitoring Wells Installed during the 2008 Site Investigation at the Dussault Foundry Site.

Well, Test Pit or Boring Number	Coordinates		Ground Surface Elevation	Fill			Reworked Soil			Native Sand			Native Silty Clay			Bedrock	
	Easting	Northing		Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation
SUB-1	1120223.88	1156373.66	588.00	0.0	588.00	5.0										5.0	583.00
SUB-2	1120262.22	1156359.24	595.69	0.0	595.69	9.0							9.0	586.69	0.6	9.6	586.09
SUB-3	1120263.41	1156402.92	591.38	0.0	591.38	8.5							8.5	582.88	1.1	9.6	581.78
SUB-4	1120312.27	1156362.53	595.92	0.0	595.92	6.5				6.5	589.42	3.5				10.0	585.92
SUB-5	1120309.87	1156413.94	596.38	0.0	596.38	12.8							12.8	583.58	0.2	13.0	583.38
SUB-6	1120304.81	1156448.64	591.73	0.0	591.73	10.6										10.6	581.13
SUB-7	1120362.59	1156353.32	594.45	0.5	593.95	2.0				2.5	591.95	3.5				6.0	588.45
SUB-8	1120358.92	1156415.75	594.71	0.0	594.71	7.0	7.0	587.71	2.3	9.3	585.41	0.7				10.0	584.71
SUB-9	1120356.71	1156466.95	596.26	0.0	596.26	9.5										9.5	586.76
SUB-10	1120356.15	1156507.84	583.77	0.0	583.77	>14.0											
SUB-11	1120412.04	1156369.03	595.11	0.0	595.11	2.0				2.0	593.11	1.9				3.9	591.21
SUB-12	1120408.85	1156418.93	593.89	0.0	593.89	5.0				5.0	588.89	2.0				7.0	586.89
SUB-13	1120409.82	1156467.13	587.94	0.5	587.44	3.2							3.7	584.24	3.3	7.0	580.94
SUB-14	1120402.28	1156518.74	587.55	0.0	587.55	3.3										3.3	584.25
SUB-15	1120399.07	1156568.59	568.44	Location Not Completed Due To Access Limitations													
SUB-16	1120462.01	1156372.30	595.40	0.0	595.40	1.8				1.8	593.60	7.7	9.5	585.90	1.5	11.0	584.40
SUB-17	1120459.86	1156423.44	588.12	0.0	588.12	2.0							2.0	586.12	3.5	5.5	582.62
SUB-18	1120455.48	1156472.06	587.97	0.5	587.52	1.6	2.0	585.97	5.5				7.5	580.47	0.5	8.0	579.97
SUB-19	1120452.23	1156521.96	587.40	0.0	587.40	2.0	2.0	585.40	4.8				6.8	580.60	1.2	8.0	579.40
SUB-20	1120448.96	1156571.85	576.46	0.0	576.46	>2.2											
SUB-21	1120445.70	1156621.74	544.11	0.0	544.11	1.0	1.0	543.11	5.0				6.0	538.11	>8.0		
SUB-22	1120511.90	1156375.65	595.32	0.0	595.32	9.5										9.5	585.82
SUB-23	1120508.64	1156425.43	589.84	0.0	589.84	1.3				1.3	588.54	2.1	3.4	586.44	0.6	4.0	585.84
SUB-24	1120505.38	1156475.31	587.85	0.5	587.35	1.0	1.5	586.35	0.5				2.0	585.85	2.3	4.3	583.55
SUB-25	1120501.83	1156525.28	587.52	0.6	586.92	7.9	8.5	579.02	1.1	9.6	577.92	2.4	12.0	575.52	2.0	14.0	573.52
SUB-26	1120498.85	1156575.11	579.23	0.0	579.23	>2.8											
SUB-27	1120558.53	1156428.78	594.21	0.5	593.71	0.7	1.2	593.01	0.3				1.5	592.71	2.2	3.7	590.51
SUB-28	1120560.74	1156488.79	587.89				0.6	587.29	1.0				1.6	586.29	2.3	3.9	583.99
SUB-29	1120551.99	1156528.35	587.73	0.5	587.23	2.5				3.0	584.73	1.0	4.0	583.73	2.1	6.1	581.63
SUB-30	1120548.52	1156578.46	583.71	0.0	583.71	>12.0											
SUB-31	1120608.43	1156431.95	595.68	0.8	594.88	0.7	1.5	594.18	4.4	5.9	589.78	3.1				9.0	586.68
SUB-32	1120606.29	1156483.09	595.21	0.0	595.21	1.5	1.5	593.71	4.0	5.5	589.71	2.5	8.0	587.21	2.0	10.0	585.21
SUB-33	1120601.91	1156531.84	NS	Location Not Completed Due To Access Limitations													
SUB-34	1120598.65	1156581.60	587.68	0.5	587.18	5.1	5.6	582.08	1.8				7.4	580.28	0.3	7.7	579.98
SUB-35	1120595.38	1156631.69	573.78	Location Not Completed Due To Access Limitations													
SUB-36	1120658.38	1156435.22	596.80	0.0	596.80	3.7				3.7	593.10	5.3				9.0	587.80
SUB-37	1120654.99	1156485.12	595.39	0.0	595.39	2.3				2.3	593.09	7.7				10.0	585.39
SUB-38	1120651.50	1156534.99	592.70				0.5	592.20	4.1				4.6	588.10	1.1	5.7	587.00
SUB-39	1120648.53	1156584.95	587.75				0.5	587.25	1.5							2.0	585.75
SUB-40	1120645.28	1156634.89	NS	Location Not Completed Due To Access Limitations													
SUB-41	1120708.15	1156438.47	596.70	0.0	596.70	5.2										5.2	591.50

Table C-1.
Stratigraphic Summary of Borings, Test Pits, and Monitoring Wells Installed during the 2008 Site Investigation at the Dussault Foundry Site.

Well, Test Pit or Boring Number	Coordinates		Ground Surface Elevation	Fill			Reworked Soil			Native Sand			Native Silty Clay			Bedrock	
	Easting	Northing		Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation
SUB-42	1120704.88	1156488.53	596.39	0.0	596.39	9.0										9.0	587.39
SUB-43	1120710.44	1156531.91	596.17	0.0	596.17	2.8				2.8	593.37	6.2				9.0	587.17
SUB-44	1120695.50	1156598.35	588.36	0.4	587.96	0.6							1.0	587.36	0.4	1.4	586.96
SUB-45	1120694.95	1156638.35	588.04	0.3	587.74	5.5							5.8	582.24	0.4	6.2	581.84
SUB-46	1120693.23	1156689.32	586.27	0.0	586.27	15.6										15.6	570.67
SUB-47	1120758.11	1156441.74	595.67	0.0	595.67	1.6				1.6	594.07	0.7				2.3	593.37
SUB-48	1120754.81	1156491.63	595.86	0.0	595.86	1.3				1.3	594.56	2.7				4.0	591.86
SUB-49	1120752.70	1156542.81	595.49	0.0	595.49	1.8				1.8	593.69	6.2				8.0	587.49
SUB-50	1120746.61	1156605.84	587.88										1.0	586.88	1.0	2.0	585.88
SUB-51	1120745.03	1156641.48	588.05	0.0	588.05	2.5										2.5	585.55
SUB-52	1120753.24	1156685.78	587.89	0.4	587.49	>4.6											
SUB-53	1120804.34	1156494.83	596.11	0.0	596.11	1.6				1.6	594.51	2.4				4.0	592.11
SUB-54	1120801.43	1156544.97	595.48	0.0	595.48	1.3	1.3	594.18	2.5	3.8	591.68	1.7				5.5	589.98
SUB-55	1120798.15	1156594.62	594.00	1.0	593.00	4.0							5.0	589.00	3.0	8.0	586.00
SUB-56	1120794.95	1156644.57	587.83	0.5	587.33	>0.2											
SUB-57	1120791.54	1156694.41	587.92	0.3	587.67	7.3							7.5	580.42	0.5	8.0	579.92
SUB-58	1120788.23	1156744.40	582.27	0.0	582.27	>15.0											
SUB-59	1120847.97	1156597.85	591.68	0.0	591.68	0.8	0.8	590.88	4.5							5.3	586.38
SUB-60	1120844.76	1156647.86	587.63				0.0	587.63	2.8							2.8	584.83
SUB-61	1120841.48	1156697.58	585.30				0.0	585.30	5.5							5.5	579.80
SUB-62	1120838.37	1156746.95	583.88	0.0	583.88	11.5							11.5	572.38	0.5	12.0	571.88
SUB-63	1120901.26	1156551.31	593.40	0.0	593.40	1.0				1.0	592.40	3.9				4.9	588.50
SUB-64	1120897.92	1156601.20	594.34	0.8	593.54	0.2	1.0	593.34	5.3							6.3	588.04
SUB-65	1120902.10	1156643.14	590.79	0.0	590.79	6.0										6.0	584.79
SUB-66	1120891.46	1156701.23	587.26	0.5	586.76	3.3	3.3	583.96	0.5				3.8	583.46	2.7	6.5	580.76
SUB-67	1120889.32	1156752.23	583.38	0.0	583.38	4.2							4.2	579.18	1.1	5.3	578.08
SUB-68	1120896.89	1156803.91	574.49	0.0	574.49	6.3				6.3	568.19	2.1				8.4	566.09
SUB-69	1120952.38	1156556.10	594.86	0.0	594.86	1.4				1.4	593.46	>6.0					
SUB-70	1120947.86	1156604.34	593.76				1.0	592.76	5.8							6.8	586.96
SUB-71	1120944.59	1156654.36	592.65	0.0	592.65	2.0	2.0	590.65	3.5	5.5	587.15	0.5				6.0	586.65
SUB-72	1120941.30	1156704.19	587.22				1.5	585.72	1.6				3.1	584.12	0.2	3.3	583.92
SUB-73	1120937.97	1156754.14	583.39	0.0	583.39	2.2	2.2	581.19	3.0							5.2	578.19
SUB-74	1120934.80	1156804.04	580.49	0.0	580.49	2.2	2.2	578.29	4.8							7.0	573.49
SUB-75	1120932.76	1156855.37	555.68	0.0	555.68	4.1										4.1	551.58
SUB-76	1120997.56	1156607.72	594.13	0.0	594.13	1.0	1.0	593.13	5.0	6.0	588.13	1.0				7.0	587.13
SUB-77	1120994.32	1156657.25	591.79	0.0	591.79	1.4				1.4	590.39	6.0				7.4	584.39
SUB-78	1120990.93	1156707.50	587.90	0.0	587.90	2.0							2.0	585.90	1.4	3.4	584.50
SUB-79	1120987.76	1156757.58	583.30	0.0	583.30	0.6										0.6	582.70
SUB-80	1120984.27	1156807.28	581.95	0.0	581.95	3.4							3.4	578.55	1.3	4.7	577.25
SUB-81	1120981.49	1156857.29	NS	Location Not Completed Due To Access Limitations													
SUB-82	1121048.61	1156612.52	594.47	0.0	594.47	2.1	2.1	592.37	0.6	2.7	591.77	7.3				10.0	584.47

Table C-1.
Stratigraphic Summary of Borings, Test Pits, and Monitoring Wells Installed during the 2008 Site Investigation at the Dussault Foundry Site.

Well, Test Pit or Boring Number	Coordinates		Ground Surface Elevation	Fill			Reworked Soil			Native Sand			Native Silty Clay			Bedrock	
	Easting	Northing		Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation
SUB-83	1121044.14	1156660.86	592.67	0.0	592.67	1.5				1.5	591.17	2.5	4.0	588.67	5.0	9.0	583.67
SUB-84	1121041.16	1156710.84	591.11	0.0	591.11	3.4							3.4	587.71	5.9	9.3	581.81
SUB-85	1121038.76	1156762.25	583.10	0.0	583.10	2.0	2.0	581.10	0.8				2.8	580.30	1.0	3.8	579.30
SUB-86	1121034.41	1156810.50	581.97	0.0	581.97	2.7	2.7	579.27	1.0							3.7	578.27
SUB-87	1121097.58	1156614.25	594.65	0.0	594.65	1.9				1.9	592.75	2.4	4.3	590.35	7.1	11.4	583.25
SUB-88	1121096.09	1156666.83	593.22	0.0	593.22	1.1				1.1	592.12	7.9	9.0	584.22	1.9	10.9	582.32
SUB-89	1121091.00	1156714.86	592.22	1.0	591.22	3.5	4.5	587.72	6.3							10.8	581.42
SUB-90	1121087.72	1156763.90	585.00	2.0	583.00	4.3	6.3	578.70	2.4				8.7	576.30	0.2	8.9	576.10
SUB-91	1121084.85	1156813.68	581.73	0.0	581.73	3.2							3.2	578.53	3.3	6.5	575.23
SUB-92	1121081.25	1156864.05	579.17	0.0	579.17	2.5	2.5	576.67	3.3				5.8	573.37	0.4	6.2	572.97
SUB-93	1121078.01	1156913.61	565.21	Location Not Completed Due To Access Limitations													
SUB-94	1121144.18	1156667.89	593.30	0.0	593.30	1.8	1.8	591.50	2.2	4.0	589.30	4.0	8.0	585.30	2.8	10.8	582.50
SUB-95	1121140.42	1156717.23	591.37	0.0	591.37	6.7	6.7	584.67	1.5				8.2	583.17	1.8	10.0	581.37
SUB-96	1121137.66	1156767.59	585.88	0.0	585.88	8.6	8.6	577.28	0.9							9.5	576.38
SUB-97	1121134.31	1156817.23	578.83	0.0	578.83	>4.7											
SUB-98	1121125.90	1156855.19	577.44	0.0	577.44	2.0	2.0	575.44	5.6							7.6	569.84
SUB-99	1121195.10	1156672.09	593.80	0.0	593.80	1.8				1.8	592.00	3.6	5.4	588.40	3.6	9.0	584.80
SUB-100	1121202.51	1156771.42	590.09	0.2	589.89	>11.3											
SUB-101	1121218.73	1156818.35	576.04	0.0	576.04	2.6	2.6	573.44	>4.3								
SUB-102	1120557.33	1156387.25	595.60	0.0	595.60	2.0				2.0	593.60	3.0	5.0	590.60	2.3	7.3	588.30
SUB-103	1120893.07	1156728.43	583.95	0.0	583.95	2.5							2.5	581.45	1.1	3.6	580.35
SUB-104	1120956.04	1156864.38	558.21	0.0	558.21	5.4											
SUB-105	1120754.90	1156573.29	595.17	0.0	595.17	1.3	1.3	593.87	>0.5								
SUB-106	1120735.46	1156567.82	595.61	0.0	595.61	>9.0											
SUB-107	1121058.11	1156878.71	578.09	0.0	578.09	3.7	3.7	574.39	6.2							9.9	568.19
SUB-108	1120503.97	1156516.53	587.56	0.0	587.56	>2.0											
SUB-109	1120685.97	1156581.93	587.86	0.0	587.86	>2.1											
SUB-110	1120549.20	1156596.94	578.24	>1.0													
SUB-111	1120605.13	1156512.48	592.70	0.5	592.20	0.6							1.1	591.60	5.9	7.0	585.70
SUB-112	1120390.24	1156414.97	595.08	>1.0													
SUB-113	1120851.64	1156700.53	584.88				0.0	584.88	3.9							3.9	580.98
SUB-114	1120858.47	1156704.70	584.55				0.0	584.55	4.6							4.6	579.95
SUB-115	1120846.31	1156707.11	584.88				0.0	584.88	4.0							4.0	580.88
SUB-116	1120854.63	1156708.36	584.60				0.0	584.60	4.4				4.4	580.20	0.2	4.6	580.00
SUB-117	1120862.07	1156709.12	584.63				0.0	584.63	4.0							4.0	580.63
SUB-A1	1120394.11	1156406.88	594.61	0.0	594.61	7.5										7.5	587.11
SUB-A2B	1120544.43	1156466.08	590.91	0.0	590.91	7.0				7.0	583.91	2.0				9.0	581.91
SUB-A3	1120640.79	1156502.10	594.97	0.0	594.97	>2.5											
SUB-A4	1120544.58	1156494.98	587.93				0.6	587.38	1.5				2.0	585.93	1.8	3.8	584.13
SUB-A5	1120707.31	1156662.95	587.94	0.0	587.94	>2.0											
MW-1	1120799.71	1156473.66	596.20	0.0	596.20	1.0				1.0	595.20	1.3	2.3	593.90	2.1	4.4	591.80

Table C-1.
Stratigraphic Summary of Borings, Test Pits, and Monitoring Wells Installed during the 2008 Site Investigation at the Dussault Foundry Site.

Well, Test Pit or Boring Number	Coordinates		Ground Surface Elevation	Fill			Reworked Soil			Native Sand			Native Silty Clay			Bedrock	
	Easting	Northing		Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation	Thickness	Depth	Surface Elevation
MW-2	1120407.54	1156492.16	587.60	0.0	587.60	4.0	4.0	583.60	5.1							9.1	578.50
MW-3	1120322.18	1156421.73	596.80	0.0	596.80	14.0										14.0	582.80
MW-4	1120712.14	1156697.60	586.70	0.0	586.70	24.0										24.0	562.70
MW-5	1121073.39	1156848.62	580.00	0.0	580.00	5.9										5.9	574.10

APPENDIX D

WELL DEVELOPMENT & PURGE AND SAMPLE LOGS

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL DEVELOPMENT LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
DEVELOPER:	Steve Bochenek, EmpireGeo		
DEVELOPMENT DATE:	October 6, 2008		
START DEVELOPMENT:	0931	END DEVELOPMENT:	1042

WELL NUMBER: **MW-1**

1. TOTAL CASING AND SCREEN LENGTH (FT): **27.37**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **13.10**
4. VOLUME OF WATER IN CASING (GAL): **2.33**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 10 CASINGS: **23.26** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	4.5	9.0	15.0	20.0	24.0				
pH	6.79	7.00	7.01	7.01	7.01	7.01				
CONDUCTIVITY (ms/cm)	58.24	55.23	58.33	58.13	57.97	58.07				
TURBIDITY (NTU)	NM	NM	NM	NM	NM	NM				
TEMPERATURE (^{O}C)	13.52	12.61	12.41	12.50	12.48	12.50				
TIME	NR	NR	NR	NR	NR	NR				

Drop in water level noted after purging 15.0 gallons. Water level after development was 22.78' below top of riser.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL DEVELOPMENT LOG

SITE NAME: Dussault Foundry Site	SITE NUMBER: 932012
DEVELOPER: Steve Bochenek, EmpireGeo	
DEVELOPMENT DATE: October 6, 2008	
START DEVELOPMENT: 1109	END DEVELOPMENT: 1432

WELL NUMBER: **MW-2**

1. TOTAL CASING AND SCREEN LENGTH (FT): **32.29**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **21.15**
4. VOLUME OF WATER IN CASING (GAL): **1.82**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 10 CASINGS: **18.16** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

	VOLUME PURGED (GALLONS)									
PARAMETERS	0.0	3.0	4.0	5.0	8.0					
pH	6.71	6.78	6.81	6.65	6.79					
CONDUCTIVITY (ms/cm)	32.38	32.33	32.17	32.68	32.36					
TURBIDITY (NTU)	NM	NM	NM	NM	NM					
TEMPERATURE (^{O}C)	10.10	10.10	9.83	10.25	10.07					
TIME	NR	NR	NR	NR	NR					

Well purged dry after 4.0 gallons. Well development resumed at 1410, with water level at 21.80' below top of riser. Well purged dry after 8.0 gallons.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL DEVELOPMENT LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
DEVELOPER:	Steve Bochenek, EmpireGeo		
DEVELOPMENT DATE:	October 6, 2008		
START DEVELOPMENT:	1042	END DEVELOPMENT:	1449

WELL NUMBER: **MW-3**

1. TOTAL CASING AND SCREEN LENGTH (FT): **32.74**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **25.10**
4. VOLUME OF WATER IN CASING (GAL): **1.25**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 10 CASINGS: **12.45** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	2.5	3.25	4.5	6.0					
pH	6.85	6.85	6.91	6.99	6.83					
CONDUCTIVITY (ms/cm)	34.64	33.24	33.16	23.22	23.44					
TURBIDITY (NTU)	NM	NM	NM	NM	NM					
TEMPERATURE (^{O}C)	11.48	11.28	11.23	11.55	11.24					
TIME	NR	NR	NR	NR	NR					

Well purged dry after 3.25 gallons. Well development resumed at 1347, with water level at 25.59' below top of riser. Well purged dry after 6.0 gallons.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL DEVELOPMENT LOG

SITE NAME: Dussault Foundry Site	SITE NUMBER: 932012
DEVELOPER: Steve Bochenek, EmpireGeo	
DEVELOPMENT DATE: October 6, 2008	
START DEVELOPMENT: 1240	END DEVELOPMENT: 1438

WELL NUMBER: **MW-4**

1. TOTAL CASING AND SCREEN LENGTH (FT): **38.96**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **33.29**
4. VOLUME OF WATER IN CASING (GAL): **0.92**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 10 CASINGS: **9.24** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	2.0	3.25	4.25						
pH	7.19	6.94	6.99	7.04						
CONDUCTIVITY (ms/cm)	24.11	23.17	23.18	23.85						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	11.63	10.81	10.77	10.86						
TIME	NR	NR	NR	NR						

Well purged dry after 3.25 gallons. Well development resumed at 1432, with water level at 35.82' below top of riser. Well purged dry after 4.25 gallons.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL DEVELOPMENT LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
DEVELOPER:	Steve Bochenek, EmpireGeo		
DEVELOPMENT DATE:	October 6, 2008		
START DEVELOPMENT:	1315	END DEVELOPMENT:	1453

WELL NUMBER: **MW-5**

1. TOTAL CASING AND SCREEN LENGTH (FT): **42.59**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **32.82**
4. VOLUME OF WATER IN CASING (GAL): **1.59**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 10 CASINGS: **15.93** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	2.0	2.5	3.0						
pH	7.26	7.27	7.31	7.31						
CONDUCTIVITY (ms/cm)	39.91	71.81	69.98	56.82						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	10.75	10.75	10.68	10.89						
TIME	NR	NR	NR	NR						

Well purged dry after 2.5 gallons. Well development resumed at 1449, with water level at 40.49' below top of riser. Well purged dry after 3.0 gallons.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL PURGE AND SAMPLE LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
SAMPLER:	Glenn M. May and Steve Bochenek		
PURGE DATE: November 3, 2008	START PURGE: 0916	END PURGE: 0941	
SAMPLE DATE:	November 3, 2008	SAMPLE TIME:	1450

WELL NUMBER: **MW-1**

1. TOTAL CASING AND SCREEN LENGTH (FT): **27.37**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **12.58**
4. VOLUME OF WATER IN CASING (GAL): **2.41**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 3 CASINGS: **7.23** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	2.5	5.0	7.5						
pH	7.44	7.33	7.24	7.21						
CONDUCTIVITY (µmhos)	NM	NM	NM	NM						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	NM	NM	NM	NM						
Eh	NM	NM	NM	NM						
TIME	0916	0923	0934	0941						

Initial purge water was clear but became turbid at 1.0 gallons. Final purge water was turbid. Water level prior to sampling was 12.67' below top of riser. Water remained relatively clear throughout sampling.

Depth to water measured on October 30, 2008.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL PURGE AND SAMPLE LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
SAMPLER:	Glenn M. May		
PURGE DATE:	November 3, 2008	START PURGE: 1026	END PURGE: 1045
SAMPLE DATE:	November 4, 2008	SAMPLE TIME:	1347 - 1401

WELL NUMBER: **MW-2**

1. TOTAL CASING AND SCREEN LENGTH (FT): **32.29**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **22.86**
4. VOLUME OF WATER IN CASING (GAL): **1.54**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 3 CASINGS: **4.61** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	1.5	3.25	4.75						
pH	7.12	7.08	7.08	7.18						
CONDUCTIVITY (µmhos)	NM	NM	NM	NM						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	NM	NM	NM	NM						
Eh	NM	NM	NM	NM						
TIME	1026	1028	1035	1045						

Initial purge water was turbid with an orange brown “floc-like” appearance. After purging 3.25 gallons the water was cloudy and moderately turbid. Final purge water was turbid and cloudy. Water level prior to sampling was 22.90' below top of riser. Water remained relatively clear throughout sampling.

Depth to water measured on October 30, 2008.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL PURGE AND SAMPLE LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
SAMPLER:	Glenn M. May		
PURGE DATE:	November 3, 2008	START PURGE: 0955	END PURGE: 1008
SAMPLE DATE:	November 4, 2008	SAMPLE TIME:	1316 - 1331

WELL NUMBER: **MW-3**

1. TOTAL CASING AND SCREEN LENGTH (FT): **32.74**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **26.36**
4. VOLUME OF WATER IN CASING (GAL): **1.04**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 3 CASINGS: **3.12** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	1.25	2.25	2.5						
pH	7.26	7.10	7.11	7.16						
CONDUCTIVITY (μmhos)	NM	NM	NM	NM						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	NM	NM	NM	NM						
Eh	NM	NM	NM	NM						
TIME	0955	0958	1004	1008						

Initial purge water was clear but became turbid at 1.25 gallons. Well went dry after purging 2.5 gallons. Final purge water was moderately turbid and cloudy. Water level prior to sampling was 26.40' below top of riser. Water remained relatively clear throughout sampling.

Depth to water measured on October 30, 2008.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL PURGE AND SAMPLE LOG

SITE NAME:	Dussault Foundry Site		SITE NUMBER:	932012	
SAMPLER:	Glenn M. May				
PURGE DATE:	November 3, 2008	START PURGE: 1125		END PURGE:	1146
SAMPLE DATE:	November 4, 2008		SAMPLE TIME:	1130 - 1146	

WELL NUMBER: **MW-4**

1. TOTAL CASING AND SCREEN LENGTH (FT): **38.96**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **33.88**
4. VOLUME OF WATER IN CASING (GAL): **0.83**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 3 CASINGS: **2.48** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	1.0	1.75	2.75						
pH	7.50	7.49	7.50	7.43						
CONDUCTIVITY (µmhos)	NM	NM	NM	NM						
TURBIDITY (NTU)	NM	NM	NM	NM						
TEMPERATURE (^{O}C)	NM	NM	NM	NM						
Eh	NM	NM	NM	NM						
TIME	1125	1131	1137	1146						

Initial purge water was clear but became slightly turbid by second bailer. A slight spotty sheen was observed on the purge water at 1.75 gallons but was not observed again through the end of purging. Final purge water was turbid. Water level prior to sampling was 36.18' below top of riser. Water remained relatively clear throughout sampling.

Depth to water measured on October 30, 2008.

New York State Department of Environmental Conservation
270 Michigan Avenue, Buffalo, New York, 14203-2999

WELL PURGE AND SAMPLE LOG

SITE NAME:	Dussault Foundry Site	SITE NUMBER:	932012
SAMPLER:	Glenn M. May		
PURGE DATE:	November 3, 2008	START PURGE: 1205	END PURGE: 1212
SAMPLE DATE:	November 4, 2008	SAMPLE TIME:	1213 - 1300; 1408 - 1425

WELL NUMBER: **MW-5**

1. TOTAL CASING AND SCREEN LENGTH (FT): **42.59**
2. CASING INTERNAL DIAMETER (IN): **2.0**
3. WATER LEVEL BELOW TOP OF CASING (FT): **33.74**
4. VOLUME OF WATER IN CASING (GAL): **1.44**

#1 - #3 x #2 (Gal/Ft)

VOLUME OF 3 CASINGS: **4.33** GAL.

WELL ID.	VOL. (GAL/FT)
1"	0.041
2"	0.163
3"	0.367
4"	0.653
5"	1.020
6"	1.469
8"	2.611

PARAMETERS	VOLUME PURGED (GALLONS)									
	0.0	1.5	2.0							
pH	7.43	7.40	7.45							
CONDUCTIVITY (µmhos)	NM	NM	NM							
TURBIDITY (NTU)	NM	NM	NM							
TEMPERATURE (^{o}C)	NM	NM	NM							
Eh	NM	NM	NM							
TIME	1205	1207	1212							

Initial purge water was clear but became turbid by second bailer. A slight sulfur odor was noted during purging. Well went dry after purging 2.0 gallons. Water level prior to sampling was 36.34' below top of riser. Initial sample water was clear but became light gray in color with continued sampling. Well went dry during sampling so I had to return to the well to complete sampling.

Depth to water measured on October 30, 2008.

APPENDIX E

ASBESTOS SURVEY

DEMOLITION
ASBESTOS SURVEY

at

Office, Plant and Plant Building #2
Dussault Foundry
Union Street
Lockport, New York

Prepared for:

SJB Services
5167 South Park Avenue
Buffalo, New York 14075

August 6, 2008

Report Prepared By:
Paradigm Environmental Services, Inc.
179 Lake Avenue, Rochester, New York 14608 (585) 647-2530

OFFICE, PLANT AND PLANT BUILDING #2
DUSSAULT FOUNDRY
UNION STREET
LOCKPORT, NEW YORK

TABLE OF CONTENTS

** This asbestos survey is a multi-page document which must be viewed in its entirety; see limitations.

INTRODUCTION

Paradigm Environmental Services, Inc. was retained by **SJB Services** on **August 6, 2008** to conduct an inspection for the detection of asbestos containing materials located at **Office, Plant and Plant Building #2, Dussault Foundry, Union Street. Lockport, New York.**

The objective of this inspection was to identify and assess with due diligence the locations, quantities, friability and condition of all types of asbestos containing materials expected to be impacted by the demolition at the above referenced location. Paradigm Environmental performed all sample analysis and analytical reports for this project. Field services and survey reports were generated by Envoy Environmental Consultants as a subcontractor to Paradigm. Envoy Environmental Consultants inspector **Shennendoah Elkin** (AH # 00-20233) conducted this inspection with the procedures and guidelines dictated by state and federal regulatory agencies. The inspectors of Envoy Environmental Consultants, Inc. selected materials for inclusion in this report through an understanding of the scope of the demolition as indicated by the building owner and the historical uses of asbestos in general. Generally, if a building material within a structure could contain asbestos the material was included in the survey.

Samples were collected from locations within each homogeneous sampling area. Samples consist of a small amount of the subject material. Sampling points were recorded and cross-referenced to prepared sketches. Individual samples were also recorded on a chain of custody document. Samples were then transported to the Paradigm analytical laboratory for asbestos analysis.

The Paradigm laboratory is accredited through NYSDOH/ELAP (Lab ID# 10958) for Solid and Hazardous Waste and Air and Emissions for Bulk Asbestos Fiber Analysis. The chain of custody record accompanies all samples from the point collected until they reach the laboratory. Samples are stored at the laboratory for 90 days then disposed of according to authoritative regulations.

The analysis methodology used is as follows:

Asbestos Bulk Samples:

New York State Department of Health, ELAP Method 198.1 and 198.6 ("Polarized Light Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").
New York State Department of Health, ELAP Method 198.4 ("Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable Organically Bound Bulk Samples").

LIMITATIONS

The information provided in this report was compiled from field and laboratory data and was prepared for and referenced to the **Office, Plant and Plant Building #2, Dussault Foundry, Union Street. Lockport, New York.** Materials noted and recorded are intended to represent subject site at the time and date that the observations were made. Conclusions and recommendations provided in this report are based on the assumption that materials identified are homogenous throughout their application. Determinations of suspect asbestos containing materials within the building were subject to the accessibility of each individual area or space. Determinations of asbestos containing materials were made by means of bulk sampling, physical assessment or visual assessment if the materials were not accessible. Envoy Environmental Consultants Inc. and Paradigm Environmental Services, Inc. accepts no responsibility for the content of building materials within areas or spaces that were unknown to us, not reasonably accessible, or not part of the scope of the project as defined by the client. Envoy Environmental Consultants Inc. and Paradigm Environmental Services, Inc. assumes no liability for any buildings that were not identified by the client that may fall under state or federal regulation. All conclusions provided in this report are based on the bulks sampling that was performed at the above mentioned site on the above mentioned dates.

All quantities are approximations and must be field verified by the contractor prior to the submittal of bids. Contractor bids are expected to be based on their own determination of quantities and not the quantities stated in this report.

This asbestos survey report is not intended to be a bid document for a scope of work for the asbestos abatement contractor. The survey report only identifies and assesses the location, quantity and condition of ACM, PACM or asbestos materials at the subject site. The asbestos survey report is intended to be used as a tool in the development of an asbestos abatement project design or work scope. Under the Code Rule regulation this task can only be performed by a Certified Project Designer.

Energized mechanical or electrical systems were not sampled as part of the survey, and were visually assessed as ACM (Asbestos Containing Material). Suspect materials that are visually assessed by the inspector as ACM shall be treated as ACM, unless bulk sampling is conducted consistent with EPA and OSHA accepted methods, and the analysis meets the requirements of Code Rule 56 and the suspect material is found not to be asbestos containing. These systems may contain one or more of the following components, but are not limited to these components: brakes, clutches, gaskets, insulating panels, blocks or backer boards, wire insulation, electrical panel boxes, bus ducts, explosion proof lighting gaskets and fitting packings, insulating papers, pipe sleeve packings, fire stops, caulks, paints and coatings.

CONCLUSIONS

Paradigm Environmental Services, Inc. was retained to perform a limited asbestos survey of materials from the **Office, Plant and Plant Building #2, Dussault Foundry, Union Street. Lockport, New York** on **August 6, 2008**. A New York State certified inspector sampled suspect asbestos containing materials expected to be impacted by the demolition project from the above mentioned site. Sample locations and custody information were recorded and the samples were transported to the Paradigm laboratory for analysis.

The following is a brief description of the space by space survey.

Col. 1	*Col. 2*	*Col. 3*	*Col. 4*	*Col. 5*	*Col. 6*	*Col. 7*	*Col. 8*	*Col 9*	*Col 10*
Room #	*Sample #'s taken in Room*	*Positive Sample ID #*	*Positive Material Description*	*Location of Material*	*Condition*	*Friable Non-Friable NOB*	*SQ FT*	*Lin FT*	*Units*

1. Column 1: indicates the Room number, room description and estimated square footage of the room referenced to the attached map/drawing.
2. Column 2: indicates the bulk sample numbers that were taken in the Room indicated in column 1. i.e. 001-007 means samples one through seven were sampled in the room, none would indicate that no samples were taken in the room. You will not see the first three letters of the sample in this column. If you would like to know the materials that were tested in the room please refer to the analytical results which are documented in numerical order.
3. Column 3: indicates the sample number that proves the material is positive for asbestos content. This sample may have taken in the space in column 1 or determined a homogeneous area (material) by the inspector to a sample that was taken in another space. For the purpose of this report all samples are assigned a six digit alphanumeric sample identification number. The first three letters/numbers indicate the material, found in column 4. The last three numbers indicate the sample number in the sequence in which they were taken. If there is a letter after the last three numbers, this indicates that the laboratory or the inspector determines that there were multiple layers within the sample, requiring additional sampling under EPA protocols.
4. Column 4: gives a brief description of the asbestos containing material or the material that is to be treated as asbestos containing as determined by the inspector. At times non-asbestos materials are contaminated with asbestos, therefore must be treated as asbestos.
5. Column 5: indicates a brief description of the location of the material in the room and not the location where the sample was taken from. You will find locations of where each sample was taken from on the analytical sampling results.
6. Column 6: indicates the physical condition of the material as assessed by the inspector in the space indicated in column 1, according to the condition description described below. For the purpose of this report, the condition of the ACM will be reported in good, fair or poor condition. Conditions will be listed in column 6 of the survey report will be as follows;
   a. ***Good:*** means material is intact with no visible damage.
   b. ***Fair:*** means material contains fewer than 10% distributed damage or 25% localized damage.
   c. ***Poor:*** means material contains over 10% distributed damage or 25% localized damage.
   Conditions listed in column 6 of the space by space survey report are only related to the specific material for the specific space.
7. Column 7: indicates the friability of the material in that space as determined by the inspector and the analytical laboratory consistent with Code Rule 56 and EPA regulations.
8. Column 8: indicates the square footage of ACM material found in the space.
9. Column 9: indicates the linear footage of ACM material found in the space. Pipe insulation that is two feet or greater in diameter is required to be reported in square feet according to code Rule 56.
10. Column 10: indicates the units of ACM material found in the space.

Pre-Demolition Asbestos Survey
Dussault Foundry
Union Street
Lockport, New York
Space by Space

Room #	Sample #'s taken in space	Positive Sample ID #	Positive Material Description	Location of Material	Friable Non-Friable NOB	Condition	SQ FT	Lin. FT	Units
Office Area	01-7, 08A 9-11	FT9-01 / FTM-02	Red 9"X9" Floor Tile/ Black Floor Tile Mastic	On Floor	NOB	Poor	800		
800 Square Feet		WIC-22	Black Window Caulk	On Windows	NOB	Poor		140	
		CORE-24	Black/Silver Roof Core	On Roof	NOB	Poor	1000		
Plant	08B, 12-23	WIC-22	Black Window Caulk	On Windows	NOB	Poor		320	
58,560 Square Feet		CORE-21	Black Roof Core	On Roof	NOB	Poor	58560		
Plant, Building #2	25-30	FT9-28 / FTM-29	Brown Floor Tile/ Black Floor Tile Mastic	On Floor	NOB	Poor	150		
7440 Square Feet		FLA-26	Black Roof Flashing	On Roof	NOB	Poor	7440		

***ACM**-** *Indicates materials assumed positive for asbestos containing materials by inspector.*
1-area and/or material limited to visual inspection due to energized electrical or mechanical systems. Assumed positive by inspector.
U *- Inspector unable to determine quantity*

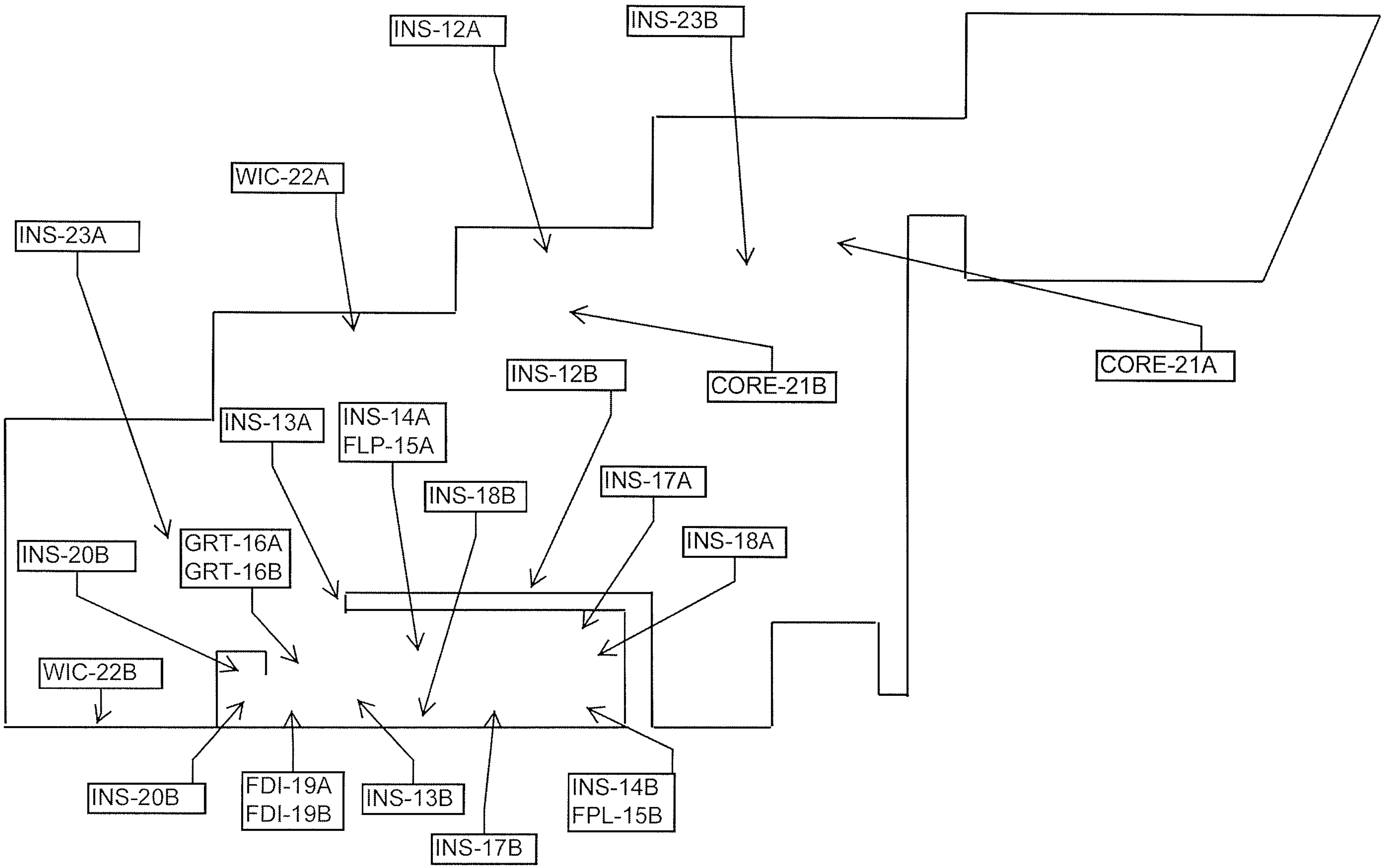
Totals	SQ FT	Lin. FT	Units
	67950	460	0

All quantities in this report are approximations and must be field verified by the Abatement contractor. Contractor bids are expected to be based on their own determinations of quantities and not the approximate quantities stated in this report.

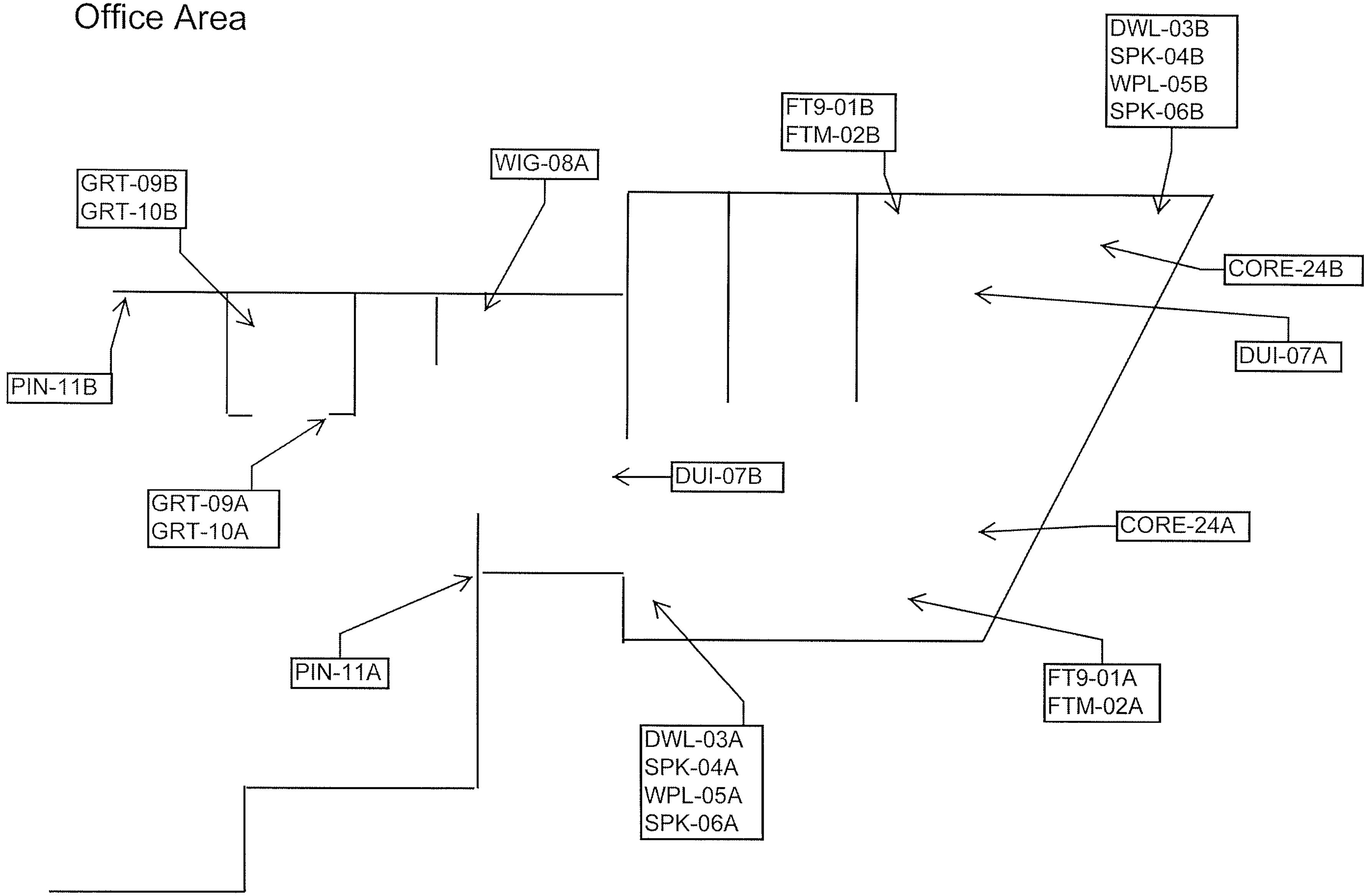
Paradigm certifies that this report regarding the Office, Plant and Plant Building #2, Dussault Foundry, Union Street. Lockport, New York is based on the observations of the inspector and believes it to be an accurate representation of the conditions as they existed on August 6, 2008.

Shennendoah Elkin
Envoy Environmental Consultants, Inc.
Inspector # AH 00-20233

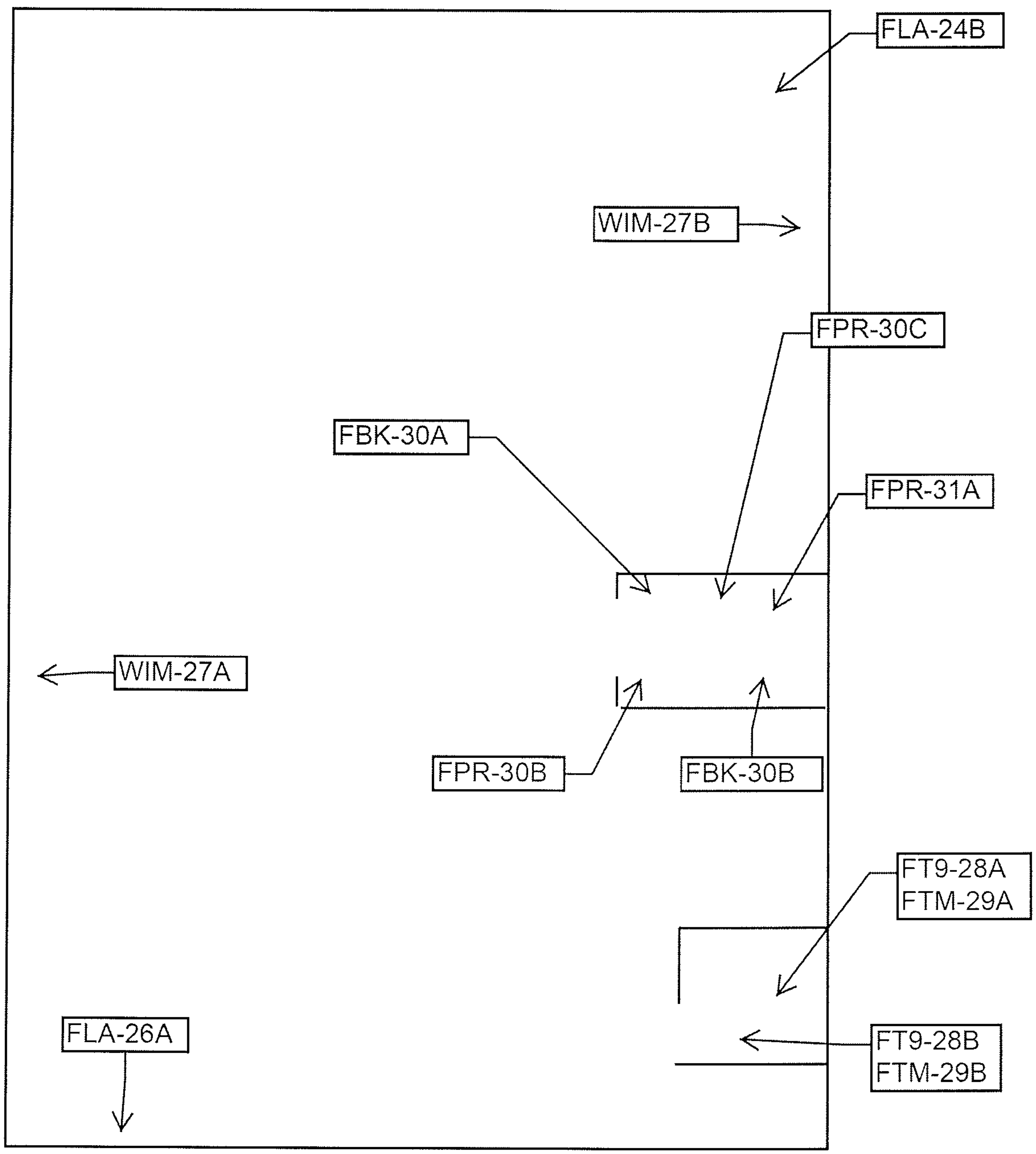
Dussault Foundry
Main Plant and Tunnel Oven



Dussault Foundry
Office Area



Dussault Foundry
Plant Building 2



PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services **Job No:** 9865-08
Location: Dussault Foundry **Page:** 1 of 3

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
FT9-01A	60429	Office Area	Red Fibrous Floor Tile	Chrysotile 11%	11%	√	Not Required	N/A	None Detected	89%
FTM-02A	60430A	Office Area	Black Floor Tile Mastic	Inconclusive No Asbestos Detected	0%	√	**	TEM Not Performed	None Detected	100%
FTM-02A	60430B	Office Area	Black Floor Tile Mastic	Chrysotile 5%	5%	√	Not Required	N/A	None Detected	95%
FT9-01B	60431	Office Area	Red Fibrous Floor Tile	Chrysotile 14%	14%	√	Not Required	N/A	None Detected	86%
FTM-02B	60432A	Office Area	Black Floor Tile Mastic	Inconclusive No Asbestos Detected	0%	√	**	TEM Not Performed	None Detected	100%
FTM-02B	60432B	Office Area	Black Floor Tile Mastic	Chrysotile 7%	7%	√	Not Required	N/A	None Detected	93%
DWL-03A	60433	Office Area	Gray Fibrous Drywall	None Detected	0%		Not Required	N/A	Cellulose 10%	90%
SPK-04A	60434	Office Area	White Spackle	None Detected	0%		Not Required	N/A	Cellulose 3%	97%
DWL-03B	60435	Office Area	Gray Drywall	None Detected	0%		Not Required	N/A	Cellulose 3%	97%
SPK-05A	60436	Office Area	White Spackle	None Detected	0%		Not Required	N/A	Cellulose 5%	95%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ NOB (non-friable organically bound) Classified for Analytical Purposes Only.

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/13/2008 **TEM Date Analyzed:** N/A
Microscope: Olympus BH-2 #233173 **TEM Analyst:** N/A
PLM Analyst: *M. Dohr*

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9865-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
WPL-05A	60437	Office Area	Gray Wall Plaster	None Detected	0%		Not Required	N/A	None Detected	100%
SPK-06A	60438	Office Area	White Spackle	None Detected	0%		Not Required	N/A	None Detected	100%

NVLAP Lab Code 200530-0 for PLM Analysis

ELAP ID No.: 10958

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples."

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/13/2008
Microscope: Olympus BH-2 #233173
PLM Analyst: *M. Dohr*

TEM Date Analyzed: N/A
TEM Analyst: N/A

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

ENVOY
environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

Client: SJB Services
Contact: Tom Hellert.
Phone Number: 716-649-8110
Fax Number: 716-649-8051
Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075
Results To: Shane E - Fax
Turn Around Time: 1 ☐ 2 ☒ 3 ☐ 5 ☐ Other ☐
Date Sampled: 8-6-08
Material Type/Quantity: Friable NOB TEM
Project Location: Dussault Foundry.
Project Number: 08/0698

OFFICE USE ONLY
Job #: 9865-08
Page 3 **of** 3
Date Logged In: 8/8/08
Logged In By: RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	FT9-01A	60429	Office Area		Red		Floor Tile	NO
2	FTM-02A	430AB	" "		Black		" " Mastic	NO
3	FT9-01B	431	" "		Red		" "	NO
4	FTM-02B	432AB	" "		Black.		" " Mastic	NO
5	DWL-03A	433	" "		Gray		Drywall	Yes
6	SPK-04A	434	" "		White		" Joint Com.	Yes
7	DWL-03B	435	" "		Gray		"	Yes
8	SPK-04B	436	" "		White		" Joint Com.	Yes
9	WPL-05A	437	" "		Gray		Wall Plaster	Yes
10	SPK-06A.	438	" "		White		Spackel	Yes

Sampled By: Shenendoah T. Ellis **Date:** 8-7-08
Transported to Paradigm By: Shenendoah T. Ellis **Date:** 8-7-08
Received By: R Reynolds **Date:** 8/8/08

CHECK ONE: SURVEY ☒ BULKS ONLY ☐
CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS ☐
or provide TEM contact name: Shane.
TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9864-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
WPL-05B	60419	Office Area	Gray Wall Plaster	None Detected	0%		Not Required	N/A	Fiberglass <1.0%	100%
SPK-06B	60420	Office Area	White Spackle	None Detected	0%		Not Required	N/A	None Detected	100%
DUI-07A	60421	Office Area	Black Fibrous Duct Insulation	None Detected	0%		Not Required	N/A	Mineral Wool 95%	5%
DUI-07B	60422	Office Area	Black Fibrous Duct Insulation	None Detected	0%		Not Required	N/A	Mineral Wool 95%	5%
WIG-08A	60423	Office Area Exterior	Gray Window Glaze	None Detected	0%		Not Required	N/A	None Detected	100%
WIG-08B	60424	Office Area Exterior	Gray Window Glaze	None Detected	0%		Not Required	N/A	None Detected	100%
GRT-09A	60425	Office Area (Wall)	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
GRT-09B	60426	Office Area (Wall)	Gray Grout	None Detected	0%		Not Required	N/A	None Detected	100%
GRT-10A	60427a	Office Area (Floor)	Black Grout	None Detected	0%		Not Required	N/A	None Detected	100%
GRT-10A	60427b	Office Area (Floor)	Gray Cement	None Detected	0%		Not Required	N/A	None Detected	100%

NVLAP Lab Code 200530-0 for PLM Analysis

ELAP ID No.: 10958

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/13/2008
Microscope: Olympus BH-2 #234206
PLM Analyst: *B. Weinman*

TEM Date Analyzed: N/A
TEM Analyst: N/A

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

Paradigm Environmental Services, Inc. is not responsible for the data supplied by an independent inspector. National Institute of Standards and Technology Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Quality control data (including 95% confidence limits and laboratory and analysts' and precision) is available upon request.

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9864-08
Page: 2 of 3

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
GRT-10B	60428a	Office Area (Floor)	Black Grout	None Detected	0%		Not Required	N/A	None Detected	100%
GRT-10B	60428b	Office Area (Floor)	Gray Cement	None Detected	0%		Not Required	N/A	None Detected	100%

NVLAP Lab Code 200530-0 for PLM Analysis

ELAP ID No.: 10958

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples."

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

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PLM Date Analyzed: 8/13/2008
Microscope: Olympus BH-2 #234206
PLM Analyst: *B. Weinman*

TEM Date Analyzed: N/A
TEM Analyst: N/A

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

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CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

ENVOY
environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

OFFICE USE ONLY

Client: SJB Services	**Contact:** Tom Hellert.
Phone Number: 716-649-8110	**Fax Number:** 716-649-8051
Results To: Shane E - Fax	**Turn Around Time:** 1 ☐ 2 ☒ 3 ☐ 5 ☐ Other ☐
Date Sampled: 8-6-08	**Material Type/Quantity:** Friable NOB TEM
Project Location: Dussault Foundry.	**Project Number:** 08/0698

Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075

Job #: 9864-08
Page 3 of 3
Date Logged In: 8/8/08
Logged In By: RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	WPL-05B	60419	Office Area		Gray		Wall Plaster	Yes
2	SPK-06B	420	" "		white		Spackel	Yes
3	DUI-07A	421	" "		Yellow/Black		Duct Insulation	Yes
4	DUI-07B	422	" "		" "		" "	Yes
5	WIG-08A	423	" " Exterior		Gray		Window Glaze	NO
6	WIG-08B	424	" " "		Gray		" "	NO
7	GRT-09A	425	" " (WALL)		Gray		Grout (wall)	Yes
8	GRT-09B	426	" " (WALL)		Gray		Grout (wall)	Yes
9	GRT-10A	427AB	" " (FLOOR)		Brown		" (floor)	NO
10	GRT-10B	428AB	" " (FLOOR)		Brown		" (Floor)	NO

Sampled By: Shennendoah T. Elli **Date:** 8-7-08

Transported to Paradigm By: Shennendoah T. Elli **Date:** 8-7-08

Received By: R. Reynolds **Date:** 8/8/08

CHECK ONE: **SURVEY** ☒ **BULKS ONLY** ☐

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS ☐
or provide TEM contact name: Shane.

TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9863-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
PNT-11A	60409	Office Area	Tan/Gray/Green Paint	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
PNT-11B	60410	Office Area	Tan/Gray/Green Paint	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
INS-12A	60411	Plant Area (Wall)	Yellow/Silver Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 3% Fiberglass 80%	17%
INS-12B	60412	Plant Area (Wall)	Yellow/Silver Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 3% Fiberglass 80%	17%
INS-13A	60413a	Tunnel Oven (Wall)	Black/Tan Paint	None Detected	0%		Not Required	N/A	Cellulose 2%	98%
INS-13A	60413b	Tunnel Oven (Wall)	Yellow Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 2% Fiberglass 80%	18%
INS-13B	60414a	Tunnel Oven (Wall)	Black/Tan Paint	Inconclusive No Asbestos Detected	0%	√	Not Required	N/A	Cellulose 2%	98%
INS-13B	60414b	Tunnel Oven (Wall)	Yellow Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 3% Fiberglass 80%	17%
INS-14A	60415	Tunnel Oven (Sides)	Brown Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 90%	10%
FLP-15A	60416	Tunnel Oven (Sides)	Black Fibrous Felt Paper	Inconclusive No Asbestos Detected	0%	√	Trace Chrysotile <1.0%	<1.0%	Cellulose 40%	60%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ NOB (non-friable organically bound) Classified for Analytical Purposes Only.

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/14/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *M. Dohr*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
INS-14B	60417	Tunnel Oven (Sides)	Brown Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 90%	10%
FLP-15B	60418	Tunnel Oven (Sides)	Black Fibrous Felt Paper	Inconclusive No Asbestos Detected	0%	√	Trace Chrysotile <1.0%	<1.0%	Cellulose 10%	90%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples."

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

PLM Date Analyzed: 8/14/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *M. Dohr*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By: ______________________
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

ENVOY
environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

Client: SJB Services	**Contact:** Tom Hellert.	**OFFICE USE ONLY**	
Phone Number: 716-649-8110	**Fax Number:** 716-649-8051	**Job #:** 9863-08	
Client Mailing Address: 5167 South Park Ave.	**Results To:** Shane E - Fax	**Turn Around Time:** 1 [ ] 2 [X] 3 [ ] 5 [ ] Other [ ]	**Page** 3 **of** 3
Buffalo N.Y. 14075	**Date Sampled:** 8-6-08	**Material Type/Quantity:** Friable NOB TEM	**Date Logged In:** 8/8/08
	Project Location: Dussault Foundry.	**Project Number:** 08/0698	**Logged In By:** RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	PNT-11A	60409	Office Area		multi		Paint	NO
2	PNT-11B	410	" "		"		"	NO
3	INS-12A	411	Plant Area (Wall)		Yellow/Silver		Insulation (wall)	Yes
4	INS-12B	412	" " (Wall)		" "		" (Wall)	Yes
5	INS-13A	413A/B	Tunnel Oven (Wall)		Black/Tan/Yellow		Pnt/Insulation (wall)	Yes
6	INS-13B	414A/B	" " (Wall)		Black/Tan/Yellow		Pnt/ " (wall)	Yes
7	INS-14A	415	" " (Sides)		Brown		Insulation	Yes
8	FLP-15A	416	" " (Sides)		Black		Felt Paper	NO
9	INS-14B	417	" " "		Brown		Insulation	Yes
10	FLP-15B	418	" " "		Black		Felt Paper	NO

Sampled By: Shenendoah T. Ellis	**Date:** 8-7-08
Transported to Paradigm By: Shenendoah T. Ellis	**Date:** 8-7-08
Received By: R Reynolds	**Date:** 8/8/08

CHECK ONE: **SURVEY** [X] **BULKS ONLY** [ ]

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS [ ]
or provide TEM contact name: Shane.

TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9862-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
GRT-16A	60399	Tunnel Oven (Front)	Brown Grout	None Detected	0%		Not Required	N/A	Cellulose <1.0%	100%
GRT-16B	60400	Tunnel Oven (Front)	Brown Grout	None Detected	0%		Not Required	N/A	Cellulose <1.0%	100%
INS-17A	60401	Tunnel Oven (Inside)	Black/Silver Fibrous Insulation	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Cellulose 15%	85%
INS-17B	60402	Tunnel Oven (Inside)	Black/Silver Fibrous Insulation	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Cellulose 20%	80%
INS-18A	60403	Tunnel Oven (Inside Walls)	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 99% Cellulose <1.0%	1%
INS-18B	60404	Tunnel Oven (Inside Walls)	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 99% Cellulose <1.0%	1%
FDI-19A	60405	Small Oven Back of Plant	Black Fibrous Fire Door Insulation	None Detected	0%		Not Required	N/A	Fiberglass 25%	75%
FDI-19B	60406	Small Oven Back of Plant	Black Fibrous Fire Door Insulation	None Detected	0%		Not Required	N/A	Fiberglass 30%	70%
INS-20A	60407	Small Oven Back of Plant	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 99% Cellulose <1.0%	1%
INS-20B	60408	Small Oven Back of Plant	White Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 99% Cellulose <1.0%	1%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

** **Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/13/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *J. Peter Donato*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

ENVOY
environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

Client: SJB Services	**Contact:** Tom Hellert.
Phone Number: 716-649-8110	**Fax Number:** 716-649-8051
Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075	**Results To:** Shane E - Fax
Turn Around Time: 1 ☐ 2 ☒ 3 ☐ 5 ☐ Other ☐	**Date Sampled:** 8-6-08
Material Type/Quantity: Friable NOB TEM	**Project Location:** Dussault Foundry.
Project Number: 08/0698	

OFFICE USE ONLY

Job #: 9862-08
Page 2 of 2
Date Logged In: 8/8/08
Logged In By: RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	GRT-16A	600399	Tunnel Oven (Front)		Brown		Grout	NO
2	GRT-16B	400	" " (")		Brown		Grout	NO
3	INS-17A	401	" " (Inside)		Silver/Black		Insulation	NO
4	INS-17B	402	" " (")		" "		"	NO
5	INS-18A	403	" " (Inside walls)		white		"	Yes
6	INS-18B	404	" " (" ")		white		"	Yes
7	FDI-19A	405	Small oven back of Plant.		Black		Fire Door Insulation	Yes
8	FDI-19B	406	" " " " "		Black		" "	Yes
9	INS-20A	407	" " " " "		white		Insulation	Yes
10	INS-20B	408	" " " " "		white		"	Yes

Sampled By: Shennendoah J. Ellis	**Date:** 8-7-08
Transported to Paradigm By: Shennendoah J. Ellis	**Date:** 8-7-08
Received By: R. Reynolds	**Date:** 8/8/08

CHECK ONE: SURVEY ☒ BULKS ONLY ☐

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS ☐
or provide TEM contact name: Shane.

TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
Core-21A	60389a	Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
Core-21A	60389b	Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
Core-21A	60389c	Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
Core-21B	60390a	Exterior Roof	Black Roofing	Chrysotile 4%	4%	√	Not Required	N/A	None Detected	96%
Core-21B	60390b	Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
WIC-22A	60391	Interior Plant	Black Window Caulk	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 12%**	**12%**	None Detected	100%
WIC-22B	60392	Interior Plant	Black Window Caulk	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 4%**	**4%**	None Detected	100%
INS-23A	60393	Main Plant (Ceiling)	Yellow/Black Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 80% Synthetic 10%	10%
INS-23B	60394	Main Plant (Ceiling)	Yellow Fibrous Insulation	None Detected	0%		Not Required	N/A	Fiberglass 80% Synthetic 10%	10%
Core-24A	60395a	Exterior Roof Over Office	Black Roofing	Chrysotile 3%	3%	√	Not Required	N/A	None Detected	97%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

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PLM Date Analyzed: 8/14/2008 **TEM Date Analyzed:** 8/20/2008
Microscope: Olympus BH-2 #232953 **TEM Analyst:** J. Peter Donato
PLM Analyst: *M. Dohr*

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

PARADIGM ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9861-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
Core-24A	60395b	Exterior Roof Over Office	Black/Silver Fibrous Roofing	Chrysotile 28%	28%	√	Not Required	N/A	None Detected	72%
Core-24B	60396a	Exterior Roof Over Office	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
Core-24B	60396b	Exterior Roof Over Office	Black Roofing	Inconclusive No Asbestos Detected	0%	√	**	Not Analyzed By TEM	None Detected	100%
Core-24B	60396c	Exterior Roof Over Office	Black/Silver Fibrous Roofing	Chrysotile 50%	50%	√	Not Required	N/A	None Detected	50%
Core-25A	60397a	Building #2 Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
Core-25A	60397b	Building #2 Exterior Roof	Gray Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 90%	10%
Core-25B	60398a	Building #2 Exterior Roof	Black Roofing	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	None Detected	100%
Core-25B	60398b	Building #2 Exterior Roof	Gray Fibrous Insulation	None Detected	0%		Not Required	N/A	Cellulose 90%	10%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples."

√ NOB (non-friable organically bound) Classified for Analytical Purposes Only.

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/14/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *M. Dohr*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

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Job #: 9861-08
Page 3 of 3
Date Logged In: 8/8/08
Logged In By: RR

Client: SJB Services
Contact: Tom Hellert.
Phone Number: 716-649-8110
Fax Number: 716-649-8051
Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075
Results To: Shane E - Fax
Turn Around Time: 1 [ ] 2 [X] 3 [ ] 5 [ ] Other [ ]
Date Sampled: 8-6-08
Material Type/Quantity: Friable NOB TEM
Project Location: Dussault Foundry.
Project Number: 08/0698

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	CORE-21A	60389ABC	Exterior Roof		Black		CORE	NO
2	CORE-21B	390AB	" "		Black.		CORE	NO
3	WIC-22A	391	Interior Plant.		Black		Window Caulk	NO
4	WIC-22B	392	" "		Black		" "	NO
5	INS-23A	393	Main Plant (Ceiling)		Yellow		Insulation	Yes
6	INS-23B	394	" " (")		"		Insulation	Yes
7	CORE-24A	395AB	Exterior Roof over Office		Black		CORE	NO
8	CORE-24B	396ABC	" " " "		Black		CORE	NO
9	CORE-25A	397AB	Building #2 Exterior Roof.		Black/Gray		CORE	Yes
10	CORE-25B	398AB	" " " "		Black/Gray.		CORE	Yes

Sampled By: Shennendoah T. Ellis **Date:** 8-7-08
Transported to Paradigm By: Shennendoah T. Ellis **Date:** 8-7-08
Received By: R. Reynolds **Date:** 8/8/08

CHECK ONE: SURVEY [X] BULKS ONLY [ ]

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS or provide TEM contact name: Shane.

TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

PARADIGM
ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Job No: 9860-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
FLA-26A	60379	Building #2 Exterior Roof	Black Fibrous Flashing	Chrysotile 18%	18%	√	Not Required	N/A	None Detected	82%
FLA-26B	60380a	Building #2 Exterior Roof	Black Fibrous Flashing	Chrysotile 15%	15%	√	Not Required	N/A	None Detected	85%
FLA-26B	60380b	Building #2 Exterior Roof	Gray Cement	None Detected	0%		Not Required	N/A	None Detected	100%
WIM-27A	60381	Building #2 Interior Wall	White/Brown Mastic	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Talc 5%	95%
WIM-27B	60382	Building #2 Interior Wall	White/Brown Mastic	Inconclusive No Asbestos Detected	0%	√	None Detected	<1.0%	Talc 5%	95%
FT9-28A	60383	Building #2 Office and Bathroom	Brown Floor Tile	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 15%**	**15%**	None Detected	100%
FTM-29A	60384	Building #2 Office and Bathroom	Black Floor Tile Mastic	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 11%**	**11%**	None Detected	100%
FT9-28B	60385	Building #2 Office and Bathroom	Brown Floor Tile	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 19%**	**19%**	None Detected	100%
FTM-29B	60386	Building #2 Office and Bathroom	Black Floor Tile Mastic	Inconclusive Trace Chrysotile Detected	<1.0%	√	**Chrysotile 8%**	**8%**	None Detected	100%
FBK-30A	60387	Building #2 Oven	White Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ NOB (non-friable organically bound) Classified for Analytical Purposes Only.

**** Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/14/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *M. Dohr*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services
Location: Dussault Foundry

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
FBK-30B	60388	Building #2 Oven	White Fire Brick	None Detected	0%		Not Required	N/A	None Detected	100%

NVLAP Lab Code 200530-0 for PLM Analysis **ELAP ID No.: 10958**

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples."

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

** **Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/14/2008
Microscope: Olympus BH-2 #232953
PLM Analyst: *M. Dohr*

TEM Date Analyzed: 8/20/2008
TEM Analyst: J. Peter Donato

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

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environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

Client: SJB Services	**Contact:** Tom Hellert.
Phone Number: 716-649-8110	**Fax Number:** 716-649-8051
Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075	
Results To: Shane E - Fax	**Turn Around Time:** 1 ☐ 2 ☒ 3 ☐ 5 ☐ Other ☐
Date Sampled: 8-6-08	**Material Type/Quantity:** Friable NOB TEM
Project Location: Dussault Foundry.	**Project Number:** 08/0698

Job #: 9860-08
Page 3 of 3
Date Logged In: 8/8/08
Logged In By: RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	FLA-26A.	60379	Building #2 Exterior Roof		Black		Flashing	NO
2	FLA-26B	380	" " " "		Black.		Flashing	NO
3	WIM-27A	381	" " Interior Wall		Brown		Wall Insulation Mastic	NO
4	WIM-27B	382	" " " "		Brown		" " "	NO
5	FT9-28A	383	" " Office + Bathroom		Brown		Floor Tile	NO
6	FTM-29A	384	" " " "		Black		" " Mastic	NO
7	FT9-28B	385	" " " "		Brown		" "	NO
8	FTM-29B	386	" " " "		Black.		" " Mastic	NO
9	FBK-30A	387	" " Oven		White		Fire Brick	NO
10	FBK-30B	388	" " Oven		White		" "	NO

Sampled By: Shennendoah T. Ellis	**Date:** 8-7-08	**CHECK ONE:** SURVEY ☒	BULKS ONLY ☐
Transported to Paradigm By: Shennendoah T. Ellis	**Date:** 8-7-08	**CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS or provide TEM contact name:** Shane.	
Received By: R. Reynolds	**Date:** 8/8/08	**TOTAL NUMBER OF SAMPLES IN SURVEY:**	63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

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ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue Rochester, New York 585-647-2530 FAX 585-647-3311

PLM & TEM BULK ASBESTOS REPORT

Client: SJB Services, Inc.
Location: Dussault Foundry

Job No: 9859-08

Sample Date: 8/6/2008

Client ID	Lab ID	Sampling Location	Description	PLM Asbestos Fibers Type & Percentage	PLM Total Asbestos	NOB	TEM Asbestos Fibers Type & Percentage	TEM Total Asbestos	PLM Non-Asbestos Fibers Type & Percentage	PLM Matrix Material %
FPR-31A	60376	Building #2 Oven	White Fibrous Fire Proofing	None Detected	0%		Not Required	N/A	Mineral Wool 98%	2%
FPR-31B	60377	Building #2 Oven	White Fibrous Fire Proofing	None Detected	0%		Not Required	N/A	Mineral Wool 98%	2%
FPR-31C	60378	Building #2 Oven	White Fibrous Fire Proofing	None Detected	0%		Not Required	N/A	Mineral Wool 98%	2%

NVLAP® Lab Code 200530-0 for PLM Analysis

ELAP ID No.: 10958

New York State Department of Health, ELAP Method 198.1 ,198.4 and 198.6 ("Polarized Light Microscopy and Transmission Electron Microscopy Methods for Identifying and Quantitating Asbestos in Bulk Samples and in Non-Friable Organically Bound Bulk Samples.").

√ **NOB (non-friable organically bound) Classified for Analytical Purposes Only.**

** **Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. *Quantitative transmission electron microscopy* is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.**

PLM Date Analyzed: 8/8/2008
Microscope: Olympus BH-2 #233173
PLM Analyst: *F. Childs*

TEM Date Analyzed: N/A
TEM Analyst: N/A

Laboratory Results Approved By:
Asbestos Technical Director Mary Dohr

CHAIN OF CUSTODY FOR PLM ASBESTOS ANALYSIS

ENVOY
environmental consultants, inc.
145 Lake Avenue, Rochester, NY 14608
585.454.1060 * Fax 585.454.1062

Client: SJB Services	**Contact:** Tom Hellert.
Phone Number: 716-649-8110	**Fax Number:** 716-649-8051
Client Mailing Address: 5167 South Park Ave. Buffalo N.Y. 14075	**Results To:** Shane E - Fax
Date Sampled: 8-6-08	**Turn Around Time:** 1 ☐ 2 ☒ 3 ☐ 5 ☐ Other ☐
	Material Type/Quantity: Friable NOB TEM
Project Location: Dussault Foundry.	**Project Number:** 08/0698

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Job #: 9859-08

Page 2 of 2

Date Logged In: 8/8/08

Logged In By: RR

General Location:

	Client ID	Lab ID	Sampling Location	Do not Analyze	Color	Size	Material	Friability
1	FPR-31A	60376	Building #2 - Oven		white		Fire Proofing	Yes
2	FPR-31B	377	" " "		white		" "	Yes
3	FPR-31C	378	" " "		white		" "	Yes
4								
5								
6								
7								
8								
9								
10								

Sampled By: Shennendoah T. Ellis	Date: 8-7-08
Transported to Paradigm By: Shennendoah T. Ellis	Date: 8-7-08
Received By: R. Reynolds	Date: 8/8/08

CHECK ONE: SURVEY ☒ BULKS ONLY ☐

CHECK TO AUTOMATICALLY PERFORM TEM ON NOBS

or provide TEM contact name: Shane

TOTAL NUMBER OF SAMPLES IN SURVEY: 63

Containerized materials attached to this Chain of Custody may contain Asbestos. Asbestos is a known carcinogen and should only be handled by trained and authorized personnel under regulated conditions. ***(Danger; May Contain Asbestos Fibers, Cancer and Lung Disease Hazard)***

APPENDIX F

SOILS MANAGEMENT PLAN

1.0 OVERVIEW AND OBJECTIVES

The Dussault Foundry Site consists of two parcels at the foot of Washburn Street in the City of Lockport, Niagara County, New York (Report Figures 1-1 and 1-2). The total area of the site is approximately 5.6 acres in a mixed residential, commercial and industrial neighborhood. The site is bounded on the north and west by Market Street, commercial property and the New York State Barge Canal, on the south by railroad tracks, and on the east by residential properties. The majority of the site is located on a relatively flat-lying plateau, with approximately 60 percent of the site occupied by buildings (Report Figure 1-3). Dussault Foundry operated as a grey iron foundry from 1914 through 1995, with manufacturing operations during that period remaining virtually unchanged. The property has been vacant since 1995 when Dussault Foundry declared bankruptcy and closed the facility.

The Site has been characterized by the New York State Department of Environmental Conservation (NYSDEC) during a Site Investigation completed in 2008. The user should refer to the Site Investigation Report for more detail, as needed.

The objective of this Soils Management Plan (SMP) is to set guidelines for the management of contaminated soil and waste material encountered during any future excavation activities at the site. This SMP addresses environmental concerns related to soil management and has been prepared by the NYSDEC.

2.0 NATURE AND EXTENT OF CONTAMINATION

During the 2008 Site Investigation, foundry sand was encountered throughout the site at thickness up to 24.0 feet, and was estimated to total 95,000 cubic yards. Foundry sand was also observed at the surface throughout the site (Report Figures 6-1, 6-2 and 6-17). The contaminants of concern for surface soil (mainly foundry sand) at the Dussault Foundry Site consist primarily of semivolatile organic compounds (SVOCs) and metals. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and the EPA priority pollutant metals arsenic and chromium exceeded the NYSDEC Part 375 residential soil cleanup objectives. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene and arsenic also exceeded the NYSDEC Part 375 commercial soil cleanup objectives.

The contaminants of concern for subsurface soil and fill at the site consist primarily of SVOCs and metals. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, 2-methylnaphthalene, naphthalene, phenanthrene, dieldrin, and the EPA priority pollutant metals arsenic, cadmium, chromium, lead, mercury and zinc exceeded the NYSDEC Part 375 residential soil cleanup objectives. Concentrations of benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic and lead also exceeded the Part 375 commercial soil cleanup objectives.

The contaminants of concern for groundwater consist primarily of SVOCs, metals, chloride and sulfate. Concentrations of bis(2-ethylhexyl)phthalate, chloride, sulfate and the EPA priority pollutant metal lead exceeded the NYSDEC groundwater standards or guidance values. The presence of bis(2-ethylhexyl)phthalate, a common plasticizer widely used in the plastics industry, may have resulted from the disposable bailer or rope used to collect the sample, or was introduced into the sample in the laboratory during extraction and analysis procedures. The presence of lead may be related to the Dussault Foundry Site as this contaminant was detected in subsurface soil and fill samples collected during the Site Investigation. The concentrations of chloride and sulfate likely represent the natural mineral content of this groundwater.

3.0 CONTEMPLATED USE

The Dussault Foundry property has been vacant since 1995. There is no contemplated future use.

4.0 PURPOSE AND DESCRIPTION OF THE SURFACE COVER SYSTEM

It is recommended that future redevelopment plans contain provisions to remove foundry sand or place a surface cover system over the foundry sand to eliminate direct contact exposures to workers or visitors at the site, and to eliminate the potential for contaminated runoff from the property. The cover system should consist of the following types of clean material:

- **Soil:** twelve (12) inches of vegetated soil cover underlain by a demarcation layer, in outdoor vegetated areas;

- **Asphalt:** a minimum of six (6) inches of material (asphalt and subbase material) in areas that will become roads, sidewalks, and parking lots; and/or

- **Concrete:** a minimum of six (6) inches of material (concrete and subbase material) in areas that will become slab-on-grade structures or for roads, sidewalks, and parking lots in lieu of asphalt.

5.0 MANAGEMENT OF SOIL AND FILL

The purpose of this section is to provide environmental guidelines for the management of subsurface soil and fill at the site and for the maintenance of the cover system during any future intrusive work that generates excavated soil/fill or breaches the cover system. This Soils Management Plan includes the following conditions:

- Any breach of the cover system, including for the purposes of construction or utilities work, should be replaced or repaired using an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. The area should be repaired with the appropriate cover material described in Section 4;

- Control of surface erosion and run-off from the property at all times, including during construction activities. This includes proper maintenance of the vegetative cover established on the property;

- Site soil/fill that is excavated and is intended to be removed from the property should be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives;

- Soil/fill excavated at the site may be reused as backfill material on-site provided it contains no visual or olfactory evidence of contamination, and it is placed beneath a surface cover system as described in Section 4;

- Any off-site fill material brought to the site for filling and grading purposes should be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. The soil will be acceptable for use as cover material provided that all parameters meet the NYSDEC Part 375 soil cleanup objectives that are appropriate for the future anticipated use of the site. For more details see NYSDEC regulation 6 NYCRR Part 375-6.7(d) [Soil Covers and Backfill]; and

- Prior to any construction activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property should be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.

5.1 EXCAVATED AND STOCKPILED SOIL/FILL DISPOSAL

Soil/fill that is excavated as part of site redevelopment that can not be used as fill below the cover system or elsewhere on site should be characterized as required by the permitted disposal facility prior to transportation off-site for disposal. For excavated soil/fill with visual evidence of contamination (i.e., staining or elevated PID measurements), one composite sample and a duplicate sample should be collected for each 100 cubic yards of stockpiled material. For excavated soil/fill that does not exhibit visual evidence of contamination but should be sent for off-site disposal, one composite sample and a duplicate sample should be collected for each 2,000 cubic yards of stockpiled material, and a minimum of 1 sample should be collected for volumes less than 2,000 cubic yards.

It is recommended that the composite sample be collected from five locations within each stockpile. A duplicate composite sample should also be collected. PID measurements should be recorded for each of the five individual locations. One grab sample should be collected from the individual location with the highest PID measurement. If none of the five individual sample locations exhibit PID readings, one location should be selected at random. The composite sample should be analyzed by a NYSDOH ELAP-certified laboratory for pH (EPA Method 9045C), TCL SVOCs, TCL pesticides, TCL PCBs, TAL metals, cyanide and sulfur. The grab sample should be analyzed for TCL VOCs.

Samples should be composited by placing equal portions of soil/fill from each of the five composite sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil/fill should be thoroughly homogenized using a stainless steel scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. Sample jars should then be labeled and a chain-of-custody form prepared.

It is important to note that individual disposal facilities may have their own requirements regarding sampling frequency and characterization testing. Those requirements should be followed. To potentially reduce off-site disposal requirements/costs, the owner or site developer may also choose to characterize each stockpile individually. If the analytical results indicate that concentrations exceed the standards for RCRA characteristics, the material will be considered a hazardous waste and should be properly disposed off-site at a permitted disposal facility within 90 days of excavation. If the analytical results indicate that the soil/fill is not a hazardous waste, the material should be properly disposed off-site at a non-hazardous waste facility. Stockpiled soil/fill cannot be transported on or off-site until the analytical results are received.

5.2 SUBGRADE MATERIAL

Subgrade material used to backfill excavations or placed to increase site grades or elevation should meet the following criteria:

- Excavated on-site soil/fill that appears to be visually impacted should be sampled and analyzed. If analytical results indicate that the contaminants, if any, are present at concentrations below the appropriate recommended soil cleanup objectives of Part 375, and also below 10,000 parts per million (ppm) sulfur, the soil/fill can be used as backfill on-site;

- Any off-site fill material brought to the site for filling and grading purposes should be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination;

- Off-site soils intended for use as site backfill cannot otherwise be defined as a solid waste in accordance with 6 NYCRR Part 360-1.2(a);

- If the contractor designates a source as "virgin" soil, it should be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use;

- Virgin soils may be subject to the collection of one representative composite sample per source. The sample should be analyzed for TCL VOCs, TCL SVOCs, TCL pesticides, TCL PCBs, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, and cyanide. The soil will be acceptable for use as backfill provided that all parameters meet the appropriate recommended soil cleanup objectives of Part 375; and

- Non-virgin soils should be tested via collection of one composite sample per 500 cubic yards of material from each source area. If more than 1,000 cubic yards of soil are borrowed from a given off-site non-virgin soil source area and both samples of the first 1,000 cubic yards meet the appropriate recommended soil cleanup objectives of Part 375, the sample collection frequency can be reduced to one composite for every 2,500 cubic yards of additional soils from the same source, up to 5,000 cubic yards. For borrow sources greater than 5,000 cubic yards, sampling frequency may be reduced to one sample per 5,000 cubic yards, provided all earlier samples met the appropriate recommended soil cleanup objectives of Part 375.