

Howden North America Inc. SAAKC Buffalo Forge, LLC

## Final Remedial Investigation/ Alternatives Analysis Report

#### Former Buffalo Forge Property

City of Buffalo, Erie County, New York NYSDEC BCP Site Number C915280

#### May 2018

Prepared By:

**ERM Consulting & Engineering, Inc.** 5788 Widewaters Parkway Syracuse, New York 13214

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## REMEDIAL INVESTIGATION/ALTERNATIVES ANALYSIS REPORT FORMER BUFFALO FORGE PROPERTY CITY OF BUFFALO, ERIE COUNTY, NEW YORK NYSDEC BCP SITE NUMBER C915280

I, Jon S. Fox, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER's Technical Guidance for Site Investigation and Remediation (DER-10).

for t.c

Jon S. Fox, P.G. ERM Consulting & Engineering, Inc.

Date: 31 August 2018

I, Stephen A. Mirabello, certify that I am currently a New York State registered Professional Engineer and that this Remedial Alternatives Analysis Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER's Technical Guidance for Site Investigation and Remediation (DER-10).



Stephen A. Mirabello, P.E. ERM Consulting & Engineering, Inc.

Date: 31 August 2018

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## ACRONYMS AND ABBREVIATIONS

AA	Alternatives Analysis
AMSL	Above Mean Sea Level
ASTM	American Society for Testing and Materials
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below ground surface
°Č	Degrees Celsius
CAMP	Community Air Monitoring Program
COPC	Chemical of Potential Concern
cpm	Counts per Minute
DER	Division of Environmental Remediation
DO	Dissolved Oxygen
DSNY	Dig Safely New York
DTW	Depth to Water
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
EDS	Environmental Data Services, Inc.
EE	Environmental Easement
EIMS	Electronic Information Management System
ELAP	Environmental Laboratory Approval Program
ERM	ERM Consulting & Engineering, Inc.
ESA	Environmental Site Assessment
ft	feet
FWRIA	Fish and Wildlife Resources Impact Analysis
GPS	Global Positioning System
HASP	Health and Safety Plan
IDW	Investigation Derived Wastes
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
ND	Not Detected
NYCRR	New York Codes, Rules, and Regulations
NYLD	New York Leak Detection, Inc.
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSGS	New York State Geological Survey
ORP	Oxidation-Reduction Potential
OSHA	Occupational Safety and Health Administration
PAH	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PID	Photoionization Detector
PPE	Personal Protective Equipment
ppm	Parts per million
PVC	Polyvinyl Chloride

QA/QC	Quality Assurance / Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SCGs	Standards, Criteria, and Guidance
SCOs	Soil Cleanup Objectives
SMP	Site Management Plan
SpC	Specific Conductivity
SSALs	Site-Specific Action Levels
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TENORM	Technologically-Enhanced Naturally Occurring Radioactive Material
TICs	Tentatively Identified Compounds
TOGS	Technical Operations and Guidance Series
µg/kg	Micrograms per kilogram
µg/1	Micrograms per liter
VOCs	Volatile Organic Compounds
WSA	William Schutt and Associates

ERM Consulting & Engineering, Inc. (ERM) prepared this Remedial Investigation (RI)/Alternative Analysis (AA) Report on behalf of Howden North America Inc. (Howden) and SAAKC Buffalo Forge, LLC (SAAKC) to summarize the results of environmental investigations performed at the Former Buffalo Forge Properties located in the City of Buffalo, Erie County, New York (the Site). Howden entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) to address the significant environmental, legal, and financial barriers that hinder redevelopment of the Site. SAAKC subsequently entered into a BCA with NYSDEC as a contract vendee with Howden for purchase and future redevelopment of the Site.

The RI was performed to evaluate environmental conditions at the Site in consideration of the results of previous subsurface investigations as required in the BCA. Consistent with NYSDEC requirements described in DER-10 (NYSDEC, 2010a), this RI was developed and implemented to meet the following goals:

- identify contaminant source areas;
- define the nature and extent of contamination;
- produce data of sufficient quantity and quality to support the development of a remedial AA Report and an acceptable RAWP; and
- generate sufficient data to evaluate the actual and potential threats to human health and the environment.

The RI evaluated soil and groundwater in conformance with the NYSDECapproved RI Work Plan. RI activities included soil boring and monitoring well installations and associated soil and groundwater sampling for laboratory analysis. Samples were transported under chain of custody procedures to a New York State Department of Health (NYSDOH)approved environmental laboratory for analysis of compounds of potential concern (COPCs) as described in the approved RI Work Plan. RI project data were found to be valid and usable with the qualifications noted.

Soil borings and monitoring wells were installed at locations proposed in the approved RI Work Plans. A total of 74 boreholes were advanced for the collection of soil samples and installation of groundwater monitoring wells. Seven boreholes were completed as groundwater monitoring wells; six in overburden and one in bedrock. All work was conducted in substantial conformance with procedures contained in the approved RI Work Plan.

The currently-contemplated future use of the Site is commercial and/or restricted residential. Chemical analytical results for soil were compared to the NYSDEC's applicable Soil Cleanup Objectives (SCOs). Groundwater analytical results were compared to the NYSDEC's ambient groundwater quality standards and guidance values.

A geophysical electromagnetic (EM) induction survey was conducted over the entire 490 Broadway parcel to search for two possible underground storage tanks (USTs) that were reportedly abandoned in place. The survey resulted in in one EM anomaly that was evaluated and subsequently discovered to consist of buried concrete debris containing steel reinforcement bar. USTs or other subsurface structures that may have been potential contaminant source areas were not identified.

A gamma radiation survey was conducted by ERM to evaluate background radioactivity levels near parcel boundaries at the surface and to evaluate for the potential presence of elevated radiation in subsurface materials during the RI. Readings from subsurface soil samples were consistent with measured background radiation levels.

Review and evaluation of laboratory analytical data for soil samples collected during the RI and comparison with applicable standards, criteria, and guidance (SCGs) resulted in the following COPCs at concentrations above the Restricted Residential SCOs:

#### **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Chrysene

#### **Metals**

- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Zinc

## <u>PCBs</u>

• Aroclor 1254

Metals and SVOCs exceedances in soil were typically found in black sand material apparently derived from spent foundry sand historically used as fill at the Site. Low-level PCBs detected in a few soil samples at the Site are attributed to residuals from the historical use of PCBs in electrical equipment at the Site.

Shallow groundwater is perched on top of bedrock with the exception of some eastern portions of the Site. The overall flow direction of shallow perched groundwater is generally towards the south-southwest. Groundwater samples from monitoring wells were analyzed for background fluorescence to evaluate potential hydraulic connections between monitoring wells. Results of the background fluorescence analysis suggest that perched groundwater flow appears to be dominated by matrix flow and that preferential groundwater flow paths may not be of environmental significance in overburden at the Site. Groundwater samples were also analyzed for COPCs as outlined in the approved RI Work Plan.

The following compounds or elements were detected in one or more overburden groundwater samples collected at the Site at concentrations above the NYSDEC's ambient groundwater quality standards or guidance values:

## **VOCs**

• 1,2,4-Trimethylbenzene

## Metals (mg/kg)

- Antimony
- Iron
- Lead
- Magnesium
- Manganese
- Selenium
- Sodium

Laboratory analytical results indicate that the following metals associated with black sand material had exceedances of SCOs in soil and a few isolated exceedances of the ambient groundwater quality standards and guidance values:

- Lead;
- Manganese; and
- Selenium.

Therefore, the black sand material may represent a source of metals in Site groundwater. However, the following metals were detected in Site groundwater at concentrations above their ambient groundwater quality standards or guidance values that are interpreted to be derived from natural sources:

- Iron;
- Magnesium; and
- Sodium.

The one isolated detection of VOCs in groundwater may be associated with petroleum residuals. While historical use of petroleum products on the Site did occur, the general lack of VOC detections and the proximity of this one isolated detection to Sycamore Street suggest that historic use of the street by vehicle or some other off-Site source cannot be ruled out.

Review of laboratory analytical results indicates that COPCs were not detected in the bedrock groundwater sample.

The Site and the surrounding community are serviced by a municipal water supply and contain no public or private drinking water wells. In addition, groundwater use for drinking water will be restricted by an Environmental Easement (EE) approved by the NYSDEC. Therefore, additional investigation or active remediation of groundwater at the Site appears unwarranted.

Direct contact with soil and inhalation of soil represent the greatest risk with regards to frequency and duration of potential exposures for on-Site commercial workers and on-Site construction and utility workers. The risk is greatest during intrusive activities (e.g., disturbance of surface soil or subsurface soil excavation and associated dewatering). Control measures such as proper implementation and compliance with an approved Site Management Plan (SMP), the Site-specific Health and Safety Plan (HASP), use of appropriate personnel protective equipment (PPE), dust suppression techniques, and the use of institutional controls (ICs) will reduce the risk of potential exposures.

Two potential exposure pathways involving groundwater may exist for on-Site construction/utility workers in the future: 1) direct contact with groundwater during subsurface disturbances (i.e., excavation and dewatering) in areas of remaining contamination (if any); and 2) incidental ingestion of groundwater.

Environmental investigations performed at the Site to date have met all RI goals; therefore further remedial investigation appears unwarranted. Remedial action performed under the NYSDEC's BCP is predicated on future Site use. The Site is currently vacant and the contemplated future use of the Site is commercial and/or restricted residential.

An analysis of the possible remedial approaches using NYSDEC remedy selection evaluation criteria was performed. Two alternatives for Site soil and one remedial approach to groundwater were evaluated.

In addition to No Further Action (Alternative 1), the remedies evaluated included remediating the Site to Track 1 (unrestricted use) conditions (Alternative 2) and performing a Track 4 cleanup by removing grossly-contaminated media (GCM) and remediating the Identified Areas of the Site to Site-Specific Actions Levels (SSALs) and emplacement of a cover system (Alternative 3). Alternative 1 was excluded because it would not achieve RAOs. Alternatives 2 and 3 are equally protective of human health and the environment, both would permanently address soils above the SSALs such that the soil RAOs would be met, and both would allow for redevelopment of the property. The proposed groundwater remedy (institutional control) is the same for both alternatives.

The significant additional efforts required to implement Alternative 2 would not provide greater protection to human health and the environment, especially given the intended commercial and restricted residential use of the property. A Site-wide unrestricted use cleanup (Alternative 2) also would be significantly less cost effective. For these reasons, Alternative 3 is the recommended remedial alternative for the Site.

#### 1.0 INTRODUCTION

As required by Brownfield Site Cleanup Agreement (BCA) Index Number C915280-09-13 by and among Howden, SAAKC, and NYSDEC, this report presents the results a Remedial Investigation (RI) and Alternatives Analysis (AA) at the Former Buffalo Forge Property located in the City of Buffalo, Erie County, New York (the Site). The location of the various parcels that comprise the Site is shown in Figure 1.

This report addresses required elements established within the NYSDEC's Division of Environmental Remediation (DER) technical guidance manual DER-10 entitled "Technical Guidance for Site Investigation and Remediation" (NYSDEC, 2010a). Previous investigations and remedial action performed at the Site have been considered and incorporated into this RI.

Consistent with NYSDEC requirements described in DER-10, this RI was developed and implemented to meet the following goals:

- identify contaminant source areas;
- define the nature and extent of contamination;
- produce data of sufficient quantity and quality to support the development of a Remedial AA Report and an acceptable Remedial Action Work Plan (RAWP); and
- generate sufficient data to evaluate the actual and potential threats to human health and the environment.

The currently-contemplated future use of the Site is mixed commercial and/or restricted residential. The contemplated use may vary by parcel based on the redevelopment goals of prospective purchasers and/or future tenants. As required by the NYSDEC in the approved RI Work Plan (ERM, 2013), data generated during the RI was sufficient to support an evaluation of the potential residential use for all parcels.

#### 1.1 SITE DESCRIPTION AND HISTORY

The Former Buffalo Forge Property is located in the City of Buffalo, Erie County, New York. Figure 1 shows the location of the Site. The Site includes seven parcels:

- 490 Broadway, Buffalo, New York
- 498 Broadway, Buffalo, New York
- 187 Mortimer Street, Buffalo, New York
- 213 Mortimer Street, Buffalo, New York
- 233 Mortimer Street, Buffalo, New York
- 498 Spring Street, Buffalo, New York
- 516 Spring Street, Buffalo, New York

Figure 2 shows the layout of the Site including the BCP Site boundary, specific parcels, and surrounding areas. The Former Buffalo Forge Property encompasses seven parcels which together comprise approximately 12.482 acres. The Site is located within a residential and commercial urban area. This area has been developed since the mid-1800s and has experienced various transformations in land use. The main portion of the Site which housed primary manufacturing and associated operations is the 490 Broadway parcel. Parcels west of Spring Street were used primarily for storage and parcels east of Mortimer Street were used primarily for parking and garage operations.

#### 490 Broadway Parcel

The 490 Broadway parcel has been previously referred to as the former Buffalo Forge Plant No. 1. The facility reportedly began operations in 1877 (Brown and Caldwell, 2007). This area historically consisted of two city blocks centered along a former city roadway known as Champlin Street, which ran parallel between Mortimer and Spring Streets. Champlin Street was a mixture of residential and commercial properties. In the late 1800s, the primary land use of the portion of the property located south of Champlin Street consisted of Buffalo Forge Company operations, which included a foundry, machine shop, blacksmith, carpentry shops, and associated warehousing. A portion of this area also contained a separate alcohol distillery, which included a malt house and associated warehousing and storage. The portion of the property located to the north of Champlin Street originally consisted primarily of residential dwellings.

From the 1920s to the 1950s, Champlin Street no longer appears on Sanborn maps of the Site and essentially the entire parcel consisted of Buffalo Forge Company operations. The northern portion of the Site included a gasoline filling station, an apparent residential gasoline tank, a furniture repair structure, several dwellings and a garage. After several expansions up into the 1960s, the entire 490 Broadway parcel was utilized by Buffalo Forge Company operations until the mid-1990s.

Most of the manufacturing equipment and materials were removed after closure and the Buffalo Forge Company buildings in this parcel remained idle and unused until their demolition in 2006 and 2007. The area is currently vacant and is not in productive use.

#### Parcels East of Mortimer Street

The primary land use in this area since the late 1800s and early 1900s was residential. Some commercial or industrial land uses within this area have included a filling station and produce market at 498 Broadway which by 1934 apparently was limited to fish and produce marketing. A fiber and fabrics distributor was located at 223-227 Mortimer Street from 1940-1955. A trucking firm was located at 213 Mortimer Street in 1934. Additionally, Buffalo Forge Company maintenance garage (Building 14) and parking lots along Rey Street were operational from approximately 1960 through the mid-1990s. The maintenance garage was demolished in 2006. The area is currently vacant and not in productive use.

#### Parcels West of Spring Street

The primary land use from the late 1800s and early 1900s until the present has been for residential purposes. Commercial or industrial land uses in this area have included Buffalo Forge Company storage operations (including the storage of some foundry sand) from approximately 1960 through the early 1990s. The property between the 498 and 516 Spring Street parcels is currently owned and operated by National Grid and is used for electrical distribution purposes. The 498 and 516 Spring Street parcels are currently vacant and are not in productive use.

## 1.2 REGIONAL GEOLOGY

The Site is located within the Erie-Ontario Lowlands physiographic province (Bloom, 1978) and is generally flat with very little topographic relief. Native soil in the area is relatively thin and is derived predominantly from reddish-brown glacial silt and clay deposited in an ancient lake (Caldwell, 1988). Native soil thickness in the area is generally less than 25 feet and is often less than 10 feet.

The Site is underlain by the Middle Devonian Onondaga Limestone, which generally consists of gray, micritic limestone that is locally cherty (Rickard and Fisher, 1970). Depth to bedrock in the vicinity of the Site is typically 2 to 12 feet below ground surface (bgs).

LaSala, Jr. (1968) indicated that Onondaga Limestone bedrock is characterized by water-bearing openings at bedding plane joints that are connected with solution-widened vertical joints. The area along the shore of Lake Erie is considered a discharge area, as groundwater recharge within the Erie-Niagara Basin occurs predominantly in higher elevations located south and east of the City of Buffalo. Under these conditions, as groundwater moves toward discharge within the Lake Erie basin, it tends to move upward through the vertical joints when nearing the lake shore. As a result, shallow groundwater which exists within the unconsolidated material at the Site may tend to move laterally to the west. These flow conditions may minimize the potential for vertical contaminant migration into underlying bedrock.

Contours of the Site's underlying bedrock are inferred from the shallow perched groundwater contours developed during a limited groundwater investigation conducted at the Site in 2012 (ERM, 2012). That study concluded that the predominant direction of perched groundwater flow at the Site is generally towards the southeast because local bedrock contours are influencing perched groundwater flow. In the case of the 490 Broadway parcel, the perched groundwater tends to move towards the south (the Broadway) side of the parcel. This localized perched groundwater flow pattern may be a result of the backfilling of the basements that formerly existed beneath the offices in the southern portion of the Site with permeable gravel fill during Site demolition activities in 2006-2007.

The natural chemical constituents in groundwater are obtained primarily from the solution of rock materials. The major constituent of limestone is calcite (CaCO<sub>3</sub>), but other dissolved minerals are also picked up as groundwater passes through the bedrock of the basin, including halite (NaCl), dolomite [CaMg(CO<sub>3</sub>)<sub>2</sub>] and gypsum (CaSO<sub>4</sub>.2H<sub>2</sub>O). Due to the likelihood that groundwater will encounter these various minerals as it passes through the basin, significant concentrations of these minerals are typically present in the groundwater in the area. Therefore, groundwater quality within the City of Buffalo is naturally hard to brackish.

#### 1.3 PREVIOUS INVESTIGATION AND REMEDIAL ACTION

The following environmental assessments or investigations were previously conducted at the Site and documented in the following reports.

- Phase I Environmental Site Assessment, Buffalo Forge Plan No. 1, 490 Broadway Avenue, Buffalo, New York (Dames and Moore, 1993).
- Site Evaluation Report, Former Buffalo Forge Plant No. 1 (Conestoga-Rover & Associates, 2000).
- Phase I Environmental Site Assessment, Former Buffalo Forge Site, Buffalo, New York (Benchmark, 2009a).
- Phase II Environmental Site Investigation Report, Former Buffalo Forge Site, Buffalo, New York (Benchmark, 2009b).
- Limited Groundwater Investigation Report, Former Buffalo Forge Facility, Buffalo, New York (ERM, 2012).

These reports describe several former underground storage tanks (USTs) in various portions of the Site that were formerly present. All of the USTs identified in the reports listed above were evaluated in previous investigations and/or were removed and addressed during the demolition of Site buildings in 2006 with the possible exception of two USTs that were reported in Dames and Moore (1993) based on the statements of Buffalo Forge employees to have been abandoned in-place by filling with concrete. The locations of these two possible USTs were previously unknown but they were evaluated during the RI.

ERM has identified one former UST that reportedly existed at the Site that was not identified or addressed during previous environmental investigations. An insurance map of the Site dated 8 April 1960 (revised 5 December 1972) obtained from Howden shows a 1000-gallon gasoline UST in the northern portion of the 490 Broadway parcel. This reported UST was investigated during the RI.

Some soil remediation was performed on the 490 Broadway parcel of the Site in association with the decommissioning and demolition of the Site buildings in 2006 and 2007. Soil remediation activities were documented in the following report.

• Decommissioning and Demolition Report, Buffalo Forge Facility, 490 Broadway Street, Buffalo, New York (Brown and Caldwell, 2007).

Soil remediation activities generally consisted of the excavation, transport, and disposal of contaminated soil off-Site at permitted disposal facilities. Soil remediation was performed to address the following sources on the 490 Broadway parcel:

- polychlorinated biphenyls (PCBs) in underlying soil in areas where former building concrete slabs contained PCBs at concentrations greater than 1.0 milligram-per-kilogram (mg/kg);
- two single-walled steel underground storage tanks (USTs) that were discovered and removed during the removal of building foundations as documented in NYSDEC Spill File Number 06-51725 (closed by the NYSDEC on 31 July 2007);
- removal of black sand material from the former foundry discovered beneath brick sidewalks on Site;
- removal of a former foundry sand pit measuring 155 feet long by 15 feet wide by 6 feet deep located beneath the sidewalk on the east side of Spring Street;
- an area of oily soil near the northwest corner of the parcel; and
- a pit in the former foundry which contained greasy material.

Areas of prior remedial soil excavation are shown in Figures 5 and 6. Environmental conditions at the Site based on the results of previous investigation and remedial action are summarized below for various matrices.

#### Soil

The following soil, fill or bedrock materials have been encountered at the Site. Thicknesses presented below are typical and are averages based on review of soil boring logs from previous investigations. These units are listed in descending stratigraphic order (from the surface downward).

Unit	Generalized Description	Average Thickness When Present (feet)	Origin
Clayey Silt Cap or Topsoil	Brown clayey silt or brown silt	0.9	Fill – can be "clean cap" in previously demolished or excavated areas, or brown topsoil in non- excavated areas
Black Sand Fill(where present)	Black sand	1.7	Fill – foundry sand
Other Fill	Brown to gray silt and sand, localized clay, gravel, and debris (brick, wood)	2.9	Fill - locally including re-worked native soil
Clayey Silt	Reddish-brown to brown clayey silt;	4.6	Native

	changing to gray and locally gravelly close to bedrock		
Bedrock	Gray limestone	Unknown (not fully	Native
		penetrated)	

The clayey silt cap unit was typically encountered in areas that were previously excavated and backfilled during Site demolition activities. Topsoil was typically encountered in areas that were undisturbed during Site demolition activities. Both fill units were encountered in most (but not all) soil borings. Black sand fill is widely but sporadically distributed on the 490 Broadway parcel and can be present as a distinct layer or as numerous, discontinuous layers interbedded with other fill deposits or soil. The black sand fill typically contains one or more semivolatile organic compounds (SVOCs) and/or metals at concentrations above NYSDEC Part 375 Soil Cleanup Objectives (SCOs) for unrestricted use, and often contains SVOCs and/or metals at concentrations above Part 375 Commercial or Industrial SCOs. All other units encountered during previous investigations typically do not appear to be contaminated based on visual, olfactory, and photoionization detector (PID) field screening observations. Petroleum-like sheen and odors were observed in soil at locations TMW-04, TMW-08, and TMW-09. VOCs were not detected during field screening of soil cores with the calibrated PID at these locations.

The native clayey silt unit is consistent with a widespread glacial silt and clay deposit that is commonly encountered in the area. Glacial deposits in this area typically contain relatively low organic matter content.

Analytical results for soil samples previously collected at the Site are summarized in Table 1. Previous investigations have shown that exceedances of NYSDEC Part 375 SCOs typically are associated with the presence of black sand fill materials. The RI has assessed and further delineated the extent of black sand fill material. Potential contaminants in black sand fill materials typically include metals and SVOCs. The RI also provides vertical delineation by evaluating concentrations of potential contaminants from black sand fill in underlying native soil.

#### Soil Vapor

As approved by the NYSDEC, soil vapor was not sampled at the Site given that VOCs typically have not been detected at significant concentrations in soil or groundwater. Also, the Site is currently vacant and no buildings are currently present at the Site. However, potential exposure pathways involving soil vapor are evaluated in the Qualitative Human Health Exposure Assessment (QHHEA) portion of this report (Section 3.5) as required by the NYSDEC given the planned redevelopment of the Site.

#### Groundwater

Prior to the RI, groundwater investigation performed at the Site included:

- collection and analysis of representative shallow (perched) groundwater samples at several locations including former ASTs, former USTs, chemical or waste storage areas, and along the boundary of the former industrial property; and
- an assessment of potential risk associated with the perched groundwater exposure pathway.

Ten temporary monitoring wells were installed at the Site in 2012 (ERM, 2012). Bedrock was encountered at depths ranging from 2.0- to 11.5-feet bgs. The perched groundwater table is typically encountered within and near the top of native soil at the Site. Mapping of groundwater levels suggests that the predominant direction of perched groundwater flow at the Site is towards the southeast (towards basements previously excavated into bedrock beneath former buildings) and that local groundwater flow direction is variable and is primarily influenced by the local slope of the top of the underlying bedrock surface (ERM, 2012).

Three areas of light to moderate petroleum-like sheen and odor were encountered during the groundwater investigation in 2012:

- in the vicinity of well TMW-04;
- in the vicinity of well TMW-08; and
- in the vicinity of well TMW-09.

Howden and ERM promptly notified NYSDEC Region 9 staff of these observations and also called the NYSDEC Spill Hotline. The NYSDEC assigned Spill Number 11-13734 to the observation of residual petroleum constituents in groundwater at the Site.

Groundwater samples were collected and submitted for analysis of VOCs, SVOCs, PCBs, metals, and cyanide. The samples with petroleum-like sheen and odor were also analyzed for petroleum identification. Analytical results for previous groundwater samples are summarized in Table 2. Exceedances of NYSDEC ambient groundwater quality standards and guidance values (NYSDEC, 1998) were limited to one VOC (1,2,4-Trimethylbenzene) in one well, the SVOC Bis(2-ethylhexyl)phthalate, (also reported present in the laboratory method blank) in two wells, and the following metals in several wells:

- iron;
- lead;
- magnesium;
- manganese; and
- sodium.

The VOC exceedance is slight and localized and the metal concentrations are considered to be predominantly naturally occurring and raising aesthetic but not environmental concerns.

Analysis for petroleum identification resulted in no definitive matches to common petroleum products. These results suggest that the released petroleum encountered in these areas is relatively old and weathered and that the observed sheen and odor are not associated with a recent petroleum release. The NYSDEC closed the file for Spill Number 11-13734 on 6 August 2012. All of the temporary wells installed at the Site in 2012 were abandoned after sampling for security purposes.

At the request of the NYSDEC, groundwater sampling and analysis was performed during the RI to provide additional data on groundwater flow and quality. Based on discussions with the NYSDEC, seven new temporary wells were installed: six in overburden and one in bedrock. The results of the groundwater evaluation were used to evaluate whether or not the Protection of Groundwater SCOs may be applicable at the Site. The Site and surrounding areas are serviced by municipal water. A reasonable groundwater remedial action objective for the Site may include the IC of the prevention of ingestion of groundwater with contaminant levels exceeding drinking water standards.

#### 1.4 CONCEPTUAL SITE MODEL

A conceptual Site model is used to develop a general understanding of the Site and potential human exposure pathways to potential contaminants and impacts to the environment.

Based on sampling and analysis performed to date, the primary potential contaminants at the Site are typically found in those areas of the Site containing black sand material that is reportedly associated with the former foundry at the Site. These potential contaminants include several metals and polynuclear aromatic hydrocarbons (PAHs). After the foundry sand could no longer be used in the manufacturing process, the foundry sand historically may have been selectively deposited in portions of the Site wherever sandy fill materials were needed (e.g., to raise low areas, to backfill excavations for building additions or other new construction, etc.). Therefore, further identification and delineation of the extent of black sand material was an important goal of the RI. Other sources of potential contaminants include several areas of GCM consisting of residual petroleum constituents and one area of low-level PCBs in soil in an area that was previously remediated for PCBs during the decommissioning and demolition of the Site in 2006. GCM does not include black sand fill material for the purposes of this RI/AA Report and for the Site redevelopment project. Black sand fill material was mapped separately.

Potential human exposure pathways at the Site appear to be linked predominantly to the distribution of the black sand fill material and areas of petroleum residuals and PCBs in fill or soil. Relevant details surrounding these potential exposure pathways include: 1) contaminant source (environmental media), 2) contaminant release and transport mechanisms, 3) actual or potential point of exposure, 4) route of exposure, and 5) receptor populations.

The following potential exposure pathways were initially identified for on-Site soil (ERM, 2013):

- current and future direct contact (dermal absorption) with soil;
- current and future incidental ingestion of soil; and
- current and future fugitive dust emissions (inhalation) of soil.

The following potential exposure pathways were initially identified for on-Site groundwater (ERM, 2013):

- current and future direct contact (dermal absorption) with groundwater;
- current and future incidental ingestion of groundwater; and
- current and future inhalation of vapors indoors and outdoors from underlying groundwater.

## 1.5 STANDARDS, CRITERIA, AND GUIDANCE

The following standards and criteria were applied to the RI and remedial Alternatives Analysis (AA) of this Site.

- 6 NYCRR Part 257 Air Quality Standards
- 6 NYCRR Part 371 Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 375 Environmental Remediation Programs (December 2006)
- 6 NYCRR Part 376 Land Disposal Restrictions
- 6 NYCRR Part 608 Use and Protection of Waters
- 6 NYCRR Part 612 Registration of Petroleum Storage Facilities
- 6 NYCRR Part 613 Handling and Storage of Petroleum
- 6 NYCRR Parts 700-706 Water Quality Standards
- 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response
- 40 CFR Part 280 Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks

The following guidance documents were applied to the RI and AA of this Site.

- DER-10 Technical Guidance for Site Investigation and Remediation (May 2010)
- DER-15 Presumptive/Proven Remedial Technologies (February 2007)
- TOGS 1.1.1 Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations
- TAGM 3028 "Contained In" Criteria for Environmental Media: Soil Action Levels (August 1997)

- TAGM 4051 Early Design Strategy (August 1993)
- CP-43 Groundwater Monitoring Well Decommissioning Policy (November 2009)
- STARS #1 Petroleum-Contaminated Soil Guidance Policy
- Permanent Closure of Petroleum Storage Tanks (July 1988)
- Air Guide 1 Guidelines for the Control of Toxic Ambient Air Contaminants
- USEPA Office of Solid Waste and Emergency Response Directive 9355.047FS Presumptive Remedies: Policy and Procedures (September 1993)

## 1.6 AREAS OF POTENTIAL CONCERN

Review of available data and information and consideration of the contemplated use for the Site indicates several areas of potential concern (APOCs) are present at the Site that warrant further evaluation during the RI. Areas of potential concern are listed and described below by parcel and are shown in Figure 2. All sample locations referenced below are shown in Figure 3.

#### 490 Broadway Parcel

AOPC-01	Black Sand
AOPC-02	Soil Borings SB-3/SB-4
AOPC-03	Test Pit TP-34
AOPC-04	Former 1000-gallon Gasoline UST
AOPC-05	2 Possible Former USTs Abandoned In-Place
AOPC-09	Residual Petroleum Constituents at TMW-08
AOPC-10	Residual Petroleum Constituents at TMW-09
AOPC-11	Residual Petroleum Constituents at TMW-04

#### **498 Broadway Parcel**

AOPC-15 Black Sand

#### 187 Mortimer Street

AOPC-06	Soil Boring SB-30 and Test Pit TP-43
AOPC-14	Black Sand

**<u>213 Mortimer Street</u>** AOPC-13 Black Sand

233 Mortimer Street AOPC-12 Soil Boring SB-5

**<u>498 Spring Street</u>** AOPC-07 Black Sand

AOPC-08 Test Pit TP-46

516 Spring Street

AOPC-16 Initial Sampling

- 1.6.1 490 Broadway
- 1.6.1.1 AOPC-01: Black Sand

Black sand fill material has been identified in numerous soil borings and test pits previously installed on this parcel. Additional soil borings were installed during the RI to further delineate the extent of black sand and concentrations of potential contaminants in the black sand.

1.6.1.2 AOPC-02: Soil Borings SB-3/SB-4

Four SVOCs and PCBs were detected in soil during previous investigations at concentrations above the restricted residential, commercial, or industrial SCOs. Additional soil borings were installed during the RI to delineate the extent of these concentrations.

#### 1.6.1.3 AOPC-03: Test Pit TP-34

Copper and lead were detected in soil during previous investigations at concentrations above the restricted residential or commercial SCOs. Additional soil borings were installed during the RI to delineate the extent of these concentrations.

#### 1.6.1.4 AOPC-04: Former 1000-gallon Gasoline UST

An insurance map of the Site dated 8 April 1960 (revised 5 December 1972) obtained from Howden showed a 1000-gallon gasoline UST in the northern portion of the 490 Broadway parcel. This UST was not referenced in previous environmental reports and therefore may not have been identified or addressed during previous environmental investigations or remedial work at the Site. Additional soil borings were installed during the RI at the reported location of the former UST to evaluate environmental conditions in this area.

#### 1.6.1.5 AOPC-05: 2 Possible Former USTs Abandoned In-Place

Two USTs were reported in Dames and Moore (1993) to have been abandoned in-place by filling with concrete based on statements by Buffalo Forge employees at that time. The locations of these two possible USTs were unknown and so they were evaluated during the RI through performance of a geophysical investigation on the 490 Broadway parcel using electromagnetic (EM) techniques. One EM anomaly was located in the southern portion of the parcel and therefore soil borings B-62 through B-65 were installed at and around the EM anomaly to evaluate environmental conditions in this area (Figure 3).

#### 1.6.1.6 AOPC-09: Residual Petroleum Constituents at TMW-08

Petroleum-like sheen and odor were detected in soil and perched groundwater at monitoring well TWM-08 during the 2012 groundwater investigation. Monitoring well TMW-08 was abandoned after sampling. Additional soil borings were installed during the RI around TMW-08 to delineate the extent of petroleum residuals in this area.

#### 1.6.1.7 AOPC-10: Residual Petroleum Constituents at TMW-09

Petroleum-like sheen and odor were detected in soil and perched groundwater at monitoring well TWM-09 during the 2012 groundwater investigation. Monitoring well TMW-09 was abandoned after sampling. Additional soil borings were installed during the RI around TMW-09 to delineate the extent of residual petroleum constituents in this area.

#### 1.6.1.8 AOPC-11: Residual Petroleum Constituents at TMW-04

Petroleum-like sheen and odor were detected in soil and perched groundwater at monitoring well TWM-04 during the 2012 groundwater investigation. Monitoring well TMW-04 was abandoned after sampling. Additional soil borings were installed during the RI around TMW-04 to delineate the extent of residual petroleum constituents in this area.

- 1.6.2 498 Broadway
- 1.6.2.1 AOPC-15: Black Sand

Black sand fill material was identified in one soil boring (SB-29) previously installed on this parcel (see Figure 3). Additional soil borings were installed in previously un-sampled portions of this parcel during the RI to further evaluate the extent of black sand and concentrations of potential contaminants in the black sand.

- 1.6.3 187 Mortimer Street
- 1.6.3.1 AOPC-06: Soil Boring SB-30 and Test Pit TP-43

Arsenic, lead, or mercury was detected in fill during previous investigations at concentrations above the restricted residential or industrial SCOs. Additional soil borings were installed during the RI to delineate the extent of these concentrations.

1.6.3.2 AOPC-14: Black Sand

Black sand fill material was identified in two soil borings and two test pits previously installed on this parcel. Additional soil borings were installed during the RI to further delineate the extent of black sand and concentrations of potential contaminants in the black sand on this parcel.

- 1.6.4 213 Mortimer Street
- 1.6.4.1 AOPC-13: Black Sand

Black sand fill material was identified in three soil borings previously installed on this parcel. Additional soil borings were installed during the RI to further delineate the extent of black sand and concentrations of potential contaminants in the black sand. 1.6.5 233 Mortimer Street

1.6.5.1 AOPC-12: Soil Boring SB-5

Manganese was detected in fill during a previous investigation at concentrations above the restricted residential SCO (Figure 3). Additional soil borings were installed during the RI to delineate the extent of this exceedance.

- 1.6.6 498 Spring Street
- 1.6.6.1 AOPC-07: Black Sand

Black sand fill material was identified in one test pit (TP-46) previously installed on this parcel (Figure 3). Additional soil borings were installed during the RI to further delineate the extent of black sand and concentrations of potential contaminants in the black sand.

1.6.6.2 AOPC-08: Test Pit TP-46

Five SVOCs and one metal were detected during previous investigations at concentrations above the restricted residential or industrial SCOs. Additional soil borings were installed during the RI to delineate the extent of these concentrations.

- 1.6.7 516 Spring Street
- 1.6.7.1 AOPC-16: Initial Sampling

Samples were not collected from this parcel during previous environmental investigations. Four soil borings were installed during the RI to evaluate environmental conditions on this parcel. Also, a groundwater sample was collected from this parcel.

## 2.0 TECHNICAL OVERVIEW

Data and results from previous environmental investigations at the Site have been incorporated into this RI/AA Report to facilitate a comprehensive evaluation of environmental conditions at the Site. Where applicable, data, and information from the previous investigations are incorporated into the figures, tables, and appendices of this report. Sections 2.1 through 2.7 of this report provide descriptions of Site work and methods utilized by ERM during the RI. Descriptions of Site work and methods utilized by others during previous environmental investigations are contained in the various reports from those efforts. A list of the relevant reports prepared by others is provided with other referenced cited in Section 7.0. To facilitate ease of review, soil boring logs from previous investigations performed by others are presented in Appendix A and monitoring well construction logs from the 2012 groundwater investigation are presented in Appendix B.

## 2.1 PRE-INVESTIGATION WORK

#### 2.1.1 Mobilization

ERM mobilized personnel, equipment, and supplies to the Site on 10 November 2014 to initiate RI Site work. Equipment staging areas and a decontamination pad and cleaning area were set up to facilitate performance of the Site work.

#### 2.1.2 Subsurface Clearance Activities

Dig Safely New York (DSNY) was notified prior to the initiation of intrusive activities at the Site and requested to identify, locate, and mark member company utilities. Howden personnel provided information on possible remaining underground utilities formerly associated with plant operations. ERM's geophysical subcontractor New York Leak Detection (NYLD) of Jamesville, New York provided utility location services to evaluate and clear proposed soil boring locations prior to the commencement of subsurface intrusive activities. A minimum 10-foot diameter around each planned drilling location was scanned and cleared of subsurface utilities prior to the initiation of drilling.

## 2.1.3 Geophysical Survey

An EM induction survey was conducted by NYLD over the entire 490 Broadway parcel to search for two possible USTs that were reportedly abandoned in place somewhere on the parcel (Dames and Moore, 1993). The survey was conducted with a GSSI Profiler Model EMP400 EM induction sensor using a Noggin 500 mHz antennae.

## 2.1.4 Radioactivity Survey

A radiation survey was conducted by ERM to evaluate background radioactivity levels near the surface of the Site and to evaluate for the potential presence of technically-enhanced naturally occurring radioactive materials (TENORM) in the subsurface. The boundaries of each parcel were walked and background radiation levels at the surface were measured using a Ludlum Model 2241 radioactivity meter with a 44-10 probe. Soil cores and drill cuttings were scanned to measure radioactivity levels in the subsurface. Overall radiological screening activities included:

- 1. visual examination for slag-like materials;
- 2. scanning of material surfaces using field instruments;
- 3. comparison of screening data against background measurements to evaluate whether the materials may have elevated radioactivity; and
- 4. evaluation of survey results provided by Site instruments.

#### 2.1.5 Community Air Monitoring

The Community Air Monitoring Plan (CAMP) for the Site contained in Appendix B of the approved RI Work Plan (ERM, 2013) was implemented during all subsurface intrusive activities at the Site. The CAMP describes monitoring requirements and response action levels associated with monitoring of VOCs and particulates (i.e., dust) upwind and downwind of RI activities.

Relevant weather conditions including wind direction, speed, humidity, temperature, and precipitation were evaluated and recorded at the Site on a daily basis prior to the initiation of subsurface intrusive activities. Background readings of VOCs and particulate matter were collected, evaluated, and recorded on a daily basis prior to the initiation of field work. Background readings were used to set action levels for VOCs and particulates for each day that subsurface intrusive activities occurred. Additional background measurements were collected and used to modify

VOC and particulate action levels if warranted based on changing weather conditions.

VOC concentrations in air at upwind and downwind stations were measured using calibrated PIDs. Particulate matter concentrations were also simultaneously measured using calibrated electronic aerosol monitors. The PID and aerosol monitors were calibrated at the start of each work day and were placed within a weather-proof enclosure to provide protection from the elements. A data logger was used to record measurements every minute. A 15-minute time-weighted average (TWA) was used to evaluate VOC and particulate readings. System readings were accessible via a Netronix telemetry system that allowed near realtime access to VOC and particulate readings. Data were downloaded on a daily basis and are available for review upon request.

#### 2.2 SOIL INVESTIGATION

Soil borings were initiated at the Site on 17 November 2014 using directpush drilling techniques. A total of 74 soil borings were installed by ERM during the RI. All soil boring locations were physically cleared using a hand auger or vacuum extraction techniques to a depth of 5-feet bgs for safety purposes. An ERM geologist inspected and recorded relevant physical properties including soil color, texture (grain size), moisture content, field-screening results, odor, percent recovery, and other pertinent observations on ERM soil boring logs (Appendix C). Soil boring locations were recorded using global positioning system (GPS) equipment and software and are presented in Figure 3. A calibrated PID equipped with an 11.7 eV lamp was used to perform VOC screening of soil cores. Soil samples were collected across different depth intervals as appropriate based on the ERM Geologist's inspection and evaluation of soil cores. Sample collection was biased towards areas of suspected highest contamination based on visual, olfactory, and/or PID field screening data. A summary of field observations and data from the installation of soil borings at the Site is presented in Table 1.

Soil samples collected during the RI were generally analyzed for one or more of the following parameters as outlined in the NYSDEC-approved RI Work Plan (ERM, 2013):

• Target Compound List (TCL) and Spill Technology Remediation Series Memorandum Number One (STARS-#1) VOCs+10 tentatively identified compounds (TICs) by United States Environmental Protection Agency (USEPA) Method 8260;

- TCL and STARS-#1 semivolatile organic compounds (SVOCs)+20 TICs by USEPA Method 8270;
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082;
- Target Analyte List (TAL) Metals by USEPA Method 6010; and
- Mercury by USEPA Method 7471.

Table 2 presents a list of all soil samples collected at the Site and indicates specific analytical parameters for each sample. Selected soil samples were also analyzed for metals via the Toxicity Characteristic Leaching Procedure (TCLP) metals and/or TCLP SVOCs to provide data that may be useful for waste characterization and waste determination purposes.

## 2.3 GROUNDWATER INVESTIGATION

#### 2.3.1 Monitoring Well Installations

Monitoring well installations were initiated at the Site on 25 November 2014 in overburden using direct-push drilling methods. All monitoring well locations were physically cleared using a hand auger or vacuum extraction techniques to a depth of 5-feet bgs for safety purposes. A total of seven monitoring wells were installed during the RI; six overburden wells (TMW-12 through TMW-14, TMW-15S, TMW-16, and TMW-17) and one bedrock well (TMW-15D). Monitoring wells TMW-15S and TMW-15D were installed as an overburden/bedrock well couplet to provide information on the vertical hydraulic gradient of groundwater at the Site. Monitoring well TMW-15D was drilled into bedrock using air hammer drilling techniques.

Soil and bedrock was described by an ERM geologist for relevant physical characteristics and observations were recorded on boring logs (Appendix C). Well construction details were recorded on monitoring well construction logs (Appendix D). Each monitoring well was constructed with 1-inch diameter, threaded flush joint, Schedule 40 polyvinyl chloride (PVC) well casing and 0.010-inch slotted PVC well screens, except the bedrock well was constructed using 2-inch diameter PVC well rising and
screen. Morie #0 sand or equivalent was utilized to install a sand filter pack around the screened interval. The sand filter pack was installed to an approximate height of 1-foot above the top of each well screen. During installation of the sand filter pack, the sand was tamped down using a weighted tape measure to minimize the potential for bridging in the well annulus. Hydrated bentonite chips were installed over the sand filter pack and cement-bentonite grout was used to fill and seal the remaining annular space to a depth of approximately 1.0- to 1.5-feet bgs.

Flush-mounted, protective steel covers were installed over the wells. A locking expansion well cap and keyed-alike locks was provided for each well. All monitoring wells were developed by surging and bailing (overburden wells) or pumping (the bedrock well) to facilitate collection of representative ground water samples.

2.3.2 Groundwater Sampling and Analysis

## 2.3.2.1 *Chemical Parameters*

Groundwater samples were collected from all monitoring wells using low flow/minimal drawdown purging and sampling procedures (USEPA, 1996). Field parameter analyses were conducted using a calibrated YSI 566 meter with a flow cell and a water level indicator (WLI) which allowed measurement of temperature (°C), specific conductivity (SpC), dissolved oxygen (DO), pH, turbidity, oxidation-reduction potential (ORP), and depth to water (DTW) data. Groundwater sampling records are presented in Appendix E. A summary of field observations and data from the sampling of monitoring wells at the Site is presented in Table 3. A summary of groundwater samples collected for laboratory analysis, including specific chemical parameters of analysis, is presented in Table 4.

Groundwater samples were transported with chain of custody documentation to an NYSDOH-approved environmental laboratory for analysis. As indicated in the NYSDEC-approved RI Work Plan (ERM, 2013), groundwater samples were generally analyzed for the following parameters:

- TCL VOCs+10 TICs by USEPA Method 8260;
- TCL SVOCs+20 TICs by USEPA Method 8270;
- PCBs by USEPA Method 8082;

- TAL Metals by USEPA Method 6010; and
- Mercury by USEPA Method 7470.

The metals antimony and thallium were analyzed by USEPA Method 200.8 for drinking water to provide reduced analytical reporting limits relative to the standard analytical method for TAL metals (USEPA Method 6010) given that the NYSDEC's ambient groundwater quality standards and guidance values for these two metals are significantly lower than the typical reporting limits obtained by analysis using USEPA Method 6010.

## 2.3.2.2 Background Fluorescence

Groundwater samples from all monitoring wells were analyzed for background fluorescence to evaluate potential hydraulic connections between monitoring wells based on the relative fluorescence intensity and fluorescence "fingerprint" of individual samples. Additional groundwater volume was collected at the same time as samples collected for chemical parameters and was placed into two 40-ml glass vials equipped with Teflon-septum seals. Samples were transported under chain of custody to NannoTrace Technologies of Orphund, Switzerland for analysis using a calibrated spectrophotometer.

## 2.3.3 Elevations Survey and Groundwater Flow

ERM subcontracted William Schutt and Associates (WSA) of Lancaster, New York to survey the locations and elevations of soil borings and monitoring wells installed during the RI, as well as the location and elevation of other selected Site features. The elevation survey was performed under the direction of a New York-licensed land surveyor. The survey work was performed by WSA on 28 May 2015. Ground elevation and the elevation of the top of casing were measured for all monitoring wells installed during the RI. The results of the elevations survey and measurements of depth to groundwater will be used to evaluate groundwater flow at the Site.

### 2.4 DATA USABILITY EVALUATION

A data usability evaluation was conducted on RI data under the direction of ERM's Project QA/QC Officer in conformance with guidelines presented in DER-10 Appendix 2B (NYSDEC, 2010a). Data review and evaluation were conducted by third-party data validators from Environmental Data Services, Inc. (EDS) of Williamsburg, Virginia. Consistent with NYSDEC guidance contained in DER-10 Section 3.14 (b), Data Usability Summary Reports (DUSRs) are not presented as an attachment to this RI report and the results of the data usability evaluation were submitted on 3 December 2015 as a stand-alone electronic data deliverable (EDD) to the NYSDEC's Electronic Information Management System (EIMS) website.

### 2.5 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

A Qualitative Human Health Exposure Assessment (QHHEA) was conducted for the Site based on the findings of subsurface investigations. The QHHEA was conducted in accordance with DER-10 Appendix 3B (NYSDEC, 2010a). Exposure pathway details, along with the Site characterization data and chemicals of potential concern (COPC), are used to evaluate if an exposure pathway may be classified as complete, potentially completion, or incomplete. When the five elements of an exposure pathway are present, the exposure pathway is classified as complete. If any of the five elements do not currently exist but may exist in the future, the exposure pathway is classified as potentially complete. If any of the five elements do not currently exist and will never exist in the future, then the exposure pathway is classified as incomplete and further evaluation is not warranted. The results of the QHHEA are presented in Section 3.5.

#### 2.6 ECOLOGICAL RESOURCES ASSESSMENT

Ecological resources were assessed at the Site by ERM's Qualified Environmental Professional (QEP) during the implementation of the RI. Observations were documented in field notes and in color photographs. The NYSDEC's decision key contained in Appendix 3C of DER-10 (NYSDEC, 2010a) was utilized to evaluate whether or not performance of a Fish and Wildlife Resources Impact Analysis (FWRIA) was needed. The RI demonstrated that there is evidence that COPCs were released into the environment at the Site. Therefore, the Site can be considered to have been affected by one or more discharge or spill events. This consideration is used to further evaluate ecological resources at the Site as outlined in Item 1 of DER-10 Appendix 3C.

#### 2.7 INVESTIGATION-DERIVED WASTES

Soil cuttings that appeared to be clean based on visual, olfactory, and PID field screening evidence were placed back into the borehole of origin. Soil cuttings that exhibiting visual, olfactory, or PID field screening evidence of potential contamination were containerized into steel 55-gallon drums for subsequent waste characterization, waste determination by the generator, and off-Site disposal.

Disposable sampling equipment and spent personal protective equipment (PPD) were containerized into a steel 55-gallon drum for subsequent waste characterization, waste determination by the generator, and off-Site disposal.

IDW consisting of groundwater purged from monitoring wells and fluids from cleaning and decontamination of sampling equipment were also containerized into steel 55-gallon drums for subsequent waste characterization, waste determination by the generator, and off-Site disposal.

All drums of IDW were labeled with generator name, address, contents, container number, waste determination status, and accumulation start date. All drums of IDW were temporarily staged into a locked steel container until the wastes were profiled and accepted at a facility for off-Site disposal.

### 3.0 FINDINGS

Data and results from previous investigations are considered and interpreted with data and results produced during the RI to provide a comprehensive assessment of environmental conditions at the Site.

The contemplated future use of the Site is commercial and/or restricted residential. Findings with respect to contaminant source, fate, transport, and actual or potential threats to human health and the environment are generally similar across all seven parcels of the Site. Therefore, Sections 3.1 through 3.7 of this report are presented and discussed on a Site-wide basis except if noted below. The remedial assessment of investigation results (Section 4.0) is organized by parcel to highlight any significant differences between the parcels and to assist potential purchasers with the evaluation of various options for redevelopment of the Site.

## 3.1 PRE-INVESTIGATION WORK

## 3.1.1 Mobilization

A large, steel temporary storage container was delivered to the Site and was located on the 233 Mortimer Street parcel to provide a lockable, secure area for the temporary staging of IDW and project equipment and supplies. Additionally, large signage identifying the Site as a BCP Site was installed near the southern boundary of the 490 Broadway parcel facing Broadway.

## 3.1.2 Subsurface Clearance Activities

All soil borings and monitoring wells were advanced safely without injury or property damage at the locations indicated in Figure 3. Most soil borings were advanced at the locations indicated in the NYSDECapproved RI Work Plan. ERM re-located several boring locations slightly based on the results of subsurface clearance activities and added several borings to complete the delineation of areas of GCM. Boring locations that needed to be re-located more than several feet were discussed with and verbally approved by the NYSDEC in the field.

## 3.1.3 *Geophysical Survey*

The geophysical survey resulted in one EM anomaly (Figure 3) that suggested the possible presence of one or more USTs or other buried

metal object(s). This area was investigated by the installation of soil borings B-62 through B-65 which revealed the presence of buried concrete debris containing steel reinforcement bar (rebar). Therefore, additional areas of potential concern were not identified as a result of the geophysical survey.

## 3.1.4 Radioactivity Survey

Background radioactivity levels were measured at regular intervals at the ground surface on 17 November 2014 along the boundaries of each parcel using a Ludlum Model 2241 meter with a 44-10 probe. Radioactivity levels measured during the surface background survey ranged from 5590 to 13,300 counts per minute (CPM).

Radioactivity levels measured from soil-like materials encountered in soil cores installed during the RI typically ranged from 4000 to 8000 CPM. Radioactivity levels in soil-like materials ranged from a low of 1540 CPM at soil boring B-11 to a high of 12,600 CPM at soil boring B-49.

Slag-like materials were reported in soil cores from the following soil borings:

#### 490 Broadway

- B-15
- B-16
- B-28
- B-31A
- TMW-10
- TMW-14

## 498 Broadway

- B-59
- B-60

## 187 Mortimer

- B-25
- B-55
- B-57

## 213 Mortimer

- SB-33
- SB-34
- B-51
- B-52
- B-54

Slag-like materials encountered at the Site were typically brown, dark brown, or black and do not resemble slag-like materials that have been associated with historic phosphorous production at some Sites in western New York State (that slag is typically light gray to gray in color). Slag associated with historic phosphorous production can contain elevated low-level radioactivity due to the presence of technically-enhanced naturally occurring radioactive material (TENORM).

Radioactivity levels measured from slag-like materials encountered in soil cores installed during the RI typically ranged from 4000 to 8000 CPM (similar to the levels measured in soil-like materials). Radioactivity levels in slag-like materials at the Site ranged from a low of 4060 CPM at soil boring B-15 to a high of 16,100 CPM at soil boring B-52. These readings are generally consistent with background survey readings measured at the Site and with the radioactivity levels measured in non-slag materials encountered in soil borings.

### 3.1.5 *Community Air Monitoring*

Site-specific VOC or particulate action levels were set on a daily basis based on evaluation of background VOC and particulate readings plus the appropriate action levels indicated in the approved CAMP. Exceedances of VOC or particulate CAMP action levels were not encountered upwind or downwind of the Site during the RI.

## 3.2 SOIL INVESTIGATION

#### 3.2.1 Site Geology

Geologic cross sections were prepared to illustrate the texture of fill and geologic materials encountered at the Site. The locations of the geologic cross sections are presented in Figure 4. Geologic Cross Section A-A' (Figure 5) runs generally south-to-north through the Site and Geologic Cross Section B-B' runs generally west-to-east.

The stratigraphy of materials encountered in the subsurface during the RI is consistent with the stratigraphy described above in Section 1.3. Generally, various-colored fill materials consisting predominantly of silty sand or gravelly sand and generally ranging from 0- to 2-feet in thickness are present at or near the surface. In some areas, this includes black sand material from the former on-Site foundry that is the primary source of

metals and SVOC exceedances at the Site. Sometimes the black sand material is capped by 0.5- to 1.0-foot of brown soft silty clay fill material. The fill materials and are typically underlain by several feet of reddishbrown native silty clay. The native silty clay is typically underlain by a relatively thin layer of silty sand or gravelly sand on top of the underlying gray limestone bedrock (Onondaga Limestone). Many surface and subsurface disturbances for expansions and other construction activities have occurred throughout the life cycle of the Site. These disturbances have locally resulted in variations from the generalized stratigraphy noted above.

Figure 7 presents the thickness of unconsolidated (overburden) materials present on top of bedrock across the Site as measured at soil boring and well locations. Overburden is generally thinnest in the northeastern portion of the Site and thickens to the west and south. Overburden thickness at the Site ranged from a minimum of 1.1 feet on the 233 Mortimer Street parcel to a maximum of 11.5 feet on the 498 Spring Street parcel. Variations in overburden thickness across the Site are also illustrated in the geologic cross sections (Figures 5 and 6).

Figure 8 presents structural contours on the top of bedrock at the Site. The contours are interpreted to show that the top of the bedrock surface generally slopes towards the southwest. As shown in Figure 8 and the geologic cross sections (Figures 5 and 6), there is a bedrock topographic high (interpreted as a generally north-south trending ridge) in the eastern portion of the Site (i.e., the parcels east of Mortimer Street).

## 3.2.2 Black Sand Material

Figure 9 presents the estimated lateral extent of black sand material based on review of historical documentation and its distribution in soil borings and test pits at the Site. Certain COPCs detected at concentrations above applicable SCGs typically occur in the black sand material. The black sand material is often present within 2- to 3-feet of the ground surface, but it has also been observed as sporadic veins or other irregular geometries at other depths. It generally should be considered to be sporadic in distribution both laterally and vertically within the areas shown in Figure 9. This is likely due to the black sand material being moved during historical subsurface disturbances such as previous excavations for foundations and floor slabs, utility trenches, former USTs, or other structural features at the Site. Additionally, Brown and Caldwell (2007) report that some black sand material encountered on Site during the building decommissioning and demolition work performed in 2006 was moved and consolidated in the vicinity of the former foundry, which was formerly located in the west-central portion of the 490 Broadway parcel.

While black sand material was observed within several feet of some property boundaries during the RI (Figure 9), review of historical environmental documentation summarized in the BCP Application (Howden, 2013) including Sanborn maps and aerial photographs suggests there is no reason to believe that contiguous areas of black sand material were emplaced off-Site during Site operations. Importantly, black sand material was not observed on adjacent parcels during the RI.

# 3.2.3 Soil Sampling and Analysis

Comprehensive laboratory analytical results from all soil samples collected at the Site during the RI and previous investigations are presented in Table 5. The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Unrestricted Use SCOs:

## **VOCs**

• Acetone

# **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenzo(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

# **PCBs**

- Aroclor 1242
- Aroclor 1248
- Aroclor 1254
- Aroclor 1260

# Metals (mg/kg)

• Arsenic

- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Selenium
- Silver
- Zinc

Figure 10 shows the estimated areas within the 0- to 2-feet depth interval that may contain one or more of these compounds or elements at concentrations above the Unrestricted Use SCOs based on the results of geostatistical mapping using the inverse distance weighting function in GIS software. Figure 11 shows the estimated areas at depths greater than 2-feet that may contain one or more of these compounds or elements at concentrations above the Unrestricted Use SCOs.

The vertical layer approach to delineating and mapping exceedances was utilized to facilitate vertical delineation of COPCs and also the evaluation of remedial options at the Site. Likewise, estimated volumes of soil exceeding the applicable SCOs are presented in these figures based on the estimated thickness of the exceedance area. The thickness is defined as 2feet in Figure 10 and is calculated in Figure 11 using the average bottom of the sampled interval in mapped areas.

Estimated areas and volumes are provided for informational purposes and not to imply that a remedial action involving excavation, transport, and disposal off Site will be necessary to achieve a desired land use for one or more of the parcels. For example, a remedial approach involving installation of a cover system (without remedial soil excavation) may be more desirable for one or all of the parcels based on the desired land use, financial considerations (e.g., capital costs, potential tax credits, other financial assistance, etc.), or other factors relevant to Howden and SAAKC as redeveloper. The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Protection of Groundwater SCOs:

## <u>VOCs</u>

• Acetone

## <u>SVOCs</u>

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Indeno(1,2,3-cd)pyrene

## **PCBs**

• Aroclor 1254

# Metals (mg/kg)

- Arsenic
- Barium
- Cadmium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Selenium
- Silver
- Zinc

Figure 12 shows sample locations within the 0- to 2-feet depth interval that contain one or more of these compounds or elements at concentrations above the Protection of Groundwater SCOs. Figure 13

shows sample locations at depths greater than 2-feet that contain one or more of these compounds or elements at concentrations above the Protection of Groundwater SCOs.

The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Residential SCOs:

## **VOCs**

None

# **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

# **PCBs**

• Aroclor 1254

# Metals (mg/kg)

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Zinc

Figure 14 shows sample locations within the 0- to 2-feet depth interval that contain one or more of these compounds or elements at concentrations above the Residential SCOs. Figure 15 shows sample locations at depths greater than 2-feet that contain one or more of these compounds or elements at concentrations above the Residential SCOs.

The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Restricted Residential SCOs:

## **VOCs**

None

# **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

# **PCBs**

• Aroclor 1254

# Metals (mg/kg)

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury

- Nickel
- Zinc

Figure 16 sample locations within the 0- to 2-feet depth interval that contain one or more of these compounds or elements at concentrations above the Restricted Residential SCOs. Figure 17 shows sample locations at depths greater than 2-feet that contain one or more of these compounds or elements at concentrations above the Restricted Residential SCOs.

The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Commercial SCOs:

## VOCs

None

# **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

# **PCBs**

• Aroclor 1254

# Metals (mg/kg)

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury

- Nickel
- Zinc

Figure 18 shows sample locations within the 0- to 2-feet depth interval that contain one or more of these compounds or elements at concentrations above the Commercial SCOs. Figure 19 shows sample locations at depths greater than 2-feet that contain one or more of these compounds or elements at concentrations above the Commercial SCOs.

The following compounds or elements were detected in one or more soil or fill samples collected at the Site at concentrations above the Industrial SCOs:

# VOCs

None

# **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

# **PCBs**

None

# Metals (mg/kg)

- Arsenic
- Cadmium
- Lead
- Manganese
- Mercury
- Zinc

Figure 20 shows sample locations within the 0- to 2-feet depth interval that contain one or more of these compounds or elements at

concentrations above the Industrial SCOs. Figure 21 shows sample locations at depths greater than 2-feet that contain one or more of these compounds or elements at concentrations above the Industrial SCOs.

Figure 22 presents estimated areas of GCM based on observations of visual, olfactory, or PID screening evidence of potential contamination in environmental samples. GCM observed at the Site consists of residual petroleum constituents and was typically observed through slight to moderate petroleum-like sheen or odor in soil and groundwater in the areas shown in Figure 22.

#### 3.2.4 Soil Contaminant Sources

Review of soil boring logs and laboratory analytical results indicates that exceedances of metals and SVOCs in soil are typically observed in samples with black sand material. This material is spent foundry sand that may have been generated at the foundry that formerly operated on Site. Review of available historical environmental documentation and observations during the RI indicate there is no reason to believe that contiguous black sand material was emplaced off-Site.

Based on the historical use of PCBs in electrical equipment at the Site, it is assumed that detections of PCBs in soil at the Site are associated with releases of dielectric fluids from former electrical equipment used at the Site.

Petroleum products including lubricating oil, cutting oils, fuel oil, and gasoline were formerly used at the Site. Typically low levels of residual petroleum constituents are present in several areas of the Site based on observations of generally light to moderate petroleum-like sheen, odor, and/or staining in soil. These areas have been mapped as GCM in Figure 22. Petroleum products may be a source of VOCs, SVOCs, PCBs, and/or metals in soil depending on the type of petroleum product.

The only VOC that was detected at concentrations above the Unrestricted SCOs in soil at the Site is acetone, and acetone is not typically associated with standard petroleum products. Additionally, acetone was only detected at low concentrations below the analytical reporting limit (i.e., "J"-flagged data) and only in a relatively few soil samples (SB-18, B-33, B-42A, B-57, B-58, and B-59). The few isolated, low-level Unrestricted SCO exceedances of acetone do not appear to be associated with an identifiable former Site activity and may be artifacts of sampling handling in the laboratory and/or elevated detection limits.

## 3.3 GROUND WATER INVESTIGATION

## 3.3.1 Monitoring Well Installations

The thickness of the screened interval in overburden wells was variable based on the generally shallow and variable depth to the top of bedrock at each well location. Screened intervals for monitoring wells are summarized below (depths are indicated in feet bgs).

Monitoring Well	Screened	Dry During Sampling?
TMW-12	5.5'-10.5'	No
TMW-13	1.7'-4.7'	Yes
TMW-14	3.5'-9.5'	No
TMW-15S	4.0'-8.0'	No
TMW-15D (bedrock)	10.5'-20.5'	No
TMW-16	2.5'-6.5'	Yes
TMW-17	1.8'-3.8'	Yes

Overburden groundwater at the Site is generally perched (contained) on top of the bedrock surface. In order to further facilitate isolation of the bedrock monitoring well (TMW-15D) from the overburden monitoring well (TMW-15S), well TMW-15D was constructed by cementing a 4-inch diameter outer steel casing approximately 2-feet into competent bedrock using quick-setting cement hydrated with potable water. The top of bedrock was encountered at a depth of approximately 8.2-feet bgs. The outer steel well casing was allowed to set overnight. Air-hammer drilling methods were then used to advance the borehole further into bedrock. A significant water-bearing fracture was encountered at a depth of approximately 14-feet bgs (approximately 5.8-feet into bedrock). Drilling was terminated at TMW-15D at a depth of approximately 20.5-feet bgs (approximately 12.3-feet into bedrock).

Figures 23 and 24 present overburden groundwater contour maps based on groundwater level data collected in 2012 and 2015, respectively.

3.3.2 Groundwater Sampling and Analysis

# 3.3.2.1 *Chemical Parameters*

Review of groundwater field parameter data in Table 3 indicates that Site groundwater generally has DO levels that are intermediate between oxygenated (values around 7-8 mg/L) and anaerobic or non-oxygenated conditions (values < 1 mg/L). ORP data including both positive (oxidizing) and negative (reducing) values suggest a geochemically mixed

groundwater environment that is locally variable. Data are comparable for both shallow (overburden) and deeper (bedrock) groundwater.

Comprehensive laboratory analytical results from all groundwater samples collected at the Site during the RI and previous investigations are presented in Table 6 and in Figure 25. Review of laboratory analytical results indicates that COPCs were not detected in the bedrock groundwater sample (TMW-15D). The following compounds or elements were detected in one or more overburden groundwater samples collected at the Site at concentrations above the NYSDEC's ambient groundwater quality standards or guidance values:

### <u>VOCs</u>

1,2,4-Trimethylbenzene

### **SVOCs**

None

### **PCBs**

None

# Metals (mg/kg)

- Antimony
- Iron
- Lead
- Magnesium
- Manganese
- Selenium
- Sodium

# 3.3.2.2 Background Fluorescence

The details and results of the BFA evaluation are presented in Appendix F. Similarities in groundwater fluorescence "fingerprints" can identify hydraulic connections between groundwater samples collected in different portions of a site. However, significant similarities in fluorescence "fingerprints" of groundwater samples collected at the Site during the RI were not observed, suggesting that groundwater flow in overburden is dominated by matrix flow and that preferential groundwater flow paths (i.e., fractures, utility conduits, sand or gravel lenses, etc.) may not be of environmental significance in overburden at the Site at the scale of the sampling effort.

#### 3.3.3 Elevations Survey and Groundwater Flow

The results of the elevations survey and measurements of depth to groundwater are used to evaluate groundwater gradients and flow at the Site.

Groundwater level measurements at monitoring well couplet MW-15S and MW-15D (Table 3) indicate there is a vertically-downward hydraulic gradient at that location, suggesting that groundwater from the overburden zone will likely flow downward into the bedrock zone if a pathway such as an open fracture exists.

Figures 23 and 24 present overburden groundwater contour maps based on groundwater level data collected in 2012 and 2015, respectively. Groundwater contours in both figures are generally similar and document a general south-southwest direction of overburden groundwater flow at the Site. Given that overburden groundwater is perched on top of the bedrock surface, localized variation in groundwater flow direction likely occurs based on the local topography of the bedrock surface (Figure 8).

## 3.3.4 Groundwater Contaminant Sources

SVOCs and PCBs were not detected in Site groundwater at concentrations above ambient groundwater quality standards or guidance. Therefore, SVOCs and PCBs in soil at the Site do not appear to be a source to Site groundwater.

Review of laboratory analytical results indicates that the following metals associated with black sand material had exceedances of SCOs in soil and a few isolated exceedances of the ambient groundwater quality standards and guidance values:

- Lead;
- Manganese; and
- Selenium.

Antimony was also detected in Site groundwater in two samples at concentrations above its ambient groundwater quality standard. Therefore, the black sand material may represent a source of metals in Site groundwater. However, the following metals were detected in Site groundwater at concentrations above their ambient groundwater quality standards or guidance values that are interpreted to be derived from natural sources:

- Iron;
- Magnesium; and
- Sodium.

The observed concentrations of these metals, commonly found in natural rock-forming minerals as described in Section 1.2, is consistent with the anticipated geochemical character of groundwater at the Site. These metals are considered as naturally occurring at the Site and raising only aesthetic and not environmental concerns.

Petroleum products including lubricating oil, cutting oils, fuel oil, and gasoline formerly used at the Site may have also affected shallow groundwater in the isolated areas shown in Figure 22. However, VOCs, SVOCs, PCBs, and metals typically are not present in areas of GCM at concentrations above the ambient groundwater quality standards and guidance values. The one isolated detection of the VOC 1,2,4-Trimethylbenzene in the groundwater sample from well TMW-07 in 2012 is likely associated with petroleum. However, the proximity of this detection to the street and its isolation to this location suggests that historic use of the street by vehicles (which use petroleum) or some other off-Site source cannot be ruled out.

# 3.4 DATA USABILITY EVALUATION

All laboratory analytical data for soil samples obtained during the RI were found to be valid and usable with the qualifications noted in data summary tables and the stand-alone Electronic Data Summary.

# 3.5 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

# 3.5.1 *Chemicals of Potential Concern*

Chemicals of potential concern (COPCs) for soil and groundwater are identified based on exceedances of applicable SCGs. Analytical data were reviewed to identify COPCs for each environmental medium. Tables 7 and 8 show the maximum detected concentrations in soil and groundwater samples collected at the Site, respectively.

## <u>Soil</u>

The contemplated future use of the Site is mixed restricted residential and commercial. Therefore, soil data were compared to the Restricted Residential SCOs (i.e., the higher land use). The SCOs are intended to be applied to the top 15 feet of soil (or to the top of bedrock if shallower) consistent with NYSDEC's Soil Cleanup Guidance Policy dated 21 October 2010 (CP-51; NYSDEC, 2010b).

Most of the compounds detected at concentrations above the Restricted Residential SCOs occur predominantly in the black sand material. Two potential additional sources are residual petroleum constituents (VOCs, SVOCs, and/or metals) and former electrical equipment (PCBs). The following compounds were detected in one or more soil samples at the Site with the shown maximum concentration exceeding its Restricted Residential SCO:

## **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Chrysene

## **Metals**

- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Zinc

## **PCBs**

• Aroclor 1254

## <u>Groundwater</u>

Groundwater analytical data were compared to the NYSDEC's ambient

groundwater quality standards and guidance values for Class GA groundwater (TOGS-1.1.1; NYSDEC, 1998). Groundwater has no current or planned future use at the Site. However, excavation dewatering may occur during future construction-related activities.

The following compounds were detected in one or more groundwater samples at the Site with the maximum concentration exceeding the TOGS-1.1.1 values:

# <u>VOCs</u>

• 1,2,4-trimethylbenzene

# <u>Metals</u>

- Antimony
- Iron
- Lead
- Magnesium
- Manganese
- Selenium
- Sodium

# 3.5.2 Potential Exposure Pathways

The Site is located within a mixed residential and commercial urban area. This area has been developed since the mid-1800s and has experienced various transformations in land use. The main portion of the Site which housed primary manufacturing and associated operations is the 490 Broadway parcel. Parcels west of Spring Street were used primarily for storage and parcels east of Mortimer Street were used primarily for parking and garage operations.

Currently, the Site is unoccupied and vacant. The current land use designation per the City of Buffalo for these parcels is "vacantcommercial". There are no buildings on Site and no current activities performed, with the exception of the RI and associated activities, which involves the performance of soil and groundwater sampling. It is also important to note that the Site is not secured by a fence or other security system. Hence, trespassing may occur and was routinely observed by ERM personnel during performance of the RI. Potential exposure pathways for soil and groundwater are summarized as Pathways A through Q (Table 9). These potential exposure pathways were developed through consideration of the five relevant elements of a potential exposure pathway including: 1) environmental media as contaminant source; 2) contaminant release and transport mechanisms; 3) actual or potential points of exposure; 4) routes of exposure; and 5) potential receptor populations.

The following potential exposure pathways were identified for on-Site soil:

- Pathway A: Current Direct Contact (Dermal Absorption) with Soil for On-Site Commercial Workers;
- Pathway B: Current Incidental Ingestion of Soil for On-Site Commercial Workers;
- Pathway C: Current Fugitive Dust Emissions (Inhalation) of Soil for Commercial Workers;
- Pathway D: Current Direct Contact (Dermal Absorption), Incidental Ingestion and Dust Emissions (Inhalation) of Soil for Potential Trespassers;
- Pathway E: Future Direct Contact (Dermal Absorption) with Soil for On-Site (Indoor) Commercial Workers;
- Pathway F: Future Direct Contact (Dermal Absorption) with Soil for Commercial Workers;
- Pathway G: Future Direct Contact (Dermal Absorption) with Soil for Construction Workers/Utility Workers;
- Pathway H: Future Direct Contact (Dermal Absorption) with Soil for Residents;
- Pathway I: Future Incidental Ingestion of Soil for Commercial Workers;
- Pathway J: Future Incidental Ingestion of Soil for Construction Workers/Utility Workers;
- Pathway K: Future Incidental Ingestion of Soil for Residents;
- Pathway L: Future Fugitive Dust Emissions (Inhalation) of Soil for Commercial Workers.
- Pathway M: Future Fugitive Dust Emissions (Inhalation) of Soil for Construction Workers/Utility Workers.
- Pathway N: Future Fugitive Dust Emissions (Inhalation) of Soil for Residents.

The following potential exposure pathways were identified for on-Site groundwater:

- Pathway O: Future Direct Contact of Groundwater by Construction/Utility Workers during Excavation and Dewatering Activities.
- Pathway P: Future Incidental Ingestion of Groundwater by Construction/Utility Workers during Excavation and Dewatering Activities.
- Pathway Q: Future Inhalation of Vapors Indoors and Outdoors from Underlying Groundwater Residents, Commercial Workers, and Construction/Utility Workers.

# 3.5.3 *Qualitative Exposure Assessment*

The pathway scenarios discussed focus on current conditions at the Site observed during implementation of the RI. Soil containing COPCs above applicable SCGs may be permanently removed from the Site or access will be restricted via installation of engineering controls (ECs), such as a soil cover system, and/or implementation of a NYSDEC-approved SMP after the completion of remedial actions. Thus, future exposure pathways are generally considered to be incomplete for the contemplated use of the Site except as noted below.

# <u>Soil</u>

• Pathway A: Current, Direct Contact (Dermal Absorption) with Soil for On-Site Commercial Workers

There are no current intrusive activities performed on Site with the exception of environmental investigation activities. Employees performing this sampling are required to wear PPE such as gloves, steel toed shoes, and safety glasses as routine protective measures. Employees receive hazard communication training and employees must also adhere to a Site-specific HASP that includes standard practices for the use of PPE. However, if these practices are not followed, there is the potential for dermal absorption of contaminants. Therefore, this pathway is considered potentially complete.

• <u>Pathway B: Current, Incidental Ingestion with Soil for On-Site</u> <u>Commercial Workers</u> As noted in Pathway A, on-Site workers follow a Site-specific HASP; however, if hands are not washed prior to eating or the mouth is touched with gloves, there is a potential for exposure, hence, this pathway is considered potentially complete.

• Pathway C: Current Fugitive Dust Emissions (Inhalation) of Soil for Commercial Workers

As noted in Pathway A, current on-Site workers follow Site-specific health and safety practices. During intrusive activities, there is a possibility of creating fugitive dust through the use of drilling or excavation equipment. As a result, the potential exposure pathway for inhalation of soil is considered potentially complete.

 Pathway D: Current Direct Contact (Dermal Absorption), Incidental Ingestion or Dust Emissions (Inhalation) of Soil for Potential Trespassers

It is known that trespassers have been on the Site; however, there is no information regarding the likelihood that these trespassers may touch the soil directly with their hands and/or if they may disrupt the ground and create dust emissions. As a result, these pathways are considered to be potentially complete until such time that Site access is restricted and/or remedial action is completed.

 Pathway E: Future Direct Contact (Dermal Absorption) with Soil for On-Site Commercial Workers

There is a possibility that portions of the Site will be used for commercial purposes. If buildings are constructed and occupied for commercial operations, there is no reason to believe that a commercial worker working primarily inside the building will be in direct contact with any exposed soil given the future implementation of an approved SMP. Therefore, this potential exposure pathway is considered incomplete.

• Pathway F: Future Direct Contact (Dermal Absorption) with Soil for Commercial Workers

There is a possibility that some of the Site will be used for commercial purposes. If buildings are constructed and occupied for commercial operations there is no reason to believe that a commercial worker with responsibilities inside and outside the buildings on the grounds, will be in direct contact with any exposed soil given the future implementation of an approved SMP. Therefore, this potential exposure pathway is considered incomplete.

• <u>Pathway G: Future Direct Contact (Dermal Absorption) with Soil</u> for Construction Worker/Utility Worker

Remediation and construction activities will take place on Site at a later date. The exact nature of the construction activities is not currently known and workers will have to follow a Final SMP including a Site-specific HASP requiring various forms of PPE. During remedial activities, an approved Interim SMP will be implemented until the Final SMP is approved. However, there will be a potential for direct contact with soil for this receptor population. As a result, this exposure pathway is considered potentially complete.

• <u>Pathway H: Future Direct Contact (Dermal Absorption) with Soil</u> <u>for Residents</u>

As a potential future use for this Site will be restricted residential, direct contact with soil is possible but is unlikely given that areas of remaining contamination (if any) will be controlled by implementation of an approved SMP. Access to remaining contamination will be restricted and therefore this exposure pathway is considered incomplete.

 Pathway I: Future Incidental Ingestion of Soil for Commercial Workers

Similar to Pathway E, given the planned implementation of an approved SMP at the Site, there is no reason to believe that a commercial worker will be in direct contact with any exposed earth whereby they may touch the soil and then their mouth. Therefore, this potential exposure pathway is considered incomplete.

 Pathway J: Future Incidental Ingestion of Soil for Construction Worker/Utility Worker;

Similar to the potential direct contact pathway (Pathway G), construction activities will take place on Site at a later date and there will be a potential for direct contact with soil, which may lead to incidental ingestion. As a result, this exposure pathway is considered potentially complete.

# • <u>Pathway K: Future Incidental Ingestion of Soil for Residents</u>

Similar to Pathway E, given the planned use of restricted residential requiring implementation of an approved SMP, there is no reason to believe that residents may come into direct contact with remaining contamination in soil. Therefore, this potential exposure pathway is considered incomplete.

# • <u>Pathway L: Future Fugitive Dust Emissions (Inhalation) of Soil for</u> <u>Commercial Workers</u>

Given the planned restricted use of the Site requiring implementation of an approved SMP, there is no reasonable basis to believe that commercial workers may be exposed to fugitive dust emissions generated from remaining contamination in soil. Therefore, this potential exposure pathway is considered incomplete.

• <u>Pathway M: Future Fugitive Dust Emissions (Inhalation) of Soil for</u> <u>Construction/Utility Workers</u>

On-Site construction/utility workers will be expected to follow an approved Final SMP post remedial action including a Site-specific HASP, and air monitoring will be performed as part of that HASP. During remedial activities an approved Interim SMP will be implemented until the Final SMP is approved. However, it is possible that construction/utility workers may encounter remaining contamination in soil and potentially be exposed to fugitive dust emissions at the Site. Therefore, this potential exposure pathway is considered potentially complete.

# • <u>Pathway N: Future Fugitive Dust Emissions (Inhalation) of Soil for</u> <u>Residents</u>

As noted above for pathway L, given the planned restricted use of the Site requiring implementation of an approved final SMP and Interim SMP during remedial action, there is no reasonable basis to believe that residents may be exposed to fugitive dust emissions generated from remaining contamination in soil. Therefore, this potential exposure pathway is considered incomplete.

# <u>Groundwater</u>

The Site and the surrounding community are serviced by a municipal water supply and there are no public or private drinking water wells. In addition, groundwater use for drinking water will be restricted by an EE approved by the NYSDEC (unless groundwater is treated to a degree rendering it safe for its intended use). Therefore, consumption (ingestion) of groundwater by future Site occupants is considered an incomplete exposure pathway.

Two potential future exposure pathways for groundwater were found to be potentially complete. During future construction activities, such as excavation during remedial action or installation of utilities or other Site improvements after completion of the remediation, future exposure pathways may exist due to excavation and dewatering activities if those activities are conducted in areas of remaining contamination identified in the SMP.

 <u>Pathway O: Future Direct Contact with Groundwater during</u> <u>Excavation Dewatering Activities for On-Site Construction/Utility</u> <u>Workers</u>

Excavation and dewatering activities in the future may be performed in areas of remaining contamination depending on the level of cleanup performed. Therefore, construction and utility workers may come into contact with groundwater. There will be a Site-specific HASP recommending the use of proper PPE, and therefore the potential for significant exposure via this pathway is considered relatively low. However, the potential for direct contact and incidental ingestion of groundwater cannot be ruled out, and therefore this potential exposure pathway is considered potentially complete.

 <u>Pathway P: Future Incidental Ingestion of Groundwater during</u> <u>Excavation Dewatering Activities for On-Site Construction/Utility</u> <u>Workers</u>

Excavation and dewatering activities in the future may be performed in areas of remaining contamination depending on the level of cleanup performed. Therefore, construction and utility workers may come into contact with groundwater. There will be a Site-specific HASP recommending the use of proper PPE, and therefore the potential for significant exposure via this pathway is considered relatively low. However, the potential for direct contact and incidental ingestion of groundwater cannot be ruled out, and therefore this potential exposure pathway is considered potentially complete.

 <u>Pathway Q: Future Inhalation of Vapors (VOCs) Indoors and</u> <u>Outdoors from Underlying Groundwater</u>

Chlorinated solvents or VOCs associated with petroleum are the typical drivers of vapor intrusion evaluations in New York State. VOCs associated with chlorinated solvents or petroleum have not been detected at significant concentrations (i.e., above the Unrestricted SCOs or the ambient groundwater quality standards and guidance values) with the exception of one isolated, low-level exceedance of 1,2,4-Trimethylbenzene in one groundwater sample collected in 2012 from monitoring well TMW-07. The lack of significant concentrations of VOCs in the Site soil documented in the many environmental samples summarized in this RI Report suggests there is no significant potential for a completed vapor intrusion exposure pathway at the Site. Therefore, this potential exposure pathway is considered incomplete.

## 3.5.4 Interpretation of Exposure Assessment

The interpretation of the exposure assessment is summarized in Table 9. The following exposure pathways for soil are considered complete or potentially complete under current and contemplated future Site scenarios:

- Pathway A: Current Direct Contact (Dermal Absorption) with Soil for On-Site Commercial Workers;
- Pathway B: Current Incidental Ingestion of Soil for On-Site Commercial Workers;
- Pathway C: Current Fugitive Dust Emissions (Inhalation) of Soil for Commercial Workers
- Pathway D: Current Direct Contact (Dermal Absorption), Incidental Ingestion and Dust Emissions (Inhalation) of Soil for Potential Trespassers;
- Pathway G: Future Direct Contact (Dermal Absorption) with Soil for Construction Worker/Utility Worker;

- Pathway J: Future Incidental Ingestion of Soil for Construction Worker/Utility Worker;
- Pathway M: Future Fugitive Dust Emissions (Inhalation) of Soil for Construction Worker/Utility Worker.

Direct contact with soil and inhalation of soil represent the greatest risk with regards to frequency and duration of potential exposures for on-Site commercial workers and on-Site construction and utility workers. The risk is greatest during intrusive activities (e.g., disturbance of surface soil or subsurface soil excavation and associated dewatering). Control measures such as proper implementation and compliance with an approved SMP, Interim SMP, the Site-specific HASP, use of appropriate PPE, dust suppression techniques, and the use of ICs will greatly reduce the risk of potential exposures.

Two potential exposure pathways involving groundwater may exist for on-Site construction/utility workers in the future: 1) direct contact with groundwater during subsurface disturbances (i.e., excavation and dewatering) in areas of remaining contamination (if any); and 2) incidental ingestion of groundwater.

## 3.6 ECOLOGICAL RESOURCES ASSESSMENT

Evidence of significant ecological resources was not observed on Site during the RI. Due to their vacant and undeveloped status, the 490 Broadway, 498 Spring Street, and 516 Spring Street parcels contain limited ecological resources consisting of grassy vegetation. Review of the NYSDEC's internet-based Environmental Resource Mapper suggests that the Site and adjacent properties are unlikely to contain rare plants or rare animals. Additionally, there is no evidence that COPCs present at the Site have the potential to migrate to and impact off-Site ecological resources. Therefore, a Fish and Wildlife Resources Impact Analysis (FWRIA) was not performed based on review of the NYSDEC's FWRIA decision key contained in DER-10 Appendix 3C.

## 3.7 INVESTIGATION-DERIVED WASTES

A total of 17 drums of IDW were generated during the RI. Specific wastes generated consisted of the following:

- two drums of soil cuttings;
- thirteen drums of purged groundwater or decontamination waters from the on-Site decontamination area; and
- two drums of used PPE and disposable sampling equipment.

Laboratory analytical results, including toxicity characteristic leaching procedure (TCLP) data, and generator knowledge were used to characterize drums of IDW for waste determination purposes. Results of the characterization analyses of the drums indicated that all IDW could be handled, managed, transported, and disposed off-Site as non-hazardous waste. Howden executed non-hazardous waste profiles which were approved by the waste transporter and facility receiving the waste as nonhazardous wastes.

The IDW drums were appropriately labeled and temporarily staged on Site in a locked steel storage container. The drums were removed from the Site on 17 November 2015 by Environmental Products and Services of Vermont - Buffalo, New York office (EP&S) under a non-hazardous waste manifest/bill of lading. EP&S transported the drums from the Site to the EP&S facility in Syracuse, New York, a Resource Conservation and Recovery Act (RCRA)-permitted facility. Associated waste profile information, laboratory testing results, and the non-hazardous manifest or bill of lading documentation for all IDW generated at the Site is presented in Appendix G.

## 4.0 REMEDIAL ASSESSMENT OF INVESTIGATION RESULTS

Environmental investigations performed at the Site have adequately:

- defined Site geological and hydrogeological conditions;
- identified and characterized sources of contamination;
- evaluated the location, amount, concentration, characteristics, and environmental fate and transport of contaminants present; and
- identified potential exposure pathways and receptor populations.

Therefore, further remedial investigation of the Site appears unwarranted.

Remedial action performed under the NYSDEC's BCP is predicated on future Site use as described in the NYSDEC's Soil Cleanup Guidance Policy CP-51 (NYSDEC, 2010b). The Site is currently vacant and the contemplated future use of the Site is commercial and/or restricted residential.

## 4.1 SOIL

Soil at the Site has been adequately investigated laterally and vertically to evaluate the nature and extent of contamination in excess of applicable SCGs and to allow for a remedial AA which contemplates future development of the Site Tables 10 through 15 present soil data remedial assessment summaries for the various SCOs.

The SCOs for the Protection of Groundwater should not apply to the remediation of the Site because:

- COPCs in Site soil generally are not present in shallow groundwater samples at concentrations above ambient groundwater quality standards and guidance values;
- overburden groundwater is limited to isolated, discontinuous areas perched on top of bedrock and lateral or vertical contaminant transport in Site groundwater is not anticipated to be significant;
- naturally-occurring groundwater quality in the area does not support its use for drinking water or other potable purposes;
- all future contemplated uses of the property will have access to a municipal potable water supply; and

• the future contemplated use of the Site is restricted and will include an IC in the form of an NYSDEC-approved environmental easement (EE) that will restrict the use of groundwater at the Site.

The SCOs for the Protection of Ecological Resources should not apply at this Site based on the results of the ecological resources assessment (see Section 3.6).

Most of the COPCs detected at concentrations above applicable SCGs occur predominantly in the black sand material. The black sand material, along with areas of GCM, will not be acceptable for on-Site reuse during Site redevelopment. Application of the Restricted Residential or Commercial SCOs under Approach 2 contained in NYSDEC's Soil Cleanup Guidance (NYSDEC, 2010b), or application of Site-specific Action Levels under Approach 4 of NYSDEC's Soil Cleanup Guidance, appear appropriate for remedial actions at the Site. The SCOs for Unrestricted Use will also be evaluated in Section 5.0 for comparison purposes.

ICs and/or ECs will be required to facilitate NYSDEC approval of an acceptable Remedial Work Plan for the contemplated Site use (restricted). In addition to an EE, a SMP will be required to ensure that remaining contamination (if any) subsequent to the completion of remedial action is managed appropriately.

# 4.1.1 Potential for Off-Site Soil Impacts

The potential for contiguous off-Site impacts that can be reasonably associated with former operations at the Site is associated with the distribution of black sand material. Review of historical environmental documentation including Sanborn maps and aerial photographs, as well as review of property records obtained from the City of Buffalo Building Department, suggests there is no reason to believe that black sand material was emplaced onto adjacent properties during Site operations. However, black sand material was observed during the RI in close proximity to apparent property boundaries at several locations (Figure 9):

- the southwestern portion of 498 Spring Street;
- the southwestern portion of 490 Broadway (near the boundary with the City's park); and
- the southeastern portion of 187 Mortimer.

Black sand material was not observed crossing apparent property boundaries at the surface. However, it is possible that incidental, contiguous subsurface black sand material may be encountered near the property line. Excavations near property boundaries will be evaluated for the presence of black sand material. If contiguous black sand material that is physically consistent with black sand material at the 490 Broadway parcel is found to be present at a property boundary, the NYSDEC will be notified within 24 hours and a plan will be proposed to address the contiguous black sand material beyond the Site boundary after procurement of an access agreement with the respective property owner.

#### 4.2 GROUNDWATER

Table 16 presents a groundwater data remedial assessment summary.

COPCs were not detected in groundwater from the bedrock monitoring well (TMW-15D).

Overburden groundwater at the Site is laterally and vertically discontinuous and is limited to isolated areas perched on top of bedrock as demonstrated by several monitoring wells that are dry. It is possible that little groundwater will be encountered during excavations at the Site for redevelopment or other purposes. Transmissive (mobile) groundwater appears to be highly limited in occurrence and volume and is limited to fractures, macropores, or coarser zones such as sand and gravel. Lateral or vertical contaminant transport in groundwater is not anticipated to be significant at the Site.

It is anticipated that soil containing COPCs at concentrations above the Restricted Residential and/or Commercial SCOs will be permanently removed from the Site or capped during implementation of the selected remedial action. Therefore, future soil remediation at the Site during redevelopment will likely also act as source removal and control for the protection of groundwater, further reducing the potential for groundwater impacts.

COPCs detected in overburden groundwater at the Site at concentrations above ambient groundwater quality standards are generally low-level exceedances or are naturally occurring and are not considered to be of environmental significance. Investigation or remediation of background ground water conditions is not warranted for this Site consistent with NYSDEC technical guidance (NYSDEC, 2010a). The Site and surrounding areas are serviced by municipal water. Anticipated future source removals during remedial action, the limited amount of mobile groundwater at the Site, and the contemplated implementation of ICs including an EE that will restrict the use of groundwater at the Site suggest that additional investigation or active remediation of groundwater at the Site are not warranted.

## 4.2.1 Potential for Off-Site Groundwater Impacts

COPCs were not detected in bedrock groundwater at the Site. COPCs detected in overburden groundwater at the Site are low-level exceedances or are naturally occurring and are not considered to be of environmental significance. Overburden groundwater at the Site is laterally and vertically discontinuous and is limited to isolated areas perched on top of bedrock. Therefore, lateral or vertical contaminant transport in groundwater at the Site is not anticipated to be significant. Additionally, soil remediation at the Site will act as source removal and control for the protection of groundwater, further reducing the potential for groundwater impacts. Based on these considerations, the potential for off-Site groundwater impacts is considered insignificant. This section provides an analysis of the selected remedial approach by media using the Remedy Selection Evaluation Criteria identified in Section 4.2 of Guidance Document DER-10: Technical Guidance for Site Investigation and Remediation (NYSDEC, 2010). Three alternatives for Site soil are evaluated as follows:

- Alternative 1: No Further Action.
- Alternative 2: Remediate Site to Unrestricted Use (Track 1), an alternative remedy which will achieve unrestricted use for soil without the use of institutional controls (ICs) or engineering controls (ECs).
- Alternative 3: Remove GCM, Remediate Site to SSALs, and Place Cover (Track 4), the selected remedy for soil which will achieve a Track 4 Cleanup as applicable based on planned redevelopment of specific parcels and intended uses for the Site.

One remedial approach is evaluated for Site groundwater.

# 5.1 REMEDIAL GOALS & REMEDIAL ACTION OBJECTIVES

The overall objective of the remedy to be implemented at the Site is to remediate the affected Site soils and address groundwater impacts under the conditions of the BCP. This section presents the remedial goals and remedial action objectives (RAOs) established for the Site media of interest (i.e., soil and groundwater).

Remedial goals are derived from the statute (i.e., Title 6, New York Code of Rules and Regulations [6NYCRR] Part 375) and NYSDEC guidance. The remedial goals for this Site are:

- to be protective of public health and the environment, given the intended use of the Site; and
- to include removal or elimination, to the extent feasible, of identifiable sources of contamination regardless of the intended use of the Site.

As discussed in DER-10 Section 4.1(c), RAOs are medium-specific objectives for the protection of public health and the environment, and are developed based on chemical-specific standards, criteria, and guidance (SCGs) to address contamination identified at a Site. In the case of
protection of human health, RAOs usually reflect the concentration of COPCs and the potential exposure route. Protection may be achieved by reducing potential exposure (e.g., use restrictions, limiting access) as well as by reducing concentrations

Media that are candidates for remedial evaluation are identified based on the nature and extent of contamination and applicable or relevant and appropriate SCGs. Site media of interest are soil and groundwater as identified during the RI, and discussed in Section 4.0.

The applicability of the following RAOs for this Site was evaluated as follows.

#### 5.1.1 <u>Soil</u>

*Prevent ingestion/direct contact with contaminated soil.* Several metals and SVOCs were identified in Site soil above certain Restricted Use SCOs. Therefore, this RAO is applicable for development of Site-specific RAOs.

*Prevent inhalation of or exposure to contaminants volatilizing from contaminants in soil.* 

The QHHEA did not identify volatilization of VOCs in soil as a potential exposure pathway. Therefore, this RAO is not applicable for development of Site-specific RAOs.

## *Prevent migration of contaminants that would result in groundwater or surface water contamination.*

As identified in the RI, the SCOs for the protection of groundwater should not apply at this Site because:

- COPCs in Site soil generally are not present in shallow groundwater samples at concentrations above ambient groundwater quality standards and guidance values;
- overburden groundwater is limited to isolated, discontinuous areas perched on top of bedrock and lateral or vertical contaminant transport in Site groundwater is not anticipated to be significant;
- naturally-occurring groundwater quality in the area does not support its use for drinking water or other potable purposes;
- all future contemplated uses of the property will have access to a municipal potable water supply; and
- the future contemplated use of the Site is restricted and will include an IC in the form of an NYSDEC-approved EE that will restrict the use of groundwater at the Site.

In addition, surface water is not present on or adjacent to the Site. Therefore, this RAO is not applicable.

Prevent impacts to biota from ingestion/direct contact with soil causing toxicity or impacts from bioaccumulation through the terrestrial food chain. As discussed in Section 3.6, evidence of significant on-Site ecological resources was not observed during the RI. Additionally, there is no evidence that contamination present in soil has the potential to migrate to and impact potential off-Site ecological resources on adjacent properties. Therefore, this RAO is not applicable.

#### 5.1.2 Groundwater

## *Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.*

Groundwater at the Site contains some contaminants above ambient water quality standards and guidance values. Therefore, this RAO is applicable for development of Site-specific RAOs.

*Prevent contact with, or inhalation of volatiles, from contaminated groundwater.* As discussed in the QHHEA, the lack of significant concentrations of VOCs detected in soil and ground water during the RI suggests there is no significant existing or potential, for a completed vapor intrusion exposure pathway at the Site. Therefore, the "inhalation of volatiles" component of this RAO is not applicable.

All potable water on-Site and in the surrounding area is supplied by the municipal system, and there are no groundwater supply wells located on-Site. However, future Site workers could be exposed via direct contact during subsurface disturbances. As such, this potential exposure pathway is classified as potentially complete. Therefore, this RAO is applicable as it relates to direct contact with groundwater, only.

## *Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.*

As discussed further in Section 4.2, the lack of groundwater use in the area, the lack of significant mobile groundwater in overburden at the Site, and the proposed use of ICs at the Site to further prohibit the use of groundwater for drinking, suggest that implementation of groundwater quality restoration or plume containment/ stabilization are not required at the Site. Therefore, this RAO is not applicable.

#### Prevent the discharge of contaminants to surface water.

Shallow overburden groundwater at the Site is laterally and vertically discontinuous and is limited to isolated areas perched on top of bedrock as demonstrated by several monitoring wells that are dry. Shallow perched groundwater flow at the Site is generally to the south-southwest (i.e., towards Broadway) due to local bedrock contours. Additionally, surface water is not present within a one-half mile radius of the Site. Investigation results and the apparent absence of groundwater receptors in the area suggest that perched groundwater conditions, as documented in the 2012 Groundwater Investigation and the RI by ERM, do not represent a significant threat to human health or the environment. Therefore, this RAO is not applicable.

#### Remove the source of ground or surface water contamination.

As discussed in DER-10 Section 1.3, a source area is a discrete area of soil, sediment, surface water, or groundwater containing COPCs in sufficient concentrations to migrate in that medium, or to release significant levels of COPCs to another environmental medium, which could result in a threat to public health and/or the environment. A source area typically includes, but is not limited to, a portion of a site where a substantial quantity of any of the following is present:

- 1. concentrated solid or semi-solid hazardous substances;
- 2. non-aqueous phase liquids; or
- 3. GCM.

Although soil contaminants have not been present in groundwater at significant levels, source material with residual petroleum constituents has been detected at the Site (Figure 22). Therefore, the applicable RAO will be to remove source material in the form of GCM as identified by this document.

#### Soil Vapor

Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

As discussed in the QHHEA, the lack of significant concentrations of VOCs detected in soil and ground water during the RI suggests there is no significant existing or potential, for a completed vapor intrusion exposure pathway at the Site. Therefore, no RAOs are applicable for soil vapor.

Based on the above discussion, guidance for development of RAOs in DER-10 Section 4.1(c), and the NYSDEC Generic RAOs, the Site-specific RAOs will be as follows:

#### Soil

• SRAO1 – Prevent ingestion/direct contact with soil that poses a risk to public health and the environment given the current and future intended use of the Site; and

#### <u>Groundwater</u>

- GWRAO1 Prevent ingestion of, or direct contact with groundwater with contaminant levels exceeding drinking water standards.
- GWRAO2 Remove GCM.

#### 5.2 EVALUATION OF REMEDIAL ALTERNATIVES FOR SOIL

Remedial action performed under the NYSDEC's BCP is predicated on future Site use as described in the NYSDEC's Soil Cleanup Guidance Policy CP-51 (NYSDEC, 2010b). The currently contemplated future uses of the Site are Commercial and Residential, depending on the parcel. Attainment of a BCP Track 4 cleanup is proposed according to a particular parcel's proposed future use. For this AA, the final use for each Site parcel will be assumed as noted on the attached Conceptual Site Plan included as Appendix H. The following remedial alternatives are evaluated.

- Alternative 1: No Further Action.
- *Alternative 2: Remediate Site to Unrestricted Use* (Track 1), a remedy which would achieve unrestricted use relative to soil contamination across the Site without the use of ICs or ECs.
- Alternative 3: Remove GCM, Remediate Identified Areas of the Site to SSALs, and Place Cover (Track 4); a remedy that would achieve a Track 4 cleanup based on intended use for specific parcels.

#### 5.2.1 *Summary of Remedial Alternatives*

#### 5.2.1.1 Alternative 1 – No Further Action

This alternative would forego any remedial action or the use of ICs or ECs, resulting in the Site maintaining its current state.

#### Overall Protection of Public Health and the Environment

This alternative remedy would allow for soil and GCM to remain in place. This alternative remedy would also not utilize engineering or ICs and would not meet any of the Site specific RAOs. It is therefore concluded that this alternative remedy would not be protective of public health and the environment.

#### Standards, Criteria & Guidance (SCGs)

This alternative remedy would not achieve compliance with the remedial goals, chemical-specific SCGs and RAOs due to leaving soil above SCGs and GCM in place.

#### Long-Term Effectiveness and Permanence

This alternative remedy would not achieve long-term effectiveness by leaving all impacted soil/black sand in place. Therefore, this remedy would not be effective over the long term.

#### Reduction of Toxicity, Mobility or Volume of Contamination

This alternative remedy would leave in place all contaminants at the Site. The overall toxicity, volume, and mobility would remain unchanged.

#### Short-Term Impact and Effectiveness

This alternative remedy would not achieve short-term effectiveness by leaving all impacted soil/black sand in place. Therefore, this remedy would not be effective over the short term.

#### Implementability

There are no techniques, materials and equipment needed to implement this remedy. No EE would be required under this remedy. The remedy is not effective in remediating the contaminants associated with the Site. Therefore, the remedy is not implementable.

#### Cost Effectiveness

This alternative remedy requires no further action at the Site. Therefore, the remedy would not incur any remedial costs.

#### Community Acceptance

As discussed in DER-10 Section 4.2(j), this criterion will be evaluated after the public review of the remedy selection process as part of the final NYSDEC selection/approval of a remedy for the Site. This criterion will be evaluated in consideration of the remedy needed to achieve no further action at the Site.

#### 5.2.1.2 Alternative 2 – Remediate Site to Unrestricted Use (Track 1)

Under this remedial alternative, all soil constituents present above the Unrestricted Use SCOs would be excavated and disposed off-Site. Based on geostatistical mapping conducted during the RI, this would involve excavation of approximately 66,500 in-place cubic yards (cy) of soil, including 5000 cy of GCM.

Since all soil exceeding Unrestricted Use SCOs would be removed from the Site, an EE or other ICs addressing soil would not be required.

#### Overall Protection of Public Health and the Environment

This alternative remedy would remove all soil from the Site that exceeds Unrestricted Use SCOs. Therefore, this alternative remedy would prevent ingestion/direct contact with soil poses a risk to public health and the environment regardless of the future use of the Site, and would meet SRAO1. It is therefore concluded that this alternative remedy would be protective of public health and the environment.

#### Standards, Criteria & Guidance (SCGs)

This alternative remedy would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of all soil to meet Unrestricted Use SOCs. Health and safety measures contained in the HASP and CAMP that comply with the applicable SCGs would be implemented during Site redevelopment. The primary SCGs that apply to this remedy is provided in Table 17.

#### Long-Term Effectiveness and Permanence

This alternative remedy would achieve long-term effectiveness by permanently removing all impacted soil/black sand above Unrestricted Use SCOs, and enabling unrestricted usage of the property. Therefore, this remedy would be effective over the long term.

#### Reduction of Toxicity, Mobility or Volume of Contamination

As discussed in Section 5.2.4.2, impacted soil would be permanently removed from the Site. This alternative remedy would remove a greater overall mass of contaminants from the Site (66,500 cy versus 19,300 cy). However, the overall toxicity and volume would remain unchanged. The mobility of the contaminants would be reduced via placement in a regulated disposal facility.

#### Short-Term Impact and Effectiveness

To achieve Unrestricted Use SCOs, additional excavation will be required beyond that needed to achieve Restricted SCOs. Potential risks due to exposure to affected material would still be addressed with a HASP. The CAMP would be implemented as stated in Section 5.2.6.1.

During the additional excavation work required to achieve Unrestricted Use SCOs, there would be a significant increase in truck traffic associated with transportation of an additional 47,200 in-place cy of soil to an off-Site disposal facility, and a corresponding volume of imported backfill material. The following table summarizes the volume of soil to excavated and disposed off-Site, as well as the necessary volume of clean fill to import depending on the final Site use.

	Excavate & Remove		Fill In		Total	
	Vol (cy)	Trucks	Vol (cy)	Trucks	Trucks	Days
Unrestricted	66,500	5,541	66,500	5,541	11,082	222
Restricted Use	19,300	1,604	24,400	2,034	3,638	73

\*\* Assumes 50 truckloads per day and in-place volume of 12 cy per truck

Based on these estimates, an unrestricted use cleanup would require approximately 222 working days. This work would have to be completed prior to most redevelopment tasks under the restricted use alternative and considerably delay the use of the Site compared to Alternative 3 for the Site (an estimated 73 working days or 3-4 months).

#### Implementability

The techniques, materials and equipment to implement this remedy are readily available and have been proven effective in remediating the contaminants associated with the Site. No Environmental Easement would be required under this remedy. Therefore, the remedy is implementable.

#### Cost Effectiveness

Table 18 also presents the estimated costs to achieve Unrestricted Use SCOs. This estimated cost is \$11,705,900.

#### Land Use

Cleanup of the Site to Unrestricted Use SCOs ultimately will allow for any level of redevelopment. However, as noted above, the additional volume of soil required for removal could delay completion of the redevelopment project by approximately eight months.

#### Community Acceptance

As discussed in DER-10 Section 4.2(j), this criterion will be evaluated after the public review of the remedy selection process as part of the final NYSDEC selection/approval of a remedy for the Site. This criterion will be evaluated in consideration of the remedy needed to achieve SCOs for the applicable restricted use and unrestricted use of the Site.

5.2.1.3 *Alternative 3 – Remove GCM, Remediate Identified Areas of the Site to SSALs, and Place Cover (Track 4)* 

The Site has been adequately investigated to evaluate the nature and extent of contamination in excess of applicable SCGs. A Track 4 cleanup will be implemented based on the parcel-specific intended land use as indicated in Appendix H and Figure 26. Alternative 3 consists of the following components.

- 1. Areas of GCM (i.e., residual petroleum constituents) will be excavated and transported off-Site for disposal at a permitted disposal facility. The locations and depths of proposed remedial excavations for GCM are presented in Figure 26. Confirmation soil samples will be collected from the GCM excavations in a manner consistent with the requirements of DER-10 Section 5.4(b) and analyzed for STARS-list VOCs and SVOCs. The GCM excavations will be backfilled with soil or fill meeting the SCOs for the specific parcel's intended use.
- 2. As outlined in 6 NYCRR Part 375-3.8(e)(4), Track 4 soil cleanups use Site-specific information to identify Site-specific SCOs (or Site-Specific Action Levels or SSALs) that are protective of public health and the environment under a restricted-use scenario. For Track 4 remedies, restrictions are placed on the use of the property in the form of ECs and/or ICs. For restricted-residential use, the top two feet of all

exposed soils that are not otherwise covered by the components of the development of the Site (e.g. buildings, pavement) cannot exceed the restricted-residential SCOs. Areas that exceed the restricted-residential SCOs must be covered by material meeting the requirements of the generic soil cleanup table contained in 6 NYCRR Part 375-6.7(d) for restricted-residential future Site use. In determining the SSALs that will be employed under the proposed Track 4 cleanup approach for this Site, it is necessary to consider: 1) the need to remediate GCM (e.g., areas exhibiting residual petroleum constituents) where feasible; 2) the need to remediate exceedances of the SSALs; and 3) the exposure scenario of Site workers who may need to perform periodic grounds keeping or other subsurface intrusive work (e.g., utility repairs) involving work beneath the cover system. Toward these ends, Alternative 3 includes the following SSALs that are proposed for soil below the cover system.

Analyte	SSAL	
Metals, mg/kg		
Arsenic	30	
Cadmium	60	
Lead	2200	
Manganese	10,000	
Mercury	2.8	
Zinc	10,000	
PCBs, mg/kg	1/10*	
Total PAHs, mg/kg	500	

#### Notes:

- mg/kg = milligrams per kilogram

- PCBs = polychlorinated biphenyls

- \* = SSAL for surface soil = 1 mg/kg; SSAL for subsurface soil = 10 mg/kg

- PAHs = polycyclic aromatic hydrocarbons

The Track 4 cleanup of the Site will include ICs (i.e., an EE and a SMP) that will mitigate potential exposure pathways for Site workers for all COPCs. The SSALs proposed for this Site are deemed protective of human health for Site workers who may contact soils on a routine basis (twice per week). Additionally, the SSAL of 500 mg/kg total PAHs for subsurface soil is employed in lieu of achieving all of the individual PAH-specific SCOs in 6 NYCRR Part 375-6, and the SSAL for PCBs of 1 mg/kg in the surface soil and 10 mg/kg in the subsurface soil are also employed. These cleanup levels for PAHs and PCBs have been previously determined by NYSDEC to be feasible and

protective in its various remedial programs, including the BCP (NYSDEC, 2010b).

- 3. Application of the proposed SSALs to the Site results in the identification of eight areas of soil below the cover systems that are proposed for remedial excavation (Figure 26).
  - B-16 (0.5-1.5ft)
    - Manganese at 31,800 mg/kg
  - B-25 (0.5-1.5ft)
    - Arsenic at 391 mg/kg
  - B-54 (0.5-1.5ft)
    - o Manganese at 15,900 mg/kg
  - B-55 (0.5-1.5ft)
    - Manganese at 25,400 mg/kg
  - SAND-100B (0-2ft)
    - Lead at 5590 mg/kg
  - SAND-100C (0-2ft)
    - Lead at 5590 mg/kg
  - SAND-103A (0-3ft)
    - o Cadmium at 92.7 mg/kg
  - SAND-103B (0-3ft)
    - o Cadmium at 92.7 mg/kg

The locations and depths of proposed SSAL remedial excavations are presented in Figure 26. An initial 20-foot by 20-foot area will be excavated to a depth of one-foot below the lowest sample depth of the exceedance, resulting in an estimated SSAL remedial excavation volume of 319 cy. Confirmation soil samples will be collected from the SSAL excavations consistent with the requirements of DER-10 Section 5.4(b). One floor and four wall samples will be collected from each SSAL excavation and analyzed for SSAL metals, PCBs, and PAHs. Additional on-Site soil excavation will be performed if necessary based on comparison of the confirmation soil sampling results to the SSALs.

4. Black sand material encountered during GCM remedial excavations, SSAL remedial excavations, or excavations for Site redevelopment (i.e., construction of buildings, sidewalks, paved areas, etc.) will be removed and transported off-Site for disposal at a permitted disposal facility. A soil cover system will be placed over areas of any remaining black sand material which are not otherwise covered by buildings, sidewalks, or pavement. The soil cover system shall comply with the use-based SCOs for that parcel and shall be a minimum of one-foot thick in commercial use areas and a minimum of two-feet thick in residential use areas.

- 5. Areas exceeding the use-based SCOs which are not otherwise covered by buildings, sidewalks, or pavement will be covered with a soil cover system that complies with the use-based SCOs for that parcel. The soil cover system shall be a minimum of one-foot thick in commercial use areas and a minimum of two-feet thick in residential use areas.
- 6. Management of any impacted excavation water that may be encountered during remedial activities.
- 7. A demarcation layer consisting of orange plastic netting will be placed at the bottom of all excavations prior to backfilling. A demarcation layer will also be placed in unexcavated areas prior to emplacement of fill as part of a cover system.
- 8. An EE will be established which only permits restricted residential and/or commercial use. A SMP will be prepared to inform current and future property owners regarding the distribution of affected material exhibiting concentrations in excess of NYSDEC's Unrestricted Use SCOs, as well as remaining soil exceeding the applicable Restricted Use-based SCOs below the cover systems, and to specify the manner in which intrusive work may be conducted in these areas if deemed necessary. The SMP will also include relevant considerations for periodic review of ICs; and

If appropriate based on Site conditions encountered during the remedial action and Site redevelopment, selected parcels may be remediated to residential or to unrestricted use after consultation with and approval of NYSDEC.

#### Additional Information by Parcel

The Site comprises seven properties: 498 and 516 Spring Street; 187, 213, and 233 Mortimer Street; and 490 and 498 Broadway. Redevelopment plans for each of the parcels varies with the redevelopment proposal currently in review by the City of Buffalo Common Council and City of Buffalo Planning Department. Redevelopment of all parcels is contingent upon NYSDEC's approval of this AA Report. Further, redevelopment of potential residential units on Spring Street and Mortimer Street and along Sycamore Avenue is contingent on approvals from the City of Buffalo and development financing. The Conceptual Site Plan is attached as Appendix H. The Proposed Project Schedule is attached as Appendix I.

For all parcels, all soil excavation, handling, or disposal shall be performed in accordance with an NYSDEC-approved work plan developed during the initial remediation of the Site as part of the current Brownfield project. The further redevelopment of any parcel, after initial remediation, would require notice to NYSDEC and receipt of all Department approvals that are required for a subsequent change in use, and the development plan will be consistent with obtaining a site that meets all requirements under the BCP.

#### **187 Mortimer Street**

The contemplated use for this parcel is restricted residential. The SSAL exceedances will be excavated followed by placement of two-feet of clean cover (approximately 4,600 cy). No further redevelopment of 187 Mortimer is proposed.

#### 213 Mortimer Street

The contemplated use for this parcel is restricted residential. The SSAL exceedance at B-54 will be excavated followed by placement of two-feet of clean cover (approximately 2,800 cy). No further redevelopment of 213 Mortimer is proposed.

#### 233 Mortimer Street

The contemplated use for this parcel is restricted residential. Redevelopment of the property will be passive green space, remediated to a Track 4 Restricted Residential clean-up. This will require the removal of the top two feet of soil and the replacement with two feet of clean soil. The estimated volume of soil to be excavated and disposed off-Site is approximately 2166 cy; the estimated volume of clean soil to be brought onto the parcel is approximately 2166 cy. Any future alternate land use will be based on community input. If said input results in a proposal for an alternate land use, other than open space, SAAKC will seek an amendment of the Decision Document from NYSDEC to modify remedy of a Track 4 Restricted Residential clean up to accommodate the use proposed and advocated by the community. It is understood that modifying the remedy for an alternate use will require NYSDEC review and approval.

#### 498 Broadway Parcel

The contemplated use of this parcel is commercial. One foot of clean soil cover will be emplaced. No further redevelopment of 498 Broadway is proposed. The parcel will be developed at a point in the future for a commercial use consistent with the City of Buffalo zoning requirements, after identification of an appropriate end-user and after obtaining all required City of Buffalo approvals.

#### 490 Broadway Parcel

The contemplated use of this parcel is mixed restricted residential and commercial. Following the excavation of the SSAL exceedances, the top six inches of existing soil will be excavated from asphalt parking and driveway areas. Soil will be removed as necessary from building footprint areas to construct the building foundations. Parking areas and driveways will be covered with asphalt pavement. Driveways, parking areas, and the building foundations shall act as cover for those areas of the parcel. All other areas of the parcel will be excavated to a depth of two feet or will have two-feet of clean fill cover emplaced to meet Track 4, restricted residential requirements. Excavated materials will be disposed off-Site and excavated areas will be backfilled to existing grade with two feet of clean fill to meet Track 4, restricted residential requirements. The estimated volume of soil to be excavated and disposed off-Site is 13,014 cy. The estimated volume of clean soil to be brought onto the parcel is 16,733 cy.

A four story commercial use building will be constructed on the southeastern portion of the parcel along Broadway, consistent with the City of Buffalo zoning requirements. Soil in this area will be removed as required to achieve a Track 4 Commercial cleanup. Excavated soil will be disposed off-Site (estimate of 635 cy).

#### 498 and 516 Spring Parcels

Redevelopment of these properties will be passive green space, remediated to a Track 4 Restricted Residential clean-up. This will require the removal of the top two feet of soil and the replacement with two feet of clean soil. The estimated volume of soil to be excavated and disposed off-Site is 2050 cy. The estimated volume of clean soil to be brought onto the parcel is 2050 cy. Any future alternate land use will be based on community input. If said input results in a proposal for an alternate land use, other than open space, SAAKC will seek an amendment of the Decision Document from NYSDEC to modify remedy of a Track 4 Restricted Residential clean up to accommodate the use proposed and advocated by the community. It is understood that modifying the remedy for an alternate use will require NYSDEC review and approval.

The combination of these EC and ICs with the proposed remediation described above will comprise the final remedy for Site soil.

#### Overall Protection of Public Health and the Environment

The soil RAOs have been established to protect public health and the environment and are listed below:

• SRAO1 – Prevent ingestion/direct contact with soil that poses a risk to public health and the environment given the current and future intended use of the Site.

This soil RAO will be achieved for the Site. GCM will be excavated and disposed off-Site along with soil that exceeds SSALs. Excavation of soil below the cover system at the Site as identified in Figure 26 will occur until post-excavation samples meet SSALs. A composite soil cover system consisting of one to two-feet of clean fill, buildings and/or pavement will be placed over any areas with constituents exceeding the applicable restricted use-based SCOs or (refer to Appendix H Conceptual Site Plans and Figure 26). These areas will be managed in-place under a SMP which will limit disturbance of the soil without the proper controls. As such, the selected remedy will prevent ingestion/direct contact with soil above the applicable SCOs and SSALs, and will meet SRAO1. It is therefore concluded that the selected remedy is protective of public health and the environment.

#### Standards, Criteria & Guidance (SCGs)

This alternative will achieve compliance with the remedial goals, chemical-specific SCGs, and RAOs for soil through removal of GCM, removal of soil above SSALs, and by placing a composite cover system (i.e., soil, pavement, buildings) to achieve a Track 4 cleanup, as applicable. The SMP would ensure that these controls remained protective for the long term.

Health and safety measures contained in a construction-specific HASP and CAMP that comply with the applicable SCGs will be implemented during Site redevelopment. The primary SCGs that apply to this remedy are provided in Table 17.

#### Long-Term Effectiveness and Permanence

The excavation activities will achieve long-term effectiveness by permanently removing an estimated 5000 cy of GCM from the Site, and an estimated 319 cy of soil below the cover system exceeding SSALs. A composite cover system consisting of clean soil cover, paved areas, walkways, or building foundations (refer to Appendix H - Conceptual Site Plan and Figure 26) will be placed over any remaining soil containing chemical constituents exceeding the applicable SCOs (based on individual parcel intended end-use). Implementation of an SMP will ensure that this protection remains effective for the long-term. The SMP will ensure longterm effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and use restrictions continue to be in place and are functioning as they were intended assuring that protections designed into the remedy will provide continued high level of protection in perpetuity. Therefore, this remedy will be effective over the long term.

#### Reduction of Toxicity, Mobility or Volume of Contamination

As discussed in Section 5.2.4.1, an estimated volume of 5000 cy of GCM will be permanently removed along with an estimated 319 cy of soil below the cover system exceeding SSALs. The overall toxicity and volume will remain unchanged. The mobility of the contaminants will be reduced via placement in a regulated disposal facility. The remaining impacted soil will remain confined on-Site under a composite cover system consisting of clean soil cover, paved areas or building foundations (based on individual parcel intended end-use).

#### Short-Term Impact and Effectiveness

During implementation of the remedial work, potential risks due to exposure to affected material will be addressed with a HASP. A CAMP will be implemented during intrusive activities at the Site to allow rapid identification, evaluation, and response to any potential risks to the community, Site workers and/or the environment. Corrective action will consist of ECs (e.g., dust suppression techniques, venting, sloping, shoring, etc.) to address potential concerns as they occur. During the excavation work, there will be a temporary increase in truck traffic (associated with transportation of soil for off-Site disposal, and a similar amount to backfill the excavations. Additional truck traffic is also associated with import of clean fill for the soil cover and redevelopment construction. Therefore, the short-term impacts associated with this project are acceptable.

#### Implementability

The techniques, materials and equipment to implement this remedy are readily available and have been proven effective in remediating the contaminants associated with the Site. They use standard materials and services that are well established technology. There are no special difficulties associated with any of the activities proposed.

Removal of GCM, soil below the cover system exceeding SSALs, and placement of a cover system to achieve a Track 4 cleanup as applicable, along with the proposed ICs, comprises the selected remedy. The property owner at the time of the remedial action will be conducting the remediation and will need to agree to the establishment of an EE which limits use to a selected restricted use on applicable parcels. Therefore, there is no need to obtain other approvals for the EE. Hence, the remedy is implementable.

#### Cost Effectiveness

Table 18 presents a summary of significant costs associated with the implementation of the selected remedial action (Alternative 3). The remedial cost of Alternative 3 under the assumptions described above is estimated to be \$5,323,400

#### Land Use

The Site has been historically used for industrial operations. The Site has been inactive since 1992 and vacant since 2006, and is being redeveloped to allow construction of new commercial and residential properties. The planned cleanup will return the Site to productive use and allow continued use of the property in this capacity.

#### Community Acceptance

As discussed in DER-10 Section 4.2(j), this criterion will be evaluated by NYSDEC after the public review of the remedy selection process as part of the final NYSDEC selection/approval of a remedy for the Site. This criterion will be evaluated in consideration of the remedy needed to achieve SCOs for the applicable commercial use, restricted use, and unrestricted use of the Site.

#### 5.2.1.4 Evaluation Summary

Alternatives 2 and 3 are equally protective of human health and the environment, will both permanently address soil from the Site and satisfy the soil RAOs. In addition, both alternatives will allow for the return the property to productive use. However, Alternative 2 would require excavation, transport, and off-Site disposal of an additional 47,200 cy of material due to the requirement to achieve an unrestricted use cleanup. This would result in an estimated additional cost of approximately \$6,382,500 along with a significant increase in truck traffic to the surrounding community. Therefore, implementation of Alternative 2 would not provide greater protection to human health and the environment given the intended Mixed Restricted Use of the property.

#### 5.3 EVALUATION OF GROUNDWATER REMEDY

#### 5.3.1 *Summary of Remedy*

The investigation results indicate the presence of low levels of VOCs with one slight exceedance, and metals above the NYSDEC Ambient Water Quality Standards for Class GA Groundwater. Investigation results and the apparent absence of groundwater receptors in the area suggest that perched groundwater conditions present at the Site do not represent a significant threat to human health or the environment. Groundwater investigations conducted in 2012 and during the RI suggest that Site demolition and associated remediation activities undertaken in 2006 through 2008 were effective in reducing the impact of previous Site operations on groundwater quality. An Environmental Easement will be established prohibiting groundwater use without treatment rendering it safe for intended use.

#### 5.3.2 Overall Protectiveness of the Public Health and the Environment

All potable water is supplied to the Site by municipal water. There are no private drinking water wells at the Site or in the area surrounding the Site. As a result, the exposure pathway via ingestion of groundwater is presently incomplete. However, future Site workers could be exposed via direct contact during subsurface disturbances. The SMP will inform current and future property owners regarding the presence of groundwater with parameters above the Ambient Water Quality Standards. The SMP also will specify the manner in which intrusive work may be conducted in these areas if deemed necessary. To further protect public health, the Environmental Easement will prohibit any use of Site groundwater without treatment. This will prevent potable water consumption or exposure to Site groundwater above applicable levels. All GCM will be removed from the Site and disposed off-Site. Therefore, the proposed remedy will achieve the applicable remedial action objectives:

- GWRAO1 Prevent ingestion of, or direct contact with groundwater with contaminant levels exceeding drinking water standards.
- GWRAO2 Remove GCM.

#### 5.3.3 Standards, Criteria & Guidance (SCGs)

The primary SCGs that will apply are provided in Table 17. Under the proposed remedy, groundwater contaminants will remain at

concentrations above the ambient groundwater quality standards and guidance values.

Measurement of groundwater elevations in monitoring wells across the Site reveals that there is shallow perched groundwater at the Site. The overall flow direction of shallow perched groundwater at the Site is generally towards the south-southwest. However, there are significant local variations in groundwater flow direction that apparently are the result of inferred structural lows and highs in elevation on top of the bedrock surface.

Exceedances of NYSDEC ambient groundwater quality standard and guidance values were limited to one VOC in one well and metals in several wells. VOCs were not detected in the samples from wells TMW-04, TMW-08, and TMW-09 (the wells with petroleum-like sheen and odor). Several VOCs commonly associated with some petroleum products were detected in samples from wells TMW-01 and TMW-07. However, the only exceedance is a very slight exceedance for 1,2,4-Trimethylbenzene in the sample from well TMW-01. The exceedance is slight and localized in distribution.

The following metals were detected in one or more groundwater samples at concentrations above NYSDEC ambient groundwater quality standards and guidance values:

- Antimony;
- Iron;
- Lead;
- Magnesium;
- Manganese;
- Selenium; and
- Sodium.

The observed concentrations of these metals, all of which are commonly found in natural rock-forming minerals and soil, are consistent with the anticipated geochemical character of groundwater in western New York State for unfiltered samples collected from wells installed in glacial deposits with low organic carbon content. They are considered to be predominantly naturally occurring at the Site and raising aesthetic but not environmental concerns. Therefore, these concentrations are indicative of background groundwater conditions, and remediation is not warranted for groundwater at this Site consistent with 6 NYCRR Part 375-1.8(d)2. SVOCs and PCBs were not detected in Site groundwater samples. Exceedances in groundwater samples collected at the Site are presented in Figure 25.

Further monitoring or remediation of background groundwater conditions is not warranted. Potable water for the Site and surrounding areas is provided by the municipal water supply. Additionally, the Site demolition and associated remediation activities undertaken in 2006 through 2008 were apparently effective in reducing the impact of previous Site operations on groundwater quality. Also, natural geochemical conditions suggest that implementation of groundwater quality restoration is not required at the Site.

#### 5.3.4 Long-Term Effectiveness and Permanence

As part of this approach, COPCs will remain in groundwater at concentrations above ambient groundwater quality standards and guidance values. The proposed Environmental Easement on groundwater use at the Site will effectively achieve GWRAO1 - Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards – as long as they remain in place. The soil excavation will achieve GWRAO2 – Remove GCM.

#### 5.3.5 Reduction of Toxicity, Mobility or Volume of Contamination

The concentrations of metals are consistent with the anticipated geochemical character of groundwater at the Site, and no appreciable decrease in the level of these compounds is expected. There is anticipated to be some decrease in the concentrations of VOCs due to ongoing natural attenuation processes.

While the implementation of this remedy is not expected to achieve a significant reduction in toxicity, mobility, or volume of contamination, the ICs restricting groundwater use will achieve GWRAO1 - Prevent ingestion of or direct contact with groundwater with contaminant levels exceeding drinking water standards.

The removal of GCM will achieve GWRAO2.

5.3.6 Short-Term Impact and Effectiveness

There will be no on-Site remedial activities to address groundwater. Therefore, there are no short-term impacts associated with this approach. In addition, the remedy will achieve the sustainability and "green remediation" guidelines identified in DER-10 Section 1.14.

#### 5.3.7 *Implementability*

This approach is readily implementable. An Environmental Easement approved by the NYSDEC will restrict groundwater use. Therefore, significant difficulties are not anticipated during implementation.

#### 5.3.8 Cost Effectiveness

Other than legal costs to establish the Environmental Easement, there are no significant costs to implement this remedy. Therefore, this approach is cost-effective.

#### 5.3.9 Land Use

The Site has been historically used for industrial operations. The Site has been inactive since 1982 and vacant since 2006, and is being redeveloped to allow construction of new Commercial and/or multi-family residential properties. The ICs restricting groundwater use will allow continued use of the property in this capacity.

#### 5.3.10 *Community Acceptance*

As discussed in DER-10 Section 4.2(j), this criterion will be evaluated after the public review of the remedy selection process as part of the final NYSDEC selection/approval of a remedy for the Site.

#### 5.3.11 Evaluation Summary

The groundwater remedy consists of an Environmental Easement on groundwater use which would restrict the use of groundwater at the Site without treatment rendering the groundwater safe for its intended use. This IC restricting groundwater use will be protective of human health by achieving GWRAO1 - Prevent ingestion of, or contact with groundwater with contaminant levels exceeding drinking water standards – as long as the controls remain in place. The soil remedy will achieve GWRAO2 – Remove GCM. The remedy is readily implementable and cost-effective, and there are no short-term impacts. The ICs restricting groundwater use will allow for construction and operation of the Site as planned. Therefore, this is an effective approach to address contaminants in groundwater above ambient water quality standards and guidance values.

#### 5.4 RECOMMENDED REMEDIAL ALTERNATIVE

Based on the alternatives analysis evaluation, *Alternative 3 Remove GCM*, *Remediate Identified Areas of the Site to SSALs, and Place Cover – (Track 4)* is the recommended remedial alternative for the Site. Implementation of Alternative 3 will:

- be protective of human health and the environment;
- satisfy the RAOs;
- be consistent with current and contemplated future land use;
- be significantly less disruptive to the community than Alternative 2; and
- be more cost-effective and implementable than Alternative 2.

The recommended remedial action includes:

- excavation, transport, and off-Site disposal of GCM;
- excavation, transport, and off-Site disposal of identified soil below the cover system exceeding SSALs;
- excavation, transport, and off-Site disposal of black sand material encountered during Site redevelopment excavations;
- management of any impacted excavation water that may be encountered during remedial activities;
- the following ECs:
  - installation of a soil cover system consisting of clean soil cover (1-foot thick in commercial use areas and 2-feet thick in restricted residential use areas)
  - o installation of a demarcation layer; and
  - installation of cover systems consisting of pavement, walkways, or building slabs and foundations;
- the following ICs:
  - an Environmental Easement limiting use of the Site to applicable restricted uses, which will vary by parcel based on final redevelopment planning as approved by NYSDEC; and
- implementation of a SMP including EC/IC Plan, a Site Monitoring Plan, an Excavation Work Plan, an O&M Plan, Site use limitations, and a groundwater use restriction.

Figure 26 summarizes physical components of the recommended remedial action at the Site based on the considerations outlined above.

Alternative 3 satisfies the RAOs and is protective of public health and the environment. It also provides significant benefits over other remedies based on evaluation of the NYSDEC's remedy selection criteria.

6.0

This RI/AA Report summarizes the results of previous environmental investigations performed at the Site, the results of the RI performed by Howden, and provides an engineering evaluation of possible remedial alternatives. Previous investigations performed by others at the Site included:

- Phase I Environmental Site Assessment, Buffalo Forge Plan No. 1, 490 Broadway Avenue, Buffalo, New York (Dames and Moore, 1993).
- Site Evaluation Report, Former Buffalo Forge Plant No. 1 (Conestoga-Rover & Associates, 2000).
- Phase I Environmental Site Assessment, Former Buffalo Forge Site, Buffalo, New York (Benchmark, 2009a).
- Phase II Environmental Site Investigation Report, Former Buffalo Forge Site, Buffalo, New York (Benchmark, 2009b).
- Limited Groundwater Investigation Report, Former Buffalo Forge Facility, Buffalo, New York (ERM, 2012).

Consistent with NYSDEC requirements described in DER-10, this RI was developed and implemented to meet the following goals:

- identify contaminant source areas;
- define the nature and extent of contamination;
- produce data of sufficient quantity and quality to support the development of a remedial AA Report and an acceptable RAWP; and
- generate sufficient data to evaluate the actual and potential threats to human health and the environment.

RI activities included soil boring installation and monitoring well completion with associated soil and ground water sampling for laboratory analysis. Samples were transported under chain of custody procedures to a NYSDOH-approved environmental laboratory for analysis of VOCs, SVOCs, PCBs, and selected metals as described in the approved RI Work Plan. Data quality and usability for samples collected during the RI were evaluated through preparation of DUSRs in conformance with NYSDOH guidance. All data were found to be valid and usable with the qualifications noted in individual DUSRs.

ERM mobilized to the Site in November 2014 and initiated the RI site work activities. Subsurface utility clearances were requested through Dig Safely New York. Public and private subsurface utilities were identified, located, and marked with the use of a geophysical subcontractor. A total of 74 boreholes were advanced for the collection of soil samples and installation of groundwater monitoring wells in selected locations. Six boreholes were completed as overburden groundwater monitoring wells and one coupled with a bedrock groundwater monitoring well. Work was conducted in substantive conformance with procedures contained in the approved RI Work Plans. Groundwater monitoring wells samples were collected using minimal drawdown/low-flow sampling techniques.

A geophysical EM induction survey was conducted over the entire 490 Broadway parcel to search for two possible USTs that were reportedly abandoned in place. The results included one EM anomaly that was investigated and revealed the presence of buried concrete debris containing steel reinforcement bar. Additional areas of potential concern were not identified as a result of the geophysical survey.

A gamma radiation survey was conducted by ERM to evaluate background radioactivity levels near the surface of the Site and to evaluate for the potential presence of elevated radiation in the subsurface. Radioactivity levels measured during the surface background survey ranged from 5590 to 13,300 CPM. Radioactivity levels measured from subsurface materials encountered in soil cores were consistent with background radioactivity readings.

The currently-contemplated future use of the Site is mixed commercial and/or restricted residential. The contemplated use may vary by parcel based on the redevelopment goals of prospective purchasers and/or future tenants. Therefore, chemical analytical results for soil were compared to the 6 NYCRR Part 375 SCOs for Restricted Residential Use. Groundwater analytical results were compared to NYSDEC ambient groundwater quality standards and guidance values.

The following COPCs were detected in one or more soil or fill samples collected at the Site at concentrations above the Unrestricted Use SCOs:

#### <u>VOCs</u>

Acetone

#### **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenzo(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

#### **PCBs**

- Aroclor 1242
- Aroclor 1248
- Aroclor 1254
- Aroclor 1260

#### Metals (mg/kg)

- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Selenium
- Silver
- Zinc

Review and evaluation of resulting chemical data and comparison with applicable SCGs resulted in the following compounds detected in soil or fill samples at the Site with maximum concentrations exceeding Restricted Residential SCOs:

#### **SVOCs**

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Chrysene

#### **Metals**

• Cadmium

- Chromium
- Copper
- Lead
- Manganese
- Mercury
- Nickel
- Zinc

#### **PCBs**

• Aroclor 1254

Metals and SVOCs exceedances in soil were typically found in black foundry sand historically used as fill at the Site. PCBs in soil are attributed to the historical use of PCBs in electrical equipment at the Site.

Measurement of groundwater elevations in monitoring wells across the Site reveals that there is shallow perched groundwater across most of the Site. The overall flow direction of shallow perched groundwater at the Site is generally towards the south-southwest.

Groundwater samples from monitoring wells were analyzed for background fluorescence to evaluate potential hydraulic connections between monitoring wells based on the relative fluorescence intensity and fluorescence "fingerprint" of individual samples. Significant similarities in fluorescence "fingerprints" of groundwater samples collected at the Site during the RI were not observed, suggesting that groundwater flow in overburden is dominated by matrix flow and that preferential groundwater flow paths may not be of environmental significance in overburden at the Site.

The following compounds or elements were detected in one or more overburden groundwater samples collected at the Site at concentrations above the NYSDEC's ambient groundwater quality standards or guidance values listed in NYSDEC's TOGS-1.1.1:

#### **VOCs**

Cadmium

### **SVOCs**

None

**PCBs** 

None

#### Metals (mg/kg) • Antimony

- Iron
- Lead
- Magnesium
- Manganese
- Selenium
- Sodium

Laboratory analytical results indicate that the following metals associated with black sand material had exceedances of SCOs in soil and a few isolated exceedances of the ambient groundwater quality standards and guidance values:

- Lead;
- Manganese; and
- Selenium.

Therefore, the black sand material may represent a source of metals in Site groundwater. However, the following metals were detected in Site groundwater at concentrations above their ambient groundwater quality standards or guidance values that are interpreted to be derived from natural sources:

- Iron;
- Magnesium; and
- Sodium.

The one isolated detection of VOCs in groundwater is likely associated with petroleum. While historical use of petroleum products on the Site did occur, the proximity of this detection to the street and its isolation to this location suggests that historic use of the street by vehicles (which use petroleum) or some other off-Site source cannot be ruled out.

Review of laboratory analytical results indicates that COPCs were not detected in the bedrock groundwater sample.

The Site and the surrounding community are serviced by a municipal water supply and contain no known public or private drinking water wells. In addition, groundwater use for drinking water at the Site will be restricted by an EE approved by the NYSDEC.

Potential exposure pathways at the Site that are considered complete or potentially complete under current and future Site conditions and uses include:

• Pathway A: Current Direct Contact (Dermal Absorption) with Soil for On-Site Commercial Workers;

- Pathway B: Current Incidental Ingestion of Soil for On-Site Commercial Workers;
- Pathway D: Current Direct Contact (Dermal Absorption), Incidental Ingestion and Dust Emissions (Inhalation) of Soil for Potential Trespassers;
- Pathway G: Future Direct Contact (Dermal Absorption) with Soil for Construction Worker/Utility Worker;
- Pathway J: Future Incidental Ingestion of Soil for Construction Worker/Utility Worker;
- Pathway M: Future Fugitive Dust Emissions (Inhalation) of Soil for Construction Worker/Utility Worker.

Direct contact with soil and inhalation of soil appear to represent the greatest risk with regards to frequency and duration of potential exposures for on-Site commercial workers and on-Site construction and utility workers. The risk is greatest during intrusive activities (e.g., disturbance of surface soil or subsurface soil excavation and dewatering associated with future planned construction activities). Control measures such as proper implementation and compliance with an approved SMP, the Site-specific HASP, use of appropriate PPE, dust suppression techniques, and the use of ICs will greatly reduce the risk of potential exposures.

Two potential exposure pathways involving groundwater may exist for on-Site construction/utility workers: 1) direct contact with groundwater during subsurface disturbances (i.e., excavation and de-watering) in areas of remaining contamination (if any); and 2) incidental ingestion of groundwater.

Environmental investigations performed at the Site have met RI goals; therefore, further RI is not required.

Remedial action performed under the NYSDEC's BCP is predicated on future contemplated Site use. The Site is currently vacant and the contemplated future use of the Site is commercial and/or restricted residential.

An engineering analysis of the recommended remedial approach was performed for soil and groundwater using the Remedy Selection Evaluation Criteria identified in Section 4.2 of DER-10 (NYSDEC, 2010a). Alternative 3 is the recommended remedial approach. Alternative 3 will achieve a Track 4 cleanup and the intended mixed restricted uses at the Site, while Alternative 2 would achieve unrestricted use across the entire Site.

Alternatives 2 and 3 would both permanently remove COPCs in soil such that the soils RAOs are met. Both alternatives would facilitate redevelopment of the property. However, efforts to implement Alternative 2 would involve significant additional excavated material, truck traffic, and additional cost due to the requirement to remove all black sand material, and would not provide greater protection to human health and the environment given the intended use of the property. The groundwater remedy for both Alternatives 2 and 3 is the same and consists of an Environmental Easement which will restrict groundwater use. The restriction on groundwater use is an effective approach to address COPCs in groundwater and will be protective of human health long as the IC remains in place. Alternative 3 is readily implementable and cost-effective, and there are no significant short-term impacts. For the reasons outlined above, Alternative 3 is the recommended remedy for the Site.

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## Figures



Location Map - v03.dwg (12/23/2013 - 10:58am Melville) Site R:\Scout\Projects\Howden - Buffalo Forge\CAD\2013-06-18 - Howden - Buffalo Forge



BCP Parcel Outline

Source: Ortho Image, NYGIS Clearinghouse, http://gis.ny.gov. Parcel Outlines and Use From City of Buffalo, Enterprise GIS Approximate Building Outline obtained from Phase II Environmental Site Investigation Report, Benchmark (2009)

GRAPHIC SCALE IN FEET

# Former Buffalo Forge Facility Buffalo, New York

Howden North America Inc.								
ERN	FIGURE							
DRAWN BY	SCALE	DATE	JOB NO.	2				
EMF	GRAPHIC	16 JULY 2015	0181805					




BCP Parcel Outline

TMW-08 - Temporary Monitoring Well Location (2012)

TMW-03- Soil Boring Location (Well Not Installed) (2012)

TMW-12 - RI Monitoring Well Location (2014)

B-16 X RI Soil Boring (2014)

Source: Survey of Spring & Mortimor Streets, Soil Boring & well Sample Locations; dated 05/29/2015; by WM SCHUT Associates, Lancaster, NY

Approximate Building Outline obtained from Phase II Environmental Site Investigation Report, Benchmark (2009) Soil Excavation & Total Excavation Depths obtained from Brown & Caldwell figure 6-8 dated 08/30/2007 Sample Locations with Exceedances of SCOs obtained from Phase II Site Investigation Report Benchmark Figure 5 (2009); SoilBoring & Analytical Sample, Soil Boring No Sample from CRA(2000) March 31, 2000 Figure 1.









Source: Survey of Spring & Mortimor Streets, Soil Boring & well Sample Locations; dated 05/29/2015; by WM SCHUT Associates, Lancaster, NY Approximate Building Outline obtained from Phase II Environmental Site Investigation Report, Benchmark (2009) Soil Excavation & Total Excavation Depths obtained from Brown & Caldwell figure 6-8 dated 08/30/2007 Sample Locations with Exceedances of SCOs obtained from Phase II Site Investigation Report Benchmark Figure 5 (2009); SoilBoring & Analytical Sample, Soil Boring No Sample from CRA(2000) March 31, 2000 Figure 1.





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— — — BCP Parcel Outline

TMW-08 - Temporary Monitoring Well Location (2012)

тмw-оз- Soil Boring Location (Well Not Installed) (2012)

TMW-12 - RI Monitoring Well Location (2014)

B-16 X RI Soil Boring (2014)

600.22 Top of Bedrock (In Feet Above Mean Sea Level)

Bedrock Elevation Contour (In Feet Above Mean Sea Level)

Source: Survey of Spring & Mortimor Streets, Soil Boring & well Sample Locations; dated 05/29/2015; by WM SCHUT Associates, Lancaster, NY Approximate Building Outline obtained from Phase II Environmental Site Investigation Report, Benchmark (2009) Soil Excavation & Total Excavation Depths obtained from Brown & Caldwell figure 6-8 dated 08/30/2007 Sample Locations with Exceedances of SCOs obtained from Phase II Site Investigation Report Benchmark Figure 5 (2009); SoilBoring & Analytical Sample, Soil Boring No Sample from CRA(2000) March 31, 2000 Figure 1.





	Metal
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and for the current project. No re-use by third-parties is authorized







Meta



except as pre-approved by Howden and ERM. ERM will not retain







BCP Parcel Boundaries

- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Protection of Groundwater SCOs:





- All studies, designs, reports and other work products generated by ERM as a result of this project are solely intended to be used for the benefit of Howden, SAAKC Buffalo Forge, LLC, and for the current project. No re-use by third-parties is authorized except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.



Figure 12: Sample Locations Exceeding Protection of Groundwater SCO (0-2 Feet) Former Buffalo Forge Facility Buffalo, New York





BCP Parcel Boundaries

- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Protection of Groundwater SCOs:



- All studies, designs, reports and other work products generated by ERM as a result of this project are solely intended to be used for the benefit of Howden, SAAKC Buffalo Forge, LLC, and for the current project. No re-use by third-parties is authorized except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.



Figure 13: Sample Locations Exceeding Protection of Groundwater SCO (>2 Feet) Former Buffalo Forge Facility Buffalo, New York









BCP Parcel Boundaries

- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Residential SCOs:







- All studies, designs, reports and other work products generated by ERM as a result of this project are solely intended to be used for the benefit of Howden, SAAKC Buffalo Forge, LLC, and for the current project. No re-use by third-parties is authorized except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.



Figure 15: Sample Locations Exceeding Residential SCO (>2 Feet) Former Buffalo Forge Facility Buffalo, New York









- BCP Parcel Boundaries
- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Restricted Residential SCOs:







Figure 16: Sample Locations Exceeding Restricted Residential SCOs (0-2 Feet) Former Buffalo Forge Facility Buffalo, New York









- BCP Parcel Boundaries
- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Restricted Residential SCOs:



PCBs

-All studies, designs, reports and other work products generated by ERM as a result of this project are solely intended to be used for the benefit of Howden, SAAKC Buffalo Forge, LLC, and for the current project. No re-use by third-parties is authorized except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.



Figure 17: Sample Locations Exceeding Restricted Residential SCOs (>2 Feet) Former Buffalo Forge Facility Buffalo, New York





except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.







BCP Parcel Boundaries

- Approximate extent of soil excavated during building demolition (2006)
- Soil Sample Location with No Exceedance

Soil Sampling Location Exceeds 1 or More Commercial SCOs:



SVOCs

- SB-4 PCBs
- All studies, designs, reports and other work products generated by ERM as a result of this project are solely intended to be used for the benefit of Howden, SAAKC Buffalo Forge, LLC, and for the current project. No re-use by third-parties is authorized except as pre-approved by Howden and ERM. ERM will not retain any liability for the unauthorized use of ERM work products.



Figure 19: Sample Locations Exceeding Commercial SCOs (>2 Feet) Former Buffalo Forge Facility Buffalo, New York



ERM









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	<sup>™</sup> Perched Groundwater Contours 13 March 2012
	<sup>™</sup> Perched Groundwater Contours 13 March 2012 Former Buffalo Forge Facility Buffalo, New York
	<ul> <li>Perched Groundwater Contours</li> <li>13 March 2012</li> <li>Former Buffalo Forge Facility</li> <li>Buffalo, New York</li> <li>PREPARED FOR</li> <li>Howden NA, Inc.</li> </ul>



Source: Approximate Building Outline obtained from Phase II Environmental Site Investigation Report, Benchmark (2009)

TITLE	Perched Groundwater Contours									
	27 May 2015									
Former Buffalo Forge Facility										
	Buffalo, New York									
PREPAR	ED FOR									
	Howden NA, Inc.									









**Tables** 

							o
ERM	Completion	Black Sand	Sample	Highest PID	Bedrock	Sample Locati	on Coordinates
Boring ID	Depth (ft bgs)	Encountered	Interval (ft bgs)	ppmv (ft bgs.)	Encountered (ft bgs)	X	Ŷ
	-			2000 Borings			
SB-1	2	N	NS	0.0	NA	1075174.759	1053251.17
SB-2	4.5	N	NS	0.0	4.5	1075103.084	1053435.338
SB-3	5	N	4-5	0.0	5	1075058.48	1053467.019
SB-4	5	N	4-5	0.0	5	1075229.786	1053517.737
SB-5	5	N	NS	0.0	5	1074977.767	1053465.825
SB-6	9	N	NS	0.0	9	1074855.494	1053324.949
SB-7	9	N	NS	0.0	9	1074842.218	1053320.68
SB-8	9	Ŷ	NS	0.0	9	1074849.238	1053297.351
SB-9	9	Ŷ	0.5-1.5	0.0	9	1074862.353	1053305.145
SB-10	1.5	N	NS	0.0	1.5	1075067.241	1053589.992
SB-11	8	N	NS	0.0	8	1075088.066	1053288.66
SB-12	8	N	NS	0.0	8	1075120.361	1053299.416
SB-13	4	N	NS	4.0	4	1074946.122	1053474.44
SB-14	9	N	NS	0.0	9	1074979.861	1053337.248
SB-15	11.5	N	7-8	0.0	11.5	1074955.572	1053195.581
SB-16	8	N	NS	0.0	8	1074948.331	1053183.57
SB-17	11.5	N	NS	0.0	11.5	1074968.242	1053189.796
SB-18	8	Ŷ	6-6.5	1.2	8	1074959.519	1053180.321
SB-19	8	N	NS	0.0	8	1074964.443	1053183.213
SB-20	8	N	NS	0.0	8	1075003.809	1053190.1
SB-21	8	N	NS	0.0	8	1075016.12	1053179.469
SB-22	5	N	NS	0.0	5	1074762.317	1053702.406
SB-23	5	N	NS	0.0	5	1074760.911	1053721.887
SB-24	5	N	NS	0.0	5	1074770.716	1053711.324
SB-25	5	N	NS	0.0	5	1074820.681	1053595.475
SB-26	5	N	NS	0.0	5	1074805.972	1053600.221
SB-27	5	N	4.5-5	0.0	5	1074797.227	1053606.385
SB-28	8	N	NS	0.0	8	1075420.679	1053144.019
SB-29	5	Y	NS	2.0	5	1075393.293	1053038.436
SB-30	8	Y	0.3-1	0.0	8	1075268.969	1053274.162
SB-31	8	Y	NS	0.0	8	1075435.558	1053280.498
SB-32	8	N	NS	0.0	8	1075593.204	1053330.432
SB-33	6	Ŷ	NS	0.0	6	1075332.703	1053495.687
SB-34	5	Ŷ	NS	0.0	5	1075213.306	1053541.406
SB-35	1.5	N	NS	0.0	1.5	1075262.727	1053717.904
SB-36	1.5	N	NS	0.0	1.5	1075149.028	1053718.141
	-		200	8 Borings/Test Pit	S		
TP-1	6	Y	0.5-6	NM	NA	1074809.097	1053167.356
1P-2 TD 0	4	N	NS NC	NM	NA	10/4839.536	1053158.524
1P-3	4	N	NS	NM	NA	1074830.517	1053202.284
1P-4 TD 5	4	Y	NS	NM	4	1074792.779	1053254.974
1P-5	4	Y	NS	NM	NA	1074805.906	1053322.41
1P-6 TD 7	4	Y	NS	NM	NA	1074722.863	1053440.619
1P-7	4	Y	1-3	NM	4	1074906.881	1053190.259
1P-8	3.5	Y	0.5-3	NM	NA	1074902.729	1053238.084
1P-9	3.5	Y	NS	NM	NA	1074885.808	1053307.689
IP-10	3.5	I Y	NS	NM	NA	1074851.976	1053444.437

Page 1 of 4

ERM	Completion	Black Sand	Sample	Highest PID	Bedrock	Sample Location	on Coordinates <sup>1</sup>
Boring ID	Depth (ft bgs)	Encountered	Interval (ft bgs)	ppmv (ft bgs.)	Encountered (ft bgs)	Х	Y
TP-11	4	Y	NS	NM	NA	1074721.831	1053474.452
TP-12	3.5	Y	NS	NM	NA	1074821.348	1053523.729
TP-13	3.5	Y	NS	NM	NA	1074873.169	1053521.581
TP-14	3.5	Y	NS	NM	NA	1074748.9	1053570.859
TP-15	4	N	NS	NM	NA	1074680.743	1053595.59
TP-16	2.5	N	NS	NM	2.5	1074687.22	1053676.075
TP-17	3.5	Y	0.5-2	NM	NA	1074830.919	1053687.457
TP-18	3.5	Y	0.5-2.5	NM	NA	1074886.523	1053592.944
TP-19	3.5	N	NS	NM	NA	1074924.163	1053388.191
TP-20	3.5	Y	0.5-1.5	NM	NA	1074971.415	1053328.236
TP-21	3.5	Y	1-3	NM	NA	1074973.094	1053176.145
TP-22	7	Y	NS	NM	NA	1075049.415	1053160.097
TP-23	4	N	NS	NM	NA	1075071.657	1053107.426
TP-24	5.5	N	NS	NM	NA	1075115.498	1053011.833
TP-25	2.5	N	NS	NM	NA	1075203.788	1052994.888
TP-26	3.5	Y	1-2	NM	NA	1075175.298	1053126.352
TP-27	3.5	N	NS	NM	NA	1075131.75	1053345.172
TP-28	6.5	Y	0.5-6.5	NM	NA	1075085.33	1053310.61
TP-29	4	N	NS	NM	NA	1075112.109	1053410.249
TP-30	4	Y	NS	NM	NA	1075055.491	1053395.545
TP-31	5	Y	0.5-5	NM	5	1075114.078	1053477.195
TP-32	3	Y	NS	NM	NA	1075055.539	1053488.562
TP-33	4	Ŷ	1-3	NM	NA	1074950.276	1053454.596
TP-34	5	Ň	3-5	NM	5	1074946.295	1053558.242
TP-35	4	N	NS	NM	4	1075049.669	1053592.979
TP-36	3.5	Y	NS	NM	3.5	1074994.476	1053631.478
TP-37	4	Y	1-1.5	NM	4	1074919.277	1053624.898
TP-38	3	Ň	NS	NM	3	1074876.942	1053730.349
TP-39	2	N	NS	NM	2	1075013.824	1053734.896
TP-40	5	N	NS	NM	NA	1074689.916	1053689.36
TP-41	5	N	NS	NM	NA	1074681,298	1053621.318
TP-42	6	N	NS	NM	NA	1074704.76	1053519.894
TP-43	5	Y	1-3	NM	NA	1075304.565	1053302.292
TP-44	5	Y	NS	NM	NA	1075326.466	1053304.63
TP-45	5	Ň	NS	NM	NA	1074672.436	1053325.118
TP-46	5.5	Y	0.5-2	NM	NA	1074616.66	1053298.561
SB-1	5	N	NS	NM	NA	1075368.371	1053025.51
SB-2	4.8	N	NS	NM	NA	1075376.69	1053000.3
SB-3	4.6	N	0.5-1.5	NM	NA	1075385.662	1052973.431
SB-4	4.4	Y	0.5-1.5	NM	NA	1075229.786	1053517.737
SB-5	2.2	Ŷ	0.5-1.5	NM	NA	1075205.759	1053678.985
SB-6	2.1	Ý	0.5-1.5	NM	NA	1075181.747	1053648.138
				2012 Borings			
TMW-01	10.3	Y	NS	NM	10.3	1075610.57	1053288.86
TMW-02	35	Ŷ	NS	NM	35	1075417 92	1053002 51
TMW-03	2	Ý	NS	NM	2	1075051 74	1053681.5
TMW-04	85	NA	NS	NM	85	1075207 22	1053167.06
TMW-05	3.8	NA	NS	NM	3.8	1074817 83	1053747 66
TMW-06	9.5	NA	NS	NM	9.5	1075067.57	1052950 33
TMW-07	5.5	NA	NS	NM	5.5	1074653.3	1053682.99

EDM	Completion	Plack Sand	Somula		Bodrook	Sampla Lagati	an Coordinataa <sup>1</sup>
Boring ID	Depth (ft bgs)	Encountered	Interval (ft bas)	Highest PID	Encountered (ft bas)	Sample Location	Y
	o	NA		ppinv (it bgs.)		1074715 29	1052464 62
	0.5		NG	INIVI	0.5	1074713.20	1053404.03
TIVIVV-09	9.5	NA NA	NO NO	INIVI	9.5	1074777.14	1053249.56
TMVV-10	9	NA	NS	NM	9	1074839.74	1053053.06
TMVV-11	11.5	Y	NS	NM	11.5	1074557.73	1053293.86
5.01				2014-15 Borings		4074570.00	105010110
B-01	9	NA	0.5-1.5, 2-3	2.1	9	1074579.38	1053494.46
B-02	10.5	NA	0.5-1.5, 2-3	3.4	10.5	1074535.15	1053437.84
B-03	8.5	NA	0.5-1.5, 2-3	1.9	8.5	1074598.05	1053452.93
B-04	10.5	NA	3-4	2.6	10.5	1074608.18	1053317.84
B-05	11.5	Y	0.5-1.5, 2-3	1.7	11.5	1074577.08	1053281.81
B-06	11	NA	0.5-1.5, 2-3	2.8	11	1074642.78	1053282.6
B-07	11	Y	0.5-1.5, 2-3	2.9	11	1074612.68	1053269.07
B-08	11	Y	0.5-1.5, 2-3	3.1	11	1074622.85	1053284.75
B-09	1.67	NA	0.5-1.5	NS	1.67	1074994.23	1053804.1
B-10	1.5	NA	0.5-1.5	NS	1.5	1074981.38	1053722.31
B-11	1.67	NA	0.5-1.5	NS	1.67	1075042.87	1053657.17
B-12	5.5	NA	4-5	0.9	5.5	1075021.87	1053482.45
B-13	6.5	NA	4-5	2.1	6.5	1074991.16	1053455.39
B-14	7	NA	4-5	0.2	7	1075024.54	1053409.6
B-15	2	NA	0.5-1	0	NA	1074867.32	1053104.12
B-16	2	Y	0.5-1.5	0	NA	1074983.8	1053123.76
B-17	7.5	NA	1-2, 2-3	0.7	7.5	1075178.28	1053073.21
B-18	4.75	NA	3-4.5	NS	4.75	1074942.26	1053572.42
B-18A	4	NA	3-4	0.7	4	1074980.94	1053598.09
B-19	4.5	NA	3-4.5	0.2	4.5	1074905.51	1053543.81
B-20	6	NA	3-5	0.7	6	1074951.9	1053505.21
B-21	5	NA	3.5-5	0.7	5	1074988.21	1053553.42
B-22	8	NA	0.5-1.5	0	8	1075278.51	1053319.43
B-23	7.5	Y	0.5-1.5	0	7.5	1075255.32	1053270.73
B-24	7	Y	0.5-1.5	0	1	1075296.64	1053241.53
B-25	7.5	NA	0.5-1.5	0.2	7.5	1075352.05	1053292.46
B-26	8	NA	2-3	0	8	1075286.73	1053279.16
B-27	2	NA	1-2	0.2	2	1074865.6	1053767.19
B-28	2.5	Y	1.5-2.5	0.1	2.5	1074887.88	1053756.49
B-29	3.5	NA	2-3.5	0.1	3.5	1074869.63	1053734.84
B-29A	3.2		2-3	12.2	3.2	1074049.09	1053713.45
B-30	2.07		2-2.0	12.3	2.07	1074045.39	1053765.06
B-30A	2		1-2	0	2	1074790.71	1053710.30
D-31 D-31A	4		3-4	U NE		1074702.91	1053403.10
B-32	3.3 7.5	NA NA	2-3	0.7		1074735.02	1053/69 22
B-33	1.5	V	3-0	0.7	1.5	1074734 22	1053440.22
B-33A	4 75	I V	3-4	1.0	75	1074734.22	1053450 24
B-34	65	NA	3-4	0	65	1074708 03	1053/50 32
B-35	8.5	ΝΔ	0.5-1.5.2-3	17	85	1074867.05	1053377.26
B-36	8.5	ΝΔ	2-4	0.8	8.5	1074760 13	1053270.45
B-37	9.5 9	NA	2-4	1.4	9	1074779.96	1053207.31
B-38	9	NA	2-4	12	9	1074766 41	1053238 54
B-39	8	NA	15-25 4-5	1.2	8	1075011 78	1053271 85
B-40	1.5	Y	0.5-1	0	NA	1074881.33	1053045.14

FRM	Completion	Black Sand	Sample		Bedrock	Sample Locatio	Sample Location Coordinates <sup>1</sup>	
Boring ID	Depth (ft bgs)	Encountered	Interval (ft bas)	Hignest PID	Encountered (ft bas)	X	Y	
		V			Liteountered (it bgs)	1074000.02	1052076 52	
B-41	7	ř NA	0.5-1.5	0		1074990.02	1053076.53	
B-42	7	NA	4-5	18		1075197.16	1053199.88	
B-42A	7	Ť	4-5	163.4	1	1075186.92	1053236.67	
B-42B	7	NA	4-5	0.9	/	1075156.893	1053303.848	
B-42C	7	NA	4-5	1.1	/	1075133.26	1053225.51	
B-43	/	NA	3-4	0.2	/	1075213.28	1053174.05	
B-44	8	NA	4-5	5	8	1075167.4	1053166.17	
B-44A	7	NA	6-7	0.3	1	1075129.05	1053154.79	
B-45	1	NA	NS	NS	1	1075046.26	1052988.69	
B-46	8	NA	1-2, 4-5	0	8	1075150.38	1052994.65	
B-47	6.5	NA	1-2	0.4	6.5	1075215.2	1052924.43	
B-48	1.83	NA	0.5-1.5, 1-1.5	0	1.83	1075165.33	1053705.4	
B-49	2.67	NA	0.5-1.5	0	2.67	1075258.9	1053740.62	
B-50	2	NA	0.5-1.5, 1.5-2	0	2	1075282.06	1053665.61	
B-51	3	NA	0.5-1.5, 1.5-2.5	0.1	3	1075232.45	1053591.02	
B-52	4	NA	0.5-1.5	0	4	1075187.71	1053503.92	
B-53	4.83	NA	0.5-1.5, 1.5-2.5	0	4.83	1075224.58	1053450.46	
B-54	1.33	NA	0.5-1	0	1.33	1075357.99	1053458.39	
B-55	7	NA	0.5-1.5, 3-4	3.1	7	1075372.82	1053365.16	
B-56	8.5	NA	0.5-1.5, 2-3	0.2	8.5	1075500.92	1053414.7	
B-57	8	NA	0.5-1.5, 2-3	0.3	8	1075492.89	1053310.37	
B-58	6	NA	1-2, 2-3	0.3	6	1075393.21	1053225.99	
B-59	9	NA	0.5-1, 1-2	0.2	9	1075417.88	1053167.56	
B-60	6.5	NA	0.5-1.5, 1.5-2.5	0.2	6.5	1075323.51	1053118.53	
B-61	1.83	NA	1-1.5	0	1.83	1074904.45	1053669.93	
B-62	0.7	NA	NS	0	0.7	1074965.13	1053141.06	
B-63	2.1	NA	NS	0	2.1	1074972.63	1053158.09	
B-64	1.7	NA	NS	0	1.7	1074977.38	1053142.75	
B-65	0.8	NA	NS	0	0.8	1074999.49	1053148.88	
TMW-12	10.5	NA	0.5-1.5. 3-4	2.7	10.5	1074522.33	1053485.67	
TMW-13	4.67	NA	1-2	0	4.67	1074750.72	1053650.61	
TMW-14	9.5	NA	2-4	15	95	1074798 51	1053249.08	
TMW-15	20.5	NA	1-2	0.7	82	1075122.31	1052918 18	
TMW 16	6.5	NA	12	2.0	6.5	1075209 51	1052126.92	
	0.0		4-0	2.3	0.0	1075200.01	1053150.02	
	4.5	INA	3.5-4.5	0.4	4.5	10/5232.18	1053057.77	
111/11/	3.75	NA	1-2, 3-4	NS	3.75	1075295.23	1053582.25	

### NOTES

ft bgs = feet below ground surface

<sup>1</sup> = NAD83 NYS West Zone (ft)

NA = Not Available

NS = Not Sampled "--" = No groundwater encountered

# TABLE 2Summary of Soil SamplesFormer Buffalo Forge PropertyNYSDEC BCP Number C915280

		Date	VOCs	SVOCs	PCBs	Metals	TCLP Metals
Field ID	Matrix	Sampled	(8260)	(8270)	(8082)	(6010/7471)	(6010/7470)
SB-3 (4.0-5.0ft)	Soil	2000	Х	Х	Х	Х	
SB-4 (4.0-5.0ft)	Soil	2000	Х	Х	Х	Х	
SB-9 (0.5-1.5ft)	Soil	2000	Х	Х	Х	Х	
SB-15 (7.0-8.0ft)	Soil	2000	Х	Х	Х	Х	
SB-18 (6.0-6.5ft)	Soil	2000	Х	Х	Х	Х	
SB-27 (4.5-5.0ft)	Soil	2000	Х	Х	Х	Х	
SB-30 (0.3-1.0ft)	Soil	2000	Х	Х	Х	Х	
Sand-100	Soil	2007		Х		х	Х
Sand-101	Soil	2007		Х		х	Х
Sand-102	Soil	2007		X		X	X
Sand-008	Soil	2007		X		X	X
Sand-103	Soil	2007		X		x	x
Sand 104	Soil	2007		× ×		×	×
Sand 105	Soil	2007		^ V		~ 	^ 
Sand 100	SOII	2007		X		X	X
	SOIL	2007		X		X	X
	Soll	2007		X		X	X
Sand-108	Soil	2007		X		X	X
Sand-022	Soil	2007		Х		X	Х
TP-1 (0.5-6.0ft)	Soil	2009		Х	X	X	
TP-7 (1.0-3.0ft)	Soil	2009		Х	Х	X	
TP-8 (0.5-3.0ft)	Soil	2009	Х	Х	Х	Х	
TP-17 (0.5-2.0ft)	Soil	2009		Х	Х	X	
TP-18 (0.5-2.5ft)	Soil	2009		Х	Х	Х	
TP-20 (0.5-1.5ft)	Soil	2009	Х	Х	Х	Х	
TP-21 (1.0-3.0ft)	Soil	2009		Х	Х	Х	
TP-26 (1.0-2.0ft)	Soil	2009		Х	Х	Х	
TP-28 (0.5-6.5ft)	Soil	2009		Х	Х	Х	Х
TP-31 (0.5-5.0ft)	Soil	2009		Х	Х	Х	Х
TP-33 (1.0-3.0ft)	Soil	2009		Х	Х	Х	
TP-34 (3.0-5.0ft)	Soil	2009		Х		Х	
TP-37 (1.0-1.5ft)	Soil	2009		Х	Х		
TP-43 (1.0-3.0ft)	Soil	2009				Х	
TP-46 (0.5-2.0ft)	Soil	2009		Х	Х	Х	
SB-3 (0.5-1.5ft)	Soil	2009				Х	
SB-4 (0.5-1.5ft)	Soil	2009				Х	
SB-5 (0.5-1.5ft)	Soil	2009		х	х	х	
SB-6 (0.5-1.5ft)	Soil	2009		X	X	X	
BE-B50 (0.5-1.5)	Soil	11/17/2014	X	X	X	X	
BE-B50 (1 5-2 0)	Soil	11/17/2014	X	X	x	X	
BE-B49 (0 5-1 5)	Soil	11/17/2014	X	X	x	X	
BF-B48 (0.5-1.0)	Soil	11/17/2014	X	X	X	X	
DF D48 (0.5 1.0)	Soil	11/17/2014	× ×	× ×	× ×	×	
BE-B52 (0 5-1 5)	Soil	11/17/2014	×	×	× ×	×	
BF - B52 (0.5 - 1.5)	Soil	11/17/2014	^ V	^ V	^ V	×	
	Soll	11/17/2014	^ V	^ V	A V	X	
BF-B51 (1.5-2.5)	SOIL	11/1//2014	X	X	Χ.	X	
BF-B51 (1.5-2.5)	Soll	11/1//2014				X	
BF-B51 (1.5-2.5)	Soll	11/1//2014				X	
BF-B11 (0.5-1.5)	5011	11/19/2014		X	X	X	
BF-B10 (0.5-1.5)	501	11/19/2014		Х	X	X	
BF-B9 (0.5-1.5)	Soil	11/19/2014		Х	Х	Х	
BF-B61 (1.0-1.5)	Soil	11/19/2014		Х	Х	Х	
BF-B18 (3.0-4.5)	Soil	11/19/2014	Х	Х	Х	Х	
BF-B18 (3.0-4.5)	Soil	11/19/2014				Х	
BF-B18 (3.0-4.5)	Soil	11/19/2014				Х	
BF-B53 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B53 (1.5-2.5)	Soil	11/24/2014	Х	Х	Х	х	

# TABLE 2Summary of Soil SamplesFormer Buffalo Forge PropertyNYSDEC BCP Number C915280

		Date	VOCs	SVOCs	PCBs	Metals	TCLP Metals
Field ID	Matrix	Sampled	(8260)	(8270)	(8082)	(6010/7471)	(6010/7470)
BF-B22 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B26 (2-3)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B23 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B24 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B56 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B56 (2-3)	Soil	11/24/2014	Х	Х	х	Х	
BF-B57 (2-3)	Soil	11/24/2014	X	X	X	X	
BF-B57 (2-3)	Soil	11/24/2014	X	X	x	X	
BF-B57 (2-3)	Soil	11/24/2014	X	X	X	X	
BF-B55 (0 5-1 5)	Soil	11/24/2014	× ×	× ×	×	×	
DF DE 9 (1 2)	Soil	11/24/2014	~ ~	~ ~	~ ~	×	
DF-D38 (1-2)	Soli	11/24/2014	^ V	^ V	^ V	X	
BF-B58 (2-3)	Soli	11/24/2014	X	X	X	X	
BF-B54 (0.5-1.0)	Soil	11/24/2014	X	X	X	X	
BF-B55 (3-4)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B25 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B57 (0.5-1.5)	Soil	11/24/2014	Х	Х	Х	Х	
BF-B46 (1-2)	Soil	11/25/2014	Х	Х	Х	Х	
BF-B17 (2-3)	Soil	11/25/2014		Х	Х	Х	
BF-B17 (1-2)	Soil	11/25/2014		Х	Х	Х	
BF-B46 (4-5)	Soil	11/25/2014	Х	Х	Х	Х	
BF-TMW16 (4-5)	Soil	11/25/2014	Х	Х	Х	Х	
BF-B44 (4-5)	Soil	11/25/2014		Х	Х	Х	
BE-B60 (0.5-1.5)	Soil	11/25/2014	Х	Х	Х	x	
BE-B60 (1 5-2 5)	Soil	11/25/2014	X	X	X	x	
BF-B59 (0.5-1.0)	Soil	11/25/2014	X	X	X	x	
BE-B59 (0.5 1.0)	Soil	11/25/2014	X X	X X	× ×	× ×	
PE P16 (0 E 1 E)	Soil	11/25/2014	~	×	~ ~	×	
BF B10 (0.5-1.5)	Soil	11/25/2014		^ V	~	×	
DF - DIS (0.3 - 1.0)	Soll	11/25/2014	v	^ V	^ V	X	
BF-11V1VV15(1-2)	SOIL	11/25/2014	X	X	X	X	
BF-1MW15(1-2)	Soll	11/25/2014	X	X	X	X	
BF-IMW15(1-2)	Soil	11/25/2014	X	X	X	X	
BF-B47 (1-2)	Soil	11/25/2014	Х	X	Х	X	
BF-B43 (3-4)	Soil	11/25/2014		Х	Х	Х	
BF-B42 (4-5)	Soil	11/25/2014		Х	Х	X	
BF-B32 (3-5)	Soil	11/26/2014	Х	Х	Х	Х	
BF-B31 (3-4)	Soil	11/26/2014	Х	Х	Х	Х	
BF-B34 (3-5)	Soil	11/26/2014	Х	Х	Х	Х	
BF-B33 (3-4)	Soil	11/26/2014	Х	Х	Х	Х	
BF-TMW13 (1-2)	Soil	11/26/2014		Х	Х	Х	
BF-TMW13 (1-2)	Soil	11/26/2014				Х	
BF-TMW13 (1-2)	Soil	11/26/2014				Х	
BF-B27 (1-2)	Soil	11/26/2014	Х				
BF-B28 (1 5-2 5)	Soil	11/26/2014	X				
BF-B29 (2-3 5)	Soil	11/26/2014	X				
BE-B30 (2-2-8)	Soil	11/26/2014	X		-		
DF DO(2 2.8)	Soil	12/1/2014	× ×	v	v	v	
PE = PO1 (2, 2)	Soil	12/1/2014	~ ~	~ ~	~ ~	×	
DF-B01 (2-3)	Soll	12/1/2014	^ V	^ V	^ V	X	
	Soll	12/1/2014	X	X	×	<u>х</u>	
BF-B01 (0.5-1.5)	Soli	12/1/2014	X	X	X	X	
RL-RD5 (5-1-2)	5011	12/1/2014	X	X	X	X	
BF-B02 (0.5-1.5)	Soil	12/1/2014	Х	Х	Х	X	
BF-B03 (2-3)	Soil	12/1/2014	Х	Х	Х	Х	
BF-B03 (0.5-1.5)	Soil	12/1/2014	Х	Х	Х	Х	
BF-B05 (2-3)	Soil	12/1/2014	Х	Х	Х	Х	
BF-B05 (0.5-1.5)	Soil	12/1/2014	Х	Х	Х	х	
BF-TMW12 (0.5-1.5)	Soil	12/1/2014	Х	Х	Х	Х	

# TABLE 2Summary of Soil SamplesFormer Buffalo Forge PropertyNYSDEC BCP Number C915280

		Data	VOC	SVOC	DCRc	Motols	
Field ID	Matrix	Sampled	(8260)	(8270)	(8082)	(6010/7471)	(6010/7470)
BE-TMW/12 (3-4)	Soil	12/1/2014	(0200) X	(0270) X	(0002) X	X	(0010//4/0/
BF-TMW12 (3 4)	Soil	12/1/2014	X	X	X	X	
BF-TMW17 (2-3)	Soil	12/1/2014	X	X	X	X	
BF-B36 (2-4)	Soil	12/1/2014	X	X	X	x	
BF-B38 (2-4)	Soil	12/1/2014	X	X	X	x	
BF-B37 (2-4)	Soil	12/1/2014	X	X	X	X	
BF-TMW14 (2-4)	Soil	12/1/2014	X	X	X	X	
$BE_{R41}(0.5,1.5)$	Soil	12/1/2014	^	×	×	×	
BF-B40 (0.5-1.0)	Soil	12/1/2014		X	X	X	
BF-B14 (4-5)	Soil	12/1/2014		×	×	^	
DF - D14 (4-3) DE D12 (4 E)	Soil	12/2/2014		~ ~	~ ~		
DF-D13 (4-3)	Soil	12/2/2014		~ ~	~ ~		
DF - D12 (4-3) DE D21 (2 E E)	Soil	12/2/2014		^	~ ~	×	
DF - DZI (3.3-3) DE D19A (2.4)	Soil	12/2/2014	v	v	×	×	
DF-DIOA (5-4)	Soil	12/2/2014	^	^	×	×	
DF-D19 (3-4.3)	Soil	12/2/2014			~ ~	×	
BF - B20 (3-3)	Soil	12/2/2014	v	v	~ 	×	
BF-B00 (0.5-1.5)	Soil	12/2/2014	~ 	^ V	^ V	×	
	Soll	12/2/2014	^ V	A V	A V	X	
BF-B08 (0.5-1.5)	Soll	12/2/2014	X	X	X	×	
BF-B07 (0.5-1.5)	Soll	12/2/2014	X	X	X	X	
BF-IMW16A (3.5-4.5)	Soil	12/2/2014	X	X	X	X	
BF-B04 (0.5-1.5)	Soil	12/2/2014	X	Х	Х	X	
BF-B07 (2-3)	Soil	12/2/2014	Х	Х	Х	X	
BF-B04 (3-4)	Soil	12/2/2014	Х	Х	Х	Х	
BF-B06 (2-3)	Soil	12/2/2014	Х	Х	Х	Х	
BF-B06 (2-3)	Soil	12/2/2014	Х	Х	Х	Х	
BF-B06 (2-3)	Soil	12/2/2014	Х	Х	Х	Х	
BF-B35 (2-3)	Soil	12/2/2014		Х	Х	Х	
BF-B39 (4-5)	Soil	12/2/2014		Х	Х	Х	
BF-B35 (0.5-1.5)	Soil	12/2/2014		Х	Х	Х	
BF-B39 (1.5-2.5)	Soil	12/2/2014		Х	Х	Х	
B-29A (2 - 3)	Soil	5/4/2015	Х				
B-30A (1 - 2)	Soil	5/4/2015	Х				
B-31A (2 - 3)	Soil	5/4/2015	Х	Х	Х	Х	
B-33A (3 - 4)	Soil	5/4/2015	Х	Х	Х	Х	
B-42A (4 - 5)	Soil	5/6/2015	Х	Х	Х	Х	
B-44A (6 - 7)	Soil	5/6/2015	Х	Х	Х	Х	
B-42B (4 - 5)	Soil	5/6/2015	Х	Х	Х	Х	
B-42C (4 - 5)	Soil	5/6/2015	Х	Х	Х	Х	
B-44 (7 - 8)	Soil	5/7/2015	Х	Х	Х	Х	
B-44 (7 - 8)	Soil	5/7/2015	Х	Х	Х	Х	
B-44 (7 - 8)	Soil	5/7/2015	Х	Х	Х	Х	
B-42 (6 - 7)	Soil	5/7/2015	Х	Х	Х	Х	

# TABLE 3Summary of Field Data - Ground WaterFormer Buffalo Forge PropertyNYSDEC BCP Number C915280

Well ID	DTW (feet)	Temp (°C)	SpC (uS/cm3)	Cond (uS/cm)	DO (mg/L)	рН	Turb (NTU)	ORP (mV)	Flow (ml/min)	Date	
TMW-01	5.04	8.30	NA	464	5.39	7.97	1609.00	75.9	NR	3/13/2012	
TMW-02	Dry										
TMW-03					Dry					3/13/2012	
TMW-04	1.77	7.80	NR	810	2.52	9.69	70.10	-68.5	NR	3/13/2012	
TMW-05					Dry					3/13/2012	
TMW-06	5.20	7.92	NR	422	7.99	8.88	92.70	92.0	NR	3/13/2012	
TMW-07	1.40	6.63	NR	822	7.67	10.67	232.00	109.7	NR	3/13/2012	
TMW-08	1.82	7.51	NR	480	4.13	10.02	3672.00	106.0	NR	3/13/2015	
TMW-09	1.95	8.11	NR	754	2.80	10.34	279.00	33.0	NR	3/13/2012	
TMW-10	2.47	6.79	NR	842	6.42	11.4	106.80	46.5	NR	3/13/2012	
TMW-11	2.11	8.29	NR	416	4.48	10.85	913.00	116	NR	3/13/2012	
TMW-12	5.70	7.62	927	NR	6.80	7.53	27.10	69.40	67.00	5/27/2015	
TMW-13					Dry					5/27/2015	
TMW-14	3.92	15.53	1,082	NR	4.42	6.79	0.00	-101.5	125	5/27/2015	
TMW-15S	4.74	14.65	861	NR	1.02	7.66	0.00	122.1	125	5/27/2015	
TMW-15D	5.23	11.53	1,529	NR	3.77	7.36	0.00	-85.2	150	5/27/2015	
TMW-16	4.48			[	Dry during	sampling*				5/27/2015	
TMW-17	3.12				Dry during	sampling*	*			5/27/2015	

### Notes:

DTW - Depth to water

°C - Degrees Celsius

 $\ensuremath{\mathsf{SpC}}$  -  $\ensuremath{\mathsf{Specific}}$  conductivity in microSiemens per centimeter cubed

Cond - Conductivity in microSiemens per centimeter

DO - Dissolved oxygen

NR - Not recorded

mg/L - Milligrams per liter

Turb - Turbidity

NTU - Nephalometric turbidity unit

ORP - Oxidation-reduction potential in millivol

ml/min - Milliliters per minute

NS - Not sampled

\* - Insufficient volume for instrumentation to read groundwater parameters. Sample was collected for VOCs and Metals only.

\*\* - Insufficient volume for instrumentation to read groundwater parameters. No Sample collected.

# TABLE 4Summary of Ground water SamplesFormer Buffalo Forge PropertyNYSDEC BCP Number C915280

Field ID	Matrix	Date Sampled	Date Received	VOCs (8260)	SVOCs (8270)	PCBs (8082)	Metals (6010/7470)	Antimony (200.8)	Thallium (200.8)	Cyanide (9012)
TMW-01	Ground Water	3/13/2012	3/14/2012	Х	Х		Х		Х	Х
TMW-04	Ground Water	3/13/2012	3/14/2012	Х	Х	Х	Х		Х	Х
TMW-06	Ground Water	3/13/2012	3/14/2012	Х	Х		Х		Х	Х
TMW-07	Ground Water	3/13/2012	3/14/2012	Х	Х		Х		Х	Х
TMW-08	Ground Water	3/13/2012	3/14/2012	Х	Х		Х		Х	Х
TMW-09	Ground Water	3/13/2012	3/14/2012	Х	Х	Х	Х		Х	Х
TMW-10	Ground Water	3/13/2012	3/14/2012	Х	Х	Х	Х		Х	Х
TMW-11	Ground Water	3/13/2012	3/14/2012	Х	Х	Х	Х		Х	Х
TMW-15D(18)-20150527-01	Ground Water	5/27/2015	5/28/2015	Х	Х	Х	Х	Х	Х	
TMW-15S(5.5)-20150527-01	Ground Water	5/27/2015	5/28/2015	Х	Х	Х	Х	Х	Х	
TMW-14(6)-20150527-01	Ground Water	5/27/2015	5/28/2015	Х	Х	Х	Х	Х	Х	
TMW-12(8)-20150527-01	Ground Water	5/27/2015	5/28/2015	Х	Х	Х	Х	Х	Х	
TMW-16(4)-20150529-01	Ground Water	5/29/2015	6/2/2015	Х			Х	Х	Х	

							Location ID B-01	B-01	B-02	B-02	B-03	B-03	B-04	B-04	B-05	B-05	B-06	B-06	B-06	B-07	B-07	B-08	B-08	B-09	B-10	B-11
							Sample Date 01-Dec-1	4 01-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	19-Nov-14	19-Nov-14	19-Nov-14
							Sample Type Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	QA/QC	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth 0.5 - 1.5	t 2-3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	3 - 4 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft
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	NY375	NY375	NY375	NY375	NY375	NY375																				
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU				1	1	- 1	1	-1			1	1	1	1	1	1		-1	-	1
Motals ma/ka																										
	NS	NS	NS	NS	NS	NS	10 500	8 150	13 300	15 400	11 300	12 200	16 900 1	13 000 1	4 320	12 200	5 990 1	6 230 1	12 400 1	8 280 1	16 700 1	5 770 1	8 220 1	5 340 1	7 370 1	6 500 1
Antimony	NS	NS	NS	NS	NS	NS	4 80 .1	< 7.04	< 7.77	< 7.47	< 6.74	< 6.75	< 8.24	< 7.80 .1	< 8 18 .1	< 6.95 J	< 8 15 J	< 8.43 J	< 6 90 J	< 7.46 J	< 7.75	< 8.92	< 7.27	< 7 14	< 6.28	< 6 10
Arsenic	13	16	16	16	16	16	14.5 J	2.54 J	7.82 J	3.84 J	5.36 J	7.27 J	7.46	6.17	5.01 J	4.53 J	53.8	52.7	3.99	14.0	3.26	9.33	3.58	< 1.19 J	6.09 J	3.22 J
Barium	350	820	350	400	400	10,000	300	50.0	333	97.1	138	122	140 J	118 J	79.6	75.5	85.0 J	87.9 J	78.1 J	126 J	110 J	79.9 J	49.4 J	27.4 J	52.8 J	48.1 J
Beryllium	7.2	47	14	72	590	2,700	0.512 J	0.332 J	0.562 J	0.554 J	0.501 J	0.574	0.786	0.646 J	0.489 J	0.505 J	0.839	0.862	0.527 J	0.703	0.710	0.628 J	0.363 J	< 0.595	0.314 J	0.291 J
Cadmium	2.5	7.5	2.5	4.3	9.3	60	1.44	< 0.587	0.521 J	0.441 J	0.311 J	0.302 J	0.604 J	0.523 J	0.716	< 0.579	0.922	1.12	< 0.575	1.73	< 0.646	0.480 J	< 0.606	< 0.595	< 0.523	< 0.508
Calcium	NS	NS	NS	NS	NS	NS	43,500	43,800	37,400	10,400	33,700	54,800	29,700 J	28,900 J	7,610	53,200	10,100 J	11,200 J	31,600 J	9,480 J	15,100 J	4,250 J	55,800 J	69,700	71,700	63,900
Chromium	30	NS	36	180	1,500	6,800	21.6	13.1	26.1	18.5	16.8	18.6	26.1	19.8	9.80	15.8	15.0	14.2	16.2	17.7	21.2	9.86	11.7	8.06 J	11.2 J	11.4 J
Cobalt	NS	NS	NS	NS	NS	NS	7.94	4.73 J	7.91	6.27	6.23	7.45	9.45	9.01	6.25 J	7.44	15.7	12.4	6.66	9.32	6.75	9.69	5.94 J	3.92 J	5.23 J	4.76 J
Copper	50	1,720	270	270	270	10,000	54.8	11.3	44.3	10.6	23.5	25.9	45.5	34.2	72.3	14.2	84.4	64.8	13.3	63.2	15.8	51.0	14.0	9.98 J	11.5 J	14.3 J
Iron	NS	NS	NS	NS	NS	NS	34,500	11,800	18,000	19,200	15,000	20,300	24,500	20,000	9,270	16,800	27,100	22,500	16,300	22,400	18,400	17,300	13,500	9,940 J	12,700 J	12,700 J
Lead	63	450	400	400	1,000	3,900	974 J	16.7 J	593 J	16.0 J	294 J	81.8 J	285	228	343 J	15.4 J	107	132	15.4	358	16.0	172	18.3	9.72 J	9.01 J	28.3 J
Magnesium	NS	NS	NS	NS	NS	NS	18,000	24,200	9,800	8,270	13,500	19,700	12,800 J	15,700 J	1,750	26,800	3,990 J	2,760 J	17,700 J	3,430 J	11,400 J	1,220 J	27,400 J	27,500 J	24,900 J	22,300 J
Manganese	1,600	2,000	2,000	2,000	10,000	10,000	535 J	471 J	703 J	309 J	400 J	716 J	393	704	177 J	520 J	265 J	156 J	523	398	235	171	529	266 J	311 J	289 J
Nickel	30	130	140	310	310	10,000	18.7	9.81	15.8	15.6	12.4	16.7	21.5 J	18.6 J	14.4	14.6	22.5 J	19.8 J	15.0 J	23.2 J	16.9 J	19.0 J	11.4 J	7.29 J	10.4 J	9.34 J
Potassium	NS	NS	NS	NS	NS	NS	1,960	1,880	2,330	2,620	1,950	2,770	3,350	2,300	630	2,590	1,090	1,020	2,470	1,120	3,420	618	2,160	1,470 J	2,050 J	1,820 J
Selenium	3.9	4	36	180	1,500	6,800	1.03 J	< 1.17	< 1.30	< 1.25	< 1.12	0.979 J	< 1.37	< 1.30	< 1.36	< 1.16	< 1.36	1.25 J	< 1.15	< 1.24	< 1.29	< 1.49	< 1.21	< 1.19	< 1.05	< 1.02
Silver	2	8.3	36	180	1,500	6,800	< 1.26	< 1.17	< 1.30	< 1.25	< 1.12	< 1.13	< 1.37	< 1.30	< 1.36	< 1.16	< 1.36	< 1.41	< 1.15	< 1.24	< 1.29	< 1.49	< 1.21	< 1.19	< 1.05	< 1.02
Sodium	NS	NS	NS	NS	NS	NS	192 J	166 J	< 324	< 311	172 J	183 J	< 343	< 325	< 341	157 J	< 340	< 351	< 287	< 311	< 323	< 372	< 303	168 J	197 J	183 J
Thallium	NS	NS	NS	NS	NS	NS	< 3.15	< 2.94	< 3.24	< 3.11	< 2.81	< 2.81	< 3.43	< 3.25	< 3.41	< 2.90	< 3.40	< 3.51	< 2.87	< 3.11	< 3.23	< 3.72	< 3.03	< 2.98	< 2.62	< 2.54
Vanadium	NS	NS	NS	NS	NS	NS	27.8	18.2	30.4	25.4	23.4	28.3	35.0	28.8	15.1	25.4	26.5	25.5	24.4	21.7	29.2	17.7	20.9	15.3 J	19.0 J	18.6 J
Zinc	109	2,480	2,200	10,000	10,000	10,000	382	76.3	209	98.8	158	120	219 J	179 J	118	72.7	672 J	612 J	78.6 J	274 J	83.3 J	110 J	66.1 J	77.9	54.5	68.2
Mercury	0.18	0.73	0.81	0.81	2.8	5.7	0.828 J	0.0732 J	0.524 J	0.0325 J	5.38 J	0.631 J	0.229	1.01	0.615 J	0.0173 J	0.948	0.826	0.0240	0.288	0.0213	0.681	< 0.0201	0.0150 J	< 0.0192	0.0506
Cyanide	27	40	21	21	21	10,000	NA	NA	NA	NA	NA	INA	NA	NA	NA	NA	NA	NA	NA	NA	INA	NA	INA	NA	INA	NA
PCBs_ma/ka																										
Aroclor 1242	0.1	32	1	1	1	25	< 0.0346	< 0.0342	< 0.0356	< 0.0343	< 0.0330	< 0.0344	< 0.0351 J	< 0.0347 .1	< 0.0379	< 0.0343 .1	< 0.0363 .1	< 0.0366	< 0.0334 .1	< 0.0364	< 0.0341 J	< 0.0370	< 0.0332 .1	< 0.0302	< 0.0322 .1	< 0.0314 .1
Aroclor 1248	0.1	3.2	1	1	1	25	< 0.0346	< 0.0342	< 0.0356	< 0.0343	< 0.0330	< 0.0344	< 0.0351 J	< 0.0347 J	< 0.0379	< 0.0343 J	< 0.0363 J	< 0.0366	< 0.0334 J	< 0.0364	< 0.0341 J	< 0.0370	< 0.0332 J	< 0.0302	< 0.0322 J	< 0.0314 J
Aroclor 1254	0.1	3.2	1	1	1	25	0.101 J	< 0.0342	< 0.0356	< 0.0343	< 0.0330	< 0.0344	< 0.0351 J	< 0.0347 J	< 0.0379	< 0.0343 J	< 0.0363 J	< 0.0366	< 0.0334 J	< 0.0364	< 0.0341 J	< 0.0370	< 0.0332 J	< 0.0302	< 0.0322 J	0.349 J
Aroclor 1260	0.1	3.2	1	1	1	25	< 0.0346	< 0.0342	< 0.0356	< 0.0343	< 0.0330	< 0.0344	< 0.0351 J	< 0.0347 J	< 0.0379	< 0.0343 J	< 0.0363 J	< 0.0366	< 0.0334 J	< 0.0364	< 0.0341 J	< 0.0370	< 0.0332 J	< 0.0302	< 0.0322 J	< 0.0314 J

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							Location ID	B-01	B-01	B-02	B-02	B-03	B-03	B-04	B-04	B-05	B-05	B-06	B-06	B-06	B-07	B-07	B-08	B-08	B-09	B-10	B-11
							Sample Date	01-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	19-Nov-14	19-Nov-14	19-Nov-14
							Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	QA/QC	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	3 - 4 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft
										1010 110 10	1	1		1	1		ļ- •	1	1000 00000	1	1000 000 00	1	1000 100 10	1	1000 100 10	1	1
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU																					
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<u> </u>																											
Semivolatiles, mg/kg																											
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS		0.362 J	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	< 0.765	< 0.344	< 0.373	< 0.359	< 0.335	< 0.383	< 0.345	< 0.383	< 0.335	< 0.315	< 0.324	< 0.314
Acenaphthene	20	98	100	100	500	1,000		< 0.697	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	0.837	< 0.344	< 0.373	< 0.359	< 0.335	0.301 J	< 0.345	0.426	< 0.335	< 0.315	< 0.324	< 0.314
Acenaphthylene	100	107	100	100	500	1,000		0.898	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	< 0.765	< 0.344	< 0.373	< 0.359	< 0.335	< 0.383	< 0.345	< 0.383	< 0.335	< 0.315	< 0.324	< 0.314
Anthracene	100	1.000	100	100	500	1.000		0.484 J	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	2.01	< 0.344	< 0.373	< 0.359	< 0.335	0.88	< 0.345	1.16	< 0.335	< 0.315	< 0.324	< 0.314
Benz(a)anthracene	1	1	1	1	5.6	11		1 93	< 0.342	0 254 J	< 0.339	< 0.335	< 0.346	0.29.1	< 0.341	4 06	< 0.344	< 0.373	0.268.1	< 0.335	2 09	< 0.345	2 76	< 0.335	< 0.315	< 0.324	< 0.314
Benzo(a)pyrepe			1	1	1	1 1		2.22	< 0.342	0.228 1	< 0.330	< 0.335	< 0.346	0.283 1	< 0.341	3.5	< 0.344	< 0.373	0.241 1	< 0.335	2.03	< 0.345	2.74	< 0.335	< 0.315	< 0.324	< 0.314
Naphthalana	10	10	100	100	500	1.000			< 0.042	0.220 0	< 0.000	< 0.000	< 0.040	0.200 0	< 0.041	0.0	< 0.044	< 0.070	0.2410 NIA	< 0.000	2.00	< 0.040	2.74	< 0.000	< 0.010	< 0.524 NA	
Naprimaiene	12	12	100	100	500	1,000		NA 0.40			INA 0.000	INA 0.005	NA 0.40		INA 0.044	NA 0.05	INA 0.011		NA 0.00 l	INA 0.005	NA 0.70	INA 0.045	INA 0.45	INA 0.005			
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11		3.42	< 0.342	0.202 J	< 0.339	< 0.335	< 0.346	0.302 J	< 0.341	3.35	< 0.344	0.195 J	0.22 J	< 0.335	2.72	< 0.345	3.15	< 0.335	< 0.315	< 0.324	< 0.314
Benzo(g,h,i)perylene	100	1,000	100	100	500	1,000		1.54	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	0.187 J	< 0.341	1.98	< 0.344	< 0.373	< 0.359	< 0.335	1.24	< 0.345	1.57	< 0.335	< 0.315	< 0.324	< 0.314
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110		1.15	< 0.342	0.195 J	< 0.339	< 0.335	< 0.346	0.248 J	< 0.341	2.85	< 0.344	< 0.373	0.248 J	< 0.335	1.01	< 0.345	1.45	< 0.335	< 0.315	< 0.324	< 0.314
Benzyl Butyl Phthalate	NS	NS	NS	NS	NS	NS		< 0.697	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	< 0.765	< 0.344	< 0.373	< 0.359	< 0.335	< 0.383	< 0.345	< 0.383	< 0.335	< 0.315	< 0.324	< 0.314
Bis(2-ethylhexyl)phthala	NS	NS	NS	NS	NS	NS		< 0.697	0.232 J	< 0.365	0.467	0.364	< 0.346	< 0.343	< 0.341	< 0.765	< 0.344	< 0.373	< 0.359	< 0.335	< 0.383	< 0.345	0.397	< 0.335	< 0.315	< 0.324	0.212 J
Carbazole	NS	NS	NS	NS	NS	NS		0.983	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	0.837	< 0.344	< 0.373	< 0.359	< 0.335	0.417	< 0.345	0.576	< 0.335	< 0.315	< 0.324	< 0.314
Chrysene	1	1	1	3.9	56	110		3.04	< 0.342	0.265 J	< 0.339	< 0.335	< 0.346	0.345	< 0.341	4.14	< 0.344	< 0.373	0.298 J	< 0.335	2.35	< 0.345	2.91	< 0.335	< 0.315	< 0.324	< 0.314
Dibenz(a b)anthracene	0.33	1 000	0.33	0.33	0.56	1 1		0.42	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	0 722 1	< 0.344	< 0.373	< 0.359	< 0.335	0.402	< 0.345	0.442	< 0.335	< 0.315	< 0.324	< 0.314
Dibenzefuren	7	210	1.4	50	250	1.000		0.742	< 0.342	< 0.305	< 0.000	< 0.000	< 0.340	< 0.343	< 0.341	0.622	< 0.344	< 0.373	< 0.350	< 0.000	0.22	< 0.345	0.264	< 0.000	< 0.015	< 0.324	< 0.014
	7	210	14	59	300	1,000		0.742	< 0.342	< 0.303	< 0.339	< 0.335	< 0.340	< 0.343	< 0.341	0.023 J	< 0.344	< 0.373	< 0.359	< 0.335	0.23 J	< 0.345	0.204 J	< 0.335	< 0.315	< 0.324	< 0.314
1,2,4-1 rimethylbenzene	3.6	3.0	47	52	190	380		< 0.00381 J	< 0.00477 J	< 0.00498 J	I < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383 J	1 < 0.00373 J	J < 0.00408 J	< 0.00410 J	INA 0.015	INA 0.001	NA
Fluoranthene	100	1,000	100	100	500	1,000		7.86	< 0.342	0.493	< 0.339	< 0.335	< 0.346	0.588	< 0.341	8.81	< 0.344	0.25 J	0.494 J	< 0.335	4.56	< 0.345	6.41	< 0.335	< 0.315	< 0.324	< 0.314
Fluorene	30	386	100	100	500	1,000		0.681 J	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	0.771	< 0.344	< 0.373	< 0.359 J	< 0.335	0.329 J	< 0.345	0.404	< 0.335	< 0.315	< 0.324	< 0.314
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11		1.68	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	0.25 J	< 0.341	2.61	< 0.344	< 0.373	< 0.359	< 0.335	1.39	< 0.345	2.07	< 0.335	< 0.315	< 0.324	< 0.314
Naphthalene	12	12	100	100	500	1,000		0.915	< 0.342	< 0.365	< 0.339	< 0.335	< 0.346	< 0.343	< 0.341	0.417 J	< 0.344	< 0.373	< 0.359	< 0.335	< 0.383	< 0.345	< 0.383	< 0.335	< 0.315	< 0.324	< 0.314
Phenanthrene	100	1,000	100	100	500	1,000		8.61	< 0.342	0.34 J	< 0.339	< 0.335	< 0.346	0.312 J	< 0.341	8.14	< 0.344	< 0.373	0.367	< 0.335	3.7	< 0.345	5.05	< 0.335	< 0.315	< 0.324	< 0.314
Pvrene	100	1.000	100	100	500	1.000		5.48	< 0.342	0.393	< 0.339	< 0.335	< 0.346	0.502	< 0.341	6.88	< 0.344	0.227 J	0.408 J	< 0.335	3.65	< 0.345	5.46	< 0.335	< 0.315	< 0.324	< 0.314
		1				,																					
Volatiles mg/kg																											
1.2.4-Trimethylbenzene	3.6	3.6	47	52	100	380		< 0.00381 L	< 0.00477 I	< 0.00408		< 0.00371	1 < 0.00350	1 < 0.00363	0.00386	L < 0.00/81 L	< 0.00404	< 0.00472 L	< 0.00402 1	< 0.00305 L	< 0.00383	0 00373		~ 0.00/10		ΝΑ	ΝΑ
1.2.5 Trimethylbenzene	0.4	0.4	47	52	100	200		< 0.00301 J	< 0.00477 J	< 0.00490 J						J < 0.00401 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00303			< 0.00410 J			
1,3,5-Thimethylbenzene	0.4	0.4	47	52	190	360		< 0.00361 J	< 0.00477 J	< 0.00496 J	I < 0.00329 J	< 0.00371	J < 0.00359 .	J < 0.00363 J	< 0.00366	J < 0.00461 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383		J < 0.00406 J	< 0.00410 J		INA	INA NA
2-Butanone	0.12	0.12	100	100	500	1,000		< 0.0191 J	< 0.0239 J	< 0.0249 J	< 0.0164 J	< 0.0185 J	< 0.0180 J	< 0.0182 J	< 0.0193 J	< 0.0241 J	< 0.0202 J	< 0.0236 J	< 0.0201 J	< 0.0198 J	< 0.0192 J	< 0.0186 J	< 0.0204 J	< 0.0205 J	NA	NA	NA
4-Isopropyltoluene	NS	NS	NS	NS	NS	NS		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371 、	J < 0.00359 、	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383 J	J < 0.00373 J	J < 0.00408 J	< 0.00410 J	NA	NA	NA
Acetone	0.05	0.05	100	100	500	1,000		< 0.0191 J	< 0.0239 J	< 0.0249 J	< 0.0164 J	< 0.0185 J	< 0.0180 J	< 0.0182 J	< 0.0193 J	< 0.0241 J	< 0.0202 J	< 0.0236 J	< 0.0201 J	< 0.0386 J	< 0.0414 J	< 0.0186 J	< 0.0204 J	< 0.0205 J	NA	NA	NA
Benzene	0.06	0.06	2.9	4.8	44	89		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	I NA	NA	NA
Carbon Disulfide	NS	NS	NS	NS	NS	NS		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383 J	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	NA	NA	NA
Chlorobenzene	1.1	1.1	100	100	500	1,000		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	I NA	NA	NA
Ethylbenzene	1	1	30	41	390	780		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 .	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383	< 0.00373	I < 0.00408 J	< 0.00410 J	I NA	NA	NA
Isopropylbenzene (Cum	NS	NS	NS	NS	NS	NS		< 0.00381 J	< 0.00477 J	< 0.00498 J	< 0.00329 J	< 0.00371	< 0.00359 .	I < 0.00363 J	< 0.00386	L < 0.00481 J	< 0.00404 .1	< 0.00472 .1	< 0.00402 .1	< 0.00395 .1	< 0.00383	< 0.00373	I < 0.00408 J	< 0.00410	I NA	NA	NA
m p-Xylenes	0.26	1.6	100	100	500	1 000				0.00/18 1									< 0.00402	< 0.00305 J	< 0.00383			< 0.00110		NA	NA
Mathulayalahayana	0.20	1.0	NC	NC	500 NG	1,000		< 0.00301 J	< 0.00477 J	10.004103	< 0.00329 J					J < 0.00401 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00303			< 0.00410 J			
Methylcyclonexarie	N3	N3	110	100	113	1.000		< 0.00361 J	< 0.00477 J	< 0.00496 J	I < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00366	J < 0.00461 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00363		J < 0.00406 J	< 0.00410 J		INA NA	NA NA
wethylene chloride	0.05	0.05	100	100	500	1,000		< 0.00953 J	< 0.0119 J	< 0.0125 J	< 0.00822 J	< 0.00927	1 < 0.00898	1 < 0.00908 J	< 0.00966	J < U.U120 J	< 0.0101 J	< 0.0118 J	< 0.0101 J	< 0.00988 J	< 0.00958	< 0.00932	< 0.0102 J	< 0.0103 J	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000		< 0.00953 J	< 0.0119 J	< 0.0125 J	< 0.00822 J	< 0.00927	J < 0.00898 J	J < 0.00908 J	< 0.00966	J < 0.0120 J	< 0.0101 J	0.0181 J	< 0.0101 J	< 0.00988 J	< 0.00958 J	I < 0.00932 J	J < 0.0102 J	< 0.0103 J	NA	NA	NA
n-Butylbenzene	12	12	100	100	500	1,000		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383 J	l <0.00373 J	J < 0.00408 J	< 0.00410 J	I NA	NA	NA
n-Propylbenzene	3.9	3.9	100	100	500	1,000		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383 J	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	I NA	NA	NA
o-Xylene	0.26	1.6	100	100	500	1,000		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 、	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	I NA	NA	NA
sec-Butylbenzene	11	11	100	100	500	1,000		< 0.00381 J	< 0.00477 J	< 0.00498 J	l < 0.00329 J	< 0.00371	J < 0.00359 J	J < 0.00363 J	< 0.00386	J < 0.00481 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00383	l < 0.00373 J	J < 0.00408 J	< 0.00410 J	NA	NA	NA
Styrene	NS	NS	NS	NS	NS	NS		< 0.00953 .1	< 0.0119 J	< 0.0125 J	< 0.00822 .1	< 0.00927	J < 0.00898	J < 0.00908 J	< 0.00966	J < 0.0120 J	< 0.0101 J	< 0.0118 J	< 0.0101 J	< 0.00988 .1	< 0.00958	< 0.00932	J < 0.0102 .I	< 0.0103 .1	NA	NA	NA
Tetrachloroethene	13	1.3	5.5	19	150	300				< 0.00498		< 0.00371	1 < 0.00359		< 0.00386		< 0.00404		< 0.00402	< 0.00395	< 0.00383	< 0.00373		< 0.00410		NA	NA
Toluene	0.7	0.7	100	100	500	1 000		< 0.00381		< 0.00400								< 0.00472	< 0.00402		< 0.00382	-0.00373				NA	NA
	0.7	1.6	100	100	500	1,000		~ 0.00301 J	< 0.00477 J	< 0.00490 J	< 0.00329 J	< 0.00371 .			< 0.00300 J	J < 0.00401 J	< 0.00404 J	< 0.00472 J	< 0.00402 J	< 0.00395 J	< 0.00303 J	< 0.00373 J	< 0.00400 J	< 0.00410 J			
Ayienes (total)	0.26	1.6	100	100	500	1,000		INA	INA	NA	INA	INA	NA	NA	INA	INA	NA	INA	INA	INA	NA	NA	INA	NА	INA	NA	NA

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW. NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential. NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

NY375 6RINDU = 6NYCRR P375 Restricted SCO-Industrial.

### TABLE 5 Summary of Soil Analytical Results Former Buffalo Forge Property NYSDEC BCP Site Number C915280

							Location ID	B-12	B-13	B-14	B-15	B-16	B-17	B-17	B-18	B-184	B-19	B-20	B-21	B-22	B-23	B-24	B-25	B-26	B-27	B-28	B-29
							Sample Date	02-Dec-14	02-Dec-14	02-Dec-14	25-Nov-14	25-Nov-14	25-Nov-14	25-Nov-14	19-Nov-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	24-Nov-14	24-Nov-14	24-Nov-14	24-Nov-14	24-Nov-14	26-Nov-14	26-Nov-14	26-Nov-14
							Sample Type	Grab	Grab	Grab	Grab	Grab	Grah	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Denth	4 - 5 ft	4 - 5 ft	4 - 5 ft	0.5 - 1 ft	0.5 - 1.5 ft	1 - 2 ft	2 - 3 ft	3 - 4 5 ft	3 - 4 ft	3 - 4 5 ft	3 - 5 ft	35-5ft	0.5 - 1.5 ft	05-15ft	0.5 - 1.5 ft	0.5 - 1.5 ft	2 - 3 ft	1 - 2 ft	15-25ft	2 - 3 5 ft
					1		Dopin	4 011	4 0 1	4 010	0.0 110	0.0 1.0 1	1. 2.0	12 010	0 4.010	0 41	4.011	0 010	0.0 0 10	0.0 1.0 1	0.0 1.0 1.	0.0 1.0 1.	0.0 1.0 1			1.0 2.0 1	2 0.0 1
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU																					
Metals, mg/kg																											
Aluminum	NS	NS	NS	NS	NS	NS		NA	NA	NA	5,230	11,400	25,000	16,700	7,970 J	6,070 J	6,650 J	17,400 J	5,680 J	4,970	13,400	19,700	2,270	27,000	NA	NA	NA
Antimony	NS	NS	NS	NS	NS	NS		NA	NA	NA	4.07 J	< 7.21 J	< 7.73 J	8.25 J	< 7.49	< 6.82 J	< 6.76 J	< 8.23 J	< 6.18 J	14.5 J	< 7.16 J	<7.18 J	< 6.07 J	< 7.69 J	NA	NA	NA
Arsenic	13	16	16	16	16	16		NA	NA	NA	10.3 J	13.6 J	6.78 J	8.95 J	4.70 J	2.88	3.27	5.24	2.46	25.2 J	9.84 J	3.49 J	391 J	6.28 J	NA	NA	NA
Barium	350	820	350	400	400	10,000		NA	NA	NA	56.3	92.9	147	104	51.4 J	44.2 J	41.5 J	153 J	37.5 J	135	126	84.2	34.9	140	NA	NA	NA
Beryllium	7.2	47	14	72	590	2,700		NA	NA	NA	0.565	1.76	1.16	0.659	0.343 J	< 0.569	0.301 J	0.724	< 0.515	0.627 J	0.658 J	0.595 J	< 0.506 J	1.15 J	NA	NA	NA
Cadmium	2.5	7.5	2.5	4.3	9.3	60		NA	NA	NA	< 0.500	< 0.601	0.408 J	0.575 J	< 0.624	< 0.569	< 0.564	0.501 J	< 0.515	1.16 J	0.628 J	0.469 J	< 0.506 J	0.876 J	NA	NA	NA
Calcium	NS	NS	NS	NS	NS	NS		NA	NA	NA	249,000	320,000	4,960	35,700	104,000	84,200 J	53,900 J	14,100 J	64,900 J	18,600 J	44,000 J	9,490 J	206,000 J	3,570 J	NA	NA	NA
Chromium	30	NS	36	180	1,500	6,800		NA	NA	NA	571	1,410	30.4	22.7	11.9 J	9.78	10.7	21.9	8.81	15.7 J	20.3 J	22.7 J	8.35 J	33.3 J	NA	NA	NA
Cobalt	NS	NS	NS	NS	NS	NS		NA	NA	NA	5.78	7.94	12.0	9.86	5.58 J	4.46 J	4.77 J	12.7	3.94 J	7.46 J	8.45 J	7.77 J	< 5.06 J	12.5 J	NA	NA	NA
Copper	50	1,720	270	270	270	10,000		NA	NA	NA	34.5	46.3	22.8	77.7	14.7 J	10.8	10.6	23.6	9.24	132 J	36.4 J	10.6 J	25.9 J	25.8 J	NA	NA	NA
Iron	NS	NS	NS	NS	NS	NS		NA	NA	NA	73,000	114,000	30,600	43,600	13,000 J	10,900	12,000	22,200	10,000	50,300	23,900	21,500	8,140	31,500	NA	NA	NA
Lead	63	450	400	400	1,000	3,900		NA	NA	NA	247	130	16.0	118	20.3 J	7.26	7.88	39.9	6.89	360 J	235 J	60.9 J	176 J	13.5 J	NA	NA	NA
Magnesium	NS	NS 0.000	NS 0.000	NS	NS	NS		NA	NA	NA	19,500	15,100	7,740	11,300	25,000 J	25,600 J	23,300 J	5,430 J	24,800 J	1,040 J	13,200 J	7,060 J	7,660 J	8,520 J	NA	NA	NA
Manganese	1,600	2,000	2,000	2,000	10,000	10,000		NA	NA	NA	20,700 J	31,800 J	318 J	407 J	446 J	267	276	701	246	170	504	337	204	391	NA	NA	NA
Nickel	30	130	140	310	310	10,000				NA	18.2	21.4	32.1	19.0	11.5 J	8.82 J	9.34 J	19.7 J	7.86 J	18.6 J	19.5 J	17.1 J	9.98 J	36.5 J	NA		NA
Polassium	2.0	1100	103	190	1.500	6 800		NA	NA NA	NA NA	300	202 J	4,560	2,630	2,300 J	1,040	1,050	2,910	1,750	439	2,720	3,060	7.05.1	4,600	NA NA		NA
Selenium	3.9	4	26	100	1,500	6,800		NA	NA	NA	14.0 J	10.0 3	< 1.29 J	< 1.20 J	< 1.25	1.90	< 1.13	< 1.37	0.002 0	0.9813	< 1.19 J	< 1.20 J	7.05 J	< 1.20 J	NA		NA
Sodium	2 NS	NS	NS	NS	1,500 NS	0,000 NS					173	212	< 322	180 1	100 1	18/1	176	< 3/3	178	2.17 J	323 1	231	< 253	471 1			NA
Thallium	NS	NS	NS	NS	NS	NS		NA	NΔ	NA	4 33	< 3.01	< 3.22	< 3 01	- 3 12	< 2.84	< 2.82	< 3.43	< 2.57	< 2.92 J	<pre>&gt;200</pre>	< 2 99 I	4 67 1	4713 < 3.20 I	NA	NA	NA
Vanadium	NS	NS	NS	NS	NS	NS		NA	NA	NA	226	460	42.5	43.1	20.4.1	16.8	18.8	34.0	15.9	18.7.1	28.4.1	33.7.1	8 16 .1	42.5.1	NA	NA	NA
Zinc	109	2,480	2.200	10.000	10.000	10.000		NA	NA	NA	14.9	32.3	88.4	105	49.0	56.7 J	59.4 J	83.5 J	65.3 J	169 J	159 J	111 J	95.8 J	84.6 J	NA	NA	NA
Mercury	0.18	0.73	0.81	0.81	2.8	57		NA	NA	NA	< 0.0195	0.0171.J	0.0422	0.109	0.0314	0.0396	< 0.0186	0 485	< 0.0213	0 142	0.130	0.0541	0 197	0.0259	NA	NA	NA
Cvanide	27	40	27	27	27	10.000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		-				-,																					
PCBs. ma/ka																											
Aroclor 1242	0.1	3.2	1	1	1	25		< 0.0315 J	< 0.0335 J	< 0.0345	< 0.0294	0.132 J	< 0.0359 J	< 0.0362	< 0.0323 J	< 0.306	< 0.0318 J	< 0.0357	< 0.0317 J	< 0.0341	< 0.0334	< 0.0344 J	< 0.0295	< 0.0358	NA	NA	NA
Aroclor 1248	0.1	3.2	1	1	1	25		< 0.0315 J	< 0.0335 J	< 0.0345	< 0.0294	< 0.0326	< 0.0359 J	< 0.0362	< 0.0323 J	< 0.306	< 0.0318 J	< 0.0357	< 0.0317 J	< 0.0341	< 0.0334	< 0.0344 J	< 0.0295	< 0.0358	NA	NA	NA
Aroclor 1254	0.1	3.2	1	1	1	25		< 0.0315 J	< 0.0335 J	< 0.0345	< 0.0294	< 0.0326	< 0.0359 J	< 0.0362	0.581 J	4.03 J	< 0.0318 J	0.0182 J	< 0.0317 J	< 0.0341	< 0.0334	< 0.0344 J	0.235 J	< 0.0358	NA	NA	NA
Aroclor 1260	0.1	3.2	1	1	1	25		< 0.0315 J	< 0.0335 J	< 0.0345	< 0.0294	< 0.0326	< 0.0359 J	< 0.0362	< 0.0323 J	< 0.306	< 0.0318 J	< 0.0357	< 0.0317 J	< 0.0341	< 0.0334	< 0.0344 J	< 0.0295	< 0.0358	NA	NA	NA
	1	L			1		Location ID B	-12	B-13	B-14	B-15	B-16	B-17	B-17	B-18	B-18A	B-19	B-20	B-21	B-22	B-23	B-24	B-25	B-26	B-27	B-28	B-29
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							Sample Date 02	2 Dog 14	02 Doc 14	02 Doc 14	25 Nov 14	25 Nov 14	25 Nov 14	25 Nov 14	10 Nov 14	02 Dog 14	02 Doc 14	02 Doc 14	02 Dog 14	24 Nov 14	24 Nov 14	24 Nov 14	24 Nov 14	24 Nov 14	26 Nov 14	26 Nov 14	26 Nov 14
							Sample Date 02	2-Dec-14	02-Dec-14	02-Dec-14	25-INOV-14	25-1107-14	25-NOV-14	25-INOV-14	19-NOV-14	02-Dec-14	02-Dec-14	02-Dec-14	02-Dec-14	24-INOV-14	24-NOV-14	24-INOV-14	24-NOV-14	24-INOV-14	20-INOV-14	20-1107-14	20-NOV-14
							Sample Type Gr	rab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
	_						Deptn 4 -	- 5 ft	4 - 5 ft	4 - 5 ft	0.5 - 1 ft	0.5 - 1.5 ft	1 - 2 ft	2 - 3 ft	3 - 4.5 ft	3 - 4 ft	3 - 4.5 ft	3 - 5 ft	3.5 - 5 ft	0.5 - 1.5 ft	2 - 3 ft	1 - 2 ft	1.5 - 2.5 ft	2 - 3.5 ft			
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU																					
Analyte	UNICED		INICE O	INITE O		I IIII				1			1			1				1							
Comissolatiles mailer																											
Semivolatiles, mg/kg	NC	NC	NC	NC	NC	NC		0.000	. 0. 200	. 0.004	. 0. 207	. 0.004	. 0.000		.0.014	. 0. 200	NIA	NIA	NIA	. 0. 000	0.001	. 0. 222	. 0.000		NIA	NIA	NIA
2-ivietnyinapritriaierie	00	00	100	100	110	1.000	< (	0.322	< 0.320	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA NA	NA NA	INA NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA NA	NA NA	NA NA
Acenaphthelese	20	98	100	100	500	1,000	0.4	.41	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308			NA NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Acenaphthylene	100	107	100	100	500	1,000	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	INA NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA NA	NA NA
Anthracene	100	1,000	100	100	500	1,000	1.2	.28	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	0.155 J	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Benz(a)anthracene	1	1	1	1	5.6	11	0.3	.305 J	< 0.326	< 0.334	0.17 J	0.435	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	0.255 J	0.249 J	0.216 J	0.227 J	< 0.362	NA	NA	NA
Benzo(a)pyrene	1	22	1	1	1	1.1	0.2	.298 J	< 0.326	< 0.334	0.166 J	0.174 J	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	0.224 J	0.225 J	0.186 J	0.224 J	< 0.362	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	0.2	.2 J	< 0.326	< 0.334	0.205 J	0.237 J	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	0.27 J	0.262 J	< 0.333	0.277 J	< 0.362	NA	NA	NA
Benzo(g,h,i)perylene	100	1,000	100	100	500	1,000	<(	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	0.229 J	< 0.362	NA	NA	NA
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	0.3	.346	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	0.225 J	0.197 J	0.19 J	0.163 J	< 0.362	NA	NA	NA
Benzyl Butyl Phthalate	e NS	NS	NS	NS	NS	NS	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Bis(2-ethylhexyl)phtha	IaINS	NS	NS	NS	NS	NS	< (	0.322	< 0.326	< 0.334	0.234 J	0.254 J	1.49	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	1.54	0.268 J	0.161 J	0.244 J	NA	NA	NA
Carbazole	NS	NS	NS	NS	NS	NS	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Chrysene	1	1	1	3.9	56	110	0.8	.896	< 0.326	< 0.334	0.216 J	0.883	< 0.362	< 0.355	0.177 J	< 0.308	NA	NA	NA	0.378	0.305 J	0.233 J	0.275 J	< 0.362	NA	NA	NA
Dibenz(a,h)anthracene	e 0.33	1,000	0.33	0.33	0.56	1.1	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Dibenzofuran	7	210	14	59	350	1,000	0.9	.929	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
1,2,4-Trimethylbenzen	e 3.6	3.6	47	52	190	380	N/	A	NA	NA	NA	NA	NA	NA	0.00973 J	< 0.00288 J	NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J 0.00163 J	< 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Fluoranthene	100	1,000	100	100	500	1,000	2.4	.43	< 0.326	< 0.334	0.295 J	4.08	< 0.362	0.394	0.45	< 0.308	NA	NA	NA	0.507	0.499	0.422	0.423	< 0.362	NA	NA	NA
Fluorene	30	386	100	100	500	1,000	1.*	.17	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	0.186 J	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Indeno(1,2,3-cd)pyren	e 0.5	8.2	0.5	0.5	5.6	11	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	0.165 J	< 0.362	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000	< (	0.322	< 0.326	< 0.334	< 0.307	< 0.324	< 0.362	< 0.355	< 0.311	< 0.308	NA	NA	NA	< 0.336	< 0.331	< 0.333	< 0.289	< 0.362	NA	NA	NA
Phenanthrene	100	1,000	100	100	500	1,000	4.6	.68	< 0.326	< 0.334	0.196 J	4.72	< 0.362	0.404	0.651	< 0.308	NA	NA	NA	0.38	0.344	0.187 J	0.209 J	< 0.362	NA	NA	NA
Pyrene	100	1,000	100	100	500	1,000	1.6	.6	< 0.326	< 0.334	0.241 J	3.19	< 0.362	0.319 J	0.378	< 0.308	NA	NA	NA	0.418	0.425	0.346	0.361	< 0.362	NA	NA	NA
Volatiles, mg/kg																											
1,2,4- I rimethylbenzen	ie 3.6	3.6	47	52	190	380	N/	A	NA	NA	NA	NA	NA	NA	0.00973 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J 0.00163 J	< 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
1,3,5- I rimethylbenzen	e 8.4	8.4	47	52	190	380	N/	A	NA	NA	NA	NA	NA	NA	0.00273 J	< 0.00288 J	JNA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
2-Butanone	0.12	0.12	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	< 0.0212 J	< 0.0144 J	NA	NA	NA	< 0.0232 J	< 0.0197 J	< 0.0200 J	< 0.0160 J	< 0.0249 J	< 0.0220 J	< 0.0213 J	< 0.0241 J
4-isopropyitoiuene	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	JNA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Acetone	0.05	0.05	100	100	500	1,000	N/	A	NA	NA		INA NA	INA NA	INA NA	0.0219 J	< 0.0144 J		INA NA	INA	< 0.0232 J	< 0.0197 J	< 0.0200 J	< 0.0160 J	< 0.0249 J	< 0.0220 J	< 0.0213 J	< 0.0241 J
Denzene	0.06	0.00	2.9	4.ð	44 NC	89	N/	A .	INA NA	INA NA	INA NA		INA NA		< 0.00423 J	< 0.00288 J		NA NA	INA NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	< 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Carbon Disuitide	INS 4.4	INS 4.4	100	100	INS FOO	NS 1.000	N/	A	NA	NA		INA NA	INA NA	INA NA	< 0.00423 J	< 0.00288 J		INA NA	INA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	< 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Chloropenzene	1.1	1.1	100	100	000	1,000	N/	A	INA NA	INA NA	INA NA		NA NA	NA NA	< 0.00423 J	< 0.00288 J		NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	< 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Etnyibenzene	1	1	30	41	390	780	N/	A	INA NA	INA NA	INA	INA NA	INA NA	NA	< 0.00423 J	< 0.00288 J		NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	<ul> <li>&lt; 0.00498 J</li> <li>&lt; 0.00498 J</li> </ul>	< 0.00441 J	< 0.00426 J	< 0.00483 J
isopropyibenzene (Cu	mins	NS 4.0	NS 400	INS 400	NS 500	NS 1.002	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J		NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	<pre>0.00498 J</pre>	< 0.00441 J	< 0.00426 J	< 0.00483 J
m,p-Xylenes	0.26	1.6	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	0.00318 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Methylcyclohexane	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	0.00330 J	< 0.00483 J
Methylene chloride	0.05	0.05	51	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	< 0.0106 J	< 0.00720 J	JNA	NA	NA	< 0.0116 J	< 0.00984	J < 0.0100 J	0.0100 J	< 0.0125 J	0.00582 J	0.00746 J	< 0.0121 J
Naphthalene	12	12	100	100	500	1,000	NA	A	NA	NA	NA	NA	NA	NA	0.0101 J	< 0.00720 J	J NA	NA	NA	< 0.0116 J	< 0.00984	J < 0.0100 J	< 0.00798 J	J < 0.0125 J	< 0.0110 J	< 0.0107 J	< 0.0121 J
n-Butylbenzene	12	12	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
n-Propylbenzene	3.9	3.9	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
o-Xylene	0.26	1.6	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NÁ	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
sec-Butylbenzene	11	11	100	100	500	1,000	N/	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Styrene	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	NA	NA	NA	NA	< 0.0106 J	< 0.00720 J	J NA	NA	NA	< 0.0116 J	< 0.00984	J < 0.0100 J	< 0.00798 J	J < 0.0125 J	< 0.0110 J	< 0.0107 J	< 0.0121 J
Tetrachloroethene	1.3	1.3	5.5	19	150	300	NA	A	NA	NA	NA	NA	NA	NA	0.00245 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Toluene	0.7	0.7	100	100	500	1,000	NA	A	NA	NA	NA	NA	NA	NA	< 0.00423 J	< 0.00288 J	J NA	NA	NA	< 0.00464 J	< 0.00393	J < 0.00401	J < 0.00319 J	J < 0.00498 J	< 0.00441 J	< 0.00426 J	< 0.00483 J
Xylenes (total)	0.26	1.6	100	100	500	1,000	NA	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW. NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

					1		Location ID B	-20 A	B-30	B-30A	B-31	B-31A	B-32	B-33	B-33A	B-33A	B-34	B-35	B-35	B-36	B-37	B-38	B-30	B-30	B-40	B-41	B-42
							Sample Date 04	-23A 1-May-15	26-Nov-14	04-May-15	26-Nov-14	04-May-15	26-Nov-14	26-Nov-14	04-May-15	04-May-15	26-Nov-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	25-Nov-14
							Sample Type G	rah	Grab	Grab	Grab	Grab	Grab	Grab	Grab	04-May-13	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Denth 2	- 3 ft	2 - 2 8 ft	1 - 2 ft	3 - 4 ft	2 - 3 ft	3 - 5 ft	3 - 4 ft	3 - 4 ft	3 - 4 ft	3 - 5 ft	05-15#	2 - 3 ft	2 - 4 ft	2 - 4 ft	2 - 4 ft	15-25 ft	4 - 5 ft	0.5 - 1.ft	0.5 - 1.ft	4 - 5 ft
							Deptil	- 5 11	2 - 2.0 11	1 - 2 m	5 - <del>4</del> it	2-51	5-51	<b>5</b> - 4 IL	<b>5</b> - 4 IC	5-41	5-5 R	0.0 - 1.0 11	2-51	2 - 4 10	2 - 4 10	2 - 4 10	1.5 - 2.5 11	4 - <b>3</b> it	0.5 - 1 10	0.5 - 1 11	4-510
-	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	B RPGW	RRES	RRRES	RCOMM	RINDU																					
Metals, mg/kg																											
Aluminum	NS	NS	NS	NS	NS	NS	N	A	NA	NA	13,600	8,940	12,000	5,070	15,400	13,300	14,200	10,100 J	16,200 J	8,490	8,680	8,630	13,000 J	18,500 J	11,600	19,400	13,000
Antimony	NS	NS	NS	NS	NS	NS	N	A	NA	NA	< 7.51 J	< 3.46	< 7.27 J	< 7.46 J	< 3.31	< 3.58	< 6.90 J	< 7.17 J	< 7.00 J	< 7.39 J	< 6.80 J	< 6.33 J	< 7.60 J	< 7.22 J	6.25 J	6.14 J	< 7.10 J
Arsenic	13	16	16	16	16	16	N	A	NA	NA	5.07	6.39	5.83	7.20	5.51 J	9.41 J	6.72	7.60	5.04	3.74 J	3.65 J	4.74 J	2.76	5.04	12.8 J	12.2 J	5.07 J
Barium	350	820	350	400	400	10,000	N	A	NA	NA	95.5	105	78.1	35.2	97.9 J	386 J	100	135 J	102 J	49.6	57.7	58.7	97.0 J	129 J	97.0	162	96.6
Beryllium	7.2	47	14	72	590	2,700	N	A	NA	NA	0.535 J	0.396	0.525 J	< 0.621	0.592	0.575	0.602	0.531 J	0.683	0.359 J	0.372 J	0.367 J	0.479 J	0.737	1.61	3.81	0.520 J
Cadmium	2.5	7.5	2.5	4.3	9.3	60	N/	A	NA	NA	0.646	0.764	< 0.605	0.481 J	0.829	0.971	< 0.575	0.597 J	< 0.583	< 0.616	< 0.566	< 0.528	< 0.634	< 0.601	1.62	1.19	< 0.591
Calcium	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	56,900 J	56,000	82,800 J	120,000 J	19,600 J	28,700 J	70,800 J	52,100 J	49,400 J	56,800	69,000	70,100	29,200 J	44,200 J	210,000	231,000	85,200
Chromium	30	NS	36	180	1,500	6,800	N/	A	NA	NA	23.3	12.5	17.0	7.99	28.1 J	18.8 J	19.4	18.6	25.6	12.1	13.2	12.4	16.6	22.5	318	425	16.9
Cobalt	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	6.74	5.65	7.75	3.20 J	8.18	8.28	8.49	6.67	9.50	5.61 J	5.92	6.27	6.37	9.47	8.13	7.78	8.68
Copper	50	1,720	270	270	270	10,000	N/	A	NA	NA	23.1	26.0	15.0	13.1	27.8 J	57.1 J	19.3	72.0	20.3	14.7	13.0	13.8	10.6	18.4	73.5	49.7	10.3
Iron	NS	NS	NS	NS	NS	NS	N/	A	NA	NA	17,100	13,200	18,300	13,100	25,900	23,500	21,300	20,200	22,700	13,900	13,700	14,300	15,400	22,100	115,000	90,600	15,800
Lead	63	450	400	400	1,000	3,900	N/	A	NA	NA	60.6 J	278	11.8 J	73.6 J	86.2 J	228 J	25.3 J	170	16.9	10.9 J	8.33 J	8.38 J	24.4	21.4	611 J	170 J	11.3
Magnesium	NS 4 000	NS 0.000	NS 0.000	NS	NS	NS 40.000	N/	A	NA	NA	19,900	15,800	25,500	4,150	7,680	6,840	21,800	18,600 J	24,100 J	25,100	24,500	22,900	15,700 J	16,200 J	18,000	30,500	28,600
Manganese	1,600	2,000	2,000	2,000	10,000	10,000	N/	A	NA	NA	383	380	459	226	1,430 J	566 J	436	418	683	331 J	300 J	356 J	296	503	8,820 J	13,300 J	530 J
Nickei	30	130	140	310	310	10,000	N/	A	NA NA	NA NA	19.5 J	12.1	16.4 J	6.53 J	19.1	21.5	18.6 J	18.7 J	23.5 J	11.5	11.9	13.5	12.1 J	21.1 J	37.5	28.9	15.6
Potassium	2.0	1105	26	190	NS 1.500	NS 6 800	N/	A ^	NA		2,840	1,960	3,290	954	2,660	2,290	3,320	1,630	3,220	2,150	2,490	2,320	2,300	3,300	901	1,840	3,500
Selenium	3.9	4	26	100	1,500	6,000	N/	A ^	NA		< 1.25	2.97	1.42	4.07	3.27	0.012	2.34	< 1.19	< 1.17	< 1.23	< 1.13	< 1.06	< 1.27	< 1.20	13.3	14.0	< 1.10 J
Sodium	Z NS	NS	NS	NS	1,500 NS	0,000 NS	N/	A A	NA	NA	200 1	202	208 1	220 1	1.10	135 1	308	< 1.19	151 1	186 1	160 1	181 1	< 317	265 1	280	2.40	238 1
Thallium	NS	NS	NS	NS	NS	NS	N	Δ	NA	NA	2335	2 31	< 3.03	2 0 1 1	120 3	1 28 1	- 2 88	< 2.99	~ 2 92	< 3.08	- 2.83	< 2.64	< 3.17	203 3	200	< 3 14	< 2.96
Vanadium	NS	NS	NS	NS	NS	NS	N	Δ	NA	NA	24.5 1	17.7	26.5 1	14.3	42.9.1	25.0.1	28.6 1	22.00	31.0	20.0	20.8	20.3	23.0	32.6	80.1	124	23.2
Zinc	109	2 480	2 200	10,000	10.000	10.000	N	Δ	NA	NA	103.1	131	61.7.1	447.1	121.1	218.1	74.7.1	135.1	79.0.1	81.7	62.6	64.9	78.2.1	83.1.1	72.2	52.2	56.8
Mercury	0.18	0.73	0.81	0.81	2.8	57	N	A	NA	NA	0.0913	0.0446	0.0136.1	0 107	0.246.1	0.437.1	0.0217	0.271	< 0.0200	0.0133.1	0.0113.J	< 0.0209 .1	0.0875	0.0476	0.0268.1	0.0962.1	0.0146.J
Cvanide	27	40	27	27	27	10.000	N	A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs. ma/ka														1		1	1	1	1	1							
Aroclor 1242	0.1	3.2	1	1	1	25	N	A	NA	NA	< 0.0363	< 0.0330	< 0.0336 J	< 0.0364 J	< 0.0356	< 0.0361	< 0.0352 J	< 0.0319	< 0.0337 J	< 0.0326	< 0.0320	< 0.0319	< 0.0326	< 0.0344 J	< 0.0317	< 0.0339	< 0.0323 J
Aroclor 1248	0.1	3.2	1	1	1	25	N	A	NA	NA	0.0216 J	< 0.0330	< 0.0336 J	0.335 J	< 0.0356	< 0.0361	< 0.0352 J	< 0.0319	< 0.0337 J	< 0.0326	< 0.0320	< 0.0319	< 0.0326	< 0.0344 J	< 0.0317	< 0.0339	< 0.0323 J
Aroclor 1254	0.1	3.2	1	1	1	25	N	A	NA	NA	< 0.0363	0.0311 J	< 0.0336 J	0.196 J	< 0.0356	< 0.0361	< 0.0352 J	0.0242 J	< 0.0337 J	< 0.0326	< 0.0320	< 0.0319	< 0.0326	< 0.0344 J	< 0.0317	< 0.0339	< 0.0323 J
Aroclor 1260	0.1	3.2	1	1	1	25	N	A	NA	NA	< 0.0363 J	< 0.0330	< 0.0336 J	< 0.0364 J	< 0.0356	< 0.0361	< 0.0352 J	< 0.0319	< 0.0337 J	< 0.0326	< 0.0320	< 0.0319	< 0.0326	< 0.0344 J	< 0.0317	< 0.0339	< 0.0323 J
												*			*												

		1	1			1		D 00	D 004	D 04	D 044	D 00	D 00	D 004	D 004	D 04	D 05	D 05	D 00	D 07	D 00	D 00	D 00	D 40	D 44	D 40
							Location ID B-29A	B-30	B-30A	B-31	B-31A	B-32	B-33	B-33A	B-33A	B-34	B-35	B-35	B-36	B-37	B-38	B-39	B-39	B-40	B-41	B-42
							Sample Date 04-May-1	5 26-Nov-14	04-May-15	26-Nov-14	04-May-15	26-Nov-14	26-Nov-14	04-May-15	04-May-15	26-Nov-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	02-Dec-14	02-Dec-14	01-Dec-14	01-Dec-14	25-Nov-14
							Sample Type Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	QA/QC	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth 2 - 3 ft	2 - 2.8 ft	1 - 2 ft	3 - 4 ft	2 - 3 ft	3 - 5 ft	3 - 4 ft	3 - 4 ft	3 - 4 ft	3 - 5 ft	0.5 - 1.5 ft	2 - 3 ft	2 - 4 ft	2 - 4 ft	2 - 4 ft	1.5 - 2.5 ft	4 - 5 ft	0.5 - 1 ft	0.5 - 1 ft	4 - 5 ft
										-			-	-				1	1							
	NY375	NY375	NY375	NY375	NY375	NY375																				
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU																				
Somivolatilos ma/ka																										
	NC	NIC	NC	NC	NC	NC		NIA	NIA	0.000	. 0. 000	. 0. 000	. 2.54	0.050	. 0. 202	.0.054	. 0.000	0.040	. 0. 200	0.040	. 0. 200	0.004	0.050	1.0	. 2. 20	. 0.000
2-metrymaphtnaiene	ING 0.0	IN S	100	100	INO E O O	110	INA	INA	INA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.356 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< 0.316	< 0.326	< 0.324	< 0.356	< 1.0	< 3.30	< 0.330
Acenaphthene	20	98	100	100	500	1,000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	0.187 J	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Acenaphthylene	100	107	100	100	500	1,000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Anthracene	100	1,000	100	100	500	1,000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	0.395	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Benz(a)anthracene	1	1	1	1	5.6	11	NA	NA	NA	< 0.362	0.287 J	< 0.339	< 3.54	0.474 J	0.258 J	< 0.354	0.648	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Benzo(a)pyrene	1	22	1	1	1	1.1	NA	NA	NA	< 0.362	0.254 J	< 0.339	< 3.54	0.444 J	0.246 J	< 0.354	0.59	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Naphthalene	12	12	100	100	500	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	NA	NA	NA	< 0.362	0.392	< 0.339	< 3.54	0.601 J	0.329 J	< 0.354	0.488	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Benzo(a h i)pervlene	100	1 000	100	100	500	1 000	NA	NA	NA	< 0.362	0 173 J	< 0.339	< 3.54	0 291 J	< 0.362	< 0.354	0.375	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	NA	NA	NΔ	< 0.362	< 0.332	< 0.339	< 3.54	0.253	0 199 1	< 0.354	0.506	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Benzyl Butyl Dhthalata	NS	NS	NS	NS	NS	NS		NA	NA	< 0.362	< 0.332	< 0.330	< 3.54	< 0.358	< 0.362	< 0.354	< 0.322	< 0.342	< 0.320	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
	NC	NC	NC	NC	NIC	NC		NA	NA	0.002	< 0.002	< 0.339	< 3.54	< 0.350 J	< 0.302	< 0.354	< 0.322	< 0.342	< 0.328	< 0.310	< 0.020	< 0.324	< 0.000	< 1.6	< 3.00	< 0.000
Dis(2-ethylnexyl)phthala	GNIE	CVI	GVI NC	NO NC	ONI DIC	NO NC	INA NA			0.191 J	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< U.318	< 0.320	< 0.324	< 0.358	< 1.0	< 3.38	< 0.330
Carbazole	GNI	GVI A	UND 1	CVI CVI	CVI CO	IND 110	NA NA	NA NA	NA NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	0.169 J	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.0	< 3.38	< 0.336
Chrysene	1	1	1	3.9	56	110	NA	NA	NA	< 0.362	0.3 J	< 0.339	< 3.54	0.479 J	0.284 J	< 0.354	0.667	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Dibenz(a,h)anthracene	0.33	1,000	0.33	0.33	0.56	1.1	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Dibenzofuran	7	210	14	59	350	1,000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
1,2,4-Trimethylbenzene	9.6	3.6	47	52	190	380	< 0.00379	J 0.0133 J	< 0.00438	J 0.00307 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	100	100	500	1,000	NA	NA	NA	0.243 J	0.568	< 0.339	< 3.54	0.902 J	0.432 J	< 0.354	1.5	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Fluorene	30	386	100	100	500	1,000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	0.174 J	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	NA	NA	NA	< 0.362	0.228 J	< 0.339	< 3.54	0.424 J	0.288 J	< 0.354	0.48	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Naphthalene	12	12	100	100	500	1 000	NA	NA	NA	< 0.362	< 0.332	< 0.339	< 3.54	< 0.358 J	< 0.362	< 0.354	< 0.322	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Phenanthrene	100	1 000	100	100	500	1,000	NA	NA	NA	0.365	0.352	< 0.339	< 3.54	0.484.1	0.187.1	< 0.354	1 46	< 0.342	< 0.329	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
Pyrene	100	1,000	100	100	500	1,000	NA	NA	NA	0.212	0.448	< 0.330	< 3.54	0.682 1	0.357 1	< 0.354	1.10	< 0.342	< 0.320	< 0.318	< 0.326	< 0.324	< 0.358	< 1.6	< 3.38	< 0.336
i yielle	100	1,000	100	100	500	1,000				0.212.5	0.440	< 0.555	< 3.54	0.002 0	0.337 3	< 0.334	1.24	< 0.342	< 0.323	< 0.510	< 0.320	< 0.324	< 0.550	< 1.0	< 3.50	< 0.550
Valatilaa malka																										
volatiles, mg/kg	0.0	0.0	47	50	100	000	0.0007	1 0 0 1 0 0 1	0.00400		0.00400			0.00404	1 0.00404			N1.0	0.00005.1	0.00050	0.00005		N1.0	N1.0		N1.0
1,2,4-Trimetnyibenzene	3.6	3.6	47	52	190	380	< 0.00375	J 0.0133 J	< 0.00438	J 0.00307 J	< 0.00402	J < 0.00466	J < 0.00636 J	< 0.00401	J < 0.00461	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	< 0.00379	J 0.00413 J	< 0.00438 J	J < 0.00484 J	< 0.00402 、	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
2-Butanone	0.12	0.12	100	100	500	1,000	< 0.0189	J < 0.0193 J	< 0.0219 J	< 0.0242 J	< 0.0201 J	< 0.0233 J	0.0914 J	< 0.0201 J	< 0.0231 J	< 0.0179 J	NA	NA	< 0.0163 J	< 0.0176 J	< 0.0198 J	NA	NA	NA	NA	NA
4-Isopropyltoluene	NS	NS	NS	NS	NS	NS	< 0.00379	J < 0.00387 J	< 0.00438	J < 0.00484 J	< 0.00402 、	J < 0.00466 、	J < 0.00636 J	< 0.00401 .	J < 0.00461 J	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Acetone	0.05	0.05	100	100	500	1,000	< 0.0189	J < 0.0312 J	< 0.0219 J	< 0.0444 J	< 0.0201 J	< 0.0233 J	0.239 J	< 0.0201 J	< 0.0231 J	< 0.0179 J	NA	NA	< 0.0163 J	< 0.0176 J	< 0.0198 J	NA	NA	NA	NA	NA
Benzene	0.06	0.06	2.9	4.8	44	89	< 0.00379	J < 0.00387 J	< 0.00438 J	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Carbon Disulfide	NS	NS	NS	NS	NS	NS	< 0.00375	J < 0.00387 J	< 0.00438	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	<pre>0.00401 .</pre>	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Chlorobenzene	1.1	1.1	100	100	500	1,000	< 0.00375	J < 0.00387 J	< 0.00438	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	<pre>0.00401 .</pre>	J < 0.00461 J	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Ethylbenzene	1	1	30	41	390	780	< 0.00379	J 0.00414 J	< 0.00438	J 0.00815 J	< 0.00402	J < 0.00466	J < 0.00636	< 0.00401	J < 0.00461 .	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Isopropylbenzene (Curr	NS	NS	NS	NS	NS	NS	< 0.00379	J < 0.00387 J	< 0.00438	I < 0.00484 J	< 0.00402	I < 0.00466 .	1 < 0.00636	< 0.00401	1 < 0.00461	I < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 .1	< 0.00395 .1	NA	NA	NA	NA	NA
m n-Xylenes	0.26	1.6	100	100	500	1,000	< 0.00379		< 0.00438		< 0.00402						NA	NΔ				NΔ	NA	NA	NA	NΔ
Methylovolobevane	NS	NS	NS	NS	NS	NS	< 0.0037		< 0.00438		< 0.00402	J < 0.00466		< 0.00401				NA	< 0.00325	< 0.00352 J	< 0.00305 0	NA	NA	NA	NA	NA
Methylene ebleride	0.05	0.05	110	100	100	1.000	< 0.0037	J 0.00317 J	< 0.00438 3	0.00248 J	< 0.00402				J < 0.00401 J	J < 0.00358 J		NA NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA NA	INA NA	NA NA	NA NA	NA NA
wethylene chloride	0.05	0.05	51	100	500	1,000	< 0.0094	J < 0.00967 J	0.0283 J	< 0.0121 J	0.00855 J	< 0.0117 J	< 0.0159 J	< 0.0100 J	< 0.0115 J	< 0.00895 J	INA	INA	< 0.00813 J	< 0.00879 J	< 0.00988 J	INA NA	IN/A	INA	NA NA	INA NA
Naphthalene	12	12	100	100	500	1,000	< 0.0094	J < 0.00967 J	< 0.0109 J	0.0159 J	< 0.0100 J	< 0.0117 J	< 0.0159 J	< 0.0100 J	< 0.0115 J	< 0.00895 J	NA	NA	< 0.00813 J	< 0.00879 J	< 0.00988 J	NA	NA	NA	NA	NA
n-Butylbenzene	12	12	100	100	500	1,000	< 0.00379	J < 0.00387 J	< 0.00438 J	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
n-Propylbenzene	3.9	3.9	100	100	500	1,000	< 0.00379	J < 0.00387 J	< 0.00438	J <0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
o-Xylene	0.26	1.6	100	100	500	1,000	< 0.00379	J < 0.00387 J	< 0.00438	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	l < 0.00401 .	J < 0.00461	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
sec-Butylbenzene	11	11	100	100	500	1,000	< 0.00379	J < 0.00387 J	< 0.00438 J	J < 0.00484 J	< 0.00402	J < 0.00466 、	J < 0.00636 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Styrene	NS	NS	NS	NS	NS	NS	< 0.0094	J < 0.00967 J	< 0.0109 J	0.0168 J	< 0.0100 J	< 0.0117 J	< 0.0159 J	< 0.0100 J	< 0.0115 J	< 0.00895 J	NA	NA	< 0.00813 J	< 0.00879 J	< 0.00988 J	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	1.3	5.5	19	150	300	< 0.00379	J < 0.00387 J	0.0195 J	< 0.00484 J	< 0.00402	J < 0.00466 、	J 0.0241 J	< 0.00401	J < 0.00461 、	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Toluene	0.7	0.7	100	100	500	1,000	< 0.00379	J < 0.00387 J	< 0.00438	J < 0.00484 J	< 0.00402	J < 0.00466 .	J < 0.00636 .	< 0.00401 .	J < 0.00461 .	J < 0.00358 J	NA	NA	< 0.00325 J	< 0.00352 J	< 0.00395 J	NA	NA	NA	NA	NA
Xylenes (total)	0.26	1.6	100	100	500	1.000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
,	1.1.1.1	1 7	1	1	1	,		1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW.

NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential. NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

							Location ID B-42	B-42A	B-42B	B-42C	B-43	B-44	B-44	B-44A	B-46	B-46	B-47	B-48	B-48	B-49	B-50	B-50	B-51	B-51	B-52	B-53
							Sample Date 07-Ma	/-15 06-May	15 06-May-15	06-May-15	25-Nov-14	25-Nov-14	07-May-15	06-May-15	25-Nov-14	25-Nov-14	25-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	24-Nov-14
							Sample Type Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth 6 - 7 f	4 - 5 ft	4 - 5 ft	4 - 5 ft	3 - 4 ft	4 - 5 ft	7 - 8 ft	6 - 7 ft	1 - 2 ft	4 - 5 ft	1 - 2 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	1.5 - 2 ft	0.5 - 1.5 ft	1.5 - 2.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft
Analyta		NY375	NY375	NY375	NY375 RCOMM	NY375																				
Analyte	UNINES	N N OW	KKE5	KKKL5	RCONIN	KINDO																				
Metals, mg/kg																										
Aluminum	NS	NS	NS	NS	NS	NS	7,600	J 11,400 .	14,600 J	13,000 J	14,400	15,400	7,270 J	7,870 J	16,800	16,400	5,440	32,500 J	16,900 J	4,850 J	10,600 J	13,200 J	1,430 J	10,900 J	17,400 J	23,700
Antimony	NS	NS	NS	NS	NS	NS	< 3.09	J < 3.60	< 3.50 J	< 3.72 J	< 7.79 J	< 6.70 J	< 3.48 J	< 3.60 J	< 7.54 J	< 7.21 J	< 6.99 J	< 6.81 J	< 7.95 J	< 6.94 J	< 7.72 J	< 7.28 J	< 6.74 J	< 6.69 J	< 7.06 J	< 7.57 J
Arsenic	13	16	16	16	16	16	4.32	7.51	7.82	6.47	7.74 J	7.29 J	3.90	5.09	6.60 J	8.60 J	3.03 J	4.87 J	3.75 J	10.3 J	8.98 J	5.05 J	8.64 J	4.99 J	5.48 J	7.13 J
Barium	350	820	350	400	400	10,000	55.0 J	79.0 J	104 J	84.0 J	348	100	49.7 J	48.5 J	91.2	113	31.6	229 J	94.6 J	64.8 J	65.1 J	70.5 J	14.2 J	66.2 J	126 J	173
Beryllium	7.2	47	14	72	590	2,700	0.322	0.509	0.643	0.563	0.619 J	0.665	0.310	0.317	0.764	0.701	< 0.582	6.27	0.937	0.393 J	0.644	0.586 J	< 0.562	0.482 J	0.800	1.13 J
Cadmium	2.5	7.5	2.5	4.3	9.3	60	0.443	J 0.623 J	0.714 J	0.698 J	1.29	< 0.559	0.398 J	0.380 J	0.324 J	< 0.601	< 0.582	< 0.568	< 0.663	< 0.578	< 0.643	0.352 J	< 0.562	< 0.558	< 0.588	0.936 J
Calcium	NS	NS	NS	NS	NS	NS	91,500	85,600	90,200	98,400	82,400	76,700	102,000	106,000	21,900	73,300	75,100	227,000 J	15,900 J	323,000 J	289,000 J	13,000 J	268,000 J	72,900 J	14,000 J	3,860 J
Chromium	30	NS	36	180	1,500	6,800	12.0	14.7	17.4	16.6	25.8	20.6	11.5	12.4	25.5	22.0	7.91	19.9 J	20.9 J	837 J	762 J	17.2	5.30 J	14.7 J	21.7 J	28.4 J
Cobalt	NS	NS	NS	NS	NS	NS	5.33 J	8.69 J	9.75 J	7.85 J	10.2	8.00	4.83 J	4.43 J	8.14	9.38	3.82 J	< 5.68	6.65	5.71 J	6.48	5.61 J	< 5.62	7.60	11.3	13.6 J
Copper	50	1,720	270	270	270	10,000	11.3	22.0	19.6	21.1	52.0	18.7	11.2	9.09	18.5	19.8	9.43	3.81	10.2	19.4	14.3	9.17	12.0	14.9	13.3	21.0 J
Iron	NS	NS	NS	NS	NS	NS	11,800	J 16,300	19,400 J	17,200 J	25,900	20,800	10,900 J	11,200 J	23,400	23,500	9,840	9,560	17,300	105,000	91,500	15,700	3,880	16,500	24,000	30,000
Lead	63	450	400	400	1,000	3,900	1.61 J	8.03 J	6.43 J	6.89 J	108	11.3	1.57 J	1.51 J	12.0	13.0	6.40	4.53	27.1	66.7	66.8	32.6	43.8	9.18	29.6	19.5 J
Magnesium	NS	NS	NS	NS	NS	NS	19,600	21,400	20,600	19,000	16,900	20,500	20,500	25,000	13,200	23,700	31,500	35,200 J	5,320 J	10,400 J	12,500 J	2,370 J	8,050 J	21,700 J	9,310 J	6,570 J
Manganese	1,600	2,000	2,000	2,000	10,000	10,000	329	371	442	460	548 J	332 J	294	183	244 J	418 J	244 J	3,280 J	1,220 J	21,800 J	22,700 J	476 J	142 J	393 J	631 J	462
Nickel	30	130	140	310	310	10,000	10.3 J	18.5 J	19.3 J	18.9 J	20.2	18.8	9.54 J	9.32 J	22.8	21.3	7.08	< 4.54	11.2	6.25	5.59	13.4	7.18	14.4	17.7	32.3 J
Potassium	NS	NS	NS	NS	NS	NS	1,980	2,340	2,860	2,390	3,370	3,440	1,950	2,080	3,110	3,970	1,740	1,280	1,470	341	1,060	1,400	601	2,310	2,360	4,130
Selenium	3.9	4	36	180	1,500	6,800	2.71	2.46	2.97	2.19	1.12 J	0.963 J	2.24	3.02	< 1.26 J	< 1.20 J	< 1.16 J	9.98	< 1.33	16.1	12.3	< 1.21	9.84	< 1.12	< 1.18	< 1.26 J
Silver	2	8.3	36	180	1,500	6,800	< 0.51	5 < 0.600	< 0.584	< 0.620	< 1.30	< 1.12	< 0.579	< 0.600	< 1.26	< 1.20	< 1.16	< 2.27	< 1.33	< 2.31	< 1.29	< 1.21	< 1.12	< 1.12	< 1.18	0.767 J
Sodium	NS	NS	NS	NS	NS	NS	241	425	204	166	218 J	211 J	246	223	201 J	300 J	235 J	749	232 J	1// J	327	179 J	146 J	292	214 J	378 J
Thailium	NS	NS	NS	NS	NS	NS	3.89 J	4.22 J	3.81 J	3.98 J	< 3.25	< 2.79	4.58 J	4.95 J	< 3.14	< 3.01	< 2.91	5.53	< 3.31	9.37	12.0	< 3.03	6.55	< 2.79	< 2.94	< 3.16 J
	100	IN5	0.000	NS 10.000	NS	10.000	19.3	23.5	29.1	25.1	33.4	29.8	19.6	18.2	32.8	32.0	15.5	11.1	30.4	331	299	24.9	9.30	24.8	34.4	42.0 J
	109	2,480	2,200	10,000	10,000	10,000	43.2	58.0 9 0.0142	0.0142	0.0140	201	01.8	44.9	45.6	0.0178	0.0214	0.0224	< 0.81 J	64.7 J	28.7 J	4.30 J	141 J	28.9 J	50.8 J	69.4 J	72.1 J
Cyanide	27	40	27	27	2.0	10.000	0.000	0.0143	0.0143 NA	0.0140 NA	0.326 NA	0.0173 J	0.0173 NA	0.0140 NA	0.0178 J	0.0214 J	0.0224 NA	0.07 T4	0.0940 NA	0.0151 J	0.02103	0.124	0.0271 NA	0.0433 NA	0.0337	0.0307 NA
Cyanice	21	40	21	21	21	10,000	INA	INA	INA	INA	INA	INA	INA.	NA .	INA	INA	INA.	INA	INA	INA	INA	INA	INA	INA	INA.	INA
PCBs, ma/ka																										
Aroclor 1242	0.1	3.2	1	1	1	25	< 0.03	24 < 0.037	< 0.0347	< 0.0350	< 0.0367	< 0.0346	< 0.0351	< 0.0344	< 0.0354	< 0.0348	< 0.0325	< 0.0334	< 0.0358 J	< 0.0343	< 0.0349 J	< 0.0338	< 0.0308	< 0.0339	< 0.0342	< 0.0358
Aroclor 1248	0.1	3.2	1	1	1	25	< 0.03	24 < 0.037	< 0.0347	< 0.0350	< 0.0367	< 0.0346	< 0.0351	< 0.0344	< 0.0354	< 0.0348	< 0.0325	< 0.0334	< 0.0358 J	< 0.0343	< 0.0349 J	< 0.0338	< 0.0308	< 0.0339	< 0.0342	< 0.0358
Aroclor 1254	0.1	3.2	1	1	1	25	< 0.03	24 < 0.037	0 < 0.0347	< 0.0350	0.0256 J	< 0.0346	< 0.0351	< 0.0344	< 0.0354	< 0.0348	< 0.0325	< 0.0334	< 0.0358 J	< 0.0343	< 0.0349 J	< 0.0338	0.0461 J	< 0.0339	< 0.0342	< 0.0358
Aroclor 1260	0.1	3.2	1	1	1	25	< 0.03	24 < 0.037	< 0.0347	< 0.0350	< 0.0367 J	< 0.0346	< 0.0351	< 0.0344 J	< 0.0354	< 0.0348	< 0.0325	0.0216 J	< 0.0358 J	< 0.0343	< 0.0349 J	< 0.0338	< 0.0308	< 0.0339	< 0.0342	< 0.0358
k																										

							Location ID B-42	B-42A	B-42B	B-42C	B-43	B-44	B-44	B-44A	B-46	B-46	B-47	B-48	B-48	B-49	B-50	B-50	B-51	B-51	B-52	B-53
							Sample Date 07-May-15	06-May-15	06-May-15	06-May-15	25-Nov-14	25-Nov-14	07-May-15	06-May-15	25-Nov-14	25-Nov-14	25-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	17-Nov-14	24-Nov-14
							Sample Type Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth 6 - 7 ft	4 - 5 ft	4 - 5 ft	4 - 5 ft	3 - 4 ft	4 - 5 ft	7 - 8 ft	6 - 7 ft	1 - 2 ft	4 - 5 ft	1 - 2 ft	0.5 - 1 ft	1 - 1.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft	1.5 - 2 ft	0.5 - 1.5 ft	1.5 - 2.5 ft	0.5 - 1.5 ft	0.5 - 1.5 ft
								•		-					-					·	•		•	•	•	
Amelia	NY375	NY375	NY375	NY375	NY375	NY375																				
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU			1	1	1	1			1						-			1	1	1
Comissolatiles mailer																										
2-Methylpaphthalene	NS	NS	NS	NS	NS	NS	< 0.308	1 16	< 0.347 J	< 0.348 L	< 0.353	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Acenanhthene	20	98	100	100	500	1.000	< 0.308	0.233.1	< 0.347 J	< 0.348	0.178.1	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Acenaphthylene	100	107	100	100	500	1,000	< 0.308	< 0.363	< 0.347 J	< 0.348 J	< 0.353	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Anthracene	100	1.000	100	100	500	1.000	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.6	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Benz(a)anthracene	1	1	1	1	5.6	11	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.78	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Benzo(a)pyrene	1	22	1	1	1	1.1	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.618	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Naphthalene	12	12	100	100	500	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.695	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Benzo(g,h,i)perylene	100	1,000	100	100	500	1,000	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.362	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.471	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Benzyl Butyl Phthalate	NS	NS	NS	NS	NS	NS	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.311 J	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Bis(2-ethylhexyl)phtha	la NS	NS	NS	NS	NS	NS	< 0.308	< 0.363	< 0.347 J	< 0.348 J	< 0.353	< 0.336	< 0.35	< 0.312	0.184 J	0.38	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	0.247 J	< 1.54	0.577	< 0.338	< 0.366
Carbazole	NS	NS	NS	NS	NS	NS	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.284 J	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Chrysene	1	1	1	3.9	56	110	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.795	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Dibenz(a,h)anthracene	0.33	1,000	0.33	0.33	0.56	1.1	< 0.308	< 0.363	< 0.347 J	< 0.348 J	< 0.353	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Dibenzoruran	/	210	14	59	350	1,000	< 0.308	0.29 J	< 0.347 J	< 0.348 J	0.254 J	< 0.330	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Fluoranthene	100	3.0	47	5Z	500	1 000	< 0.308	0.004 J	< 0.00362 J	< 0.00410 J	NA 1.87	NA < 0.336	0.00914 J	< 0.00303 J	< 0.00476 J	< 0.00414 J	0.00192 J	< 0.00371 J	< 0.00465 J	< 0.00376	J < 0.00414 J	< 0.00455 J	< 0.00404 J	< 0.00464	< 0.00421	< 0.00392 J
Fluorene	30	386	100	100	500	1,000	< 0.308	0.462	< 0.347 J	< 0.348	0.243 1	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Indeno(1 2 3-cd)pyren	e 0.5	8.2	0.5	0.5	56	11	< 0.308	< 0.363	< 0.347 J	< 0.348 J	0.2433	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Naphthalene	12	12	100	100	500	1.000	< 0.308	0.64	< 0.347 J	< 0.348 J	< 0.353	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Phenanthrene	100	1,000	100	100	500	1,000	< 0.308	1.25	< 0.347 J	< 0.348 J	2.29	< 0.336	< 0.35	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Pyrene	100	1,000	100	100	500	1,000	< 0.308	0.208 J	< 0.347 J	< 0.348 J	1.4	< 0.336	0.38 J	< 0.312	< 0.345	< 0.342	< 0.321	< 0.332	< 0.364	< 0.34	< 0.346	< 0.334	< 1.54	< 0.318	< 0.338	< 0.366
Volatiles, mg/kg																										
1,2,4-Trimethylbenzen	e 3.6	3.6	47	52	190	380	0.0725 J	0.884 J	< 0.00382 J	< 0.00410 J	NA	NA	0.00914 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	0.00192 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421 J	< 0.00392 J
1,3,5-Trimethylbenzen	e 8.4	8.4	47	52	190	380	0.0271 J	0.0879 J	< 0.00382 J	< 0.00410 J	NA	NA	0.00238 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404 J	< 0.00464 J	< 0.00421 J	< 0.00392 J
2-Butanone	0.12	0.12	100	100	500	1,000	< 0.0203 J	< 0.127 J	< 0.0191 J	< 0.0205 J	NA	NA	< 0.0212 J	< 0.0181 J	< 0.0238 J	< 0.0207 J	< 0.0164 J	< 0.0186 J	< 0.0241 J	< 0.0189 J	< 0.0207 J	< 0.0227 J	< 0.0202 J	< 0.0232 J	< 0.0211 J	< 0.0196 J
4-Isopropyltoluene	NS	NS	NS	NS	NS	NS	< 0.00406	0.0527 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421	< 0.00392 J
Acetone	0.05	0.05	100	100	500	1,000	0.0186 J	0.123 J	< 0.0191 J	< 0.0205 J	NA	NA	< 0.0212 J	< 0.0181 J	< 0.0123 J	< 0.0267 J	< 0.0164 J	< 0.0186 J	< 0.0241 J	< 0.0189 J	0.0180 J	< 0.0227 J	< 0.0202 J	0.0165 J	< 0.0211 J	< 0.0196 J
Carbon Disulfide	0.00	0.00 NIS	2.9 NS	4.0 NS	44 NS	NS	< 0.00406	< 0.0254 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	0.00375 J	< 0.00464	< 0.00421	< 0.00392 J
Chlorobenzene	1 1	1 1	100	100	500	1 000	< 0.00406	< 0.0254 J	< 0.00302 J	< 0.00410 J	NA	NA	< 0.00+24 J	< 0.00303 J	< 0.00470 J	< 0.00414 J	< 0.00320 J	< 0.00371 J	< 0.00403 J	< 0.00378	1 < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00404	< 0.00421	< 0.00392 J
Ethylbenzene	1	1	30	41	390	780	< 0.00400	< 0.0254 .1	< 0.00382	< 0.00410	NA	NA	< 0.00424	< 0.00363	< 0.00476	< 0.00414 J	< 0.00328	< 0.00371	< 0.00483	< 0.00378	J < 0.00414	< 0.00453	< 0.00404	< 0.00464	< 0.00421	< 0.00392
Isopropylbenzene (Cu	mINS	NS	NS	NS	NS	NS	0.00311 J	0.0338 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421	< 0.00392 J
m,p-Xylenes	0.26	1.6	100	100	500	1,000	< 0.00286	0.0351 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	0.00499 J	< 0.00414 J	0.00439 J	< 0.00371 J	< 0.00483 J	0.00510 J	< 0.00414 J	< 0.00453 J	0.00324 J	< 0.00464	< 0.00421	< 0.00392 J
Methylcyclohexane	NS	NS	NS	NS	NS	NS	0.0215 J	0.135 J	< 0.00382 J	< 0.00410 J	NA	NA	0.00219 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421	< 0.00392 J
Methylene chloride	0.05	0.05	51	100	500	1,000	< 0.0101 J	< 0.0636 J	< 0.00954 J	< 0.0103 J	NA	NA	< 0.0106 J	< 0.00907 J	< 0.0119 J	< 0.0103 J	< 0.00819 J	< 0.00928 J	< 0.0121 J	< 0.00944	J < 0.0104 J	< 0.0113 J	< 0.0101 J	< 0.0116 J	< 0.0105 J	< 0.00981 J
Naphthalene	12	12	100	100	500	1,000	0.0181 J	1.06 J	< 0.00954 J	< 0.0103 J	NA	NA	< 0.0106 J	< 0.00907 J	< 0.0119 J	< 0.0103 J	< 0.00819 J	< 0.00928 J	< 0.0121 J	< 0.00944	J < 0.0104 J	< 0.0113 J	< 0.0101 J	< 0.0116 J	< 0.0105 J	< 0.00981 J
n-Butylbenzene	12	12	100	100	500	1,000	0.00949 J	0.149 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421	< 0.00392 J
n-Propylbenzene	3.9	3.9	100	100	500	1,000	0.00533 J	0.0664 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404 J	< 0.00464	< 0.00421 J	< 0.00392 J
o-Xylene	0.26	1.6	100	100	500	1,000	< 0.00406	l < 0.0254 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	0.00196 J	< 0.00414 J	< 0.00453 J	< 0.00404 J	< 0.00464 J	< 0.00421 J	< 0.00392 J
sec-Butylbenzene	11	11	100	100	500	1,000	0.00421 J	0.0555 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404	< 0.00464	< 0.00421 J	< 0.00392 J
Styrene	NS	NS	NS	NS	NS	NS	< 0.0101 J	< 0.0636 J	< 0.00954 J	< 0.0103 J	NA	NA	< 0.0106 J	< 0.00907 J	< 0.0119 J	< 0.0103 J	< 0.00819 J	< 0.00928 J	< 0.0121 J	< 0.00944	J < 0.0104 J	< 0.0113 J	< 0.0101 J	< 0.0116 J	< 0.0105 J	< 0.00981 J
Tetrachloroethene	1.3	1.3	5.5	19	150	300	< 0.00406	<pre>&lt; 0.0254 J</pre>	0.00531 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404 J	< 0.00464	< 0.00421 J	< 0.00392 J
	0.7	0.7	100	100	500	1,000	< 0.00406	< 0.0254 J	< 0.00382 J	< 0.00410 J	NA	NA	< 0.00424 J	< 0.00363 J	< 0.00476 J	< 0.00414 J	< 0.00328 J	< 0.00371 J	< 0.00483 J	< 0.00378	J < 0.00414 J	< 0.00453 J	< 0.00404 J	< 0.00464 J	< 0.00421 J	< 0.00392 J
Xylenes (total)	0.26	1.6	100	100	500	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW. NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

							Location ID B- Sample Date 24 Sample Type Gr Depth 1.	53 I-Nov-14 rab 5 - 2.5 ft	B-54 24-Nov-14 Grab 0.5 - 1 ft	B-54 24-Nov-14 QA/QC 0.5 - 1 ft	B-55 24-Nov-14 Grab 0.5 - 1.5 ft	B-55 24-Nov-14 Grab 3 - 4 ft	B-56 24-Nov-14 Grab 0.5 - 1.5 ft	B-56 24-Nov-14 Grab 2 - 3 ft	B-57 24-Nov-14 Grab 0.5 - 1.5 ft	B-57 24-Nov-14 Grab 2 - 3 ft	B-58 24-Nov-14 Grab 1 - 2 ft	B-58 24-Nov-14 Grab 2 - 3 ft	B-59 25-Nov-14 Grab 0.5 - 1 ft	B-59 25-Nov-14 Grab 1 - 2 ft	B-60 25-Nov-14 Grab 0.5 - 1.5 ft	B-60 25-Nov-14 Grab 1.5 - 2.5 ft	B-60 25-Nov-14 QA/QC 1.5 - 2.5 ft	B-61 19-Nov-14 Grab 1 - 1.5 ft	SAND-022 01-Jan-07 Composite 0 - 2 ft	SAND-008 01-Jan-07 Composite 0 - 3 ft	SAND-100 01-Jan-07 Composite 0 - 2 ft
Analyte	NY375 UNRES	NY375 RPGW	NY375 RRES	NY375 RRRES	NY375 RCOMM	NY375 RINDU																					
Metals, mg/kg	NC	NC	NC	NC	NC	NC	10	000	5 400	5 470	5 740	20.000	1.1.100	40.000	40.000	24.000	47.500	11.000	15.000	00.000	0.040	40.000 1	4.070 1	7.050 1	2 700	2.020	4.000
Aluminum	NS	NS NS	NS	NS	NS	NS	19	9,900	5,420	5,470	5,710	20,000	14,400	16,900	18,600	21,600	17,500	14,200	15,000	23,900	9,310	16,300 J	1,870 J	7,950 J	3,790	3,920	4,800
Anumony	13	16	16	16	16	16	6	76 I	16.0 1	10.1	17.5 1	< 7.50 J	28.4 1	< 7.93 J	7 21 1	7 18 I	4 35 1	₹ 0.75 J	< 7.54 J	4.04 J 5 29 J	18.8 1	6.62 J	< 0.07 J	0.965 1	46.1	8	11.2
Barium	350	820	350	400	400	10 000	13	34	110	87.0	151	142	184	108	154	155	121	101	89.9	161	148	189.1	28.7.1	88.9.1	1 060	1 210	328
Bervllium	7.2	47	14	72	590	2.700	0.8	882 J	< 0.532 J	< 0.650 J	0.312 J	0.850 J	0.749 J	0.722 J	2.40 J	1.16 J	0.726 J	0.612 J	0.653	1.13	0.795	0.767	< 0.572	0.381 J	< 5.63	< 0.631	< 5.7
Cadmium	2.5	7.5	2.5	4.3	9.3	60	0.1	541 J	2.84 J	1.21 J	8.39 J	0.459 J	1.63 J	< 0.661 J	< 0.562 J	0.831 J	0.810 J	0.499 J	0.414 J	0.392 J	0.466 J	0.314 J	< 0.572	< 0.635	48.6	11.2	18.1
Calcium	NS	NS	NS	NS	NS	NS	9,0	660 J	305,000 J	319,000 J	118,000 J	11,100 J	30,600 J	65,800 J	272,000 J	5,520 J	17,400 J	19,300 J	7,490	3,360	5,490	25,000 J	2,710 J	53,900	14,500	5,840	18,800
Chromium	30	NS	36	180	1,500	6,800	27	′.1 J	926 J	3,710 J	1,060 J	25.2 J	22.8 J	22.9 J	13.5 J	24.4 J	23.2 J	18.8 J	19.8	29.0	18.6	24.9 J	4.39 J	16.4 J	216	254	552
Cobalt	NS	NS	NS	NS	NS	NS	11	.4 J	9.34 J	6.67 J	21.9 J	12.5 J	10.5 J	11.0 J	< 5.62 J	12.9 J	11.9 J	7.17 J	13.9	11.9	7.48	8.78	< 5.72	7.68	23.3	16.8	20.4
Copper	50	1,720	270	270	270	10,000	20	).3 J	49.1 J	20.8 J	243 J	17.7 J	70.2 J	20.7 J	9.12 J	14.9 J	19.0 J	17.0 J	10.0	25.6	84.9	32.5 J	17.5 J	88.0 J	1,480	4,860	974
Iron	NS	NS	NS	NS	NS	NS	26	6,100	188,000	157,000	308,000	26,200	29,600	22,900	4,910	26,200	21,700	19,400	23,300	30,100	27,400	23,100 J	7,990 J	17,700 J	302,000	73,500	216,000
Lead	63	450	400	400	1,000	3,900	18	3.3 J	80.6 J	87.6 J	239 J	18.0 J	868 J	21.4 J	44.1 J	24.7 J	83.7 J	11.6 J	37.7	22.2	395	385 J	61.5 J	86.9 J	1,560	1,040	5,590
Magnesium	NS	NS	NS	NS	NS	NS	9,8	800 J	13,300 J	21,500 J	26,300 J	10,700 J	8,110 J	25,300 J	17,200 J	5,570 J	7,180 J	13,700 J	5,510	6,930	2,460	10,700 J	861 J	16,800 J	2,400	1,320	4,470
Manganese	1,600	2,000	2,000	2,000	10,000	10,000	70	)2	15,900	19,700	25,400	583	393	563	4,520	517	967	361	592 J	533 J	231 J	356 J	26.2 J	392 J	3,190	1,170	3,560
Nickel	30	130	140	310	310	10,000	26	5.9 J	23.0 J	5.15 J	94.3 J	26.2 J	23.7 J	23.2 J	4.07 J	21.3 J	17.7 J	16.9 J	14.0	28.6	19.5	20.2 J	5.95 J	25.4 J	234	245	408
Potassium	NS	NS	NS	NS	NS	NS	3,9	940	< 266	176 J	303	4,280	1,910	4,810	1,430	2,910	2,890	2,730	2,030	4,450	1,190	2,620 J	335 J	1,840 J	1,020	699	1,370
Selenium	3.9	4	36	180	1,500	6,800	< 1	1.42 J	35.2 J	25.3 J	22.5 J	< 1.26 J	< 1.18 J	< 1.32 J	9.08 J	< 1.26 J	< 1.35 J	< 1.13 J	< 1.26 J	< 1.18 J	< 1.31 J	< 1.25 J	< 1.14 J	< 1.27	4.6	4.4	7.5
Silver	2	8.3	36	180	1,500	6,800	< 1	1.42 J	4.02 J	4.98 J	9.00 J	0.828 J	0.823 J	< 1.32 J	< 1.12 J	< 1.26 J	0.686 J	< 1.13 J	< 1.26	< 1.18	< 1.31	< 1.25	< 1.14	< 1.27	2.9	2	< 1.14
Sodium	NS	NS	NS	NS	NS	NS	52	20 J	135 J	< 325 J	448 J	214 J	793 J	244 J	516 J	251 J	169 J	188 J	181 J	242 J	< 327	158 J	< 286 J	267 J	891	227	491
Thallium	NS	NS	NS	NS	NS	NS	<	3.55 J	< 2.66 J	< 3.25 J	< 2.87 J	< 3.15 J	< 2.94 J	< 3.30 J	< 2.81 J	< 3.16 J	< 3.36 J	< 2.81 J	< 3.14	< 2.94	< 3.27	< 3.13	< 2.86	< 3.17	< 11.3	< 25.3	< 11.4
Vanadium	NS	NS 0.400	NS	NS 40.000	NS	NS 10.000	36	5.8 J	343 J	452 J	379 J	36.6 J	30.0 J	33.0 J	9.61 J	39.4 J	35.9 J	32.0 J	36.2	43.1	21.2	32.2 J	5.49 J	23.3 J	50.6	32	54.4
	109	2,480	2,200	10,000	10,000	10,000	/5	0.0 J	64.7 J	29.8 J	469 J	76.6 J	360 J	78.3 J	27.9 J	73.0 J	166 J	72.2 J	/5./	98.3	147	222 J	22.9 J	160	1,810	1,040	2,380
Nercury	0.18	0.73	0.81	0.81	2.8	5.7	0.0	0239 J	< 0.0223	< 0.0201	0.0225	0.0299	0.634	0.0498	0.0746	0.0654	0.420	0.0299	0.0686	0.0319	0.405	0.352	0.396	0.0527	2.00	< 0.0433	0.259
Cyanide	21	40	21	21	21	10,000	IN/	٩	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA	INA
PCBs ma/ka																											
Aroclor 1242	0.1	32	1	1	1	25	6	0.0372	< 0.0330	< 0.0339	< 0.0302	< 0.0328	< 0.0347	< 0.0353	< 0.0321	< 0.0378	< 0.0333	< 0.0335 .1	< 0.0341	< 0.0350	< 0.0351	< 0.0363	< 0.0335	< 0.0327	NA	NA	NA
Aroclor 1248	0.1	3.2	1	1	1	25	<	0.0372	< 0.0330	< 0.0339	< 0.0302	< 0.0328 .1	< 0.0347	< 0.0353	< 0.0321	< 0.0378	< 0.0333	< 0.0335	< 0.0341	< 0.0350	< 0.0351	< 0.0363	< 0.0335	< 0.0327	NA	NA	NA
Aroclor 1254	0.1	3.2	1	1	1	25	<	0.0372	< 0.0330	< 0.0339	< 0.0302	< 0.0328 J	< 0.0347	< 0.0353	< 0.0321	< 0.0378	< 0.0333	< 0.0335 J	< 0.0341	< 0.0350	< 0.0351	< 0.0363	< 0.0335	0.309 J	NA	NA	NA
Aroclor 1260	0.1	3.2	1	1	1	25	<	0.0372	< 0.0330	< 0.0339	< 0.0302	< 0.0328 J	< 0.0347	< 0.0353	< 0.0321	< 0.0378	< 0.0333	< 0.0335 J	< 0.0341	< 0.0350	< 0.0351	< 0.0363	< 0.0335	< 0.0327	NA	NA	NA
		-				-		-																			
											1	1							1			1		1			
5																											

				1			Location ID F	B-53	B-54	B-54	B-55	B-55	B-56	B-56	B-57	B-57	B-58	B-58	B-50	B-50	B-60	B-60	B-60	B-61	SAND-022	SAND-008	SAND-100
							Somelo Doto	D-33	D-34	B-34	B-33	B-33	B-30	B-30	D-37	D-37	D-30	D-30	B-39	D-39	25 Nov 14	25 Nov 14	35 Nov 14	10 Nov 14	01 lon 07	3AND-008	01 lon 07
							Sample Date 2	24-INOV-14	24-140V-14	24-1400-14	24-NOV-14	24-140V-14	24-140V-14	24-1NOV-14	24-140V-14	24-N0V-14	24-N0V-14	24-NOV-14	23-140V-14	25-140V-14	25-NOV-14	25-140V-14	23-1100-14	19-100-14 Orah	Commonito	Ol-Jall-07	Or-Jan-O/
							Sample Type		Grad		Grad	Grab	Grad	Grad	Grad	Grad	Grad	Grad	Grad	Grab		Grad		Grad	Composite	Composite	Composite
							Deptn	1.5 - 2.5 ft	0.5 - 1 ft	0.5 - 1 ft	0.5 - 1.5 ft	3 - 4 ft	0.5 - 1.5 ft	2 - 3 ft	0.5 - 1.5 ft	2 - 3 ft	1-2π	2 - 3 ft	0.5 - 1 ft	1-2π	0.5 - 1.5 π	1.5 - 2.5 ft	1.5 - 2.5 ft	1 - 1.5 π	0 - 2 ft	0 - 3 ft	0-2 ft
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU																					
, inaly to	0													1													
Semivolatiles ma/ka																											
2-Methylnanhthalene	NS	NS	NS	NS	NS	NS		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	< 0.346	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.221.1	< 0.359	< 0.34	< 0.331	NA	NA	NA
Acenanhthene	20	98	100	100	500	1,000		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	< 0.346	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.582	< 0.359	< 0.34	< 0.331	NA	NA	NA
	100	107	100	100	500	1,000		< 0.346	< 0.325	< 0.334	< 0.200	< 0.336	0.416	< 0.34	< 0.319	< 0.375	< 0.347	< 0.00	< 0.34	< 0.352	< 0.348	< 0.359	< 0.34	< 0.331	NA	NA	ΝΔ
Anthracene	100	1 000	100	100	500	1,000		< 0.346	< 0.325	< 0.334	< 0.200	< 0.336	0.632	< 0.34	< 0.319	< 0.375	< 0.347	< 0.00	< 0.34	< 0.352	1 02	< 0.359	< 0.34	< 0.331	NA	NA	ΝΔ
Benz(a)anthracene	1	1,000	1	1	5.6	11		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	2.03	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	1.3	0.402	0.263.1	< 0.331	NA	NA	NA
Benzo(a)pyrene	1	22	1	1	1	11		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	1 75	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.98	0.365	0.211.J	02.1	NA	NA	NA
Naphthalene	12	12	100	100	500	1 000	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	1	17	1	1	5.6	11		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	2 23	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.914	0.397	0.215.1	0.298.1	NA	NA	NA
Benzo(g h i)pervlene	100	1 000	100	100	500	1 000		< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	1.01	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0 497	0.228.1	< 0.34	0.256 J	NA	NA	NA
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	1.29	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.791	0.22 J	0.19 J	< 0.331	NA	NA	NA
Benzyl Butyl Phthalate	NS	NS	NS	NS	NS	NS	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	< 0.346	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	< 0.348	< 0.359	< 0.34	< 0.331	NA	NA	NA
Bis(2-ethylhexyl)phthala	NS	NS	NS	NS	NS	NS	<	< 0.346	< 0.325	< 0.334	< 0.298	0.233 J	< 0.346	0.349	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	< 0.348	< 0.359	< 0.34	< 0.331	NA	NA	NA
Carbazole	NS	NS	NS	NS	NS	NS	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	0.588	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.451	< 0.359	< 0.34	< 0.331	NA	NA	NA
Chrysene	1	1	1	3.9	56	110	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	2.46	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	1.31	0.4	0.329 J	0.203 J	NA	NA	NA
Dibenz(a,h)anthracene	0.33	1,000	0.33	0.33	0.56	1.1	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	0.386	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	< 0.348	< 0.359	< 0.34	< 0.331	NA	NA	NA
Dibenzofuran	7	210	14	59	350	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	0.303 J	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.418	< 0.359	< 0.34	< 0.331	NA	NA	NA
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451	< 0.00364	J < 0.00526 、	J < 0.00429 J	J < 0.00455 J	0.00244 J	< 0.00389 J	0.00275 J	< 0.00476	J 0.00467 J	NA	NA	NA	NA
Fluoranthene	100	1,000	100	100	500	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	4.3	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	3.29	0.885 J	0.544 J	0.191 J	NA	NA	NA
Fluorene	30	386	100	100	500	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	0.342 J	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.515	< 0.359	< 0.34	< 0.331	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	1.24	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.564	0.239 J	< 0.34	0.229 J	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	0.182 J	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	0.245 J	< 0.359	< 0.34	< 0.331	NA	NA	NA
Phenanthrene	100	1,000	100	100	500	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	3.35	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	4.2	0.526	0.541	< 0.331	NA	NA	NA
Pyrene	100	1,000	100	100	500	1,000	<	< 0.346	< 0.325	< 0.334	< 0.298	< 0.336	3.24	< 0.34	< 0.319	< 0.375	< 0.347	< 0.33	< 0.34	< 0.352	2.64	0.742 J	0.439 J	0.221 J	NA	NA	NA
Volatiles, mg/kg																											
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	0.00244 J	< 0.00389 J	0.00275 J	< 0.00476	J 0.00467 J	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380	<	< 0.00347 J	< 0.00359 J	< 0.00339	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J 0.00285 J	NA	NA	NA	NA
2-Butanone	0.12	0.12	100	100	500	1,000	<	< 0.0173 J	< 0.0179 J	< 0.0169 J	< 0.0198 J	< 0.0173 J	< 0.0216 J	< 0.0225 J	< 0.0182 J	0.0385 J	0.0297 J	< 0.0228 J	0.0642 J	< 0.0195 J	< 0.0246 J	< 0.0238 J	< 0.0237 J	NA	NA	NA	NA
4-Isopropyltoluene	NS	NS	NS	NS	NS	NS	<	< 0.00347 J	< 0.00359 J	< 0.00339	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	J NA	NA	NA	NA
Acetone	0.05	0.05	100	100	500	1,000	<	< 0.0173 J	0.0149 J	0.0161 J	< 0.0198 J	0.0167 J	< 0.0216 J	< 0.0225 J	< 0.0182 J	0.139 J	0.144 J	< 0.0228 J	0.323 J	< 0.0415 J	< 0.0246 J	< 0.0238 J	< 0.0237 J	NA	NA	NA	NA
Benzene	0.06	0.06	2.9	4.8	44	89	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 、	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	J NA	NA	NA	NA
Carbon Disulfide	NS	NS	NS	NS	NS	NS	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J 0.00261 J	NA	NA	NA	NA
Chlorobenzene	1.1	1.1	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	J NA	NA	NA	NA
Ethylbenzene	1	1	30	41	390	780	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J 0.00292 J	NA	NA	NA	NA
Isopropylbenzene (Curr	NS	NS	NS	NS	NS	NS	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	J NA	NA	NA	NA
m,p-Xylenes	0.26	1.6	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	0.00671 J	< 0.00389 J	0.00785 J	0.00267 J	0.0166 J	NA	NA	NA	NA
Methylcyclohexane	NS	NS	NS	NS	NS	NS	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	0.00269 J	< 0.00476	J 0.00622 J	NA	NA	NA	NA
Methylene chloride	0.05	0.05	51	100	500	1,000	<	< 0.00867 J	< 0.00897 J	< 0.00847 J	< 0.00990	J < 0.00866 J	< 0.0108 J	< 0.0113 J	0.00689 J	< 0.0132 J	< 0.0107 J	< 0.0114 J	< 0.0116 J	< 0.00974 J	0.00722 J	< 0.0119 J	0.0144 J	NA	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000	<	< 0.00867 J	< 0.00897 J	< 0.00847 J	< 0.00990	J < 0.00866 J	< 0.0108 J	< 0.0113 J	< 0.00911 J	J < 0.0132 J	< 0.0107 J	< 0.0114 J	< 0.0116 J	< 0.00974 J	< 0.0123 J	< 0.0119 J	< 0.0119 J	NA	NA	NA	NA
n-Butylbenzene	12	12	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	J NA	NA	NA	NA
n-Propylbenzene	3.9	3.9	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	JNA	NA	NA	NA
o-Xylene	0.26	1.6	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J 0.00453 J	NA	NA	NA	NA
sec-Butylbenzene	11	11	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	JNA	NA	NA	NA
Styrene	NS	NS	NS	NS	NS	NS	<	< 0.00867 J	< 0.00897 J	< 0.00847	< 0.00990	J < 0.00866 J	< 0.0108 J	< 0.0113 J	< 0.00911 J	J < 0.0132 J	< 0.0107 J	< 0.0114 J	< 0.0116 J	< 0.00974 J	< 0.0123 J	< 0.0119 J	< 0.0119 J	NA	NA	NA	NA
Tetrachloroethene	1.3	1.3	5.5	19	150	300	<	< 0.00347 J	< 0.00359 J	< 0.00339 J	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J < 0.00474 J	JNA	NA	NA	NA
Toluene	0.7	0.7	100	100	500	1,000	<	< 0.00347 J	< 0.00359 J	< 0.00339	< 0.00396	J < 0.00346 J	< 0.00432 J	< 0.00451 J	< 0.00364	J < 0.00526 J	J < 0.00429 J	J < 0.00455 J	< 0.00463 J	< 0.00389 J	< 0.00492 J	< 0.00476	J 0.00438 J	NA	NA	NA	NA
Xylenes (total)	0.26	1.6	100	100	500	1,000	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO.

NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW. NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

							Location ID	SAND-101	SAND-102	SAND-103	SAND-104	SAND-105	SAND-106	SAND-107	SAND-108	SB-1	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-9	SB-13	SB-14
							Sample Date	01-Jan-07	07-Feb-00	07-Feb-00	07-Feb-00	03-Dec-08	07-Feb-00	03-Dec-08	07-Feb-00	03-Dec-08	03-Dec-08	07-Feb-00	08-Feb-00	08-Feb-00							
							Sample Type	Composite	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab							
							Depth	0 - 4 ft	0 - 2 ft	0 - 3 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	-	0 - 2 ft	0.5 - 1 ft	4 - 4.5 ft	4-5 ft	0.5 - 1.5 ft	4 - 5 ft	0.5 - 1.5 ft	4 - 5 ft	0.5 - 1.5 ft	0.5 - 2 ft	0.5 - 1.5 ft	3 - 4 ft	8 - 9 ft
Analyte	NY375	NY375 RPGW	NY375 RRES	NY375 RRRFS	NY375 RCOMM	NY375 RINDU																					
Analyte	UNINEO	NI OW	INILO	ININE O																							
Metals, mg/kg																											
Aluminum	NS	NS	NS	NS	NS	NS		8,260	3,050	3,450	6,830	5,060	5,440	4,650	3,890	NA	7,200	10,100	17,400	11,300	21,400	13,300	29,000	20,400	9,770	7,770	4,800
Antimony	NS	NS	NS	NS	NS	NS		28.6	35.8	30.1	68.5	18.6	36.5	35	76.9	NA	2.9 J	2.5 J	< 18.7	0.32 J	< 17.6	0.31 J	< 87.7	< 76.8	0.72 J	< 7.2 J	< 6.9 J
Arsenic	13	16	16	16	16	16		11.9	7	12.3	15.8	8	13	19.3	28.1	NA	8.1	6.6	3	5.3	< 2.3	4.9	3	< 2	5.6	5	0.98
Barium	350	820	350	400	400	10,000		526	240	1,190	541	149	514	337	921	NA	125	78.5	110	87	171	83.7	228	131	27.4	67.7	35.5
Beryllium	7.2	47	14	72	590	2,700		< 5.92	< 5.2	< 0.575	< 0.631	< 0.571	< 0.608	< 0.604	< 59.5	NA	0.47	0.58	0.7	0.57	3.2	0.69	4.9	2.9	0.4	0.42	0.26
Cadmium	2.5	7.5	2.5	4.3	9.3	60		46.8	21.6	92.7	48.4	16.3	55.1	56.3	53.3	NA	0.36	0.8	< 0.25	0.51	< 0.23	0.16	< 0.23	< 0.2	0.14	0.31	0.24
Calcium	NS	NS	NS	NS	NS	NS		20,000	61,800	7,580	15,100	12,700	20,100	11,400	16,600	NA	48,200 J	56,400 J	7,070	89,400 J	159,000	23,300 J	226,000	245,000	13,500 J	78,800 J	113,000 J
Chromium	30	NS	36	180	1,500	6,800		389	556	133	523	290	354	453	225	NA	16.5	23	22.4	16.4	8.6	18.2	42.9	22.1	11.3	13.5	8.3
Cobalt	NS	NS	NS	NS	NS	NS		21.1	24	11.3	36.5	26	21	23.9	23.3	NA	8.2	14.2	6.9	10	4.1	10.9	1.7	1.2	5.6	7.2	4
Copper	50	1,720	270	270	270	10,000		1,290	3,930	1,070	4,170	846	977	1,150	2,490	NA	39.7 J	57 J	17.3	17.5 J	9.8	24 J	5	3.9	15.5 J	15.5 J	9.2 J
Iron	NS	NS	NS	NS	NS	NS		261,000	291,000	82,100	246,000	272,000	153,000	222,000	297,000	NA	22,700	30,400	20,600	21,200	8,960	22,600	28,200	13,800	21,200	15,200	9,980
Lead	63	450	400	400	1,000	3,900		1,020	1,150	835	7,100	299	788	522	2,030	NA	284	95.6	20	20.9	6	15.7	6.7	5.7	42.8	10.2	5.8
Magnesium	NS	NS	NS	NS	NS	NS		6,610	3,300	1,360	2,910	2,650	5,480	2,360	2,540	NA	14,600 J	16,600 J	5,840	29,100 J	24,600	15,800 J	39,300	26,500	2,640 J	26,200 J	38,400 J
Manganese	1,600	2,000	2,000	2,000	10,000	10,000		3,530	4,790	875	1,960	2,260	1,510	1,410	2,250	NA	313 J	594 J	194	839 J	3,070	372 J	2,120	1,680	219 J	330 J	239 J
Nickel	30	130	140	310	310	10,000		293	455	221	405	229	600	738	202	NA	13.6	27	21.1	16.4	7.9	19.9	3.8	2.9	11.4	15.1	7.1
Potassium	NS	NS	NS	NS	NS	NS		2,070	781	1,120	446	586	960	762	770	NA	1,130	1,270	2,220	2,420	1,660	2,390	1,400	1,380	831	1,660	1,040
Selenium	3.9	4	36	180	1,500	6,800		7.3	8.8	3.3	6.5	6	4	4.9	10.1	NA	< 0.63	< 1.2	< 5	< 1.2	< 4.7	< 0.67	< 23.4	< 20.5	0.24	< 1.2	< 0.58
Silver	2	8.3	36	180	1,500	6,800		2.1	< 1.04	< 1.15	1.7	< 1.14	< 1.22	< 1.21	< 1.19	NA	< 1.3	< 1.2	< 0.62	< 1.2	< 0.59	< 1.3	< 0.58	< 0.51	< 1.1	< 1.2	< 1.2
Sodium	NS	NS	NS	NS	NS	NS		358	5//	465	375	178	359	282	338	NA	< 142	< 1/2	180	238	544	< 190	913	7.3	< 199	226	< 168
I nailium	NS	NS	NS	NS	NS	NS		< 11.8	< 10.4	< 5.75	< 12.6	< 11.4	< 12.2	< 12.1	< 11.9	NA	0.49	< 1.2	< 7.5	< 1.2	< /	< 1.3	< /	< 6.1	0.55	< 1.2	< 1.2
Vanadium	100	NS 2.490	2 200	10.000	10.000	10.000		5 620	61.1	29.1	54.9	542	40	48	50.8	NA	21.7	23.8	20.0	24.4	12.2	29.0	17.0	13	17.7	20	13.4
	0.19	2,400	2,200	10,000	10,000	10,000		5,630	0.146	750	11,100	0 1 2 2	5,610	2,770	2,760	NA NA	96.9	0.18	92	0.025	20.3	0.026 1	4.0	7.9	0.028 1	0.010	30.0
Cycopido	0.10	40	0.01	27	2.0	5.7		0.201	0.146	0.16	< 0.0424	0.122	0.205	0.232	1.20	NA	0.24 J	0.16 J	0.3	0.025 J	0.032	0.036 J	< 0.024	< 0.023	0.036 J	0.019 J	< 0.12
Cyanide	21	40	21	21	21	10,000		INA	INA	INA	INA.	INA	INA	INA	INA	INA	< 0.03	< 0.0	INA	< 0.02	INA	< 0.07	INA.	INA	< 0.57	< 0.0	< 0.56
PCBs. ma/ka																											
Aroclor 1242	0.1	3.2	1	1	1	25		NA	< 0.038	< 0.041	< 0.04	NA	< 0.081	NA	< 0.044	< 0.02	< 0.037	< 0.037	< 0.039	< 0.038							
Aroclor 1248	0.1	3.2	1	1	1	25		NA	< 0.038	< 0.041	< 0.04	NA	< 0.081	NA	< 0.044	0.077	0.05	< 0.037	< 0.039	< 0.038							
Aroclor 1254	0.1	3.2	1	1	1	25		NA	< 0.038	< 0.041	< 0.04	NA	1.3	NA	0.057	< 0.02	< 0.037	< 0.037	0.4	< 0.038							
Aroclor 1260	0.1	3.2	1	1	1	25		NA	< 0.038	< 0.041	< 0.04	NA	< 0.081	NA	< 0.044	0.16	0.072	< 0.037	< 0.039	< 0.038							

	-	-	-	-	-			1	1	1	-		-	1				-		1		1	-		-	-	
							Location ID	SAND-101	SAND-102	SAND-103	SAND-104	SAND-105	SAND-106	SAND-107	SAND-108	SB-1	SB-2	SB-3	SB-3	SB-4	SB-4	SB-5	SB-5	SB-6	SB-9	SB-13	SB-14
							Sample Date	01-Jan-07	07-Feb-00	07-Feb-00	07-Feb-00	03-Dec-08	07-Feb-00	03-Dec-08	07-Feb-00	03-Dec-08	03-Dec-08	07-Feb-00	08-Feb-00	08-Feb-00							
							Sample Type	Composite	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab							
							Depth	0 - 4 ft	0 - 2 ft	0 - 3 ft	0 - 2 ft	0 - 2 ft	0 - 2 ft	-	0 - 2 ft	0.5 - 1 ft	4 - 4.5 ft	4-5 ft	0.5 - 1.5 ft	4 - 5 ft	0.5 - 1.5 ft	4 - 5 ft	0.5 - 1.5 ft	0.5 - 2 ft	0.5 - 1.5 ft	3 - 4 ft	8 - 9 ft
									-	-	-	-		-				-	-				-		-	-	
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU									1						1						
Semivolatiles, mg/kg																											
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS		NA	< 0.41	0.29 J	NA	0.13 J	NA	0.034 J	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Acenaphthene	20	98	100	100	500	1,000		NA	< 0.41	0.61	NA	0.22 J	NA	0.56	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Acenaphthylene	100	107	100	100	500	1,000		NA	< 0.41	0.32 J	NA	< 0.41	NA	0.038 J	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Anthracene	100	1,000	100	100	500	1,000		NA	< 0.41	1.1	NA	< 0.41	NA	0.25 J	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Benz(a)anthracene	1	1	1	1	5.6	11		NA	< 0.41	1.9	NA	< 4.1	NA	0.2 J	< 0.31	< 0.32	11	< 3.9	< 0.38								
Benzo(a)pyrene	1	22	1	1	1	1.1		NA	< 0.41	1.5	NA	< 0.41	NA	< 0.44	< 0.31	< 0.32	7.5	< 3.9	< 0.38								
Naphthalene	12	12	100	100	500	1,000		NA	< 0.41	0.9	NA	0.093 J	NA	< 0.44	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Benzo(b)fluoranthene	1	1.7	1	1	5.6	11		NA	< 0.41	1.3	NA	< 4.1	NA	< 0.44	< 0.31	< 0.32	15	< 3.9	< 0.38								
Benzo(g,h,i)perylene	100	1,000	100	100	500	1,000		NA	< 0.41	0.89	NA	< 4.1	NA	< 0.44	< 0.31	< 0.32	9.3	< 3.9	< 0.38								
Benzo(k)fluoranthene	0.8	1.7	1	3.9	56	110		NA	< 0.41	1.2	NA	< 4.1	NA	< 0.44	< 0.31	< 0.32	7.7	< 3.9	< 0.38								
Benzyl Butyl Phthalate	NS	NS	NS	NS	NS	NS		NA	< 0.41	< 0.4	NA	< 4.1	NA	< 0.44	NA	NA	< 3.7	< 3.9	< 0.38								
Bis(2-ethylhexyl)phtha	la NS	NS	NS	NS	NS	NS		NA	< 0.41	< 0.4	NA	< 4.1	NA	< 0.44	NA	NA	< 3.7	< 3.9	< 0.38								
Carbazole	NS	NS	NS	NS	NS	NS		NA	< 0.41	0.56	NA	< 0.41	NA	< 0.44	NA	NA	< 3.7	< 3.9	< 0.38								
Chrysene	1	1	1	3.9	56	110		NA	< 0.41	1.9	NA	< 4.1	NA	0.19 J	< 0.31	< 0.32	14	< 3.9	< 0.38								
Dibenz(a,h)anthracene	e 0.33	1,000	0.33	0.33	0.56	1.1		NA	< 0.41	0.28 J	NA	< 4.1	NA	< 0.44	< 0.31	< 0.32	2.7 J	< 3.9	< 0.38								
Dibenzofuran	7	210	14	59	350	1,000		NA	< 0.41	0.5	NA	0.18 J	NA	0.54	NA	NA	< 3.7	< 3.9	< 0.38								
1,2,4-Trimethylbenzen	e 3.6	3.6	47	52	190	380		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA								
Fluoranthene	100	1,000	100	100	500	1,000		NA	< 0.41	3.3	NA	< 0.41	NA	0.85	< 0.31	< 0.32	14	2.1 J	< 0.38								
Fluorene	30	386	100	100	500	1,000		NA	< 0.41	0.67	NA	0.34 J	NA	0.37 J	< 0.31	< 0.32	< 3.7	< 3.9	< 0.38								
Indeno(1,2,3-cd)pyren	e 0.5	8.2	0.5	0.5	5.6	11		NA	< 0.41	0.87	NA	< 4.1	NA	< 0.44	< 0.31	< 0.32	7.9	< 3.9	< 0.38								
Naphthalene	12	12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA								
Phenanthrene	100	1,000	100	100	500	1,000		NA	< 0.41	3.3	NA	1.1	NA	0.47	< 0.31	< 0.32	1.5 J	3 J	< 0.38								
Pyrene	100	1,000	100	100	500	1,000		NA	< 0.41	2.6	NA	< 4.1	NA	0.47	< 0.31	< 0.32	15	1.8 J	< 0.38								
Valatilaa mulluu																											
1 2 4 Trimothylbonzon	0.2.6	2.6	47	50	100	200		NIA	NIA	NIA	NIA	NIA	NIA	NIA	NIA	NIA	NIA	NIA	NIA								
1,2,4-Thimethylbenzen		3.0	47	52	190	300		INA NA	INA NA	NA	NA NA	NA NA	INA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA	INA NA		NA NA		NA NA
2 Butanana	0.4	0.4	47	5Z	190	300		NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	INA + 0.025	INA 1.0.024	NA	INA 10.025	NA NA	INA + 0.022	INA NA		INA 1.0.022	INA + 0.024	INA + 0.022
	U.1Z	0.12	100	100	500	1,000		NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	< 0.025	< 0.024	NA	< 0.025	NA NA	< 0.023	INA NA		< 0.023	< 0.024	< 0.023
4-isopropyiloidene	0.05	0.05	100	100	NO 500	1.000		NA NA	NA NA	NA		NA NA	INA NA	NA NA	NA NA	NA	INA + 0.025	INA 1.0.024	NA NA	INA + 0.025	NA NA	INA + 0.027	INA NA		INA 1.0.022	INA + 0.024	INA 1.0.022
Ronzono	0.05	0.05	2.0	100	300	1,000		NA	NA	NA	NA	NA	NA NA	NA	NA	NA	< 0.025	< 0.024	NA	< 0.035	NA	< 0.027	NA	NA	< 0.023	< 0.024	< 0.023
Carbon Digulfido	NS	0.00	2.9 NG	4.0 NC	44 NG	NC		NA	NA	NA		NA	NA NA	NA	NA	NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	< 0.0007	NA	NA	< 0.0057	< 0.0060	< 0.0058
Calbort Disullide	1 1	1.1	100	100	500	1.000		NA	NA	NA	NA	NA	NA NA	NA	NA	NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	< 0.0007	NA	NA	0.0072	< 0.0000	< 0.0058
Ethylbenzene	1.1	1.1	30	100	300	780		NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	0.0007	NA	NA	< 0.0057	< 0.0000	< 0.0058								
	n NS	I NC	NC	41 NC	390	NS		NA	NA	NA		NA	NA NA	NA	NA	NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	0.0035 J	NA	NA	< 0.0057	< 0.0000	< 0.0056
	0.26	1.6	100	100	500	1.000		NA	NA	NA		NA	NA NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mothylovolohovono	0.20	I.U NIC	NS	NS	500	1,000		NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA NA
Methylopo oblorido	0.05	0.05	51	100	500	1.000		NA	NA	NA		NA	NA NA	NA	NA	NA	114		NA		NA		NA	NA		× 0.0060	NA < 0.0059
Nanhthalene	12	12	100	100	500	1,000		NA	NA	NA		NA	NA			NA	< 0.0003	< 0.0000	NA	< 0.0002 NA		< 0.0007	NA	NA	< 0.0037	< 0.0000	< 0.0030
n-Butylbenzene	12	12	100	100	500	1,000		NΔ	ΝΔ	NΔ	NΔ	NA	ΝΔ	NA	NA	NA	NΔ	NΔ	NΔ	NΔ	NA	NΔ	NΔ	NA	NA	NΔ	NΔ
n-Propylbenzene	3.0	3.0	100	100	500	1,000	-	NΔ	NA	NA	ΝΔ	NA	NA	NA	NA	NA	NΔ	NΔ	NΔ	NA	NA	NA	NA	NA	NΔ	NA	NΔ
o-Xvlene	0.26	1.6	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA								
sec-Butylbenzene	11	11	100	100	500	1,000	-	NΔ	NA	NA	ΝΔ	NA	NA	NA	NA	NA	NΔ	NΔ	NA	NA	NA	NΔ	NA	NA	NΔ	NA	NΔ
Styrene	NS	NS	NS	NS	NS	NS		NA	< 0.0063	< 0.0060	NA	< 0.0062	NA	< 0.0067	NA	NA	< 0.0057	< 0.0060	< 0.0058								
Tetrachloroethene	1.3	1.3	5.5	19	150	300		NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	< 0.0007	NA	NA	< 0.0057	< 0.0000	< 0.0000								
Toluene	0.7	0.7	100	100	500	1 000		NA	< 0.0003	< 0.0000	NA	< 0.0002	NA	0.0025.1	NA	NA	< 0.0057	< 0.0000	< 0.0058								
Xylenes (total)	0.26	1.6	100	100	500	1.000		NA	< 0.0063	< 0.0060	NA	0.005 J	NA	0.018	NA	NA	< 0.0057	0.0094	< 0.0058								
	5.20					.,		1			1	1	1	1	1				1		1		1				

Notes:

Compound not detected at concentrations above the laboratory reporting detection limit.
 The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW.

NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

							Location ID S Sample Date 0 Sample Type 0 Depth 7	SB-15 )9-Feb-00 Grab 7 - 8 ft	SB-18 09-Feb-00 Grab 6 - 6.5 ft	SB-22 09-Feb-00 Grab 4.5 - 5 ft	SB-27 09-Feb-00 Grab 4.5 - 5 ft	SB-29 10-Feb-00 Grab 0 - 1 ft	SB-30 10-Feb-00 Grab 0.3 - 1 ft	TMW-12 01-Dec-14 Grab 0.5 - 1.5 ft	TMW-12 01-Dec-14 Grab 3 - 4 ft	TMW-13 26-Nov-14 Grab 1 - 2 ft	TMW-14 01-Dec-14 Grab 2 - 4 ft	TMW-15S 25-Nov-14 Grab 1 - 2 ft	TMW-16 25-Nov-14 Grab 4 - 5 ft	TMW-16A 02-Dec-14 Grab 3.5 - 4.5 ft	TMW-17 01-Dec-14 Grab 1 - 2 ft	TMW-17 01-Dec-14 QA/QC 1 - 2 ft	TMW-17 01-Dec-14 Grab 2 - 3 ft	TP-1 25-Nov-08 Grab 0 - 6 ft	TP-7 25-Nov-08 Grab 1 - 3 ft	TP-8 25-Nov-08 Grab 0.5 - 3 ft	TP-17 26-Nov-08 Grab 0.5 - 2 ft
Analyte	NY375 UNRES	NY375 RPGW	NY375 RRES	NY375 RRRES	NY375 RCOMM	NY375 RINDU																					
Metals, mg/kg																											
Aluminum	NS	NS	NS	NS	NS	NS	4	1,450	2,950	NA	8,820	19,400	3,580	13,400	7,100	13,000	13,100	6,150	13,700	6,090 J	10,400	10,800	8,900	4,670	10,300	6,680	8,480
Antimony	NS	NS	NS	NS	NS	NS	0	).34	1.3	NA	0.83	0.41 J	29.5 J	5.30 J	< 7.57 J	< 7.09 J	< 7.41 J	< 6.91 J	< 7.64 J	< 6.44 J	< 7.70 J	< 7.21 J	< 6.73 J	< 15.3	< 20.4	< 14.7	< 18.6
Arsenic	13	16	16	16	16	16	4	1.4	9.8	NA	9.5	6	18	11.8 J	3.66 J	7.17	9.43 J	4.70 J	5.27 J	3.99	6.02 J	10.6 J	4.63 J	4	5	4.5	17.5
Barium	350	820	350	400	400	10,000	3	33.3	115	NA	269	199	114	192	45.8	91.9	109	45.9	83.8	44.2 J	259 J	377 J	55.7	20.7	162	94.8	342
Beryllium	7.2	47	14	72	590	2,700	0	).42	0.46	NA	0.53	1.3	0.54	0.603 J	0.401 J	0.585 J	0.572 J	< 0.576	0.600 J	< 0.537	0.600 J	0.671	0.342 J	< 0.2	1.2	0.48	1
Cadmium	2.5	7.5	2.5	4.3	9.3	60	0	).5	0.37	NA	0.65	0.52	0.54	1.35	< 0.630	< 0.590	< 0.618	< 0.576	< 0.637	< 0.537	< 0.641	0.740	< 0.561	< 0.2	0.63	0.6	6.4
Calcium	NS	NS	NS	NS	NS	NS	6	60,100	12,000	NA	43,100	21,700 J	11,700 J	29,900	54,900	96,800 J	102,000	115,000	81,300	100,000 J	41,500	32,100	123,000	7,890	61,800	35,400	15,800
Chromium	30	NS	36	180	1,500	6,800	2	20.6	6.4	NA	16.4	22.2	11.6	23.5	10.9	120	18.0	9.74	18.6	10.0	15.6	17.4	13.2	6.2	17.2	10.8	52.8
Cobalt	NS	NS	NS	NS	NS	NS	4	1.4	4.7	NA	8.5	49.7	7.9	10.0	4.99 J	8.44	10.2	4.24 J	8.87	4.79 J	6.28 J	6.96	5.44 J	2.2	5	5	10.1
Copper	50	1,720	270	270	270	10,000	2	28.8 J	41.7 J	NA	49.4 J	20.3 J	255 J	72.1	13.9	36.2	19.2	11.0	18.8	10.6	30.3 J	43.8 J	9.60	10.8	53.2	113	204
Iron	NS	NS	NS	NS	NS	NS	1	11,500	11,100	NA	17,700	37,500	25,800	31,200	12,400	29,300	19,000	10,700	20,600	11,000	13,900 J	20,900 J	15,200	9,630	15,400	14,100	51,200
Lead	63	450	400	400	1,000	3,900	1	19.6	301	NA	419	93.1	764	462 J	32.4 J	94.7 J	18.1 J	4.84	13.2	5.44	230 J	295 J	5.46 J	46.2	189	210	1,560
Magnesium	NS	NS	NS	NS	NS	NS	8	3,970 J	2,480 J	NA	10,600 J	5,540 J	2,610 J	8,170	27,600	14,300	19,500	28,500	28,000	29,600 J	10,300	9,380	23,900	2,540	9,440	11,300	4,540
Manganese	1,600	2,000	2,000	2,000	10,000	10,000	7	702 J	112 J	NA	677 J	1,680 J	159 J	578 J	412 J	1,900	491 J	283 J	526 J	271	414 J	422 J	1,720 J	146	1,090	455	516
Nickel	30	130	140	310	310	10,000	1	14	8.4	NA	16.4	17	16.5	23.0	9.19	23.2 J	20.6	7.68	17.4	8.72 J	15.2	15.1	9.41	7.7	12.2	15.4	50.4
Potassium	NS	NS	NS	NS	NS	NS	6	649	594	NA	2,830	1,640	466	2,300	1,780	3,110	3,580	1,580	4,420	1,850	1,700	1,740	1,990	645	1,380	1,520	1,370
Selenium	3.9	4	36	180	1,500	6,800	<	< 0.62	1.5	NA	< 0.65	0.45	1.2	0.822 J	< 1.26	3.46	4.97	2.93 J	< 1.27 J	2.65	< 1.28	0.853 J	4.02	< 4.1	< 5.4	< 5.9	< 5
Silver	2	8.3	36	180	1,500	6,800	<	< 1.2	< 1.5	NA	0.22	< 1.1	0.1	1.08 J	< 1.26	< 1.18	< 1.24	< 1.15	< 1.27	< 1.07	< 1.28	< 1.20	< 1.12	< 0.51	< 0.68	< 0.73	2.2
Sodium	NS	NS	NS	NS	NS	NS	<	< 121	296	NA	406	914	< 150	< 326	169 J	321	245 J	226 J	318 J	256 J	< 321	175 J	248 J	< 143	343	276	400
Thallium	NS	NS	NS	NS	NS	NS	0	0.59	0.82	NA	0.52	0.43	< 1.2	< 3.26	< 3.15	< 2.95	2.58 J	2.14 J	< 3.18	< 2.68	< 3.21	< 3.00	< 2.80	< 6.1	< 8.2	< 8.8	< 7.4
Vanadium	NS	NS	NS	NS	NS	NS	1	13.1	14	NA	21.1	32.9	12.7	32.9	19.5	50.9 J	26.0	18.2	29.3	17.8	22.4	26.2	23.2	8.8	20.4	14.7	25.4
Zinc	109	2,480	2,200	10,000	10,000	10,000	5	55.8	199	NA	246	95	194	335	83.6	176 J	65.2	42.9	63.7	47.9 J	122	153	43.2	42.9	204	169	2,120
Mercury	0.18	0.73	0.81	0.81	2.8	5.7	<	< 0.12	0.35	NA	1.3	0.014 J	0.22 J	0.539 J	0.0940 J	0.0917	0.0650 J	0.0130 J	0.0220	< 0.0190	0.858 J	0.742 J	0.0192 J	0.026	0.45	1.1	6.4
Cyanide	27	40	27	27	27	10,000	<	< 0.62	< 0.74	NA	2.6 J	< 0.57	< 0.59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DCDa	_					+																_				_	
PCBS, mg/kg	0.4	2.0	1	4	4	05		0.044		N1.0		. 0.020	. 0. 020	. 0. 0250	. 0. 02.42	. 0.0242	. 0.0240	. 0 0000	.0.0240	0.0015	. 0.0224	0.00004	.0.0244	. 0.010		. 0.000	. 0.11
Aroclor 1242	0.1	3.2	1	1	1	20	<	< 0.041	< 0.049		< 0.043	< 0.038	< 0.039	< 0.0359	< 0.0343	< 0.0343	< 0.0340	< 0.0333	< 0.0340	< 0.0315	< 0.0334	< 0.0331	< 0.0344	< 0.018	< 0.02	< 0.023	< 0.11
Arodor 1254	0.1	3.2	1	1	1	20	<	< 0.041	< 0.049		< 0.043	< 0.030	< 0.039	< 0.0359	< 0.0343	< 0.0343	< 0.0340	< 0.0333	< 0.0340	< 0.0315	< 0.0334	< 0.0331	< 0.0344	< 0.010	< 0.02	0.013 J	< U.11
Aroclor 1260	0.1	3.2	1	1	1	20		< 0.041	< 0.049	NA	< 0.043	< 0.030	< 0.039	< 0.0359	< 0.0343	< 0.0343	< 0.0340	< 0.0333	< 0.0346	< 0.0315	< 0.0334	< 0.0331	< 0.0344	< 0.018	0.042	0.015	0.90
	0.1	3.2	1	1	-	20		< 0.04 I	< 0.049		< 0.043	< 0.030	< 0.039	< 0.0559	< 0.0343	< 0.0343 J	< 0.0340	< 0.0333	< 0.0340	< 0.0315	< 0.0334	< 0.0331	< 0.0344	< 0.010	0.12	0.010 J	< 0.11
						+																					
					1				1			1			1				1		1			1			

		1	1			1	Leasting ID	CD 45	CD 40	CD 00	00.07	0.0.00	00.00	TRANAL 4.0	TRAVAL 4.0	TRAVAL 4.2	TRANAL & A	THUN AFO	TRANAL AC	TANAL 4CA	TRANAL 47	TRANAL 47	TRAVAL 47		<b>TD 7</b>		TD 47
							Location ID	SB-15	SB-18	5B-22	5B-2/	5B-29	5B-30			1 10100-13	110100-14	11/1/0-155	1 11/1/10	TIVIVV-16A			1 IVI VV-17	19-1	18-7	12-8	19-17
							Sample Date	09-Feb-00	09-Feb-00	09-Feb-00	09-Feb-00	10-Feb-00	10-Feb-00	01-Dec-14	01-Dec-14	26-Nov-14	01-Dec-14	25-Nov-14	25-Nov-14	02-Dec-14	01-Dec-14	01-Dec-14	01-Dec-14	25-Nov-08	25-Nov-08	25-Nov-08	26-Nov-08
							Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	QA/QC	Grab	Grab	Grab	Grab	Grab
							Depth	7 - 8 ft	6 - 6.5 ft	4.5 - 5 ft	4.5 - 5 ft	0 - 1 ft	0.3 - 1 ft	0.5 - 1.5 ft	3 - 4 ft	1 - 2 ft	2 - 4 ft	1 - 2 ft	4 - 5 ft	3.5 - 4.5 ft	1 - 2 ft	1 - 2 ft	2 - 3 ft	0 - 6 ft	1 - 3 ft	0.5 - 3 ft	0.5 - 2 ft
	NY375	NY375	NY375	NY375	NY375	NY375																					
Analyte	UNRES	RPGW	RRES	RRRES	RCOMM	RINDU									1			1	-		1	-					
Semivolatiles, mg/kg																											
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS		0.31 J	< 0.49	NA	< 0.43	< 0.38	0.5 J	< 1.83	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	< 5.6	0.095 J	NA	< 0.41
Acenaphthene	20	98	100	100	500	1,000		0.27 J	< 0.49	NA	< 0.43	< 0.38	< 0.78	3.17	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	1.3 J	0.12 J	< 0.36	< 0.41
Acenaphthylene	100	107	100	100	500	1,000		< 0.82	0.19 J	NA	< 0.43	< 0.38	< 0.78	< 1.83	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	< 5.6	0.15 J	< 0.36	0.22 J
Anthracene	100	1,000	100	100	500	1,000		0.58 J	0.18 J	NA	< 0.43	< 0.38	0.29 J	6.33	1.78	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.303 J	< 0.333	< 0.35	1.5 J	0.35	< 0.36	0.27 J
Benz(a)anthracene	1	1	1	1	5.6	11		1.1 J	0.87 J	NA	0.25 J	< 0.38	1	13.8	4.21	< 0.36	< 0.351	< 0.335	0.266 J	< 0.314	0.736 J	0.454 J	< 0.35	31	1.1	0.21 J	1.4
Benzo(a)pyrene	1	22	1	1	1	1.1		0.76 J	0.99 J	NA	0.23 J	< 0.38	0.87	13	3.07	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.67 J	0.408 J	< 0.35	47	1.1	0.21 J	2.1
Naphthalene	12	12	100	100	500	1 000		< 0.82	< 0.49	NA	< 0.43	< 0.38	0.34.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.6	0.13.1	< 0.36	0.09.1
Benzo(b)fluoranthene	1	1.7	1	1	56	11		0.84.1	1.1	NA	0.23.1	< 0.38	0.83	12.2	2.83	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.71.1	0.46.1	< 0.35	72	1.5	0.32.1	3
Benzo(a h i)pervlene	100	1.000	100	100	500	1.000		< 0.82	0.27 1	NA	< 0.43	< 0.38	0.33	7.53	1.48	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.388 1	0.100	< 0.35	55	0.36	0.02.0	13
Benzo(k)fluoranthene	0.8	1,000	100	3.0	56	1,000		0.85 1	0.77	NA	0.21	< 0.30	0.33.3	9.48	2.57	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.434 1	0.223 J	< 0.35	25	0.53	0.1.5 0	1.0
Benzyl Butyl Dhthalato	NS	NS	NS	NS	NS	NS		< 0.82	< 0.49	NA	< 0.43	< 0.38	< 0.78	< 1.83	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0 335	< 0.333	< 0.35	NA	NA		ΝA
Bis(2-othylboxyl)obthol	NS	NS	NS	NS	NS	NG		< 0.02	< 0.49	NA	< 0.43	< 0.38	< 0.78	~ 1.00	< 0.034	0.30	< 0.351	< 0.335	0.18	< 0.314	< 0.335	< 0.333	< 0.35	NA	NA		NA
	NIC	NC	NG	NG	NG	NG		< 0.0∠ 0.20 J	< 0.49		< 0.43	< 0.30	< 0.70	2.52	< 0.034	0.00	< 0.331	< 0.335	J. 10 J	< 0.314	< 0.335	< 0.000	< 0.35				
Carbazole	INS 4	INS I	INS 4	115	N5	N5		0.29 J	< 0.49	NA NA	< 0.43	< 0.38	< 0.78	3.52	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	NA 44			NA 1.0
Chrysene	1	1	1	3.9	0.50	110		1.2 J	0.9 J	NA	0.26 J	< 0.38	1.1	14.9	4.12	< 0.36	< 0.351	< 0.335	0.356	< 0.314	0.782 J	0.452 J	< 0.35	44	1.4	0.26 J	1.9
Dibenz(a,n)anthracene	0.33	1,000	0.33	0.33	0.56	1.1		< 0.82	< 0.49	NA	< 0.43	< 0.38	< 0.78	2.62	0.569 J	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	14	0.13 J	< 0.36	0.36 J
Dibenzoturan	1	210	14	59	350	1,000		0.3 J	< 0.49	NA	< 0.43	< 0.38	< 0.78	2.49	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	NA	NA	NA	NA
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	JNA	NA	NA	NA
Fluoranthene	100	1,000	100	100	500	1,000		2.5 J	2 J	NA	0.65 J	< 0.38	2	32.6	9.86	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	1.45 J	0.821 J	< 0.35	29	1.8	0.29 J	1.9
Fluorene	30	386	100	100	500	1,000		0.42 J	< 0.49	NA	< 0.43	< 0.38	< 0.78	2.81	0.498 J	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	< 5.6	0.14 J	< 0.36	< 0.41
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11		< 0.82	0.35 J	NA	< 0.43	< 0.38	0.36 J	9.79	2.12	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	0.439 J	0.265 J	< 0.35	58	0.47	0.18 J	1.5
Naphthalene	12	12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	1.29 J	< 0.694	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	< 0.335	< 0.333	< 0.35	NA	NA	NA	NA
Phenanthrene	100	1,000	100	100	500	1,000		2.8 J	0.58 J	NA	0.36 J	< 0.38	1.4	29.1	6.2	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	1.07 J	0.545 J	< 0.35	7.3	1.5	0.27 J	1
Pyrene	100	1,000	100	100	500	1,000		1.5 J	1.2 J	NA	0.36 J	< 0.38	1.4	26.8	7.69	< 0.36	< 0.351	< 0.335	< 0.343	< 0.314	1.23 J	0.677 J	< 0.35	29	1.5	0.43	1.5
Volatiles, mg/kg																											
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	l < 0.00350 J	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	l < 0.00350 J	NA	NA	NA	NA
2-Butanone	0.12	0.12	100	100	500	1,000		< 0.023	< 0.03	< 0.024	< 0.026	< 0.023	< 0.024	< 0.0246 J	< 0.0208 J	NA	< 0.0184 J	< 0.0185 J	< 0.0182 J	< 0.0184 J	< 0.0224 J	< 0.0207 J	< 0.0175 J	NA	NA	NA	NA
4-Isopropyltoluene	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	l < 0.00350 J	NA	NA	NA	NA
Acetone	0.05	0.05	100	100	500	1,000		< 0.023	0.067	< 0.024	< 0.026	< 0.023	< 0.024	< 0.0246 J	< 0.0208 J	NA	< 0.0184 J	< 0.0185 J	< 0.0473 J	< 0.0184 J	< 0.0557 J	< 0.0207 J	< 0.0348 J	NA	NA	0.01 J	NA
Benzene	0.06	0.06	2.9	4.8	44	89		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	NA	NA	NA	NA
Carbon Disulfide	NS	NS	NS	NS	NS	NS		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	NA	NA	< 0.006	NA
Chlorobenzene	1.1	1.1	100	100	500	1,000		< 0.0058	< 0.0074	< 0.0060	< 0.0064	0.0039 J	0.0028 J	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	NA	NA	< 0.006	NA
Ethylbenzene	1	1	30	41	390	780		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.00492 J	< 0.00416	NA	< 0.00368 J	l < 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	NA	NA	< 0.006	NA
Isopropylbenzene (Curr	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416	NA	< 0.00368 J	<pre>&lt; 0.00370 J</pre>	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	I < 0.00350 J	NA	NA	NA	NA
m p-Xvlenes	0.26	1.6	100	100	500	1 000		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00416	NA	< 0.00368 J	< 0.00370 J	0.00197.1	< 0.00369 J	< 0.00448	I < 0.00414 J	I < 0.00350 J	NA	NA	NA	NA
Methylcyclohexane	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	< 0.00492	< 0.00416	NA	< 0.00368		< 0.00364	< 0.00369 J	< 0.00448			NA	NA	NA	NA
Methylene chloride	0.05	0.05	51	100	500	1 000		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.0123	< 0.00104	NA	< 0.00920		0.00513.1	< 0.00922 .1			< 0.00874.1	NA	NA	0.008	NA
Naphthalene	12	12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	0.00636.1	< 0.0104	NA	< 0.00020 0			< 0.00922	< 0.0112	< 0.0104	< 0.00874 1	NA	NA	< 0.32	NA
n-Butylbenzene	12	12	100	100	500	1,000		NA	NA	NΔ	ΝΔ	ΝΔ	NΔ	< 0.00492	< 0.00416	ΝΔ					< 0.00112 0			NΔ	NΔ	ΝΔ	NΔ
n-Propylbenzene	3.0	3.0	100	100	500	1,000		NΔ	NA	NA	ΝΔ	ΝΔ	NΔ	< 0.00492 J		ΝΔ					< 0.00448	1 < 0.00414		NA	NΔ	NA	NΔ
	0.26	1.6	100	100	500	1,000		NA	NA	NA	NA	NA	NA	< 0.00492 J	< 0.00410 J	NA		$\sim 0.00370$ J		< 0.00309 J	< 0.00440	1 < 0.00414 J		NA	NA		NA
	11	1.0	100	100	500	1,000								< 0.00492 J	< 0.00410 J		< 0.00300 J	< 0.00370 J	< 0.00304 J	< 0.00369 J	< 0.00446	$\sim 0.00414$ J	< 0.00350 J				
Sec-Dutyipenzerie		II NC	NC	NC	500	1,000			10.0074			11/4		< 0.00492 J	< 0.00410 J		< 0.00308 J	< 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	< 0.00414 J	< 0.00350 J				
Styrene	6VI	10	110	10	110	GNI		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.0123 J	< 0.0104 J	INA NA	< 0.00920 J	< 0.00925 J	< 0.00909 J	< 0.00922 J	< 0.0112 J	< 0.0104 J	< 0.00874 J	INA NA	INA NA		INA NA
Tetrachioroethene	1.3	1.3	0.5	19	150	300		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	< 0.00492 J	< 0.00416 J	INA NA	< 0.00368 J	< 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	<pre>0.00414 J</pre>	< 0.00350 J	INA	INA NA		INA NA
Toluene	0.7	0.7	100	100	500	1,000		< 0.0058	< 0.0074	0.0019 J	< 0.0064	0.0036 J	< 0.0059	< 0.00492 J	< 0.00416 J	NA	< 0.00368 J	< 0.00370 J	< 0.00364 J	< 0.00369 J	< 0.00448	J < 0.00414 J	J < 0.00350 J	NA	NA	< 0.006	NA
Xylenes (total)	0.26	1.6	100	100	500	1,000		< 0.0058	< 0.0074	< 0.0060	< 0.0064	< 0.0057	< 0.0059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.019	NA

Notes:

<= Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW.

NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

							Location ID Sample Date Sample Type Depth	TP-18 26-Nov-08 Grab 0.5 - 1.5 ft	TP-20 26-Nov-08 Grab 0.5 - 1.5 ft	TP-21 01-Dec-08 Grab 1 - 3 ft	TP-26 01-Dec-08 Grab 1 - 2 ft	TP-28 01-Dec-08 Grab 0.5 - 4 ft	TP-31 02-Dec-08 Grab 0.5 - 5 ft	TP-33 02-Dec-08 Grab 1 - 3 ft	TP-34 02-Dec-08 Grab 3 ft	TP-37 02-Dec-08 Grab 1 - 1.5 ft	TP-43 03-Dec-08 Grab 1 - 3 ft	TP-46 03-Dec-08 Grab 0.5 - 2 ft
Analyte	NY375 UNRES	NY375 RPGW	NY375 RRES	NY375 RRRES	NY375 RCOMM	NY375 RINDU												
Metals, mg/kg																		
Aluminum	NS	NS	NS	NS	NS	NS		11,100	7,000	3,990	18,100	4,140	8,500	6,950	4,340	NA	6,680	10,400
Antimony	NS	NS	NS	NS	NS	NS		< 18.4	< 16.4	< 18.3	< 21.7	< 18.2	< 16.8	< 20	< 19.4	NA	< 19.2	< 20
Arsenic	13	16	16	16	16	16		4.3	5.2	8.7	15.2	20.9	7.9	8.7	12.5	NA	8.9	7
Barium	350	820	350	400	400	10,000		97.4	91.8	73.4	192	110	148	145	142	NA	225	181
Beryllium	7.2	47	14	72	590	2,700		0.56	0.52	0.53	1.1	0.45	0.65	0.51	0.4	NA	0.46	0.75
Cadmium	2.5	7.5	2.5	4.3	9.3	60		0.62	0.38	< 0.24	0.83	0.82	0.5	3.4	0.76	NA	0.48	0.58
Calcium	NS	NS	NS	NS	NS	NS		70,600	47,800	16,200	16,700	3,520	46,300	16,600	11,400	NA	66,200	36,200
Chromium	30	NS	36	180	1,500	6,800		15.6	10.2	6.9	81.4	12.6	23.6	19.4	46.5	NA	13.1	15.1
Cobalt	NS	NS	NS	NS	NS	NS		6.9	5.1	4.2	12.2	4.8	4.6	5	10.7	NA	5.4	6.2
Copper	50	1,720	270	270	270	10,000		37	65.6	25.4	87.2	118	122	282	420	NA	51.7	45.4
Iron	NS	NS	NS	NS	NS	NS		18,100	10,800	8,560	32,800	44,600	17,000	22,900	111,000	NA	13,000	20,200
Lead	63	450	400	400	1,000	3,900		56.3	216	54.4	432	437	283	1,070	868	NA	587	486
Magnesium	NS	NS	NS	NS	NS	NS		21,000	10,300	3,010	11,900	989	12,600	3,840	3,650	NA	9,560	9,600
Manganese	1,600	2,000	2,000	2,000	10,000	10,000		427	241	142	504	633	184	381	1,090	NA	634	525
Nickel	30	130	140	310	310	10,000		17.8	11.4	11.3	31.8	14.1	13.7	18	37.3	NA	12.5	14.7
Potassium	NS	NS	NS	NS	NS	NS		2,580	1,660	607	2,320	560	1,450	1,060	657	NA	1,500	2,050
Selenium	3.9	4	36	180	1,500	6,800		< 4.9	< 4.4	< 4.9	< 5.8	< 4.8	< 4.5	< 5.3	< 5.2	NA	< 5.1	< 5.3
Silver	2	8.3	36	180	1,500	6,800		< 0.61	< 0.55	< 0.61	< 0.72	< 0.61	< 0.56	< 0.66	< 0.64	NA	< 0.64	< 0.67
Sodium	NS	NS	NS	NS	NS	NS		303	253	171	234	187	302	258	292	NA	349	406
Thallium	NS	NS	NS	NS	NS	NS		< 7.4	< 6.6	< 7.3	< 8.7	< 7.3	< 6.7	< 8	< 7.7	NA	< 7.7	< 8
Vanadium	NS	NS	NS	NS	NS	NS		22	17	15.7	34.8	19.2	17.1	18.8	29.3	NA	14.5	19.4
Zinc	109	2,480	2,200	10,000	10,000	10,000		76.2	106	45.2	366	415	247	283	470	NA	164	168
Mercury	0.18	0.73	0.81	0.81	2.8	5.7		0.052	1.3 J	0.62	0.81	0.18	0.15	0.59	0.18	NA	1.2	0.59
Cyanide	27	40	27	27	27	10,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs, mg/kg																		
Aroclor 1242	0.1	3.2	1	1	1	25		< 0.1	< 0.02	< 0.021	< 0.022	< 0.019	< 0.019	< 0.04	NA	< 0.085	NA	< 0.021
Aroclor 1248	0.1	3.2	1	1	1	25		< 0.1	< 0.02	0.042	< 0.022	< 0.019	< 0.019	0.19	NA	< 0.085	NA	< 0.021
Aroclor 1254	0.1	3.2	1	1	1	25		0.85	0.0081 J	0.043	< 0.022	< 0.019	0.023	0.32	NA	0.44	NA	< 0.021
Aroclor 1260	0.1	3.2	1	1	1	25		< 0.1	0.014 J	0.04	< 0.022	< 0.019	< 0.019	0.17	NA	< 0.085	NA	< 0.021

Table 5-Summary of Soil Analyical Results.xls

		1	1				Location ID	TP-18	TP-20	TP-21	TP-26	TP-28	TP-31	TP-33	TP-34	TP-37	TP-43	TP-46
							Sample Date	26-Nov-08	26-Nov-08	01-Dec-08	01-Dec-08	01-Dec-08	02-Dec-08	02-Dec-08	02-Dec-08	02-Dec-08	03-Dec-08	03-Dec-08
							Sample Type	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab	Grab
							Depth	0.5 - 1.5 ft	0.5 - 1.5 ft	1 - 3 ft	1 - 2 ft	0.5 - 4 ft	0.5 - 5 ft	1 - 3 ft	3 ft	1 - 1.5 ft	1 - 3 ft	0.5 - 2 ft
							•		•	•	•		•	•	•	•	•	+
Analyte	NY375 UNRES	NY375 RPGW	NY375 RRES	NY375 RRRES	NY375 RCOMM	NY375 RINDU												
Semivolatiles, mg/kg																		
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS		< 0.65	NA	0.14 J	1.3 J	NA	0.14 J	< 1.7	NA	0.094 J	NA	0.24 J
Acenaphthene	20	98	100	100	500	1,000		< 0.65	0.12 J	0.27 J	3.4 J	0.92 J	< 0.34	0.76 J	< 0.31	0.16 J	NA	0.86
Acenaphthylene	100	107	100	100	500	1,000		0.25 J	0.1 J	0.37	0.83 J	< 0.15	0.084 J	0.61 J	< 0.31	0.19 J	NA	0.25 J
Anthracene	100	1,000	100	100	500	1,000		0.34 J	0.39	0.97	9.1	1.5	0.11 J	1.7 J	< 0.31	0.44	NA	1.6
Benz(a)anthracene	1	1	1	1	5.6	11		2.1	1.4	2.2	20	5.4	0.2 J	8.8	< 0.31	1.7	NA	3.6
Benzo(a)pyrene	1	22	1	1	1	1.1		3.9	1.3	1.9	17	3.5	0.21 J	12	< 0.31	1.8	NA	3.3
Naphthalene	12	12	100	100	500	1,000		0.21 J	0.12 J	0.14 J	2.6 J	< 0.15	0.099 J	0.51 J	< 0.31	0.11 J	NA	0.36 J
Benzo(b)fluorantnene	1	1.7	1	1	5.6	11		5.7	1.4	2.4	19	3.6	0.32 J	17	< 0.31	2.6	NA	3.7
Benzo(g,n,i)perylene	100	1,000	100	100	500	1,000		3.5	0.96	0.69	12	1.0	0.13 J	18	< 0.31	0.92	NA	2.1
Benzul Rutul Bhthalata	U.O	1.7 NS	I NS	3.9 NC		NS		1.7	0.52	0.94		1.2 J	0.097 J	5.9	< 0.31	0.05	NA	1.5
Bis(2-ethylbeyyl)phthala	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbazole	NS	NS	NS	NS	NS	NS		NA	NΔ		NA	NA	NA	NA	NA	NA	NA	
Chrysene	1	1	1	3.9	56	110		3.1	16	2.3	20	7	0.3.1	10	< 0.31	22	NA	37
Dibenz(a h)anthracene	0.33	1 000	0.33	0.33	0.56	110		0.84	0.28.1	0.51	5.9	17	0.31.1	4.9	< 0.31	0.52	NA	11
Dibenzofuran	7	210	14	59	350	1.000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1.2.4-Trimethylbenzene	3.6	3.6	47	52	190	380		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100	1,000	100	100	500	1,000		2.8	2.5	4.4	42	8	0.44	12	0.1 J	2.7	NA	7
Fluorene	30	386	100	100	500	1,000		0.21 J	0.11 J	0.35	3.8	0.73 J	< 0.34	0.44 J	< 0.31	0.11 J	NA	0.72
Indeno(1,2,3-cd)pyrene	0.5	8.2	0.5	0.5	5.6	11		3.9	1.1	0.98	16	2	0.15 J	19	< 0.31	1.1	NA	2.8
Naphthalene	12	12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100	1,000	100	100	500	1,000		1.1	1.9	3.2	41	15	0.36	6.1	0.074 J	2.2	NA	6.5
Pyrene	100	1,000	100	100	500	1,000		1.9	3.2	2.4	36	11	0.24 J	11	0.085 J	2.6	NA	6.6
Volatiles, mg/kg																		
1,2,4-Trimethylbenzene	3.6	3.6	47	52	190	380		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	8.4	8.4	47	52	190	380		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	0.12	0.12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-isopropyitoiuene	NS 0.05	NS 0.05	NS	NS	NS 500	NS 1.000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	0.05	0.05	100	100	500	1,000		NA	< 0.034	NA					NA	NA	NA	
Carbon Disulfide	NS	0.00 NS	2.9 NS	4.0 NS	44 NS	NS		NA		NA	NA	NA	NA	NA	NA	NA	NA	
Chlorobenzene	1 1	1 1	100	100	500	1 000		NA	< 0.007		NA	NA	NA	NA	NA	NA	NA	
Ethylbenzene	1.1	1	30	41	390	780		NA	< 0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene (Cum	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m.p-Xvlenes	0.26	1.6	100	100	500	1.000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	0.05	0.05	51	100	500	1.000		NA	0.005 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	12	12	100	100	500	1,000		NA	< 0.31	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	12	12	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	3.9	3.9	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	0.26	1.6	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	11	11	100	100	500	1,000		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	NS	NS	NS	NS	NS	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1.3	1.3	5.5	19	150	300		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	0.7	0.7	100	100	500	1,000		NA	< 0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylenes (total)	0.26	1.6	100	100	500	1,000		NA	< 0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

Compound not detected at concentrations above the laboratory reporting detection limit.
 The laboratory reporting detection limit is shown.

NA = Not analyzed

NS = No Soil Cleanup Objective

Units are in mg/kg = milligrams per kilogram

ft = feet

NY375 1UNRES = 6NYCRR P375 Unrestricted SCO. NY375 2RPGW = 6NYCRR P375 Restricted SCO-Protection of GW.

NY375 3RRES = 6NYCRR P375 Restricted SCO-Residential.

NY375 4RRRES = 6NYCRR P375 Restricted SCO-Restricted Residential.

NY375 5RCOMM = 6NYCRR P375 Restricted SCO-Commercial.

NY375 6RINDU = 6NYCRR P375 Restricted SCO-Industrial.

Table 5-Summary of Soil Analyical Results.xls

												Duplicate			
	Location ID Sample Date Sample Type	TMW-1 13-Mar-12 Grab	TMW-4 13-Mar-12 Grab	TMW-6 13-Mar-12 Grab	TMW-7 13-Mar-12 Grab	TMW-8 13-Mar-12 Grab	TMW-9 13-Mar-12 Grab	TMW-10 13-Mar-12 Grab	TMW-11 13-Mar-12 Grab	TMW-12 27-May-15 Grab	TMW-14 27-May-15 Grab	TMW-14 27-May-15 QA/QC	TMW-15D 27-May-15 Grab	TMW-15S 27-May-15 Grab	TMW-16 29-May-15 Grab
Analyte	NYSTOGS 1.1.1*														
Metals, ug/l															
Aluminum	NS	3,430	14,500	3,440	4,740	17,700	21,400	13,300	5,780	825	< 200	< 200	< 200	< 200	356
Antimony	3	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 0.23	4.4	4.5	< 0.14	< 1.1	0.55 J
Arsenic	25	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9	< 10.0	5.74 J	< 10.0	6.16 J	< 10.0	< 10.0
Barium	1.000	95.1	252	56	77.6	169	203	109	93.3	74.6 J	< 100	< 100	71.3 J	59.1 J	83.7 J
Cadmium	5	< 0.17	3.9	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 0.17	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Calcium	NS	93,800	319,000	82,600	326,000	151,000	235,000	155,000	114,000	128,000	133,000	124,000	52,400	91,400	70,400
Chromium	50	7.4	17.2	4.4	5.3	17.2	22.7	47.3	4.7	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Cobalt	NS	0.4	3.4	< 0.38	< 0.38	5.4	7.4	2.8	< 0.38	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0	< 50.0
Copper	200	3.4	49.2	3.5	6.3	22.1	47.6	18.5	4.2	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0
Iron	300	3,800	17,500	2,880	3,870	16,400	21,300	11,100	4,400	1,050	4,610	4,670	< 100	107	410
Lead	25	2.6	80.2	< 2.1	2.5	7.7	65.7	11.6	10.1	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
Magnesium	35,000	31,700	64,100	26,000	74,300	49,600	68,600	8,630	33,000	46,200	116,000	111,000	10,500	25,400	38,800
Manganese	300	231	831	107	199	530	743	299	82.5	94.0	92.7	88.4	20.7	202	128
Nickel	100	3.6	13.9	3.3	5	17	22.9	12	3.9	< 40.0	< 40.0	< 40.0	< 40.0	< 40.0	< 40.0
Potassium	NS	4,760	16,000	4,600	8,620	8,250	15,400	6,850	4,390	24,100	20,100	18,900	3,210	3,630	3,450
Selenium	10	3.9	2.6	2.3	7.2	< 2	< 2	4.5	8.1	21.6	< 10.0	7.90 J	< 10.0	12.1	< 10.0
Sodium	20,000	44,500	26,500	38,700	37,900	51,000	77,100	21,100	9,860	23,800	30,600	28,300	356,000	144,000	167,000
Vanadium	NS	5.3	24.8	5.5	9.1	28.7	36	36.1	8.9	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0	< 25.0
Zinc	2,000	59.3	293	35.2	57.4	102	157	44.3	38.1	< 60.0	< 60.0	< 60.0	< 60.0	< 60.0	< 60.0
Mercury	0.7	< 0.062	0.67	< 0.062	< 0.062	< 0.062	0.42	< 0.062	< 0.062	< 0.200	0.213	0.194 J	< 0.200	< 0.200	< 0.200
Volatiles, µg/L															
1,2,4-Trimethylbenzene	5	< 5	< 5	< 5	6.6	< 5	< 5	< 5	< 5	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
2-Butanone	50	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Acetone	50	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 5.00 J	< 5.00 J	< 5.00 J	< 5.00 J	< 5.00 J	< 5.00 J
Benzene	1	0.9	< 0.5	< 0.5	0.74	< 0.5	< 0.5	< 0.5	< 0.5	< 1.00	< 1.00	< 1.00	0.603 J	< 1.00	< 1.00
Ethylbenzene	5	< 1	< 1	< 1	1.4	< 1	< 1	< 1	< 1	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
m,p-Xylenes	5	1	< 1	< 1	4.3	< 1	< 1	< 1	< 1	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
loluene	5	1.7	< 1	< 1	1.1	< 1	< 1	< 1	< 1	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Xylenes (total)	5	1	< 1	< 1	4.3	< 1	< 1	< 1	< 1	NA	NA	NA	NA	NA	NA

See last page for Table 6 - Summary of Groundwater Analytical Results End Notes

Notes:

< = Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown. Empty cells = Not analyzed NS = No Standard Units are in µg/L = micrograms per liter ft = feet

Analyis performed by Paradigm Labs, Accutest, NJ.

Summary of Groundwater Analytical Results

## TABLE 7Maximum Detected Concentrations - SoilFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

Analyte	Maximum Contaminant Concentrations
N. (.).	
Metals, mg/kg	22.500
Aluminum	32,500
Antimony	82
Arsenic	391
Barium	1,210
Cadmium	0.3
Calaium	323.000
Chromium	3 710
Cabalt	50
Copper	4 860
Iron	308.000
Load	7 100
Magnosium	39 300
Mangapese	31,800
Nickel	738
Potossium	4 810
Selenium	35
Silver	9.0
Sodium	914
Thallium	12
Vanadium	460
Zinc	11 100
Mercury	6.40
Cvanide	2.60
Oyumuu	
PCBs, mg/kg	
Aroclor 1242	0.132
Aroclor 1248	0.335
Aroclor 1254	4.03
Aroclor 1260	0.170
Semivolatiles, mg/kg	
2-Methylnaphthalene	4.46
Acenaphthene	3.40
Acenaphthylene	0.90
Anthracene	9.10
Benz(a)anthracene	31
Benzo(a)pyrene	47
Naphthalene	2.60
Benzo(b)fluoranthene	72
Benzo(g,h,i)perylene	55
Benzo(k)fluoranthene	25
Benzyl Butyl Phthalate	0.311
Bis(2-ethylhexyl)phthalate	1.54
Carbazole	3.52
Chrysene	44
Dibenz(a,n)anthracene	14
	2.49
I,2,4-IIIInethylbenzene	0.00
	42
	5.00
Indeno(1,2,3-cd)pyrene	1 20
Dependence	1.29
	36
Гујене	50

## TABLE 7Maximum Detected Concentrations - SoilFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

	Maximum
	Contaminant
Analyte	Concentrations
Volatiles, mg/kg	
1,2,4-Trimethylbenzene	0.884
1,3,5-Trimethylbenzene	0.088
2-Butanone	0.091
4-Isopropyltoluene	0.053
Acetone	0.323
Benzene	0.004
Carbon Disulfide	0.007
Chlorobenzene	0.004
Ethylbenzene	0.008
Isopropylbenzene (Cumene)	0.034
m,p-Xylenes	0.035
Methylcyclohexane	0.135
Methylene chloride	0.028
Naphthalene	1.060
n-Butylbenzene	0.149
n-Propylbenzene	0.066
o-Xylene	0.005
sec-Butylbenzene	0.056
Styrene	0.017
Tetrachloroethene	0.024
Toluene	0.004
Xylenes (total)	0.018

# TABLE 8Maximum Detected Concentrations - Ground WaterFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

Analyte	Maximum Contaminant Concentrations
Metals, μg/L	
Aluminum	21400
Antimony	4.5
Arsenic	6.16
Barium	252
Cadmium	3.9
Calcium	326000
Chromium	47.3
Cobalt	7.4
Copper	49.2
Iron	21300
Lead	80.2
Magnesium	116000
Manganese	831
Nickel	22.9
Potassium	24100
Selenium	21.6
Sodium	356000
Vanadium	36.1
Zinc	293
Mercury	0.67
Volatiles, µg/L	
1,2,4-Trimethylbenzene	6.6
Benzene	0.9
Ethylbenzene	1.4
m,p-Xylenes	4.3
Toluene	1.7
Xylenes (total)	4.3

#### TABLE 9 Exposure Summary Table Former Buffalo Forge Property NYSDEC BCP Site Number C915280

Environmental Media	Point of exposure	Route of Exposure	Pathways	Receptor Population	Qualitative Assessment
soils	Direct contact	Absorption through the skin.	A	Current on site commercial, construction, and/or utility workers.	Potentially Complete. There are no current intrusive activities performed on Site with the exception of environmental investigation activities. Employees performing this sampling are required to wear PPE such as gloves, steel toed shoes, and safety glasses as routine protective measures. Employees receive hazard communication training and employees must also adhere to a Site-specific HASP that includes standard practices for the use of PPE. However, if these practices are not followed, there is the potential for dermal absorption of contaminants.
			D	Current on site potential trespassers.	Potentially Complete. Although it is known that trespassers have been on the Site, there is no information regarding the likelihood that these trespassers may touch the soil directly with their hands and/or if they may disrupt the earth and create dust emissions. As a result, these pathways will be considered potentially complete until such time that site access is restricted and/or remedial action is completed.
			Е	Future on site commercial workers.	<b>Incomplete.</b> There is a possibility that portions of the Site will be used for commercial purposes. If buildings are constructed and occupied for commercial operations, there is no reason to believe that a commercial worker will be in direct contact with any exposed soil given the future implementation of an approved Site Management Plan (SMP).
			G	Future on site construction and/or utility workers.	Potentially Complete. Construction activities will take place on Site at a later date. The exact nature of the construction activities is not currently known and workers will have to follow a SMP including a Site-specific HASP requiring various forms of PPE. However, there will be a potential for direct contact with soil for this receptor population.
			H	Future on site residents.	<b>Incomplete</b> . As a potential future use for this Site will be restricted residential, direct contact with soil is possible but is unlikely given that areas of remaining contamination (if any) will be controlled by implementation of an approved SMP. Access to remaining contamination will be restricted.
	Incidental ingestion	Incidental ingestion when touching food or hands to mouth.	В	Current on site commercial, construction, and/or utility workers.	Potentially Complete. As noted in Pathway A, on-Site workers follow a Site-specific HASP; however, if hands are not washed prior to eating or the mouth is touched with gloves, there is a potential for exposure.
			Ι	Future on site commercial workers.	Incomplete. Similar to Pathway E, given the planned implementation of an approved SMP at the Site, there is no reasonable basis to believe that a commercial worker will be in direct contact with any exposed earth whereby they may touch the soil and then their mouth.
			J	Future on site construction and/or utility workers.	Potentially Complete. Similar to the potential direct contact pathway (Pathway G), construction activities will take place on Site at a later date and there will be a potential for direct contact with soil, which may lead to incidental ingestion.
			К	Future on site residents.	Incomplete. Similar to Pathway E, given the planned use of restricted residential requiring implementation of an approved SMP, there is no reasonable basis to believe that residents may come into direct contact with remaining contamination in soil.
	Inhalation/Fugitive dust emissions	Inhalation of airborne dusts released during on site excavation and soil removal activities.	C	Current on site commercial, construction, and/or utility workers.	Potentially Complete. As noted in Pathway A, envrionmental subsurface instrusive activities are currently being performed at the Site prior to the remedial action.On-Site workers performing this work follow a Site-specific HASP and employ particulate monitoring and dust mitigation. During intrusive activities there is a possibility of creating fugitive dust through the use of drilling epuipment. As a result, this exposure pathway is considered potentially complete.
			D	Current on site potential trespassers.	Potentially Complete. Although it is known that trespassers have been on the Site, there is no information regarding the likelihood that these trespassers may touch the soil directly with their hands and/or if they may disrupt the earth and create dust emissions. As a result, these pathways will be considered to be potentially complete until such time that site access is restricted and/or remedial action is completed.
			L, N	Future on site commercial workers and residents.	<b>Incomplete.</b> Given the planned restricted use of the Site requiring implementation of an approved SMP, there is no reasonable basis to believe that commercial workers may be exposed to fugitive dust emissions generated from remaining contamination in soil.
			М	Future on site construction/utility workers.	Potentially Complete. On-Site construction/utility workers will be expected to follow an approved SMP including a Site-specific HASP, and air monitoring will be performed as part of that HASP. However, it is possible that construction/utility workers may encounter remaining contamination in soil and potentially be exposed to fugitive dust emissions at the Site.

#### TABLE 9 Exposure Summary Table Former Buffalo Forge Property NYSDEC BCP Site Number C915280

Groundwater	Direct contact	Absorption through the skin.	0	Future on site commercial, construction and/or utility workers.	Potentially Complete. Excavation and dewatering activities in the future may be performed in areas of remaining contamination depending on the level of cleanup performed. Therefore, construction and utility workers may come into contact with groundwater. There will be a Site- specific HASP recommending the use of proper PPE, and therefore the potential for significant exposure via this pathway is considered relatively low. However, the potential for direct contact of groundwater cannot be ruled out.
	Incidental ingestion	Consumption of groundwater when touching food or hands to mouth.	Ρ	Future on site commercial, construction and/or utility workers.	Potentially Complete. Excavation and dewatering activities in the future may be performed in areas of remaining contamination depending on the level of cleanup performed. Therefore, construction and utility workers may come into contact with groundwater. There will be a Site- specific HASP recommending the use of proper PPE, and therefore the potential for significant exposure via this pathway is considered relatively low. However, the potential for incidental lingestion of groundwater cannot be ruled out.
	Vapor intrusion	Inhalation of vapors outdoors or indoors within new buildings.	Q	Future construction/utility workers, commercial workers, and residents	Incomplete. Chlorinated solvents or VOCs associated with petroleum are the typical drivers of vapor intrusion evaluations in New York State. VOCs associated with chlorinated solvents or petroleum have not been detected at significant concentrations (i.e., above the Unrestricted SCOs or the ambient groundwater quality standards and guidance values) with the exception of one isolated, low-level exceedance of 1,2,4-Trimethylbenzene in one groundwater sample collected in 2012 from monitoring well TMW-07. The lack of significant concentrations of VOCs in the Site soil documented in the many environmental samples summarized in this RI Report suggests there is no significant potential for a completed vapor intrusion exposure nattway at the Site.

## Table 10Soil Data Remedial Assessment Summary - Unrestricted UseFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

	Unrestricted	Total Number of	Number of	Minimum	Maximum	
Analyte	SCOs	Samples	Exceedances	Concentration	Concentration	
Metals, mg/kg						
Aluminum	NS	139	NS	1430	32500	
Antimony	NS	139	NS	0.31	82.3	
Arsenic	13	139	19	0.965	391	
Barium	350	139	9	14.2	1210	
Beryllium	7.2	139	0	0.26	6.27	
Cadmium	2.5	139	15	0.14	92.7	
Calcium	NS	139	NS	2710	323000	
Chromium	30	139	27	4.39	3710	
Cobalt	NS	139	NS	1.2	49.7	
Copper	50	139	40	3.81	4860	
Iron	NS	139	NS	3880	308000	
Lead	63	139	67	1.51	7100	
Magnesium	NS	139	NS	861	39300	
Manganese	1,600	139	24	26.2	31800	
Nickel	30	139	19	2.9	738	
Potassium	NS	139	NS	176	4810	
Selenium	3.9	139	26	0.24	35.2	
Silver	2	139	8	0.1	9	
Sodium	NS	139	NS	7.3	914	
Thallium	NS	139	NS	0.43	12	
Vanadium	NS	139	NS	5.49	460	
Zinc	109	139	56	4.3	11100	
Mercury	0.18	139	45	0.00838	6.4	
Cyanide	27	41	0	2.6	2.6	
PCBs, mg/kg						
Aroclor 1016	0.1	129	0	ND	ND	
Aroclor 1221	0.1	129	0	ND	ND	
Aroclor 1232	0.1	129	0	ND	ND	
Aroclor 1242	0.1	129	1	0.132	0.132	
Aroclor 1248	0.1	129	2	0.013	0.335	
Aroclor 1254	0.1	129	13	0.0081	4.03	
Aroclor 1260	0.1	129	3	0.014	0.17	
Aroclor 1262	0.1	101	0	ND	ND	
Aroclor 1268	0.1	101	0	ND	ND	
	••••					
Semivolatiles, mg/kg						
1.2.4.5-Tetrachlorobenzene	NS	98	NS	ND	ND	
1.2.4-Trichlorobenzene	NS	98	NS	ND	ND	
1.2-Dichlorobenzene	NS	98	NS	ND	ND	
1.3-Dichlorobenzene	NS	98	NS	ND	ND	
1.4-Dichlorobenzene	NS	98	NS	ND	ND	
2.2-Oxybis(2-chloropropane)	NS	98	NS	ND	ND	
2.3.4.6-Tetrachlorophenol	NS	98	NS	ND	ND	
2 4 5-Trichlorophenol	NS	110	NS	ND	ND	
2 4 6-Trichlorophenol	NS	110	NS	ND	ND	
2 4-Dichlorophenol	NS	110	NS	ND	ND	
2 4-Dimethylphenol	NS	110	NS	ND	ND	
2 4-Dinitrophenol	NS	110	NS	ND	ND	
2 4-Dinitrotoluene	NS	110	NS	ND	ND	
2 6-Dinitrotoluene	NS	110	NS	ND	ND	
2-Chloronanhthalene	NS	110	NS	ND	ND	
2-Chloronbenol	NS	110	NS	ND	ND	
2-Methylpaphthalene	NS	122	NS	0.034	4.46	
2 Nitroppiling	NG	110	NS	0.054 ND		
2 Nitrophonol	NG	110	NS	ND	ND	
2-Nili ophenoi 2-2' Dichlerebenzidine	NG	110	NS	ND		
2 Nitroppiling	NG	110	NS	ND	ND	
4 Bromonhanyl Dhanyl Ethar	NO	110	NG			
4-Biomophenyi Frienyi Euler	NO	110	NG			
4-Ghiorophonyl Bhonyl Ethor	NO NC	110	NO			
	NO NO	110	NC NC			
	NS	110	GNI			
Acenaphtheles	20	120	U	0.12	3.4	
Acenaphinylene	100	126	U	0.038	0.898	
Acetophenone	NS	98	Gri			
Anthracène	100	126	U	0.11	9.1	
Atrazine	NS	98	NS 00		ND	
Benz(a)anthracene	1	126	22	0.17	31	

	Unrestricted	Total Number of	Number of	Minimum	Maximum
Analyte	SCOs	Samples	Exceedances	Concentration	Concentration
5			NO	ND	ND
Benzaldehyde	NS	98	NS	ND 0.400	ND 47
Benzo(a)pyrene Naphthalana	12	28	20	0.100	47
Repro(b)fluoranthene	12	126	20	0.09	72
Benzo(g h i)pervlene	100	126	0	0.13	55
Benzo(k)fluoranthene	0.8	126	19	0.097	25
Benzyl Butyl Phthalate	NS	110	NS	0.311	0.311
Biphenyl	NS	98	NS	ND	ND
Bis(2-Chloroethoxy)Methane	NS	110	NS	ND	ND
2,2-Oxybis(1-chloropropane)	NS	12	NS	ND	ND
Bis(2-ethylhexyl)phthalate	NS	110	NS	0.161	1.54
Caprolactam	NS	98	NS	ND	ND
Carbazole	NS	110	NS	0.169	3.52
Chrysene	1	126	23	0.177	44
Dibenz(a,h)anthracene	0.33	126	17	0.13	14
Dibenzofuran	7	110	0	0.18	2.49
Dibutyl Phthalate	NS	110	NS	ND	ND
Dichloroethyl ether	NS	110	NS	ND	ND
1,2,4-Trimethylbenzene	3.6	83	0	0.00163	0.884
Diethyl Phthalate	NS	110	NS	ND	ND
1,2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1,3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	1.8	83	0	ND	ND
DI-N-Octyl Phthalate	NS	110	NS NS	ND	ND
1,2,4-1 richlorobenzene	NS NC	12	NO NC		ND
	INS NG	12	NG		ND
Isobulario	100	12	0	0.1	42
Fluorene	30	120	0	0.1	3.8
Hexachlorobenzene	0.33	110	0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachlorocyclopentadiene	NS	110	NS	ND	ND
Hexachloroethane	NS	110	NS	ND	ND
Indeno(1.2.3-cd)pyrene	0.5	126	20	0.15	58
Isophorone	NS	98	NS	ND	ND
m-Cresol	0.33	98	0	ND	ND
Naphthalene	12	98	0	0.182	1.29
N-Nitrosodi-N-Propylamine	NS	110	NS	ND	ND
N-Nitrosodiphenylamine	NS	110	NS	ND	ND
o-Cresol	0.33	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachlorophenol	0.8	110	0	ND	ND
Phenanthrene	100	126	0	0.074	41
Phenol	0.33	110	0	ND	ND
p-Nitroaniline	NS	98	NS	ND	ND
Pyrene	100	126	0	0.085	36
Malactica and a					
volatiles, mg/kg	0.00	00	0	ND	ND
1,1,1-I richloroethane	0.68	90	U NS		
1,1,2,2-Trichloroethane	NS	96	NS	ND	ND
1,1,2-Thomoroethane	0.27	96	0	ND	ND
1 1-Dichloroethene	0.27	96	0	ND	ND
1 2 3-Trichlorobenzene	NS	83	NS	ND	ND
1 2 4-Trichlorobenzene	NS	83	NS	ND	ND
1 2 4-Trimethylbenzene	3.6	83	0	0.00163	0.884
1.2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1.2-Dichlorobenzene	1.1	83	0	ND	ND
1,2-Dichloroethane	0.02	96	0	ND	ND
1,2-Dichloropropane	NS	96	NS	ND	ND
1,3,5-Trimethylbenzene	8.4	83	0	0.00238	0.0879
1,3-Dichlorobenzene	2.4	83	0	ND	ND
1,4-Dichlorobenzene	1.8	83	0	ND	ND
1,4-Dioxane	0.1	83	0	ND	ND
2-Butanone	0.12	96	0	0.0297	0.0914
2-Hexanone	NS	96	NS	ND	ND
4-Isopropyltoluene	NS	83	NS	0.0527	0.0527
4-Methyl-2-pentanone	NS	96	NS	ND	ND
Acetone	0.05	98	6	0.01	0.323
Benzene	0.06	96	0	0.00375	0.00375
Bromodichloromethane	NS	96	NS	ND	ND
Bromotorm	NS	96	NS	ND	ND

Amelia	Unrestricted	Total Number of	Number of	Minimum	Maximum
Analyte	3005	Samples	Exceedances	Concentration	Concentration
Carbon Disulfide	NS	98	NS	0.00261	0.0072
Carbon Tetrachloride	0.76	96	0	ND	ND
Chlorobenzene	1.1	98	0	0.0028	0.0039
Chlorobromomethane	NS	83	NS	ND	ND
Chloroethane	NS	96	NS	ND	ND
Chloroform	0.37	96	0	ND	ND
cis-1,2-Dichloroethene	0.25	96	0	ND	ND
cis-1,3-Dichloropropene	NS	96	NS	ND	ND
Cyclohexane	NS	83	NS	ND	ND
Dibromochloromethane	NS	96	NS	ND	ND
Ethylbenzene	1	98	0	0.00292	0.00815
Ethylene dibromide	NS	83	NS	ND	ND
Freon 11	NS	83	NS	ND	ND
Freon 113	NS	83	NS	ND	ND
Freon 12	NS	83	NS	ND	ND
Isopropylbenzene (Cumene)	NS	83	NS	0.00311	0.0338
m,p-Xylenes	0.26	83	0	0.00197	0.0351
Methyl acetate	NS	83	NS	ND	ND
Methyl bromide	NS	96	NS	ND	ND
Methyl chloride	NS	96	NS	ND	ND
Methyl tert-butyl ether	0.93	83	0	ND	ND
Methylcyclohexane	NS	83	NS	0.00219	0.135
Methylene chloride	0.05	98	0	0.005	0.0283
Naphthalene	12	85	0	0.00636	1.06
n-Butylbenzene	12	83	0	0.00949	0.149
n-Propylbenzene	3.9	83	0	0.00533	0.0664
o-Xylene	0.26	83	0	0.00196	0.00453
sec-Butylbenzene	11	83	0	0.00421	0.0555
Styrene	NS	96	NS	0.0168	0.0168
tert-Butylbenzene	5.9	83	0	ND	ND
Tetrachloroethene	1.3	96	0	0.00245	0.0241
Toluene	0.7	98	0	0.0019	0.00438
trans-1,2-Dichloroethene	0.19	96	0	ND	ND
trans-1,3-Dichloropropene	NS	96	NS	ND	ND
Trichloroethene	0.47	96	0	ND	ND
Vinyl chloride	0.02	96	0	ND	ND
Xylenes (total)	0.26	15	0	0.005	0.018

NS = No Soil Cleanup Objective ND = Not Detected

## Table 11Soil Data Remedial Assessment Summary - Protection of GroundwaterFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

	Protection of	Total Number of	Number of	Minimum	Maximum	
Analyte	GW SCOs	Samples	Exceedances	Concentration	Concentration	
Matala malka						
Aluminum	NS	139	NS	1430	32500	
Antimony	NS	139	NS	0.31	82.3	
Arsenic	16	139	13	0.965	391	
Barium	820	139	4	14.2	1210	
Bervllium	47	139	0	0.26	6.27	
Cadmium	7.5	139	12	0.14	92.7	
Calcium	NS	139	NS	2710	323000	
Chromium	NS	139	NS	4.39	3710	
Cobalt	NS	139	NS	1.2	49.7	
Copper	1,720	139	4	3.81	4860	
Iron	NS	139	NS	3880	308000	
Lead	450	139	21	1.51	7100	
Magnesium	NS	139	NS	861	39300	
Manganese	2,000	139	19	26.2	31800	
Nickel	130	139	11	2.9	738	
Potassium	NS	139	NS	176	4810	
Selenium	4	139	25	0.24	35.2	
Silver	8.3 NC	139	I NC	0.1	9	
Thallium	NS	139	NS	0.43	12	
Vanadium	NS	139	NS	5.49	460	
Zinc	2 /80	130	5	43	11100	
Mercury	0.73	139	15	0.00838	6.4	
Cvanide	40	41	0	2.6	2.6	
PCBs, mg/kg						
Aroclor 1016	3.2	129	0	ND	ND	
Aroclor 1221	3.2	129	0	ND	ND	
Aroclor 1232	3.2	129	0	ND	ND	
Aroclor 1242	3.2	129	0	0.132	0.132	
Aroclor 1248	3.2	129	0	0.013	0.335	
Aroclor 1254	3.2	129	1	0.0081	4.03	
Aroclor 1260	3.2	129	0	0.014	0.17	
Aroclor 1262	3.2	101	0			
	3.2	101	0	ND	ND	
Semivolatiles, mg/kg						
1,2,4,5-Tetrachlorobenzene	NS	98	NS	ND	ND	
1,2,4-Trichlorobenzene	NS	98	NS	ND	ND	
1,2-Dichlorobenzene	NS	98	NS	ND	ND	
1,3-Dichlorobenzene	NS	98	NS	ND	ND	
1,4-Dichlorobenzene	NS	98	NS	ND	ND	
2,2-Oxybis(2-chloropropane)	NS	98	NS	ND	ND	
2,3,4,6-Tetrachlorophenol	NS	98	NS	ND	ND	
2,4,5-Trichlorophenol	NS	110	NS	ND	ND	
2,4,6-1 richlorophenol	NS	110	NS	ND	ND	
2,4-Dicniorophenol	NS NC	110	NO	ND		
2,4-Dimetrophonol	NS	110	NS	ND		
	NS	110	NS	ND		
2.4-Dinitrotoluene	NS	110	NS	ND	ND	
2-Chloronaphthalene	NS	110	NS	ND	ND	
2-Chlorophenol	NS	110	NS	ND	ND	
2-Methylnaphthalene	NS	122	NS	0.034	4.46	
2-Nitroaniline	NS	110	NS	ND	ND	
2-Nitrophenol	NS	110	NS	ND	ND	
3-3'-Dichlorobenzidine	NS	110	NS	ND	ND	
3-Nitroaniline	NS	110	NS	ND	ND	
4-Bromophenyl Phenyl Ether	NS	110	NS	ND	ND	
4-Chloro-3-Methylphenol	NS	110	NS	ND	ND	
4-Chlorophenyl Phenyl Ether	NS	110	NS	ND	ND	
4-Nitrophenol	NS	110	NS	ND	ND	
Acenaphthene	98	126	0	0.12	3.4	
Acenaphthylene	107	126	0	0.038	0.898	
Acetophenone	NS	98	NS	ND	ND	
Anthracene	1,000	126	0	0.11	9.1	
Atrazine	NS	98	NS	ND	ND	
Benz(a)anthracene	1	126	22	0.17	31	

	Protection of	Total Number of	Number of	Minimum	Maximum
Analyte	GW SCOs	Samples	Exceedances	Concentration	Concentration
Depredebude	NC	00	NC	ND	ND
Benzo(a)nyrene	22	126	1	0.166	ND 47
Naphthalene	12	28	0	0.09	2.6
Benzo(b)fluoranthene	1.7	126	17	0.195	72
Benzo(g,h,i)perylene	1,000	126	0	0.13	55
Benzo(k)fluoranthene	1.7	126	7	0.097	25
Benzyl Butyl Phthalate	NS	110	NS	0.311	0.311
Biphenyl	NS	98	NS	ND	ND
Bis(2-Chloroethoxy)Methane	NS	110	NS	ND	ND
2,2-Oxybis(1-chloropropane)	NS	12	NS	ND	ND
Bis(2-ethylhexyl)phthalate	NS	110	NS	0.161	1.54
Caprolactam	NS	98	NS	ND	ND
Carbazole	NS	110	NS	0.169	3.52
	1	126	23	0.177	44
Dibenz(a,n)anthracene	1,000	120	0	0.13	2 40
Dibutul Phthalate	210	110	NS		2.45 ND
	NS	110	NS	ND	ND
1 2 4-Trimethylbenzene	36	83	0	0.00163	0.884
Diethyl Phthalate	NS	110	NS	ND	ND
1.2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1.3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	1.8	83	0	ND	ND
Di-N-Octyl Phthalate	NS	110	NS	ND	ND
1,2,4-Trichlorobenzene	NS	12	NS	ND	ND
4-Nitroaniline	NS	12	NS	ND	ND
Isobutanol	NS	12	NS	ND	ND
Fluoranthene	1,000	126	0	0.1	42
Fluorene	386	126	0	0.11	3.8
Hexachlorobenzene	3.2	110	0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachlorocyclopentadiene	NS	110	NS	ND	ND
Hexachioroethane	NS	110	INS 4	ND 0.15	ND 59
Indeno(1,2,3-cd)pyrene	8.Z	08	4 NS	0.15 ND	
m-Cresol	0.33	98	0	ND	ND
Nanhthalene	12	98	0	0 182	1 29
N-Nitrosodi-N-Propylamine	NS	110	NS	ND	ND
N-Nitrosodiphenylamine	NS	110	NS	ND	ND
o-Cresol	0.33	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachlorophenol	0.8	110	0	ND	ND
Phenanthrene	1,000	126	0	0.074	41
Phenol	0.33	110	0	ND	ND
p-Nitroaniline	NS	98	NS	ND	ND
Pyrene	1,000	126	0	0.085	36
Mala (the end of the e					
Volatiles, mg/kg	0.00	00	0	ND	ND
1,1,1- I richloroethane	0.68	96	U	ND	
1,1,2,2-1 etrachioroethane	INS NS	90	NS	ND	
1,1,2-Thenioroethane	0.27	90	0	ND	
1 1-Dichloroethene	0.27	96	0	ND	ND
1 2 3-Trichlorobenzene	NS	83	NS	ND	ND
1.2.4-Trichlorobenzene	NS	83	NS	ND	ND
1.2.4-Trimethylbenzene	3.6	83	0	0.00163	0.884
1,2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1,2-Dichlorobenzene	1.1	83	0	ND	ND
1,2-Dichloroethane	0.02	96	0	ND	ND
1,2-Dichloropropane	NS	96	NS	ND	ND
1,3,5-Trimethylbenzene	8.4	83	0	0.00238	0.0879
1,3-Dichlorobenzene	2.4	83	0	ND	ND
1,4-Dichlorobenzene	1.8	83	0	ND	ND
1,4-Dioxane	0.1	83	0	ND	ND
2-Butanone	0.12	96	0	0.0297	0.0914
2-Hexanone	NS	96	NS	ND	ND
4-Isopropyitoluene	NS	83	INS NC	0.0527	0.0527
	NS 0.05	90	IND F		
Renzene	0.05	90	0	0.01	0.323
Bromodichloromethane	0.00 NIS	96	NS	ND	ND
Bromoform	NS	96	NS	ND	ND

Analyte	Protection of GW SCOs	Total Number of Samples	Number of Exceedances	Minimum Concentration	Maximum Concentration
		_			
Carbon Disulfide	NS	98	NS	0.00261	0.0072
Carbon Tetrachloride	0.76	96	0	ND	ND
Chlorobenzene	1.1	98	0	0.0028	0.0039
Chlorobromomethane	NS	83	NS	ND	ND
Chloroethane	NS	96	NS	ND	ND
Chloroform	0.37	96	0	ND	ND
cis-1,2-Dichloroethene	0.25	96	0	ND	ND
cis-1,3-Dichloropropene	NS	96	NS	ND	ND
Cyclohexane	NS	83	NS	ND	ND
Dibromochloromethane	NS	96	NS	ND	ND
Ethylbenzene	1	98	0	0.00292	0.00815
Ethylene dibromide	NS	83	NS	ND	ND
Freon 11	NS	83	NS	ND	ND
Freon 113	NS	83	NS	ND	ND
Freon 12	NS	83	NS	ND	ND
Isopropylbenzene (Cumene)	NS	83	NS	0.00311	0.0338
m,p-Xylenes	1.6	83	0	0.00197	0.0351
Methyl acetate	NS	83	NS	ND	ND
Methyl bromide	NS	96	NS	ND	ND
Methyl chloride	NS	96	NS	ND	ND
Methyl tert-butyl ether	0.93	83	0	ND	ND
Methylcyclohexane	NS	83	NS	0.00219	0.135
Methylene chloride	0.05	98	0	0.005	0.0283
Naphthalene	12	85	0	0.00636	1.06
n-Butylbenzene	12	83	0	0.00949	0.149
n-Propylbenzene	3.9	83	0	0.00533	0.0664
o-Xvlene	1.6	83	0	0.00196	0.00453
sec-Butylbenzene	11	83	0	0.00421	0.0555
Styrene	NS	96	NS	0.0168	0.0168
tert-Butvlbenzene	5.9	83	0	ND	ND
Tetrachloroethene	1.3	96	0	0.00245	0.0241
Toluene	0.7	98	0	0.0019	0.00438
trans-1.2-Dichloroethene	0.19	96	0	ND	ND
trans-1 3-Dichloropropene	NS	96	NS	ND	ND
Trichloroethene	0.47	96	0	ND	ND
Vinvl chloride	0.02	96	0	ND	ND
Xylenes (total)	1.6	15	õ	0.005	0.018

NS = No Soil Cleanup Objective ND = Not Detected

## Table 12Soil Data Remedial Assessment Summary - ResidentialFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 3RRES	Samples	Exceedances	Concentration	Concentration
Metals, mg/kg					
Aluminum	NS	139	NS	1430	32500
Antimony	NS	139	NS	0.31	82.3
Arsenic	16	139	13	0.965	391
Barium	350	139	9	14.2	1210
Beryllium	14	139	0	0.26	6.27
Cadmium	2.5	139	15	0.14	92.7
Calcium	NS	139	NS	2710	323000
Chromium	36	139	25	4.39	3710
Cobalt	NS	139	NS	1.2	49.7
Copper	270	139	13	3.81	4860
Iron	NS	139	NS	3880	308000
Lead	400	139	24	1.51	7100
Magnesium	NS	139	NS	861	39300
Manganese	2,000	139	19	26.2	31800
Nickel	140	139	11	2.9	738
Potassium	NS	139	NS	176	4810
Selenium	36	139	0	0.24	35.2
Silver	36	139	0	0.1	9
Sodium	NS	139	NS	7.3	914
Thallium	NS	139	NS	0.43	12
Vanadium	NS	139	NS	5.49	460
Zinc	2.200	139	6	4.3	11100
Mercury	0.81	139	13	0.00838	6.4
Cvanide	27	41	0	2.6	2.6
PCBs. ma/ka					
Aroclor 1016	1	129	0	ND	ND
Aroclor 1221	1	129	0	ND	ND
Aroclor 1232	1	129	0	ND	ND
Aroclor 1242	1	129	0	0.132	0.132
Aroclor 1242	1	120	0	0.102	0.335
Arodor 1254	1	120	2	0.013	4.03
Arodor 1260	1	120	2	0.0001	0.17
Arodor 1260	1	123	0	0.014 ND	
Aroclor 1262	1	101	0	ND	
AIOCIOI 1208	I	101	0	ND	ND
Semivolatiles ma/ka					
1.2.4.5-Tetrachlorobenzene	NS	98	NS	ND	ND
	NS	08	NS	ND	ND
	NS	08	NS	ND	ND
	NS	08	NS	ND	ND
	NO NC	30	NG	ND	
2.2 Ownia (2. chloropropona)	NO NC	30	NG	ND	
2,2-Oxybis(2-chlorophonal	ING NC	90	NG		
	NO NC	110	NG	ND	
2,4,5-Inchiorophenoi	NS NC	110	NO	ND	
2,4,0- Inchiorophenoi	NS NC	110	NO	ND	
2,4-Dichlorophenol	NS NC	110	NO	ND	ND
2,4-Dimethylphenol	NS NC	110	NO	ND	
2,4-Dinitrophenol	NS NO	110	NS NC	ND	ND
2,4-Dinitrotoluene	NS NO	110	NS NC	ND	ND
2,6-Dinitrotoluene	NS	110	NS NC	ND	ND
2-Chioronaphthalene	NS	110	NS	ND	ND
2-Chlorophenol	NS	110	NS	ND	ND
2-Methylnaphthalene	NS	122	NS	0.034	4.46
2-Nitroaniline	NS	110	NS	ND	ND
2-Nitrophenol	NS	110	NS	ND	ND
3-3'-Dichlorobenzidine	NS	110	NS	ND	ND
3-Nitroaniline	NS	110	NS	ND	ND
4-Bromophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Chloro-3-Methylphenol	NS	110	NS	ND	ND
4-Chlorophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Nitrophenol	NS	110	NS	ND	ND
Acenaphthene	100	126	0	0.12	3.4
Acenaphthylene	100	126	0	0.038	0.898
Acetophenone	NS	98	NS	ND	ND
Anthracene	100	126	0	0.11	9.1
Atrazine	NS	98	NS	ND	ND
Benz(a)anthracene	1	126	22	0.17	31

Analysis		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 3RRES	Samples	Exceedances	Concentration	Concentration
Benzaldehvde	NS	98	NS	ND	ND
Benzo(a)pyrene	1	126	20	0.166	47
Naphthalene	100	28	0	0.09	2.6
Benzo(b)fluoranthene	1	126	20	0.195	72
Benzo(g,h,i)perylene	100	126	0	0.13	55
Benzo(k)fluoranthene	1	126	15 NC	0.097	25
Benzyi Butyi Phthalate Biphenyi	NS	98	NS NS	0.311 ND	0.311 ND
Bis(2-Chloroethoxy)Methane	NS	110	NS	ND	ND
2.2-Oxybis(1-chloropropane)	NS	12	NS	ND	ND
Bis(2-ethylhexyl)phthalate	NS	110	NS	0.161	1.54
Caprolactam	NS	98	NS	ND	ND
Carbazole	NS	110	NS	0.169	3.52
Chrysene	1	126	23	0.177	44
Dibenz(a,h)anthracene	0.33	126	17	0.13	14
Dibenzoturan	14	110	0	0.18	2.49
Dibutyi Phthalate	NS NS	110	NS NS		
1 2 4-Trimethylbenzene	47	83	0	0.00163	0.884
Diethyl Phthalate	NS	110	NS	ND	ND
1,2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1,3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	9.8	83	0	ND	ND
Di-N-Octyl Phthalate	NS	110	NS	ND	ND
1,2,4-1 richlorobenzene	NS NS	12	NS NS		
4-Niti da nili ne Isobutanol	NS	12	NS	ND	ND
Fluoranthene	100	126	0	0.1	42
Fluorene	100	126	0	0.11	3.8
Hexachlorobenzene	0.33	110	0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachlorocyclopentadiene	NS	110	NS	ND	ND
Hexachloroethane	NS	110	NS	ND	ND
Indeno(1,2,3-cd)pyrene	0.5	126	20	0.15	58
Isophorone	NS	98	INS 0		
Naphthalana	100	90	0	0.182	1 29
N-Nitrosodi-N-Propylamine	NS	110	NS	ND	ND
N-Nitrosodiphenylamine	NS	110	NS	ND	ND
o-Cresol	100	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachlorophenol	2.4	110	0	ND	ND
Phenanthrene	100	126	0	0.074	41
Phenol	100	110	0	ND	ND
p-Nitroaniline Byrene	NS 100	90 126	0	0.085	36
Fylene	100	120	0	0.005	50
Volatiles, mg/kg					
1,1,1-Trichloroethane	100	96	0	ND	ND
1,1,2,2-Tetrachloroethane	NS	96	NS	ND	ND
1,1,2-Trichloroethane	NS	96	NS	ND	ND
1,1-Dichloroethane	19	96	0	ND	ND
1,1-Dichloroethene	100	96	0	ND	ND
1,2,3- I richlorobenzene	NS	83	NS	ND	
1,2,4-Trimethylbenzene	47	83	0	0.00163	0.884
1 2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1.2-Dichlorobenzene	100	83	0	ND	ND
1,2-Dichloroethane	2.3	96	0	ND	ND
1,2-Dichloropropane	NS	96	NS	ND	ND
1,3,5-Trimethylbenzene	47	83	0	0.00238	0.0879
1,3-Dichlorobenzene	17	83	0	ND	ND
1,4-Dichlorobenzene	9.8	83	0	ND	ND
1,4-Dioxane	9.8	83	U	ND 0.0207	ND
	100	96 90	U NG	0.0297 ND	0.0914 ND
4-Isopropyltoluene	NS NS	83	NS	0.0527	0.0527
4-Methyl-2-pentanone	NS	96	NS	ND	ND
Acetone	100	98	0	0.01	0.323
Benzene	2.9	96	0	0.00375	0.00375
Bromodichloromethane	NS	96	NS	ND	ND
Bromoform	NS	96	NS	ND	ND

Total Number of Minimum	Maximum
Analyte NY375 3RRES Samples Exceedances Concentration	Concentration
Carbon Disulfide NS 98 NS 0.00261	0.0072
Carbon Tetrachloride 1.4 96 0 ND	ND
Chlorobenzene 100 98 0 0.0028	0.0039
Chlorobromomethane NS 83 NS ND	ND
Chloroethane NS 96 NS ND	ND
Chloroform 10 96 0 ND	ND
cis-1,2-Dichloroethene 59 96 0 ND	ND
cis-1,3-Dichloropropene NS 96 NS ND	ND
Cyclohexane NS 83 NS ND	ND
Dibromochloromethane NS 96 NS ND	ND
Ethylbenzene 30 98 0 0.00292	0.00815
Ethylene dibromide NS 83 NS ND	ND
Freon 11 NS 83 NS ND	ND
Freon 113 NS 83 NS ND	ND
Freon 12 NS 83 NS ND	ND
Isopropylbenzene (Cumene) NS 83 NS 0.00311	0.0338
m,p-Xylenes 100 83 0 0.00197	0.0351
Methyl acetate NS 83 NS ND	ND
Methyl bromide NS 96 NS ND	ND
Methyl chloride NS 96 NS ND	ND
Methyl tert-butyl ether 62 83 0 ND	ND
Methylcyclohexane NS 83 NS 0.00219	0.135
Methylene chloride 51 98 0 0.005	0.0283
Naphthalene 100 85 0 0.00636	1.06
n-Butylbenzene 100 83 0 0.00949	0.149
n-Propylbenzene 100 83 0 0.00533	0.0664
o-Xylene 100 83 0 0.00196	0.00453
sec-Butylbenzene 100 83 0 0.00421	0.0555
Styrene         NS         96         NS         0.0168	0.0168
tert-Butylbenzene 100 83 0 ND	ND
Tetrachloroethene         5.5         96         0         0.00245	0.0241
Toluene 100 98 0 0.0019	0.00438
trans-1,2-Dichloroethene 100 96 0 ND	ND
trans-1,3-Dichloropropene NS 96 NS ND	ND
Trichloroethene 10 96 0 ND	ND
Vinyl chloride 0.21 96 0 ND	ND
	ND

NS = No Soil Cleanup Objective ND = Not Detected

## Table 13Soil Data Remedial Assessment Summary - Restricted ResidentialFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

	Restricted	Total Number of	Number of	Minimum	Maximum
Analyte	Residential	Samples	Exceedances	Concentration	Concentration
		_			
Metals, mg/kg					
Aluminum	NS	139	NS	1430	32500
Antimony	NS	139	NS	0.31	82.3
Arsenic	16	139	13	0.965	391
Barium	400	139	7	14.2	1210
Beryllium	72	139	0	0.26	6.27
Cadmium	4.3	139	13	0.14	92.7
Calcium	NS	139	NS	2710	323000
Chromium	180	139	19	4.39	3710
Cobalt	NS	139	NS	1.2	49.7
Copper	270	139	13	3.81	4860
Iron	NS	139	NS	3880	308000
Lood	400	130	24	1 51	7100
Magaza	400	133	24	1.51	20200
Magnesium	INS 0.000	139	10	001	39300
Manganese	2,000	139	19	26.2	31800
Nickel	310	139	5	2.9	738
Potassium	NS	139	NS	176	4810
Selenium	180	139	0	0.24	35.2
Silver	180	139	0	0.1	9
Sodium	NS	139	NS	7.3	914
Thallium	NS	139	NS	0.43	12
Vanadium	NS	139	NS	5.49	460
Zinc	10.000	139	1	4.3	11100
Mercury	0.81	139	13	0.00838	6.4
Cvanide	27	41	0	2.6	2.6
o yumuo	21		0	2.0	2.0
PCBs malka					
Arador 1016	1	120	0	ND	ND
	1	129	0	ND	ND
	1	129	0	ND	ND
Aroclor 1232	1	129	0	ND	ND
Aroclor 1242	1	129	0	0.132	0.132
Aroclor 1248	1	129	0	0.013	0.335
Aroclor 1254	1	129	2	0.0081	4.03
Aroclor 1260	1	129	0	0.014	0.17
Aroclor 1262	1	101	0	ND	ND
Aroclor 1268	1	101	0	ND	ND
Semivolatiles, mg/kg					
1,2,4,5-Tetrachlorobenzene	NS	98	NS	ND	ND
1,2,4-Trichlorobenzene	NS	98	NS	ND	ND
1,2-Dichlorobenzene	NS	98	NS	ND	ND
1.3-Dichlorobenzene	NS	98	NS	ND	ND
1.4-Dichlorobenzene	NS	98	NS	ND	ND
2 2-Oxybis(2-chloropropane)	NS	98	NS	ND	ND
2 3 4 6-Tetrachlorophenol	NS	98	NS	ND	ND
2 4 5-Trichlorophenol	NS	110	NS	ND	ND
2.4.6-Trichlorophenol	NS	110	NS	ND	ND
2.4 Dichlerenhonel	NS	110	NS	ND	ND
2.4 Dimethylphanol	NO	110	NS	ND	ND
	NO	110	NO	ND	ND
	NS NS	110	NS NO	ND	ND
2,4-Dinitrotoluene	NS	110	NS NS	ND	ND
2,6-Dinitrotoluene	NS	110	NS	ND	ND
2-Chloronaphthalene	NS	110	NS	ND	ND
2-Chlorophenol	NS	110	NS	ND	ND
2-Methylnaphthalene	NS	122	NS	0.034	4.46
2-Nitroaniline	NS	110	NS	ND	ND
2-Nitrophenol	NS	110	NS	ND	ND
3-3'-Dichlorobenzidine	NS	110	NS	ND	ND
3-Nitroaniline	NS	110	NS	ND	ND
4-Bromophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Chloro-3-Methylphenol	NS	110	NS	ND	ND
4-Chlorophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Nitrophenol	NS	110	NS	ND	ND
	100	126	0	0.12	3.4
Aconaphthylene	100	126	0	0.028	0 808
Acetaphanana	100	00	NS	0.030	0.090
Action	GNI	30	Gri		
Anunacene	100	120	U	0.11	9.1
Atrazine	NS	98	NS	ND	ND
Benz(a)anthracene	1	126	22	0.17	31

Analyte	Restricted Residential	Total Number of Samples	Number of Exceedances	Minimum Concentration	Maximum Concentration
		_			
Benzaldehyde	NS	98	NS	ND	ND
Benzo(a)pyrene	1	126	20	0.166	47
Renzo(b)fluoranthene	100	126	20	0.09	72
Benzo(g.h.i)pervlene	100	126	0	0.13	55
Benzo(k)fluoranthene	3.9	126	5	0.097	25
Benzyl Butyl Phthalate	NS	110	NS	0.311	0.311
Biphenyl	NS	98	NS	ND	ND
Bis(2-Chloroethoxy)Methane	NS	110	NS	ND	ND
2,2-Oxybis(1-chloropropane)	NS	12	NS	ND 0.461	ND
Caprolactam	NS	98	NS	ND	1.54 ND
Carbazole	NS	110	NS	0.169	3.52
Chrysene	3.9	126	8	0.177	44
Dibenz(a,h)anthracene	0.33	126	17	0.13	14
Dibenzofuran	59	110	0	0.18	2.49
Dibutyl Phthalate	NS	110	NS	ND	ND
Dichloroethyl ether	NS	110	NS	ND 0.00102	ND
1,2,4- I rimetnyibenzene Diethyl Phthalate	52 NS	83	NS	0.00163 ND	0.884 ND
1 2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1,3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	13	83	0	ND	ND
Di-N-Octyl Phthalate	NS	110	NS	ND	ND
1,2,4- I richlorobenzene	NS	12	NS		ND
	NS	12	NS	ND	ND
Fluoranthene	100	126	0	0.1	42
Fluorene	100	126	0	0.11	3.8
Hexachlorobenzene	1.2	110	0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachlorocyclopentadiene	NS	110	NS	ND	ND
Hexachloroethane	NS	110	NS	ND 0.45	ND
Indeno(1,2,3-cd)pyrene	0.5	120	20 NS	0.15	58 010
m-Cresol	100	98	0	ND	ND
Naphthalene	100	98	0	0.182	1.29
N-Nitrosodi-N-Propylamine	NS	110	NS	ND	ND
N-Nitrosodiphenylamine	NS	110	NS	ND	ND
o-Cresol	100	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachlorophenol	6.7	110	0	ND 0.074	ND 41
Phenal	100	120	0	0.074 ND	ND
p-Nitroaniline	NS	98	NS	ND	ND
Pyrene	100	126	0	0.085	36
Volatiles, mg/kg					
1,1,1-Trichloroethane	100	96	0	ND	ND
1,1,2,2-1 etrachioroethane	NS NS	96	NS	ND	ND
1 1-Dichloroethane	26	96	0	ND	ND
1.1-Dichloroethene	100	96	0	ND	ND
1,2,3-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trimethylbenzene	52	83	0	0.00163	0.884
1,2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1,2-Dichloropenzene	100	83	0		ND
1,2-Dichloropropage	3.1 NS	96	NS	ND	ND
1.3.5-Trimethylbenzene	52	83	0	0.00238	0.0879
1,3-Dichlorobenzene	49	83	0	ND	ND
1,4-Dichlorobenzene	13	83	0	ND	ND
1,4-Dioxane	13	83	0	ND	ND
2-Butanone	100	96	0	0.0297	0.0914
2-Hexanone	NS	96	NS	ND	ND
4-Isopropyltoluene	NS	83	NS	0.0527	0.0527
	NS 100	ar ar	Gri		NU 0 323
Benzene	4.8	96	0	0.00375	0.00375
Bromodichloromethane	NS	96	NS	ND	ND
Bromoform	NS	96	NS	ND	ND

	Restricted	Total Number of	Number of	Minimum	Maximum
Analyte	Residential	Samples	Exceedances	Concentration	Concentration
Corbon Disulfida	NC	08	NC	0.00261	0.0072
	INS 0.4	90	0	0.00201	0.0072
Carbon Tetrachioride	2.4	90	0		0.0020
Chlorobenzene	100	90		0.0020	0.0039
Chlorobromometnane	NS	83	NS NO	ND	ND
Chloroethane	NS	96	NS	ND	ND
Chloroform	49	96	0	ND	ND
cis-1,2-Dichloroethene	100	96	0	ND	ND
cis-1,3-Dichloropropene	NS	96	NS	ND	ND
Cyclohexane	NS	83	NS	ND	ND
Dibromochloromethane	NS	96	NS	ND	ND
Ethylbenzene	41	98	0	0.00292	0.00815
Ethylene dibromide	NS	83	NS	ND	ND
Freon 11	NS	83	NS	ND	ND
Freon 113	NS	83	NS	ND	ND
Freon 12	NS	83	NS	ND	ND
Isopropylbenzene (Cumene)	NS	83	NS	0.00311	0.0338
m,p-Xylenes	100	83	0	0.00197	0.0351
Methyl acetate	NS	83	NS	ND	ND
Methyl bromide	NS	96	NS	ND	ND
Methyl chloride	NS	96	NS	ND	ND
Methyl tert-butyl ether	100	83	0	ND	ND
Methylcyclohexane	NS	83	NS	0.00219	0.135
Methylene chloride	100	98	0	0.005	0.0283
Naphthalene	100	85	0	0.00636	1.06
n-Butylbenzene	100	83	0	0.00949	0.149
n-Propylbenzene	100	83	0	0.00533	0.0664
o-Xylene	100	83	0	0.00196	0.00453
sec-Butylbenzene	100	83	0	0.00421	0.0555
Styrene	NS	96	NS	0.0168	0.0168
tert-Butvlbenzene	100	83	0	ND	ND
Tetrachloroethene	19	96	0	0.00245	0.0241
Toluene	100	98	0	0.0019	0.00438
trans-1.2-Dichloroethene	100	96	0	ND	ND
trans-1 3-Dichloropropene	NS	96	NS	ND	ND
Trichloroethene	21	96	0	ND	ND
Vinvl chloride	0.9	96	õ	ND	ND
Xylenes (total)	100	15	õ	0.005	0.018
Aylones (total)	100	10	v	0.000	0.010

NS = No Soil Cleanup Objective ND = Not Detected

## Table 14Soil Data Remedial Assessment Summary - CommercialFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 5RCOMM	Samples	Exceedances	Concentration	Concentration
Metals, mg/kg					
Aluminum	NS	139	NS	1430	32500
Antimony	NS	139	NS	0.31	82.3
Arsenic	16	139	13	0.965	391
Barium	400	139	7	14.2	1210
Beryllium	590	139	0	0.26	6.27
Cadmium	9.3	139	11	0.14	92.7
Calcium	NS	139	NS	2710	323000
Chromium	1,500	139	1	4.39	3710
Cobalt	NS	139	NS	1.2	49.7
Copper	270	139	13	3.81	4860
Iron	NS	139	NS	3880	308000
Lead	1.000	139	9	1.51	7100
Magnesium	NS	139	NS	861	39300
Manganese	10 000	139	8	26.2	31800
Nickel	310	139	5	2.9	738
Potassium	NS	139	NS	176	4810
Selenium	1 500	130	0	0.24	35.2
Selenium	1,500	139	0	0.24	35.2
Silver	1,500	139		0.1	9
Sodium	NS	139	NS NO	7.3	914
Ihallium	NS	139	NS	0.43	12
Vanadium	NS	139	NS	5.49	460
Zinc	10,000	139	1	4.3	11100
Mercury	2.8	139	2	0.00838	6.4
Cyanide	27	41	0	2.6	2.6
PCBs, mg/kg					
Aroclor 1016	1	129	0	ND	ND
Aroclor 1221	1	129	0	ND	ND
Aroclor 1232	1	129	0	ND	ND
Aroclor 1242	1	129	0	0.132	0.132
Aroclor 1248	1	129	0	0.013	0.335
Aroclor 1254	1	129	2	0.0081	4.03
Aroclor 1260	1	129	0	0.014	0.17
Aroclor 1262	1	101	0	ND	ND
Aroclar 1262	1	101	0	ND	ND
			0	112	
Semivolatiles, mg/kg					
1 2 4 5-Tetrachlorobenzene	NS	98	NS	ND	ND
1.2.4-Trichlorobenzene	NS	98	NS	ND	ND
1.2-Dichlorobenzene	NS	98	NS	ND	ND
	NO	00	NC	ND	ND
	INS NC	90	NO		
1,4-Dichlorobenzene	NS NO	90	NO NO	ND	ND
2,2-Oxybis(2-chioropropane)	NS	98	NS NC	ND	ND
2,3,4,6-1 etrachiorophenol	NS	98	NS NS	ND	ND
2,4,5-Irichlorophenol	NS	110	NS	ND	ND
2,4,6-Trichlorophenol	NS	110	NS	ND	ND
2,4-Dichlorophenol	NS	110	NS	ND	ND
2,4-Dimethylphenol	NS	110	NS	ND	ND
2,4-Dinitrophenol	NS	110	NS	ND	ND
2,4-Dinitrotoluene	NS	110	NS	ND	ND
2,6-Dinitrotoluene	NS	110	NS	ND	ND
2-Chloronaphthalene	NS	110	NS	ND	ND
2-Chlorophenol	NS	110	NS	ND	ND
2-Methylnaphthalene	NS	122	NS	0.034	4.46
2-Nitroaniline	NS	110	NS	ND	ND
2-Nitrophenol	NS	110	NS	ND	ND
3-3'-Dichlorobenzidine	NS	110	NS	ND	ND
3-Nitroaniline	NS	110	NS	ND	ND
4-Bromophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Chloro-3-Methylphenol	NS	110	NS	ND	ND
4-Chlorophanyl Phanyl Ether	NG	110	NS	ND	
	NO	110	NS		
	110	100	0	0.40	
Acenapilliene	500	120	0	0.12	0.000
Acenaphinylene	500	126	U	0.038	0.898
Acetopnenone	NS	98	INS C		
Anthracene	500	126	0	0.11	9.1
Atrazine	NS	98	NS	ND	ND
Benz(a)anthracene	5.6	126	5	0.17	31

Analyte	NY375 5RCOMM	Total Number of Samples	Number of Exceedances	Minimum Concentration	Maximum Concentration
		-			
Benzaldehyde	NS	98	NS	ND	ND
Benzo(a)pyrene	1	126	20	0.166	47
	500	28	0	0.09	2.0
Benzo(b)fluoranthene	5.6	126	6	0.195	12
Benzo(g,n,i)perylene	500	120	0	0.13	25 25
Benzul Rutul Phthalate	NS	110	NS	0.037	0.311
Binhenvl	NS	98	NS	ND	ND
Bis(2-Chloroethoxy)Methane	NS	110	NS	ND	ND
2 2-Oxybis(1-chloropropane)	NS	12	NS	ND	ND
Bis(2-ethylhexyl)phthalate	NS	110	NS	0.161	1.54
Caprolactam	NS	98	NS	ND	ND
Carbazole	NS	110	NS	0.169	3.52
Chrysene	56	126	0	0.177	44
Dibenz(a,h)anthracene	0.56	126	10	0.13	14
Dibenzofuran	350	110	0	0.18	2.49
Dibutyl Phthalate	NS	110	NS	ND	ND
Dichloroethyl ether	NS	110	NS	ND	ND
1,2,4-Trimethylbenzene	190	83	0	0.00163	0.884
Diethyl Phthalate	NS	110	NS	ND	ND
1,2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1,3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	130	83	U	ND	ND
DI-IN-Octyl Phinalate	NS	110	NS NS		ND
	NS	12	NS	ND	ND
	NS	12	NS	ND	ND
Fluoranthene	500	126	0	0.1	42
Fluorene	500	126	0	0.11	3.8
Hexachlorobenzene	6	110	0 0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachlorocyclopentadiene	NS	110	NS	ND	ND
Hexachloroethane	NS	110	NS	ND	ND
Indeno(1,2,3-cd)pyrene	5.6	126	5	0.15	58
Isophorone	NS	98	NS	ND	ND
m-Cresol	500	98	0	ND	ND
Naphthalene	500	98	0	0.182	1.29
N-Nitrosodi-N-Propylamine	NS	110	NS	ND	ND
N-Nitrosodiphenylamine	NS	110	NS	ND	ND
o-Cresol	500	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachiorophenoi	6.7	110	0	0.074	ND 41
Phenal	500	120	0	0.074 ND	41 ND
n-Nitroaniline	NS	98	NS	ND	ND
Pyrene	500	126	0	0.085	36
1 yrono	000	.20	Ū.	0.000	
Volatiles, mg/kg					
1,1,1-Trichloroethane	500	96	0	ND	ND
1,1,2,2-Tetrachloroethane	NS	96	NS	ND	ND
1,1,2-Trichloroethane	NS	96	NS	ND	ND
1,1-Dichloroethane	240	96	0	ND	ND
1,1-Dichloroethene	500	96	0	ND	ND
1,2,3-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trimethylbenzene	190	83	0	0.00163	0.884
1,2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1,2-Dichlorobenzene	500	83	0		ND
1,2-Dichloropropago	30 NS	90	NS		ND
1.3.5-Trimethylbenzene	100	83	0	0.00238	0.0879
1.3-Dichlorobenzene	280	83	0	ND	ND
1.4-Dichlorobenzene	130	83	0	ND	ND
1.4-Dioxane	130	83	0	ND	ND
2-Butanone	500	96	0	0.0297	0.0914
2-Hexanone	NS	96	NS	ND	ND
4-Isopropyltoluene	NS	83	NS	0.0527	0.0527
4-Methyl-2-pentanone	NS	96	NS	ND	ND
Acetone	500	98	0	0.01	0.323
Benzene	44	96	0	0.00375	0.00375
Bromodichloromethane	NS	96	NS	ND	ND
Bromoform	NS	96	NS	ND	ND

		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 5RCOMM	Samples	Exceedances	Concentration	Concentration
Carbon Disulfide	NS	98	NS	0 00261	0 0072
Carbon Tetrachloride	22	96	0	ND	ND
Chlorobenzene	500	98	Ő	0.0028	0.0039
Chlorobromomethane	NS	83	NS	ND	ND
Chloroethane	NS	96	NS	ND	ND
Chloroform	350	96	0	ND	ND
cis-1 2-Dichloroethene	500	96	Õ	ND	ND
cis-1 3-Dichloropropene	NS	96	NS	ND	ND
Cyclobexane	NS	83	NS	ND	ND
Dibromochloromethane	NS	96	NS	ND	ND
Ethylbenzene	390	98	0	0.00292	0.00815
Ethylene dibromide	NS	83	NS	ND	ND
Erron 11	NS	83	NS	ND	ND
Freen 113	NS	83	NS	ND	ND
Freen 12	NS	83	NS	ND	ND
Isopropylbenzene (Cumene)	NS	83	NS	0.00311	0.0338
m p-Xylenes	500	83	0	0.00197	0.0351
Methyl acetate	NS	83	NS	ND	ND
Methyl bromide	NS	96	NS	ND	ND
Methyl chloride	NS	96	NS	ND	ND
Methyl tert-butyl ether	500	83	0	ND	ND
Methylcvclohexane	NS	83	NS	0.00219	0.135
Methylene chloride	500	98	0	0.005	0.0283
Naphthalene	500	85	0	0.00636	1.06
n-Butvlbenzene	500	83	0	0.00949	0.149
n-Propylbenzene	500	83	0	0.00533	0.0664
o-Xvlene	500	83	0	0.00196	0.00453
sec-Butylbenzene	500	83	0	0.00421	0.0555
Styrene	NS	96	NS	0.0168	0.0168
tert-Butvlbenzene	500	83	0	ND	ND
Tetrachloroethene	150	96	0	0.00245	0.0241
Toluene	500	98	0	0.0019	0.00438
trans-1,2-Dichloroethene	500	96	0	ND	ND
trans-1,3-Dichloropropene	NS	96	NS	ND	ND
Trichloroethene	200	96	0	ND	ND
Vinyl chloride	13	96	0	ND	ND
Xylenes (total)	500	15	0	0.005	0.018

NS = No Soil Cleanup Objective ND = Not Detected

## Table 15Soil Data Remedial Assessment Summary - IndustrialFormer Buffalo Forge PropertyNYSDEC BCP Site Number C915280

		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 6RINDU	Samples	Exceedances	Concentration	Concentration
Metals, mg/kg					
Aluminum	NS	139	NS	1430	32500
Antimony	NS	139	12	0.31	82.3
Arsenic	10 000	139	13	0.965	1210
Bandlium	2 700	139	0	0.26	6.27
Cadmium	2,700	139	1	0.20	92.7
Calcium	NS	139	NS	2710	323000
Chromium	6 800	139	0	4 39	3710
Cobalt	NS	139	NS	1.00	49.7
Copper	10 000	139	0	3.81	4860
Iron	NS	139	NS	3880	308000
Lead	3.900	139	2	1.51	7100
Magnesium	NS	139	NS	861	39300
Manganese	10.000	139	8	26.2	31800
Nickel	10,000	139	0	2.9	738
Potassium	NS	139	NS	176	4810
Selenium	6,800	139	0	0.24	35.2
Silver	6,800	139	0	0.1	9
Sodium	NS	139	NS	7.3	914
Thallium	NS	139	NS	0.43	12
Vanadium	NS	139	NS	5.49	460
Zinc	10,000	139	1	4.3	11100
Mercury	5.7	139	1	0.00838	6.4
Cyanide	10,000	41	0	2.6	2.6
PCBs, mg/kg		400	0		ND
Aroclor 1016	25	129	0	ND	ND
Aroclor 1221	25	129	0	ND	ND
Aroclor 1232	25	129	0	ND 0.422	ND
Aroclor 1242	25	129	0	0.132	0.132
Aroclor 1246	20	129	0	0.013	0.335
Aroclor 1254	25	129	0	0.0001	4.03
Aroclar 1260	25	101	0	0.014 ND	ND
Aroclar 1262	25	101	0	ND	ND
	20		0		
Semivolatiles, mg/kg					
1,2,4,5-Tetrachlorobenzene	NS	98	NS	ND	ND
1,2,4-Trichlorobenzene	NS	98	NS	ND	ND
1,2-Dichlorobenzene	NS	98	NS	ND	ND
1,3-Dichlorobenzene	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	98	NS	ND	ND
2,2-Oxybis(2-chloropropane)	NS	98	NS	ND	ND
2,3,4,6-Tetrachlorophenol	NS	98	NS	ND	ND
2,4,5-Trichlorophenol	NS	110	NS	ND	ND
2,4,6-Trichlorophenol	NS	110	NS	ND	ND
2,4-Dichlorophenol	NS	110	NS	ND	ND
2,4-Dimethylphenol	NS NC	110	NO	ND	ND
2,4-Dinitrophenol	ING NC	110	NG		ND
2,4-Dinitrotoluono	INS NC	110	NS	ND	ND
2,0-Dinitiolouene	NS NS	110	NS		ND
2-Chlorophenol	NS	110	NS	ND	ND
2-Methylnanhthalene	NS	122	NS	0.034	4 46
2-Nitroaniline	NS	110	NS	ND	ND
2-Nitrophenol	NS	110	NS	ND	ND
3-3'-Dichlorobenzidine	NS	110	NS	ND	ND
3-Nitroaniline	NS	110	NS	ND	ND
4-Bromophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Chloro-3-Methylphenol	NS	110	NS	ND	ND
4-Chlorophenyl Phenyl Ether	NS	110	NS	ND	ND
4-Nitrophenol	NS	110	NS	ND	ND
Acenaphthene	1,000	126	0	0.12	3.4
Acenaphthylene	1,000	126	0	0.038	0.898
Acetophenone	NS	98	NS	ND	ND
Anthracene	1,000	126	0	0.11	9.1
Atrazine	NS	98	NS	ND	ND
Benz(a)anthracene	11	126	3	0.17	31
Analyte	NY375 6RINDU	Total Number of Samples	Number of Exceedances	Minimum Concentration	Maximum Concentration
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		-			
Benzaldehyde	NS	98	NS	ND	ND
Benzo(a)pyrene	1.1	126	19	0.166	47
Naphthalene	1,000	28	0	0.09	2.6
Benzo(b)fluoranthene	11	126	5	0.195	72
Benzo(g,n,i)perviene	1,000	120	0	0.13	55
Benzo(K)nuorantnene	110	120	U NG	0.097	20
Binhonyl	NS NS	98	NS	ND	
Biplienyi Bis(2-Chloroethovy)Methane	NS	110	NS	ND	ND
$2 2 - \Omega xy his(1-chloropropage)$	NS	12	NS	ND	ND
Bis(2-ethylbeyu)nhthalate	NS	110	NS	0 161	1 54
Caprolactam	NS	98	NS	ND	ND
Carbazole	NS	110	NS	0.169	3.52
Chrysene	110	126	0	0.177	44
Dibenz(a,h)anthracene	1.1	126	6	0.13	14
Dibenzofuran	1,000	110	0	0.18	2.49
Dibutyl Phthalate	NS	110	NS	ND	ND
Dichloroethyl ether	NS	110	NS	ND	ND
1,2,4-Trimethylbenzene	380	83	0	0.00163	0.884
Diethyl Phthalate	NS	110	NS	ND	ND
1,2-Dichlorobenzene	NS	12	NS	ND	ND
Dimethyl Phthalate	NS	110	NS	ND	ND
1,3-Dichlorobenzene	NS	12	NS	ND	ND
Dinitro-o-cresol	NS	98	NS	ND	ND
1,4-Dichlorobenzene	NS	110	NS	ND	ND
1,4-Dichlorobenzene	250	83	0	ND	ND
Di-N-Octyl Phthalate	NS	110	NS	ND	ND
1,2,4-Trichlorobenzene	NS	12	NS	ND	ND
4-Nitroaniline	NS	12	NS	ND	ND
Isobutanol	NS	12	NS	ND	ND
Fluoranthene	1,000	126	0	0.1	42
Fluorene	1,000	126	0	0.11	3.8
Hexachlorobenzene	12	110	0	ND	ND
Hexachlorobutadiene	NS	110	NS	ND	ND
Hexachiorocyclopentadiene	NS	110	INS NC	ND	ND
Hexachioroethane	NS	110	2	ND 0.15	ND 59
Indeno(1,2,3-ca)pyrene	11	120	J NG	0.15	
m Graad	1.000	90	0	ND	ND
Nanhthalana	1,000	90	0	0.182	1 29
Naphinalene N-Nitrosodi-N-Propylamine	1,000 NS	110	NS	0.102 ND	ND
N-Nitrosodinhenvlamine	NS	110	NS	ND	ND
o-Cresol	1 000	110	0	ND	ND
p-Chloroaniline	NS	110	NS	ND	ND
Pentachlorophenol	55	110	0	ND	ND
Phenanthrene	1,000	126	0	0.074	41
Phenol	1,000	110	0	ND	ND
p-Nitroaniline	NS	98	NS	ND	ND
Pyrene	1,000	126	0	0.085	36
Volatiles, mg/kg					
1,1,1-Trichloroethane	1,000	96	0	ND	ND
1,1,2,2-Tetrachloroethane	NS	96	NS	ND	ND
1,1,2-Trichloroethane	NS	96	NS	ND	ND
1,1-Dichloroethane	480	96	0	ND	ND
1,1-Dichloroethene	1,000	96	0	ND	ND
1,2,3-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trichlorobenzene	NS	83	NS	ND	ND
1,2,4-Trimethylbenzene	380	83	0	0.00163	0.884
1,2-Dibrom-3-Chloropropane	NS	83	NS	ND	ND
1,2-Dichlorobenzene	1,000	83	0	ND	ND
1,2-Dichloroethane	6U	96	U NG	ND	ND
1.2.5 Trimothyllanzono	200	90	0	0.00229	0.0970
	30U 560	83	0	0.00230 NID	0.0079
1 4-Dichlorobenzene	250	83	0	ND	ND
	200	83	0	ND	ND
2-Butanone	200	96	0	0 0207	0 0914
2-Hexanone	N.S	96	NS	ND	ND
4-Isopropyltoluene	NS	83	NS	0.0527	0.0527
4-Methyl-2-pentanone	NS	96	NS	ND	ND
Acetone	1 000	98	0	0.01	0.323
Benzene	89	96	0	0.00375	0.00375
Bromodichloromethane	NS	96	NS	ND	ND
Bromoform	NS	96	NS	ND	ND

		Total Number of	Number of	Minimum	Maximum
Analyte	NY375 6RINDU	Samples	Exceedances	Concentration	Concentration
Carbon Disulfide	NS	98	NS	0.00261	0.0072
Carbon Tetrachloride	44	96	0	ND	ND
Chlorobenzene	1,000	98	0	0.0028	0.0039
Chlorobromomethane	NS	83	NS	ND	ND
Chloroethane	NS	96	NS	ND	ND
Chloroform	700	96	0	ND	ND
cis-1,2-Dichloroethene	1,000	96	0	ND	ND
cis-1,3-Dichloropropene	NS	96	NS	ND	ND
Cyclohexane	NS	83	NS	ND	ND
Dibromochloromethane	NS	96	NS	ND	ND
Ethylbenzene	780	98	0	0.00292	0.00815
Ethylene dibromide	NS	83	NS	ND	ND
Freon 11	NS	83	NS	ND	ND
Freon 113	NS	83	NS	ND	ND
Freon 12	NS	83	NS	ND	ND
Isopropylbenzene (Cumene)	NS	83	NS	0.00311	0.0338
m,p-Xylenes	1,000	83	0	0.00197	0.0351
Methyl acetate	NS	83	NS	ND	ND
Methyl bromide	NS	96	NS	ND	ND
Methyl chloride	NS	96	NS	ND	ND
Methyl tert-butyl ether	1,000	83	0	ND	ND
Methylcyclohexane	NS	83	NS	0.00219	0.135
Methylene chloride	1,000	98	0	0.005	0.0283
Naphthalene	1,000	85	0	0.00636	1.06
n-Butylbenzene	1,000	83	0	0.00949	0.149
n-Propylbenzene	1,000	83	0	0.00533	0.0664
o-Xylene	1,000	83	0	0.00196	0.00453
sec-Butylbenzene	1,000	83	0	0.00421	0.0555
Styrene	NS	96	NS	0.0168	0.0168
tert-Butylbenzene	1,000	83	0	ND	ND
Tetrachloroethene	300	96	0	0.00245	0.0241
Toluene	1,000	98	0	0.0019	0.00438
trans-1,2-Dichloroethene	1,000	96	0	ND	ND
trans-1,3-Dichloropropene	NS	96	NS	ND	ND
Trichloroethene	400	96	0	ND	ND
Vinyl chloride	27	96	0	ND	ND
Xylenes (total)	1,000	15	0	0.005	0.018

NS = No Soil Cleanup Objective ND = Not Detected

# Table 16Groundwater Data Remedial Assessment SummaryFormer Buffalo Forge FacilityNYSDEC BCP Site Number C915280

Induct         Induct         Resta, pgf.         Construction         Construction           Aluminum         NS         14         NS         356         21400           Antimum         25         14         0         5.74         0.754         5.14           Arasenic         25         14         0         5.94         0.00         3.9           Catatum         3         14         0         3.9         3.8         0.00	Analyte	TOGS-1.1.1 Values	Total Number of Samples	Number of Exceedances	Minimum Concentration	Maximum Concentration	
Material Automican         NS         14         NS         256         21400           Antennory         3         14         2         0.85         4.5           Barlum         1.000         14         0         5.74         6.18           Barlum         1.000         14         0         3.9         3.3           Calchum         NS         14         NS         5220         3.60         3.3           Calchum         NS         14         NS         5240         3.70         3.60           Chomium         NS         14         NS         5200         3.70         3.60           Cobat         NS         14         NS         14         2.00         3.20         10.00           Marganesis         300         14         12         10.00         14.00         3.3         2.23         2.16           Schenum         300         14         NS         14.00         ND         ND         ND           Schenum         100         14         NS         14.00         ND	Anayo	Valueo		Exocodunoco	Concentration	Concentration	
Aluminom         NS         14         NS         356         21400           Antenior         25         14         0         5.74         4.5           Artenic         25         14         0         5.0         200           Cardinum         5         14         0         3.9         3.9           Cardinum         50         14         0         4.4         7.4           Cardinum         50         14         0         4.4         7.4           Cobalt         NS         14         NS         5.2400         336000           Chornium         50         14         0         3.4         4.2           Cobalt         NS         14         0         3.4         4.2           Cabalt         100         14         0         3.3         10           Maragnesize         100         14         0         3.3         10           Maragnesize         100         14         0         3.3         12100           Selevir         500         14         0         ND         ND           Solation         100         8         0         ND         ND	Metals, μg/L						
Antimony         3         14         2         0.55         4.5           Assenic         1,00         33         14         0         ND         ND           Cardium         3         14         0         ND         ND         ND           Cadium         NS         14         NS         50.0         33.9.9         33.9.9           Catorium         NS         14         NS         54.4         0         33.3.9.9           Catorium         S0         14         0         3.4         7.7         20.2           Copper         200         14         10         3.4         7.1         20.2           Magnesium         300         14         3         20.7         181           Magnesium         NS         14         NS         3.3.0         2.2.9           Value         50         14         0         3.3.3         2.2.9           Stern         50         14         0         ND         ND           Magnesium         NS         14         NS         3.3         3.6.1           Stern         50         14         0         ND         ND	Aluminum	NS	14	NS	356	21400	
Atabab         2.0         1         0         5.4         0         5.6         0.10           Cadium         5         14         0         3.3         3.9           Cadium         5         14         0         3.4         4.4           Cadium         NS         14         NS         5.44.0         3.26000           Chromium         50         14         0         3.4         4.7.3           Cobati         NS         14         0         3.4         4.2.2           Cobati         300         14         12         2.07         2.300           Lass         300         14         2         2.3         8.0.2           Margamese         300         14         2         2.3         2.1300           Margamese         10         14         2         2.3         2.16           Seleruin         10         14         0         ND         ND           Seleruin         10         14         0         0.39         3.600           Seleruin         10         14         0         0.39         3.600           Seleruin         10         14         0 <td>Antimony</td> <td>3</td> <td>14</td> <td>2</td> <td>0.55</td> <td>4.5</td>	Antimony	3	14	2	0.55	4.5	
Bartum         1.000         14         0         ND         2.22           Baryllum         3         14         0         ND         3.3         3.3           Calcium         NS         14         NS         55.00         3.3         3.3           Calcium         NS         14         0         0.44         4.73         2.00           Cobalt         NS         14         0.34         4.42.2         107         2.1300           Copper         200         14         0         3.4         4.22.5         8.02.2           Magnetion         3500         14         18         8.03.0         116000           Magnetion         3500         14         18         8.02.2         2.01           Magnetion         10         14         13         9.02.3         2.16.8           Siver         50         14         0         ND         ND           Sodum         0.5         14         0         0.194         0.67           Vanadium         NS         14         NS         14         NS         14         NS         14         NS         14         NS         14         NS	Arsenic	25	14	0	5.74	6.16	
Depumine         5         1         0         3         1.3.9           Chromium         S0         14         0         4.4         47.3           Chromium         S0         14         0         4.4         47.3           Copper         200         14         0         3.4         49.2           Lead         25         14         2         2.5         80.2           Magnesium         300         14         3         20.7         831           Magnesium         300         14         3         20.7         831           Magnesium         100         14         0         3.3         2.2.9           Stelevi         100         14         0         3.3         2.2.9           Stelevi         100         14         13         986.0         3500           Stelevi         20000         14         13         986.0         350.0           Stelevi         2.00         14         0         0.194.0         0.7           Vandium         NS         14         NS         0.3.3         2.2.33           Mercury         0.7         14         0         0.194.0 <td>Bandlium</td> <td>1,000</td> <td>14</td> <td>0</td> <td>00</td> <td>252</td>	Bandlium	1,000	14	0	00	252	
Casewin         NS         14         NS         22.40         22000           Chornium         50         14         0         3.4         4.42           Cobalt         NS         14         0         3.4         4.42.           Lobalt         0         3.4         4.52.         100         12         107         21300           Lead         25         14         12         107         21300         14         8         86.50.         116000           Magases/m         35.000         14         8         86.50.         116000         12.10.         21.5         180.7         23.3         2.16         116000         ND	Codmium	5	14	0	3.0	3.0	
Chromium         B0         H         D         Lab         H 20           Cobalt         NS         14         NS         0.4         7.4           Copper         200         14         0         3.4         49.2           Iron         300         14         12         107         21300           Lead         25         14         2         2.5         80.2           Magnesium         300         14         3         20.7         831           Nickel         100         14         0         3.3         22.9         24100           Steen         100         14         0         3.3         22.0         24100           Steen         100         14         0         NS         3.6         1.6           Steen         100         14         0         NS         3.6         1.6           Steen         20000         14         0         NS         3.6         1.7           Steen         20000         14         0         3.5.3         3.61         2.7           Znc         0.01         ND         ND         ND         ND         ND         ND </td <td>Calcium</td> <td>C SIA</td> <td>14</td> <td>NS</td> <td>52400</td> <td>326000</td>	Calcium	C SIA	14	NS	52400	326000	
NS         14         NS         0.4         7.4           Copper         200         14         0         3.4         4.92           Iron         300         14         12         107         21300           Magnesium         35,000         14         8         8630         116000           Manganese         300         14         8         8630         116000           Nickel         100         14         0         3.3         22.9           Potasium         10         14         2         2.3         2.16           Silver         50         14         0         ND         ND           Solum         10         14         2         2.3         2.16           Silver         50         14         0         ND         ND           Solum         0.0         14         0         ND         ND           Solum         0.0         14         0         ND         ND           Marcury         2.000         14         0         ND         ND           Addresition         0.0         7         14         0         ND         ND         ND </td <td>Chromium</td> <td>50</td> <td>14</td> <td>0</td> <td>4 4</td> <td>47.3</td>	Chromium	50	14	0	4 4	47.3	
copper         200         14         0         3.4         42.2           Iron         300         14         12         107         21300           Lead         25         14         2         2.5         80.2           Magnesium         300         14         3         20.7         831           Nickel         100         14         0         3.3         22.9           Potassium         NS         14         NS         3210         241000           Selenium         10         14         2         2.3         21.6           Siver         50         14         0         ND         ND           Sodum         0.5         14         0         ND         ND           Vandium         NS         14         ND         ND         ND           Vandium         0.7         10         0.180         ND         ND	Cobalt	NS	14	NS	0.4	7.4	
Ton         300         14         12         107         21300           Magnesium         35,000         14         8         8630         116000           Marganese         100         14         0         3.3         22.9           Potasium         NS         14         10         3.3         22.9           Steiner         50         14         0         ND         ND           Ster         20000         14         0         ND         ND           Arciar 1016         0.09         9         ND         ND         ND           Arciar 122         0.09         9         ND         ND         ND         ND         ND	Copper	200	14	0	3.4	49.2	
Lead         25         14         2         2.5         80.2           Manganesim         300         14         3         80.7         83.1           Nickel         100         14         0         3.3         22.9           Potassium         NS         14         NS         3210         24.100           Selenium         10         14         2         2.3         21.6           Silver         50         14         0         ND         ND           Sodum         0.5         14         0         ND         ND           Vanadum         NS         14         ND         ND         ND           Vanadum         NS         14         ND         S0.2         23.3           Mercury         0.7         14         0         0.144         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         14         0.07         10         10.07         10         10.07	Iron	300	14	12	107	21300	
Magnesium         35,000         14         8         6630         11600           Nickel         100         14         0         3.3         22.9           Nickel         10         14         0         3.3         22.9           Selanium         10         14         2         3.3         22.9           Selanium         10         14         2         3.3         22.9           Selanium         10         14         2         3.3         22.9           Sodum         0.5         14         0         ND         ND           Sodum         0.5         14         0         ND         ND           Yanadum         NS         14         0         0.194         0.67           Cyanide         0.07         14         0         0.194         0.67           Cyanide         0.08         9         0         ND         ND           Arcobr 1221         0.09         9         0         ND         ND           Arcobr 1248         0.09         9         0         ND         ND           Arcobr 1262         0.69         5         0         ND         ND <td>Lead</td> <td>25</td> <td>14</td> <td>2</td> <td>2.5</td> <td>80.2</td>	Lead	25	14	2	2.5	80.2	
Mangenese         300         14         3         20.7         831           Potassium         NS         14         NS         3210         24100           Stlver         50         14         0         ND         ND           Sodum         0.0000         14         0         ND         ND           Sodum         0.5         14         0         ND         ND           Yanadum         NS         14         0         0.53         36.1           Zinc         2,0000         14         0         0.52         293           Mercury         0.7         14         0         0.144         0.76           Vanadum         NS         14         0         35.2         293           Mercury         0.7         14         0         0.144         0.67           Cyanide         0.09         9         0         ND         ND           Arcolar 1016         0.09         9         0         ND         ND           Arcolar 122         0.09         9         0         ND         ND           Arcolar 124         0.09         9         0         ND         ND <td>Magnesium</td> <td>35,000</td> <td>14</td> <td>8</td> <td>8630</td> <td>116000</td>	Magnesium	35,000	14	8	8630	116000	
Nická         100         14         0         3.3         22.9           Potassium         NS         14         NS         3210         24100           Selenium         10         14         2         3.3         22.9           Silver         50         14         0         ND         ND           Sodum         20,000         14         13         9860         356000           Vanadum         NS         14         NS         5.3         3.6.1           Zinc         0.5         14         0         0.52         283           Mercury         0.7         14         0         0.194         0.67           Cyanide         100         8         0         ND         ND           Arcdor 1016         0.09         9         0         ND         ND           Arcdor 1221         0.09         9         0         ND         ND           Arcdor 1242         0.09         9         0         ND         ND           Arcdor 1260         0.09         5         0         ND         ND           Arcdor 1262         0.09         5         ND         ND	Manganese	300	14	3	20.7	831	
Petassum         NS         14         NS         22         23         24100           Silver         50         14         0         ND         ND           Sodurn         20000         14         0         ND         ND           Thallium         0.5         14         0         ND         ND           Vanadium         NS         14         0         0.35.2         293           Mercury         0.7         14         0         0.35.2         293           Mercury         0.7         14         0         0.35.2         293           Arcedr 1016         0.09         9         0         ND         ND           Arcedr 1224         0.09         9         0         ND         ND           Arcedr 1232         0.09         9         0         ND         ND           Arcedr 1242         0.09         9         0         ND         ND           Arcedr 1260         0.09         9         0         ND         ND           Arcedr 1260         0.09         5         0         ND         ND           1.2.4.Trichtoexaree         5         13         0	Nickel	100	14	0	3.3	22.9	
Selenium         10         14         2         2.3         216           Sodium         20.000         14         0         ND         ND           Sodium         0.5         14         0         ND         ND           Vanadium         NS         14         0         ND         ND           Vanadium         NS         14         0         3.5.2         233           Mercury         0.7         14         0         0.194         0.67           Cyanide         100         8         0         ND         ND           PC6s, pgl.	Potassium	NS	14	NS	3210	24100	
Silver         50         14         0         ND         ND           Sodurn         0.5         14         0         ND         ND           Thallium         0.5         14         0         ND         ND           Zarc         2,000         14         0         35.2         233           Mercury         0.7         14         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         0.714         0         7.714         0.714         0         0.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         0         7.714         7.714         0         7.714         7.714         0         7.714         7.714	Selenium	10	14	2	2.3	21.6	
Sodium         20.000         14         13         9860         356000           Vanadium         NS         14         0         ND         ND           Zinc         0.5         14         0         3.5.2         233           Mercury         0.7         14         0         0.194         0.67           Cyanide         0.7         14         0         0.194         0.67           Cyanide         0.0         9         0         ND         ND           PCEs, tg/L         .0.09         9         0         ND         ND         ND           Arockr 1212         0.09         9         0         ND         ND         ND           Arockr 1242         0.09         9         0         ND         ND         ND           Arockr 1261         0.09         9         0         ND         ND         ND           Arockr 1262         0.09         5         0         ND         ND         ND           1.2,4.5-Tetraforoberzene         5         5         0         ND         ND         ND           1.2,4.5-Tetraforoberzene         3         13         0         ND         ND	Silver	50	14	0	ND	ND	
Thallium         0.5         14         0.         ND         ND           Vanadium         NS         14         NS         5.3         36.1           Zinc         2,000         14         0         0.5.2         293           Mercury         0.7         14         0         0.194         0.677           Cyanide         100         8         0         ND         ND           PCBs.pg/L	Sodium	20,000	14	13	9860	356000	
Vanadium         NS         14         NS         5.3         36.1           Zinc         2,000         14         0         35.2         283           Mercury         0.7         14         0         0.194         0.677           Cyanide         100         8         0         ND         ND           PCBs, igd.	Thallium	0.5	14	0	ND	ND	
Žnc         2,000         14         0         35.2         293           Mercury         0.7         14         0         0.194         0.67           Cyanide         100         8         0         ND         ND           PCBs.jg/L	Vanadium	NS	14	NS	5.3	36.1	
Mercury Cyanide         0.7         14         0         0.194         0.67           Cyanide         100         8         0         ND         ND           PCEs, ig/L	Zinc	2,000	14	0	35.2	293	
Cyanide         100         8         0         ND         ND           PCBs. gg/L	Mercury	0.7	14	0	0.194	0.67	
PCBs.ug/L         Arcoicn 1016         0.09         9         0         ND         ND           Arcoicn 12121         0.09         9         0         ND         ND           Arcoicn 1232         0.09         9         0         ND         ND           Arcoicn 1242         0.09         9         0         ND         ND           Arcoicn 1248         0.09         9         0         ND         ND           Arcoicn 1240         0.09         5         0         ND         ND           Arcoicn 1280         0.09         5         0         ND         ND           1.2.4-Trichtorobenzene         3         13         0         ND         ND           1.2.4-Trichtorobenzene         3         13         0         ND         ND           2.2-Oytois2-chtoroprane         3         13         NS         ND         ND           2.4-Dichtrichtorophenol	Cyanide	100	8	0	ND	ND	
Aractor 1016         0.09         9         0         ND         ND           Aractor 1221         0.09         9         0         ND         ND           Aractor 1224         0.09         9         0         ND         ND           Aractor 1242         0.09         9         0         ND         ND           Aractor 1244         0.09         9         0         ND         ND           Aractor 1260         0.09         5         0         ND         ND           Aractor 1282         0.09         5         0         ND         ND           Aractor 1282         0.09         5         0         ND         ND           Aractor 1280         0.09         5         0         ND         ND           12.4.5-Trichorobenzene         5         13         0         ND         ND           12.4.5-Trichorobenzene         3         13         0         ND         ND           1.2.4-Trichorobenzene         3         13         0         ND         ND           1.3-Dichlorobenzene         3         13         0         ND         ND           2.4.5-Trichorophenol         NS	PCBs, µg/L						
Aractor 1221         0.09         9         0         ND         ND           Aractor 1232         0.09         9         0         ND         ND           Aractor 1242         0.09         9         0         ND         ND           Aractor 1243         0.09         9         0         ND         ND           Aractor 1240         0.09         9         0         ND         ND           Aractor 1262         0.09         5         0         ND         ND           Aractor 1283         0.09         5         0         ND         ND           Semivolatiles, pg/L         12.4.5-Titachlorobenzene         5         13         0         ND         ND           1.2.4.5-Traichlorobenzene         3         13         0         ND         ND           1.2.4-Traichlorobenzene         3         13         0         ND         ND           1.3.Dichlorobenzene         3         13         0         ND         ND           2.2.Arybis/C-tolorophenol         NS         5         NS         ND         ND           2.4.5-Traichlorophenol         NS         13         NS         ND         ND	Aroclor 1016	0.09	9	0	ND	ND	
Aracler 1232         0.09         9         0         ND         ND           Aracler 1242         0.09         9         0         ND         ND           Aracler 1243         0.09         9         0         ND         ND           Aracler 1260         0.09         9         0         ND         ND           Aracler 1260         0.09         5         0         ND         ND           Aracler 1262         0.09         5         0         ND         ND           Aracler 1268         0.09         5         0         ND         ND           Semivolatiles, jpfL         12.4.5.Tetrachlorobenzene         5         13         0         ND         ND           1.2.4.17irchlorobenzene         3         13         0         ND         ND         ND           1.3.2.Dichlorobenzene         3         13         0         ND         ND         ND           2.4.5.Trichlorophenol         NS         5         NS         ND         ND         ND           2.4.5.Trichlorophenol         NS         13         NS         ND         ND         ND           2.4.5.Trichlorophenol         NS         13	Aroclor 1221	0.09	9	0	ND	ND	
Aroctor 1242         0.09         9         0         ND         ND           Aroctor 1254         0.09         9         0         ND         ND           Aroctor 1250         0.09         9         0         ND         ND           Aroctor 1262         0.09         5         0         ND         ND           Aroctor 1262         0.09         5         0         ND         ND           Semicotatiles, µgl.         5         5         0         ND         ND           Semicotatiles, µgl.         5         5         0         ND         ND           1,2.4.57/chiorobenzene         3         13         0         ND         ND           1,2.50/chiorobenzene         3         13         0         ND         ND           1,3.50/chiorobenzene         3         13         0         ND         ND           2.4.57/chioroppane)         NS         5         NS         ND         ND           2.4.657/chiorophenol         NS         13         NS         ND         ND           2.4.657/chiorophenol         1         13         0         ND         ND           2.4.657/chiorophenol	Aroclor 1232	0.09	9	0	ND	ND	
Arodor 1246         0.09         9         0         ND         ND           Arodor 1260         0.09         9         0         ND         ND           Arodor 1260         0.09         5         0         ND         ND           Arodor 1262         0.09         5         0         ND         ND           Arodor 1268         0.09         5         0         ND         ND           Semivolatiles, µg/L         12.45-Teitachlorobenzene         5         5         0         ND         ND           1.2.45-Teitachlorobenzene         3         13         0         ND         ND           1.2.45-Teitachlorobenzene         3         13         0         ND         ND           1.3-Dichlorobenzene         3         13         0         ND         ND           2.3.46-Tertachlorophenol         NS         5         NS         ND         ND           2.4.6-Trichlorophenol         1         13         0         ND         ND           2.4.6-Trichlorophenol         1         13         0         ND         ND           2.4-Dichtorophenol         1         13         0         ND         ND	Aroclor 1242	0.09	9	0	ND	ND	
Arcclor 1254         0.09         9         0         ND         ND           Arcclor 1260         0.09         5         0         ND         ND           Arcclor 1262         0.09         5         0         ND         ND           Semivolatiles, µg/L         .         .         .         .         .         .           12,4-5-Ticchlorobenzene         5         5         0         ND         ND         ND           1,2-4-5-Ticchlorobenzene         3         13         0         ND         ND           1,2-Dichrobenzene         3         13         0         ND         ND           1,3-Dichrobenzene         3         13         0         ND         ND           2,2-Oxybic_chloropropane)         NS         5         NS         ND         ND           2,4-5-Trichlorophenol         NS         13         NS         ND         ND           2,4-6-Trichlorophenol         NS         13         NS         ND         ND           2,4-5-Trichlorophenol         NS         13         NS         ND         ND           2,4-5-Trichlorophenol         1         13         0         ND         ND </td <td>Aroclor 1248</td> <td>0.09</td> <td>9</td> <td>0</td> <td>ND</td> <td>ND</td>	Aroclor 1248	0.09	9	0	ND	ND	
Aroctor 1260         0.09         9         0         ND         ND           Aroctor 1262         0.09         5         0         ND         ND           Semivolatiles, µg/L         12.4.5-Tetrachlorobenzene         5         5         0         ND         ND           1.2.4.5-Tetrachlorobenzene         5         13         0         ND         ND           1.2.4.5-Tritichlorobenzene         3         13         0         ND         ND           1.2.Dichlorobenzene         3         13         0         ND         ND           1.4.0-Einklorophenzene         3         13         0         ND         ND           2.4.5-Trichlorophenol         NS         5         NS         ND         ND           2.4.5-Trichlorophenol         NS         13         NS         ND         ND           2.4.5-Trichlorophenol         1         13         0         ND         ND           2.4.5-Trichlorophenol         1         13         NS         ND         ND           2.4.5-Trichlorophenol         1         13         0         ND         ND           2.4-Dirichlorophenol         NS         13         NS         ND	Aroclor 1254	0.09	9	0	ND	ND	
Arcolor 1262         0.09         5         0         ND         ND           Arcolor 1268         0.09         5         0         ND         ND           Semivolatiles, µJL         -         -         -         -         -         ND         ND           1.2,4-5-Tichkolrobenzene         5         5         0         ND         ND         ND           1.2-Dichkorobenzene         3         13         0         ND         ND           1.3-Dichkorobenzene         3         13         0         ND         ND           2.2-Oxybic/Cichkoropopane)         NS         5         NS         ND         ND           2.4.5-Trichkorophenol         NS         13         NS <t< td=""><td>Aroclor 1260</td><td>0.09</td><td>9</td><td>0</td><td>ND</td><td>ND</td></t<>	Aroclor 1260	0.09	9	0	ND	ND	
Arcolor 1268         0.09         5         0         ND         ND           Semivolatiles, µg/L         1.2,4,5-Tichtachlorobenzene         5         5         0         ND         ND           1,2,4-Tichtachlorobenzene         3         13         0         ND         ND           1,2-Dichlorobenzene         3         13         0         ND         ND           1,3-Dichlorobenzene         3         13         0         ND         ND           2,3-Gé-Tarchlorophenol         NS         5         NS         ND         ND           2,4-5-Trichlorophenol         NS         13         NS         ND         ND           2,4-5-Trichlorophenol         NS         13         NS         ND         ND           2,4-5-Trichlorophenol         NS         13         NS         ND         ND           2,4-Dichlorophenol         NS         13         NS         ND         ND           2,4-Dichlorophenol         NS         13         NS         ND         ND           2,4-Dinitrotoluene         S         13         NS         ND         ND           2,4-Dinitrotoluene         NS         13         NS         ND	Aroclor 1262	0.09	5	0	ND	ND	
Semivolatiles, tg/L         1.2.4.5-Tetrachlorobenzene         5         0         ND         ND           1.2.4-5-Tetrachlorobenzene         3         13         0         ND         ND           1.2-bichlorobenzene         3         13         0         ND         ND           1.4-bichlorobenzene         3         13         0         ND         ND           1.4-bichlorobenzene         3         13         0         ND         ND           2.2-Oxybis(2-chloropropane)         NS         5         NS         ND         ND           2.4.5-Trichlorophenol         NS         13         NS         ND         ND           2.4.5-Trichlorophenol         NS         13         NS         ND         ND           2.4.6-Trichlorophenol         NS         13         NS         ND         ND           2.4-Direthylphenol         NS         13         NS         ND         ND </td <td>Aroclor 1268</td> <td>0.09</td> <td>5</td> <td>0</td> <td>ND</td> <td>ND</td>	Aroclor 1268	0.09	5	0	ND	ND	
1,2,4,5-Tritchlorobenzene         5         5         0         ND         ND           1,2,4-Tritchlorobenzene         3         13         0         ND         ND           1,2-Dichlorobenzene         3         13         0         ND         ND           1,4-Dichlorobenzene         3         13         0         ND         ND           2,2-Oxybis(2-chloropropane)         NS         5         NS         ND         ND           2,4,5-Trichlorophenol         NS         5         NS         ND         ND           2,4,6-Trichlorophenol         NS         13         NS         ND         ND           2,4,6-Trichlorophenol         1         13         0         ND         ND           2,4-Direthylphenol         1         13         NS         ND         ND           2,4-Dinethylphenol         NS         13         NS         ND         ND           2,4-Dinethylphenol         NS         13         NS         ND         ND           2,6-Dinitrotoluene         5         13         0         ND         ND           2,6-Dinitrotoluene         NS         13         NS         ND         ND	Semivolatiles, µg/L						
1.2.4-Trichlorobenzene       5       13       0       ND       ND         1.2-Dichlorobenzene       3       13       0       ND       ND         1.3-Dichlorobenzene       3       13       0       ND       ND         1.4-Dichlorobenzene       3       13       0       ND       ND         2.2-Oxybis(2-chloropropane)       NS       5       NS       ND       ND         2.3.4.6-Tetrachlorophenol       NS       13       NS       ND       ND         2.4.6-Trichlorophenol       NS       13       NS       ND       ND         2.4-Dichlorophenol       NS       13       NS       ND       ND         2.4-Dichlorophenol       NS       13       NS       ND       ND         2.4-Dichlorophenol       NS       13       NS       ND       ND         2.4-Dinitrobluene       5       13       NS       ND       ND         2.4-Dinitrobluene       5       13       NS       ND       ND         2.4-Dinitrobluene       NS       13       NS       ND       ND         2.4-Dinitrobluene       NS       13       NS       ND       ND         2-	1,2,4,5-Tetrachlorobenzene	5	5	0	ND	ND	
1.2-Dichlorobenzene3130NDND1,3-Dichlorobenzene3130NDND1,4-Dichlorobenzene3130NDND2,2-Oxybis(2-chloropropane)NS5NSNDND2,4,6-TicthorophenolNS13NSNDND2,4,6-TichlorophenolNS13NSNDND2,4,6-TichlorophenolNS13NSNDND2,4,6-TichlorophenolNS13NSNDND2,4-Direttylphenol1130NDND2,4-DirettylphenolNS13NSNDND2,4-DirettylphenolNS13NSNDND2,4-DirettylphenolNS13NSNDND2,4-DirettylphenolNS13NSNDND2,4-DirettylphenolNS13NSNDND2,4-DirettylphenolNS13NSNDND2,6-DiritrotolueneNS13NSNDND2,6-DiritrotolueneNS13NSNDND2-ChlorophenolNS13NSNDND2-ChlorophenolNS13NSNDND2-MethylnaphthaleneNS13NSNDND2-NitroanilineNS13NSNDND3-NitroanilineNS13NSNDND4-Chlorophenyl Phenyl Ether	1,2,4-Trichlorobenzene	5	13	0	ND	ND	
1,3-Dichlorobenzene3130NDND1,4-Dichlorobenzene3130NDND2,2-Oxybis(2-chloropropane)NS5NSNDND2,3,6-TitchlorophenolNS13NSNDND2,4,6-TitchlorophenolNS13NSNDND2,4,5-TitchlorophenolNS13NSNDND2,4,6-Titchlorophenol1130NDND2,4-DinitrophenolNS13NSNDND2,4-DinitrophenolNS13NSNDND2,4-DinitrophenolNS13NSNDND2,4-Dinitrotoluene5130NDND2,4-Dinitrotoluene5130NDND2,6-Dinitrotoluene10130NDND2,6-DinitrotolueneNS13NSNDND2,6-DinitrotolueneNS13NSNDND2,6-DinitrotolueneNS13NSNDND2,6-DironaphthaleneNS13NSNDND2,6-NoroaphthaleneNS13NSNDND2,7-NitrophenolNS13NSNDND2,7-NitrophenolNS13NSNDND3,7-DichloroberzidineNS13NSNDND4,8-Torophenyl Phenyl EtherNS13NSNDND4,8-Bromophen	1,2-Dichlorobenzene	3	13	0	ND	ND	
1.4-Dichlorobenzene         3         13         0         ND         ND           2.2-Oxybis(2-chloroppenol)         NS         5         NS         ND         ND           2.3.4.6-Tetrachlorophenol         NS         13         NS         ND         ND           2.4-Dichlorophenol         NS         13         NS         ND         ND           2.4-Dichlorophenol         1         13         0         ND         ND           2.4-Dichlorophenol         NS         13         NS         ND         ND           2.6-Dinitrotoluene         5         13         0         ND         ND           2.6-Dinitrotoluene         NS         13         NS         ND         ND           2.6-Dinitrotoluene         NS         13         NS         ND         ND <td< td=""><td>1,3-Dichlorobenzene</td><td>3</td><td>13</td><td>0</td><td>ND</td><td>ND</td></td<>	1,3-Dichlorobenzene	3	13	0	ND	ND	
2.2-Oxybis(2-chloropropane)NS5NSNDND2,3,4,6-TritchlorophenolNS13NSNDND2,4,6-TritchlorophenolNS13NSNDND2,4,6-Tritchlorophenol1130NDND2,4-DintrophenolNS13NSNDND2,4-DintrophenolNS13NSNDND2,4-DintrophenolNS13NSNDND2,4-DintrophenolNS13NSNDND2,4-DintrophenolNS13NSNDND2,6-Dintrotoluene5130NDND2,6-Dintrotoluene10130NDND2-ChlorophenolNS13NSNDND2-ChlorophenolNS13NSNDND2-ChlorophenolNS13NSNDND2-ChlorophenolNS13NSNDND2-ChlorophenolNS13NSNDND2-MitrophenolNS13NSNDND2-NitrophenolNS13NSNDND2-NitrophenolNS13NSNDND3-Si-DichlorobenzidineNS13NSNDND3-NitrophenolNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chlorophenyl Phenyl EtherNS13 </td <td>1,4-Dichlorobenzene</td> <td>3</td> <td>13</td> <td>0</td> <td>ND</td> <td>ND</td>	1,4-Dichlorobenzene	3	13	0	ND	ND	
2,3,4,6-Tetrachlorophenol         NS         5         NS         ND         ND           2,4,6-Tichlorophenol         NS         13         NS         ND         ND           2,4,6-Tichlorophenol         1         13         NS         ND         ND           2,4-Dichlorophenol         1         13         0         ND         ND           2,4-Dinitrophenol         NS         13         NS         ND         ND           2,4-Dinitrophenol         NS         13         NS         ND         ND           2,4-Dinitrotoluene         NS         13         NS         ND         ND           2,4-Dinitrotoluene         5         13         0         ND         ND           2,6-Dinitrotoluene         5         13         0         ND         ND           2-Chlorophenol         NS         13         NS         ND         ND           2-Chlorophenol         NS         13         NS         ND         ND           2-Methylnaphthalene         NS         13         NS         ND         ND           2-Nitrophenol         NS         13         NS         ND         ND           3-3-Dichlorobenzidi	2,2-Oxybis(2-chloropropane)	NS	5	NS	ND	ND	
2.4.5-TrichlorophenolNS13NSNDND2.4.6-Trichlorophenol1130NDND2.4-Dichlorophenol1130NDND2.4-DichlorophenolNS13NSNDND2.4-DichlorophenolNS13NSNDND2.4-DichlorophenolNS13NSNDND2.4-DinitrophenolNS13NSNDND2.4-Dinitrobluene5130NDND2.6-Dinitrotoluene5130NDND2.6-Dinitrotoluene10130NDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DinitrotolueneNS13NSNDND2.6-DintrotolueneNS13NSNDND2.6-DintrotolueneNS<	2,3,4,6-Tetrachlorophenol	NS	5	NS	ND	ND	
2,4,6-Trichlorophenol         NS         13         NS         ND         ND           2,4-Dichlorophenol         1         13         0         ND         ND           2,4-Dimethylphenol         NS         13         NS         ND         ND           2,4-Dimitrotoluene         NS         13         NS         ND         ND           2,6-Dinitrotoluene         5         13         0         ND         ND           2,6-Dinitrotoluene         5         13         0         ND         ND           2,6-Dinitrotoluene         5         13         0         ND         ND           2-Chlorophenol         NS         13         NS         ND         ND           2-Chlorophenol         NS         13         NS         ND         ND           2-Mitroaniline         NS         13         NS         ND         ND           2-Nitroaniline         NS         13         NS         ND         ND           3-Nitroaniline         NS         13         NS         ND         ND           3-Nitroaniline         NS         13         NS         ND         ND           4-Bromophenyl Phenyl Ether	2,4,5-Trichlorophenol	NS	13	NS	ND	ND	
2,4-Dichlorophenol1130NDND2,4-DinitrophenolNS13NSNDND2,4-DinitrophenolNS13NSNDND2,4-DinitrophenolNS13NSNDND2,6-Dinitrotoluene5130NDND2,6-Dinitrotoluene5130NDND2-Chloronaphthalene10130NDND2-ChlorophenolNS13NSNDND2-MitrophenolNS13NSNDND2-MitrophenolNS13NSNDND2-MitroanilineNS13NSNDND2-NitroanilineNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-NitrophenolNS13NSNDNDAcenaphthyleneNS13NSNDNDAcenaphthyleneNS13NSNDNDAcenaphthyleneNS5NSNDNDAcenaphthyleneNS5NSNDNDAcetophenoneNS5NS <td< td=""><td>2,4,6-Trichlorophenol</td><td>NS</td><td>13</td><td>NS</td><td>ND</td><td>ND</td></td<>	2,4,6-Trichlorophenol	NS	13	NS	ND	ND	
2,4-DinterlyiphenolNS13NSNDND2,4-DinitrophenolNS13NSNDND2,6-Dinitrotoluene5130NDND2,6-Dinitrotoluene5130NDND2-Chlorophenol10130NDND2-ChlorophenolNS13NSNDND2-MethylinaphthaleneNS13NSNDND2-MethylinaphthaleneNS13NSNDND2-NitroanilineNS13NSNDND2-NitrophenolNS13NSNDND3-NitroanilineNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS5NSNDNDAcenaphthyleneNS50NDNDActorphenoneNS50NDNDActorphenoneNS130NDNDAcenaphthyleneNS50NDNDAcenaphthylene0.002130ND	2,4-Dichlorophenol	1	13		ND	ND	
2,4-DinitrophenolNS13NSNDND2,4-DinitrotolueneNS13NSNDND2,6-Dinitrotoluene5130NDND2-Chloronaphthalene10130NDND2-ChlorophenolNS13NSNDND2-MethylnaphthaleneNS13NSNDND2-MitrophenolNS13NSNDND2-NitrophenolNS13NSNDND2-NitrophenolNS13NSNDND3-3-DichlorobenzidineNS13NSNDND3-3-DichlorobenzidineNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthene50130NDNDAcetophenoneNS50NDNDArziroe50130NDNDAnthracene0.002130NDNDAnthracene0.002130NDNDArziro7.550NDNDBenz(a)anthracene0.002130NDND	2,4-Dimethylphenol	NS NC	13	ING NC	ND		
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2,-OblitUtolulate3130NDND2-ChlorophenolNS13NSNDND2-MethylnaphthaleneNS13NSNDND2-MethylnaphthaleneNS13NSNDND2-NitroanilineNS13NSNDND2-NitrophenolNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND3-NitroanilineNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthene50130NDNDArtazine50130NDNDBenz(a)anthracene0.002130NDNDNDNDNDNDNDNDND	2,4-Dinitrotoluene	INS F	13	113	ND		
2-ChilorophenolNS13NDND2-MethylnaphthaleneNS13NSNDND2-NitroanilineNS13NSNDND2-NitroanilineNS13NSNDND2-NitroanilineNS13NSNDND2-NitroanilineNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND3-NitroanilineNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDND4-ChlorophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS5NSNDNDActoraphenone5130NDNDAnthracene50130NDNDBenz(a)anthracene0.002130NDNDBenz(a)anthracene0.002130NDND	2,0-Dimitrototuene	5	13	0	ND	ND	
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2-NitroanilineNS13NSNDND2-NitroanilineNS13NSNDND3-3'-DichlorobenzidineNS13NSNDND3-NitroanilineNS13NSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS5NSNDNDAcetophenoneNS50NDNDAnthracene50130NDNDBenz(a)anthracene0.002130NDNDBenz(a)anthracene0.002130NDND	2-Methylpaphthalene	NS	13	NS	ND	ND	
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SolutionNSNSNSNDND4-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-NitrophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcenaphthyleneS5NSNDNDAcetophenoneS5NSNDNDAnthracene50130NDNDBenz(a)anthracene0.002130NDND	3-3'-Dichlorobenzidine	NS	13	NS	ND	ND	
A-Bromophenyl Phenyl EtherNS13NSNDND4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-ChlorophenolNS13NSNDND4-NitrophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDAnthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	3-Nitroaniline	NS	13	NS	ND	ND	
4-Chloro-3-MethylphenolNS13NSNDND4-Chlorophenyl Phenyl EtherNS13NSNDND4-NitrophenolNS13NSNDND4-NitrophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDActophenone50130NDNDAnthracene7.550NDNDBenz(a)anthracene0.002130NDND	4-Bromonbenyl Phenyl Ether	NS	13	NS	ND	ND	
4-Chlorophenyl Phenyl EtherNS13NSNDND4-Nitrophenyl Phenyl EtherNS13NSNDND4-NitrophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDActargine50130NDNDBenz(a)anthracene0.002130NDND	4-Chloro-3-Methylphenol	NS	13	NS	ND	ND	
A-NitrophenolNS13NSNDNDAcenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDAnthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	4-Chlorophenyl Phenyl Ether	NS	13	NS	ND	ND	
Acenaphthene20130NDNDAcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDAnthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	4-Nitrophenol	NS	13	NS	ND	ND	
AcenaphthyleneNS13NSNDNDAcetophenoneNS5NSNDNDAnthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	Acenaphthene	20	13	0	ND	ND	
AcetophenoneNS5NSNDNDAnthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	Acenaphthylene	NS	13	NS	ND	ND	
Anthracene50130NDNDAtrazine7.550NDNDBenz(a)anthracene0.002130NDND	Acetophenone	NS	5	NS	ND	ND	
Atrazine         7.5         5         0         ND         ND           Benz(a)anthracene         0.002         13         0         ND         ND	Anthracene	50	13	0	ND	ND	
Benz(a)anthracene 0.002 13 0 ND ND	Atrazine	7.5	5	0	ND	ND	
	Benz(a)anthracene	0.002	13	0	ND	ND	

	TOGS-1.1.1	Total Number of	Number of	Minimum	Maximum
Analyte	Values	Samples	Exceedances	Concentration	Concentration
Devende	NC	F	NC	ND	
Benzaldenyde	NS	5	NS NS	ND	ND
Benzo(b)fluoranthene	0.002	13	0	ND	ND
Benzo(g h i)pervlene	NS	13	NS	ND	ND
Benzo(k)fluoranthene	0.002	13	0	ND	ND
Benzyl Butyl Phthalate	50	13	0	ND	ND
Biphenyl	NS	5	NS	ND	ND
Bis(2-Chloroethoxy)Methane	NS	13	NS	ND	ND
2,2-Oxybis(1-chloropropane)	NS	8	NS	ND	ND
Bis(2-ethylhexyl)phthalate	50	13	0	ND	ND
Caprolactam	NS	5	NS	ND	ND
Carbazole	NS	13	NS	ND	ND
Chrysene	0.002	13	0	ND	ND
Dibenz(a,h)anthracene	NS	13	NS	ND	ND
Dibenzofuran	NS	13	NS	ND	ND
Dibutyi Phthalate	50	13	0	ND	ND
Dichloroethyl ether	1	13	0	ND	ND
Directly Philliplate	50	13	0	ND	ND
Dinieury Fininaiae Dinitro-o-cresol	50 NS	13	NS	ND	ND
Di-N-Octyl Phthalate	50	13	0	ND	ND
Fluoranthene	50	13	0	ND	ND
Fluorene	50	13	0	ND	ND
Hexachlorobenzene	0.35	13	0	ND	ND
Hexachlorobutadiene	5	13	0	ND	ND
Hexachlorocyclopentadiene	5	13	0	ND	ND
Hexachloroethane	NS	13	NS	ND	ND
Indeno(1,2,3-cd)pyrene	0.002	13	0	ND	ND
Isophorone	50	13	0	ND	ND
m-Cresol	NS	5	NS	ND	ND
Naphthalene	10	13	0	ND	ND
Nitrobenzene	5	13	0	ND	ND
N-Nitrosodi-N-Propylamine	NS	13	NS	ND	ND
N-Nitrosodiphenylamine	50	13	0	ND	ND
o-Cresol	NS	13	NS	ND	ND
p-Chloroaniline	NS	13	NS	ND	ND
Pentachiorophenol	1	13		ND	ND
Phenanthrene	NS	13	NS NS	ND	ND
n Nitroanilina	NO NC	13	NS	ND	ND
P-Nitroannine Pyrepe	50	13	0	ND	ND
3/4-Cresol	NS	8	NS	ND	ND
Volatiles, µg/L					
1,1,1-Trichloroethane	5	14	0	ND	ND
1,1,2,2-Tetrachloroethane	5	14	0	ND	ND
1,1,2-Trichloroethane	1	14	0	ND	ND
1,1-Dichloroethane	5	14	0	ND	ND
1,1-Dichloroethene	5	14	0	ND	ND
1,2,3-I richlorobenzene	5	6	0	ND	ND
1,2,4-Trichlorobenzene	5	0	0	ND	ND
1,2,4-Thinethyldenzene 1,2-Dibrom-3-Chloropropage	5	6	0	0.0	
1 2-Dichlorobenzene	3	6	0	ND	ND
1 2-Dichloroethane	0.6	14	0	ND	ND
1 2-Dichloropropane	1	14	0	ND	ND
1.3.5-Trimethylbenzene	5	14	0	ND	ND
1,3-Dichlorobenzene	3	6	0	ND	ND
1,4-Dichlorobenzene	3	6	0	ND	ND
1,4-Dioxane	NS	6	NS	ND	ND
2-Butanone	50	14	0	ND	ND
2-Hexanone	50	14	0	ND	ND
4-Isopropyltoluene	5	14	0	ND	ND
4-Methyl-2-pentanone	NS	14	NS	ND	ND
Acetone	50	14	0	ND	ND
Benzene	1	14	0	0.603	0.9
Bromodichloromethane	50	14	U	ND	ND
Bromotorm	50	14	U	ND	ND
Carbon Disullide	60 E	14	0		
	5	14	0		
Chlorobromomethane	5	6	0		ND
Chloroethane	5	14	0 0	ND	ND
Chloroform	7	14	õ	ND	ND
cis-1,2-Dichloroethene	5	14	0	ND	ND

	TOGS-1.1.1	Total Number of	Number of	Minimum	Maximum
Analyte	Values	Samples	Exceedances	Concentration	Concentration
cis-1.3-Dichloropropene	0.4	14	0	ND	ND
Cvclohexane	NS	6	NS	ND	ND
Dibromochloromethane	50	14	0	ND	ND
Ethylbenzene	5	14	0	1.4	1.4
Ethylene dibromide	0.0006	6	0	ND	ND
Freon 11	5	6	0	ND	ND
Freon 113	5	6	0	ND	ND
Freon 12	5	6	0	ND	ND
Isopropylbenzene (Cumene)	5	14	0	ND	ND
m,p-Xylenes	5	14	0	1	4.3
Methyl acetate	NS	6	NS	ND	ND
Methyl bromide	5	14	0	ND	ND
Methyl chloride	5	14	0	ND	ND
Methyl tert-butyl ether	10	14	0	ND	ND
Methylcyclohexane	NS	6	NS	ND	ND
Methylene chloride	5	14	0	ND	ND
Naphthalene	10	14	0	ND	ND
n-Butylbenzene	5	14	0	ND	ND
n-Propylbenzene	5	14	0	ND	ND
o-Xylene	5	14	0	ND	ND
sec-Butylbenzene	5	14	0	ND	ND
Styrene	5	14	0	ND	ND
tert-Butylbenzene	5	14	0	ND	ND
Tetrachloroethene	5	14	0	ND	ND
Toluene	5	14	0	1.1	1.7
trans-1,2-Dichloroethene	5	14	0	ND	ND
trans-1,3-Dichloropropene	0.4	14	0	ND	ND
Trichloroethene	5	14	0	ND	ND
Vinyl chloride	2	14	0	ND	ND
Xylenes (total)	5	8	0	1	4.3

ND = Not Detected

CITATION	DESCRIPTION	Applicability	WILL SELECTED REMEDY COMPLY WITH THIS SCG?	WILL REMEDY ADDRESSING UNRESTRICTED USE SCO COMPLY WITH THIS SCG?
STANDARDS & CRITERIA <sup>(1)</sup>		-		
6 NYCRR Part 371	Identification & Listing of Hazardous Wastes	Applies to waste characterization, transportation, and disposal requirements.	Yes	Yes
6 NYCRR Part 372	Hazardous Waste Manifest System and Related Standards For Generators, Transporters and Facilities	Applies during transport of any hazardous waste soil	Yes	Yes
6 NYCRR Part 375	Environmental Remediation Programs	This standard relates to all Site remedial activities, specifically soil cleanup objectives for Restricted Commercial Objectives and for Protection of Groundwater	Yes	Yes
6 NYCRR Part 376	Land Disposal Restrictions	This standard relates to the management of any hazardous waste removed during remedial action.	Yes	Yes
6 NYCRR Parts 700-706	Water Quality Standards	Provides means of evaluating ground water quality	No	No
6 NYCRR Part 364	Waste Transporter Permits	This standard applies to any waste removal	Yes	Yes
OSHA; 29 CFR 1910	Guidelines/Requirements for Workers at Hazardous Waste Sites (Subpart 120) and Standards for Air Contaminants (Subpart 1).	Relates to safety provisions during remedial construction activities and possibly O&M	Yes	Yes

CITATION	DESCRIPTION	Applicability	WILL SELECTED REMEDY COMPLY WITH THIS SCG?	WILL REMEDY ADDRESSING UNRESTRICTED USE SCO COMPLY WITH THIS SCG?			
OSHA; 29 CFR 1926	Safety and Health Regulations for Construction	Relates to safety provisions during remedial construction activities	Yes	Yes			
10 NYCRR Part 5-1.31 Drinking Water Supplies	Prohibits installation of a private supply well in areas served by public water supply	Applies to institutional controls	Yes	Yes			
6 NYCRR Part 750-757 Implementation of NPDES Program in New York State (SPDES Regulations)	Controls wastewater and stormwater discharges	Relates to disposition of water generated during excavation activities	Yes	Yes			
12 NYCRR Part 56 – Industrial Code 56 (Asbestos)	Regulates activities involving asbestos-containing materials	Applies during building demolition activities	Yes	Yes			
6 NYCRR Subpart 374-3 Standards for Universal Waste	Regulates the management of specific wastes (batteries, pesticides, thermostats, lamps)	Applies during building demolition activities	Yes	Yes			
GUIDELINES (2)							
CP-51 Soil Cleanup Guidance	Procedures for the selection of soil cleanup levels	Applies to identification of applicable Restricted / Unrestricted Use Soil Cleanup Objectives	Yes	Yes			
NYSDOH Community Air Monitoring Plan for Intrusive Activities (incorporated with site-specific HASP)	Requirements for real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust)	Relates to any intrusive remedial activities including excavation & drilling	Yes	Yes			

CITATION	DESCRIPTION	Applicability	WILL SELECTED REMEDY COMPLY WITH THIS SCG?	WILL REMEDY ADDRESSING UNRESTRICTED USE SCO COMPLY WITH THIS SCG?
NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York	Guidance in identifying and addressing existing and potential human exposures to contaminated subsurface vapors associated with known or suspected VOC contamination	Applies to control of soil vapor intrusion to future Site building	Yes	Yes
NYSDEC TOGS 1.1.1	Ambient Water Quality Standards and Guidance Values	Provides means of evaluating ground water quality	No	No
TOGS 1.3.8 New Discharges to Publicly-Owned Treatment Works	Used to evaluate effects of non-domestic discharges to a POTW	Relates to disposition of water generated during excavation activities	Yes	Yes
CP-43: Groundwater Monitoring Well Decommissioning Policy	Requirements for abandonment of groundwater monitoring wells	Applies to abandonment of wells at conclusion of remedy	Yes	Yes
NYSDEC DER-10	Technical Guidance for Site Investigation and Remediation	Relates to all Site remedial action activities, including notification, QA (Section 2), ICs (Section 5.6), schedule & progress reports (Section 5.7), reporting (Section 5.8), and operations, monitoring, & closeout (Section 6).	Yes	Yes

#### GLOSSARY OF ACRONYMS

CFR	Code of Federal Regulations
DER	Division of Environmental Remediation
HASP	Health & Safety Plan
ICs	Institutional Controls
ISTT	In-Situ Thermal Treatment
MNA	Monitored Natural Attenuation
NPDES	National Pollutant Discharge Elimination System
NYSDEC	New York State Department of Environmental Conservation
NYCRR	New York Code of Rules and Regulations
OSHA	Occupational Safety and Health
POTW	Publicly-Owned Treatment Works
QA	Quality Assurance
SCG	Standards, Criteria and Guidance
SCO	Soil Cleanup Objectives
SPDES	State Pollutant Discharge Elimination System
SSD	Sub-Slab Depressurization
SVE	Soil Vapor Extraction
TBC	To Be Considered Information
TOGS	Technical & Operational Guidance Series
VOCs	Volatile Organic Compounds (VOCs)
USEPA	U. S. Environmental Protection Agency

#### Notes:

(1) Standards and Criteria were obtained from NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, May 2010.

(2) Guidelines were obtained from NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation, May 2010.

#### TABLE 18 Cost Comparison for Remedial Alternatives Former Buffalo Forge Property Buffalo, New York NYSDEC BCP Site No. C915280

	Unit	No. of Units	Unit Price	Subtotal	Comments
SELECTED REMEDIAL ACTION: ALTERNATIVE 3 - REMOVE GCM, REMEDIATE IDENTIFIED AREAS OF THE SITE TO SSALs, AND PLACE COVER					Assumes cleanup as shown in Figure 26.
Excavation of Soil					
Mob/Demob. Site Facilities. Soil Erosion & Sediment Control	lump	1	\$200.293	\$200.293	Assume 5% of construction costs (excluding contingency)
Soil Staging Pad	S.F.	0	\$3	\$0	Trucks will be direct loaded.
Sheeting and Shoring	S.F.	0	\$90	\$0	Sheeting and shoring unnecessary. Union labor assumed with Level D PPE. Estimate includes
Excavation, Transport, and Disposal of RCRA Non-Haz Soil	ton	30,800	\$50	\$1,540,000	GCM, SSAL, and redevelopment excavations shown in Figure 26.
SSAL Exceedance Post-Excavation Soil Sample Analysis	sample	40	\$350	\$14,000	Samples will be collected from 20'x20' excavation walls (4) and floor (1) and analyzed for metals, PAHs, and PCBs.
GCM Post-Excavation Soil Sample Analysis	sample	101	\$225	\$22,725	Samples will be collected from excavation walls and floors and analyzed for STARS-list VOCs and SVOCs.
Waste Characterization Analysis	sample	50	\$740	\$37,000	Analysis required for landfill approval. Estimate from developer.
Provision and Emplacement of Backfill	yd <sup>3</sup>	24,400	\$30	\$732,000	Compacted clay and top soil. Estimate includes all soil cover and excavation backfill as shown on Figure 26.
Seeding and Restoration	S.F.	332,533	\$0.16	\$53,205	Grading and hydroseeding. Estimate from the developer.
Site Surveys	days	1	\$1,500	\$10,500	For contractor payment and record drawings. Construction costs relating to emplacement of geotextile fabric, parking areas (including subbase), and building
Associated Construction Cover Systems	lump	1	\$1,680,663	\$1,680,663	foundation cover systems as shown in Figure 26.
Project Management	-	-	-	\$214,500.00	5% of remedial costs, USEPA Cost Estimating Guide.
					3% of remedial costs, estimate based on remedial design
					work performed in preparation for the Alternative Analysis Report (excludes T&D and Associated Construction Cover
Remedial Design	-	-	-	\$77,200.00	Systems costs).
Construction Management	-	-	-	\$257,400.00	6% of remedial costs, USEPA Cost Estimating Guide.
Contingency			10%	\$483,900	
Total				\$5,323,400	
ALTERNATIVE 2 - REMEDIATE SITE TO UNRESTRICTED USE					
Excavation of Soil					
Mob/Demob, Site Facilities, Soil Erosion & Sediment Control	lump	1	\$805,992	\$805,992	Assume 10% of construction costs (excluding contingency)
Sheeting and Shoring	S.F.	0	\$90	\$0	Sheeting and shoring unnecessary
Excavation, Transport, and Disposal of RCRA Non-Haz Soil	ton	119,700	\$50	\$5,985,000	Union labor assumed with Level D PPE.
Post Execution Sail Sample Analysis	comple	1100	¢475	¢522 500	Assume NYSDEC will approve one sample every 60' of
	Sample	1100	φ473	<i>4</i> 522,500	One sample per 1000 $yd^3$ for first 5000 $yd^3$ , then one sample
Waste Characterization Analysis	sample	100	\$740	\$74,000	per 5000 yd <sup>3</sup> .
Provision and Emplacement of Backfill	yd <sup>3</sup>	66,500	\$30	\$1,995,000	Compacted run-of-crush stone, and top soil
Steeding and Restoration Site Surveys	davs	499,500 20	\$1.500	\$30,000	For contractor payment and record drawings
	,-		•••,••••		r or contractor paymont and record drawinger
Project Management	-	-	-	\$474,600	5% of remedial costs, USEPA Cost Estimating Guide
					3% of remedial costs, estimate based on remedial design work performed in preparation for the Alternative Analysis
Remedial Design	-	-	-	\$105,200.00	Report (excludes 1&D costs).
	-	-	-	\$369,500	b% of remedial costs, USEPA Cost Estimating Guide
			10%	\$1,064,200	
Total				\$11,705,900	
COST SAVINGS COMPARISON					
Gross Saving with Selected Remedial Action (Alternative 3)				\$6,382,500	
Comparative Percent Cost of Unrestricted Use Remedial Alternative				220%	

# Appendix A Soil Boring Logs Previous Investigations

(WL-01) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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HOLE DESIGNATION: SB-1 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

IT. HOS     IT. AMSL     INSTALLATION       GROUND SURFACE     0.0       CONCRETE FLOOR SLAB    5       CL-SILTY CLAY (NATIVE), trace fine sand, red brown, dry, no door, some concrete debris ê    20       -2.5     O.5ft BGS (on top of clay)       END OF HOLE @ 2.0ft BGS       -5.0       -7.5       -10.0       -12.5       -15.0       -2.6       -2.7	5
GROUND SURFACE         0.0         3         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         2         1         1         2         1         1         2         1         1         2         1         1         2         1         1         2         1 <th1< th="">         1         1</th1<>	PID
CONCRETE FLOOR SLAB        5           CL-SILTY CLAY (NATIVE), trace fine sand, red brown, dry, no oddr, some concrete debris @ 0.5ft BGS (on top of clay) END OF HOLE 9 2.0ft BGS        20           -2.5         0.1 ft BGS (on top of clay) END OF HOLE 9 2.0ft BGS        20           -5.0        5         0.1 ft BGS (on top of clay) END OF HOLE 9 2.0ft BGS           -5.0        5        5           -5.0        5        5           -5.0        5        5           -7.5        5        5           -10.0        5        5           -12.5        5        5           -2.0        5        5           -5.0        5        5           -7.5        5        5           -10.0        5        5           -12.5        5        5           -20.0        5        5           -20.0        5        5           -2.0        5        5           -2.0        5        5           -2.0        5        5           -2.0        5        5           -2.0        5        5 <t< td=""><td>(ppm)</td></t<>	(ppm)
END OF HOLE 9 2.01 BGS     BOREHOLE       -5.0     -7.5       -7.5     -10.0       -10.0     -12.5       -16.0     -17.5       -20.0     -10.0       -22.5     -10.0	0
-5.0 -7.5 -10.0 -12.5 -16.0 -17.5 -20.0 -22.5	
-7.5 -10.0 -12.5 -15.0 -17.5 -20.0 -22.5	
-10.0 -12.5 -15.0 -17.5 -20.0 -22.5 -25.0	
-12.5 -15.0 -17.5 -20.0 -22.5	
-15.0 -17.5 -20.0 -22.5 -25.0	
-17.5 -20.0 -22.5 -25.0	
-22.5	
-22.5	
-25.0	
-27.5	
-30.0	
-32.5	
	<u> </u>

(WL-02) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANOREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-2 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

ОЕРТН	H STRATIGRAPHIC DESCRIPTION & REMARKS ELEV.		MONITOR	SAMPLE			
ft. BGS		ft. AMSL	INSTALLATION	MBER	ATE	/ALUE	PID
	GROUND SURFACE	0.0		INN	ST		(ppm)
	CONCRETE FLOOR SLAB	4	CONCRETE	003	$\mathbb{X}$		0
2.5	red/brown, dry to moist		BENTONITE AND SOIL CUTTINGS				
-5.0	– wet, shaley partings, refusal (@ 4.5ft BGS) END OF HOLE @ 4.5ft BGS	-4.5	2" Ø BOREHOLE				
-7.5							
-10.0							
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
-32.5							
	NOTES MEASURING POINT ELEVATIONS MAY CHANGE	EFER TO	CURRENT ELEVATION TABLE		<u> </u>		
	WATER FOUND & STATIC WATER LEVEL						
L	UHEMIUAL ANALYSIS						

(WL-03) *Page 1 of 1* 

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-3 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		SAMPLE		
		TI. AMSL	INSTALLATION	BER	Ш	ALUE	PID
	GROUND SURFACE	0.0		MUN	STA	N, V	(ppm)
	CL-SILTY CLAY (NATIVE), some fine gray and white sands, red/brown, dry, no odor		BENTONITE AND SOIL				
-2.5			CUTTINGS				
-5.0	- refusal (@ 5.0ft BGS) END OF HOLE @ 5.0ft BGS	-5.0	2" Ø BOREHOLE	004	$\ge$		0
-7.5							
10.0							
-12.5							
15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							i
-32.5							
N	DTES: MEASURING POINT ELEVATIONS MAY CHANGE; R WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯	EFER TO (	URRENT ELEVATION TABLE		<u> </u>		

(WL~04) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-4 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		Ş,	AMPLE	
11.865		ft. AMSL	INSTALLATION	MBER	тате	VALUE	PID (DOM)
		0.0		ž	Ś	'n,	
	CL-SILTY CLAY (NATIVE), some to trace fine gravel, brown/olive, moist, no odor		BENTONITE AND SOIL CUTTINGS				
-2.5			2" Ø				
-5.0	- motor oil odor (4.5 to 5.0ft BGS) - refusal (@ 5.0ft BGS)	-5.0	BOREHOLE	005	$\ge$		O
	END OF HOLE @ 5.0ft BGS						,
-7.5							
-10,0							
-12.5							
-15.0							
-17.5							
20.0							
-22.5							
-25.0							
-27.5							,
-30.0							
-32.5							
NO	TES: MEASURING POINT ELEVATIONS MAY CHANGE; R WATER FOUND & STATIC WATER LEVEL &	EFER TO	CURRENT ELEVATION TABLE	L			
	CHEMICAL ANALYSIS		······································				

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

#### HOLE DESIGNATION: SB-5 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S,	AMPLE	
	GROUND SURFACE	D.0	INSTALLATION	UMBER	STATE	VALUE	PID (ppm)
-2.5	CL-SILTY CLAY (NATIVE), with some to trace fine gravel, ollve/brown, moist to wet, no odor		BENTONITE AND SOIL CUTTINGS	Z		,z	
-5.0 -	- refusal (@ 5.0ft BGS) END OF HOLE @ 5.0ft BGS	-5.0	2" Ø BOREHOLE	006	X		Q
-7.5							
-10.0							
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
25.0							
27.5							
30.0							
-32.5							
<u></u> <u>NO</u>	IES: MEASURING POINT ELEVATIONS MAY CHANGE, RE WATER FOUND ♀ STATIC WATER LEVEL ↓ CHEMICAL ANALYSIS ◯	EFER TO (	CURRENT ELEVATION TABLE				

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(WL-06) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-6 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

IEPTH ] t. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION	~~	5/	чмрсь Lu	
	GROUND SURFACE	0.0		IUMBER	STATE	, VALU	РІD (ррл
			CONCRETE			ž	
Γ	FILL-SAND, trace silt, fine grained sand,						0
.5 -			BENTONITE				
	moist, no odor		AND SOIL CUTTINGS				
5.0							
.5			2" Ø BOREHOLE				0
		9.0					
0.0	END OF HOLE @ 9.01t BGS						
ļ							
2.5							
5.0							
7.5							
						1	
20.0							
22.5							ļ
25.0							ļ
27.5							
50.0							
205							
52,5							
						<u> </u>	<u> </u>
N	DIES: MEASURING POINT ELEVATIONS MAY CHANG WATER FOUND Ø STATIC WATER LEVEL	E; REFER TO ( I	CURRENT ELEVATION (ABLE				
	CHEMICAL ANALYSIS	•					

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-7 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH   ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSL	MONITOR INSTALLATION		S,	AMPLE	
	GROUND SURFACE	0.0		NUMBER	STATE	V. VALUI	PID (ppm)
	CONCRETE FLOOR SLAB	5	CONCRETE	+			
	FILL-SAND, trace silt, fine grained sand,						
-2.5	CL-SILTY CLAY (NATIVE), red/brown, dry to moist, no odor	2.5	BENTONITE AND SOIL CUTTINGS				
-5.0							
-7.5			Z"Ø BOREHOLE				
-10.0	END OF HOLE @ 9.0ft BGS	-9.0	122				
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
22.5							

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-8 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV,			S,	AMPLE	
	GROUND SURFACE	0.0	INSTALLATION	UMBER	STATE	VALUE	PID (ppm)
	CONCRETE FLOOR SLAB	4	CONCRETE	z		ž	
-2.5	FILL-SAND and SILT, fine grained sand, dark stained						0
-50	SM-SILTY SAND, with some red/brown clay CL-SILTY CLAY (NATIVE), red/brown, dry to	3.3 -3.3	BENTONITE AND SOIL CUTTINGS				
			2110				O
-7.5		-9.0	BOREHOLE				
-10.0	END OF HOLE @ 9.0ft BGS	0.0					1
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
32.5							
NOT	ES: MEASURING POINT ELEVATIONS MAY CHANGE; R WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS	EFER TO (	CURRENT ELEVATION TABLE				

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-9 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV,	MONITOR		Ş,	AMPLE	
11. 86;		ft. AMSL	INSTALLATION	BER	TE	LUE	PID
	GROUND SURFACE	0.0		NUM	STA	N' VA	(ppm)
	CONCRETE FLOOR SLAB	4	CONCRETE				****
	FILL-SAND and SILT, fine grained sand, dark stained						
-2,5			BENTONITE	007	$\ge$		0
	SM-SILTY SAND, with some red/brown clay	-3.3 -3.3	AND SOIL CUTTINGS				
-5.0	CL-SILTY CLAY (NATIVE), red/brown, dry to moist, no odor						
-75			< 2" Ø BOREHOLE				
			DUNENOLE				
100	END OF HOLE @ 9.0ft BGS	-9.0					
-10,0							
-12.5							
1							
-15.0							
17.5							
1							
20.0							
-20.0							
-22.5							
						ľ	
-25.0							
			:			ł	
-27.5							
-30.0							
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20 5		ĺ					1
<b>F</b> <sup>32.5</sup>							i
	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; R	EFER TO (	CURRENT ELEVATION TABLE	,		ł	
	WATER FOUND & STATIC WATER LEVEL &						
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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-10 DATE COMPLETED: FEBRUARY 7, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DE	ртн	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR	SAMPL		AMPLE	E	
ft,	BGS		ft. AMSL	INSTALLATION	E H	ш	UE		
		GROUND SURFACE	0.0		NMBI	STAT	. VAL	Р10 (ррт)	
				RENTONITE	z		, N	<u> </u>	
		CONCRETE FLOOR SLAB	6					0	
	r l	FILL-SAND, SILT and CLAY, brown, dry to	-1.5	2" Ø				1	
<b>–</b> <sup>2.</sup>	ິ	moist, no odor		BOREHOLE					
		END OF HOLE @ 1.5ft BGS							
-5.	0								
					ĺ				
	5								
<b> </b> ''	5				ļ				
-10	.0								
	:								
-12	.5								
F <sup>15</sup>	0,								
-17	.5								
20	10								
-22	2.5								
-25	5.0		1						
-21	.5								
-30	).0								
-32	5								
					1				
								<u> </u>	
	<b>ئ</b> ــــــــــــــــــــــــــــــــــــ	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; F	EFER TO	CURRENT ELEVATION TABLE					
		WATER FOUND & STATIC WATER LEVEL							
L		CHEMICAL ANALYSIS							

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-11 DATE COMPLETED: FEBRUARY 8, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft. AMSI	MONITOR INSTALLATION		S.		
	GROUND SURFACE	0.0		NUMBER	STATE	N" VALUE	PID (ppm)
	CONCRETE FLOOR SLAB	4			 		
-2.5	CL-SILTY CLAY (NATIVE), with some to trace fine gravel, red/brown, dry to moist, no odor		BENTONITE AND SOIL CUTTINGS				0
-5.0			2" 0				0
-7.5		8.0	BOREHOLE				
-10.0	END OF HOLE & 8.011 BGS						
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
-32.5							
	IOTES: MEASURING POINT ELEVATIONS MAY CHANGE;	REFER TO	CURRENT ELEVATION TABLE		<u> </u>	<u> </u>	<u> </u>
	WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS						

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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HOLE DESIGNATION: SB-12 DATE COMPLETED: FEBRUARY 8, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

GROUND SURFACE CONCRETE FLOOR SLAB CL-SILTY CLAY (NATIVE), with some to trace fine gravel, red/brown, dry to moist, no odor	0.0	IND ; ALLA ( JUN	NUMBER	STATE	י, אערמב	PID (ppm)
CONCRETE FLOOR SLAB CL-SILTY CLAY (NATIVE), with some to trace fine gravel, red/brown, dry to moist, no odor	4		z	ζŋ		
CONCRETE FLOOR SLAB CL-SILTY CLAY (NATIVE), with some to trace fine gravel, red/brown, dry to moist, no odor	4			· · ·	÷	
fine gravel, red/brown, dry to moist, no odor						0
		BENTONITE AND SOIL				
		CUTTINGS				
						0
		2" Ø BOREHOLE				
	-80					
END OF HOLE @ 8.0ft BGS	0.0					
						4
5: MEASURING POINT ELEVATIONS MAY CHANGE	; REFER TO	CURRENT ELEVATION TABLE	<u></u>	<u></u>		<u></u>
WATER FOUND & STATIC WATER LEVEL	¥					
	END OF HOLE @ 8.011 BGS SI MEASURING POINT ELEVATIONS MAY CHANGE WATER FOUND ♀ STATIC WATER LEVEL CHEMICAL ANALYSIS	-8.0 END OF HOLE & 6.0ft BGS -8.0 S. MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO WATER FOUND Q STATIC WATER LEVEL Q CHEMICAL ANALYSIS	END OF HOLE & 6.011 BGS END OF HOLE & 6.011 BGS -6.0 -7.0 -6.0 -7.0	END OF HOLE & B.OTT BGS -8.0 -8.0 -8.0 -8.0 -8.0 -8.0 -8.0 -8.0	END OF HOLE @ 6.0/1 BGS =ND OF HOLE @ 6.0/1 BGS -6.0 -7.0 -7.	END OF HOLE & B.OM BOS -8.0 -8.0 -8.0 -8.0 -8.0 -8.0 -8.0 -8.0

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-13 DATE COMPLETED: FEBRUARY 8, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S/	AMPLE	
n. 865		ft, AMSL	INSTALLATION	3EB	ΤE	ILUE	PTO
	GROUND SURFACE	0.0		NUME	STA	N' VA	(ppm)
	ROCKS IN MACHINE PIT						
	CL-SILTY CLAY (NATIVE), with trace fine		AND SOIL				* 2
-2.5	- chemical odor (3.0 to 4.0ft BGS)		2" Ø				
h	- refusal (@ 4.0ft BGS)	-4.0	BOREHOLE		$\bowtie$		3-4
-5.0	END OF HOLE & 4.0ft BGS						
-7.5							8
-10.0							
-12.5							
1210							
15.0							
-15.0							
-17.5							
				ļ			
-20.0							
-22.5							
-25.0							[
-27.5							
				}			
-30.0							
-32.5							
U D L I				ļ			
							<u> </u>
NQ	IES: MEASURING POINT ELEVATIONS MAY CHANGE	REFER TO	CURRENT ELEVATION TABLE				
	$\begin{array}{c} \text{water found } \downarrow  \text{static water level } \\ \text{CHEMICAL ANALYSIS} \bigcirc \end{array}$	F					

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-14 DATE COMPLETED: FEBRUARY 8, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEP	TH STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		SAMPLE		
TL. E	GROUND SURFACE	D.0	INSTALLATION	NUMBER	STATE	I' VALUE	PID (ppm)
	FILL-SANDY GRAVEL, medium to fine grained,			~		<u>,</u> z	
-2.5	CL-SILTY CLAY (TILL), with silt seams, with some medium to fine gravel, hard, no odor	1.4	BENTONITE AND SOIL CUTTINGS				
-5.0	)						
-7.5			2" Ø BOREHOLE	009	$\overline{}$		n
-10.	0 - refusal (@ 9.0ft BGS) END OF HOLE @ 9.0ft BGS	-9.0	522				G
-12.	5						
-t5.							
-17.	5						
-20.	0				-		
-22.	5						
-25.	0						
-27.	5						
-30.	0						
-32.	5						
	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; WATER FOUND & STATIC WATER LEVEL & CHEMICAL ANALYSIS	L REFER TO	CURRENT ELEVATION TABLE	]			

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

HOLE DESIGNATION: SB-15 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S	AMPLE						
11.000	GROUND SURFACE	0.0	INSTALLATION	NUMBER	STATE	N' VALUÈ	PID (ppm)					
-2.5	FILL-SANDY GRAVEL, SAND-GRAVEL MIXTURES, with some silt, trace clay, concrete debris, medium to fine grained, no odor		BENTONITE AND SOIL CUTTINGS									
-5.0												
-7.5	- wet (@ 8.0ft BGS)		Contraction 2° 0 Borehole	010	$\ge$		0					
-10.0												
12.5	END OF HOLE @ 11.5ft BG\$	-11.5										
-15.0												
-17.5												
-20.0												
-22.5												
-25.0												
-27.5												
-30.0												
-32.5												
N	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯											

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-16 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S,	AMPLE	
ft. 868	GROUND SURFACE	0.0	INSTALLATION	UMBER	STATE	VALUE	PID (pom)
	FILL-SANDY GRAVEL MIXTURE, some clay, medium to fine grained, brown, no odor			z		ż	0
-2.5	- wet (8.3.5ft BCS)		BENTONITE AND SOIL CUTTINGS				
-5.0	CL-SILTY CLAY (NATIVE), trace fine sand and gravel, red/brown, wet, no odor	4.0					0
-7.5		-80	2" Ø BOREHOLE				
-10.0	END OF HOLE @ 8.0ft BGS	0.0					
10.5							
12.0							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
-32.5							
NC	DIES: MEASURING POINT ELEVATIONS MAY CHANGE; WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS	REFER TO	CURRENT ELEVATION TABLE				Ĭ

(WL-17) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-17 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S/	AMPLE	
t. 865	GROUND SURFACE	0.0		VUMBER	STATE	V VALUE	PID (ppm)
	FILL-SANDY GRAVEL, SAND-GRAVEL MIXTURES, with some silt, trace clay, concrete debris, medium to fine grained, no odor		BENTONITE			4	0
2.5			AND SOIL CUTTINGS				
5.0							
7.5	- wet (@ 8.Oft BGS)		2" Ø BOREHOLE				
·10.0							0
-12.5	END OF HOLE @ 11.5ft BGS	-11.5	20				
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
-32.5							
							<u> </u>

(WL-18) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-18 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S	AMPLE	
	GROUND SURFACE	0.0	INGTALLATION	NUMBER	STATE	N' VALUE	PID (ppm)
-25	FILL-SANDY SILT, GRAVEL, BRICK, CINDERS, and wood fragments		BENTONITE				
2.3			CUTTINGS				
-5.0	– chemical odor (@ 6.0ft BGS)		<b>≺</b> 2" Ø				
-7.5	CL-SILTY CLAY (NATIVE), with trace fine sand and gravel, moist to wet END OF HOLE @ 8.0ft BGS	6.5 8.0	BOREHOLE				1.2
-10.0							
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
27.5							
30.0							
-32.5							
NO	TES: MEASURING POINT ELEVATIONS MAY CHANGE: WATER FOUND ♀ STATIC WATER LEVEL ▼ CHEMICAL ANALYSIS ◯	REFER TO	CURRENT ELEVATION TABLE		L		

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-19 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

-2.5	GROUND SURFACE FILL-SAND-GRAVEL MIXTURES, with some silt and clay, tan, brown	0.0	INSTALLATION	MBER	ATE	ALUE	PID
-2.5	FILL-SAND-GRAVEL MIXTURES, with some silt and clay, tan, brown			2	ST	> .,	(ppm)
-2.5						-	0
	CL-SILTY CLAY (NATIVE), with trace fine	3.0	BENTONITE AND SOIL CUTTINGS				
-5.0	sand, red/brown, moist, no odor						
-7.5			€ 2° Ø BOREHOLE				0
[	END OF HOLE & 8.0tt BGS	8.0	122				
-10.0							
-12.5							
-15.0							
~17.5							
-20.0							
-22.5							
-25.0							
-27.5							
.30.0							ļ
-32.5							

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-20 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH fl. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		5	AMPLE	
	GROUND SURFACE	0,0	INSTALLATION	NUMBER	STATE	Y' VALUE	PID (ppm)
	FILL-CONCRETE DEBRIS, and medium fine brown sand and grave!						0
-2.5	CL-SILTY CLAY (NATIVE), with trace fine sand, red/brown, moist, no odor	-2.5	BENTONITE AND SOIL CUTTINGS				
-5.0			<b>≺</b> 2" Ø				
7.5		-8.0	BOREHOLE				0
-10.0							
-12.5							
15.0							
-17.5							
20.0							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							
-32.5							
	INTES MEASURING POINT ELEVATIONS MAY CHANGE D	FER TO C					
	WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS		JOHNENT ELEVATION TABLE				

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-21 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV,		ļ	S	AMPLE	
	GROUND SURFACE	0.0	IND ( MELA I JUN	NUMBER	STATE	1' VALUE	PID (ppm)
	FILL-CONCRETE DEBRIS, and medium fine brown sand and gravel					Ļ	0
-2.5	CL-SILTY CLAY (NATIVE), with trace fine sand, red/brown, moist, no odor		BENTONITE AND SOIL CUTTINGS				
·5.0			а				n
.7.5			BOREHOLE				Ĵ
-10.0	END OF HOLE @ B.Oft BGS						
10 5							
-12,0							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
-30.0							-
-50.0							
-32.5							
NC	DTES: MEASURING POINT ELEVATIONS MAY CHANGE WATER FOUND & STATIC WATER LEVEL	E; REFER TO	CURRENT ELEVATION TABLE	<u></u>	-l	.1	<u></u>
	CHEMICAL ANALYSIS						

(WL-22) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-22 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

пертн		ELEV.	MONITOR	SAMPLE			
ft. BGS	21KATIGKAPHIC DESCRIFTION & NEWARNS	ft. AMSL	INSTALLATION	4BER	ATE	<b>ALUE</b>	PID
	GROUND SURFACE	0.0		n N	s <sub>1</sub>	~ 	(ppm)
	FILL-GRAVEL and SAND, concrete debris, brown, gray		BENTONITE AND SOIL CUTTINGS				
-2.5	CL-SILTY CLAY (NATIVE), with trace fine sand, hard, dry to moist, no odor	2.5	2" Ø BOREHOLE				
-5.0	- stained layer (@ 4.7ft BGS) - refusal (@ 5.0ft BGS) END OF HOLE @ 5.0ft BGS	5.0		012	$\ge$		0
-7.5							
-10.0							
-12.5							
-15.0							
-17.5							
-20.0							
-22.5							
-25.0							
-27.5							
30.0							
-32.5							

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-23 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S	SAMPLE	:	
ft. BGS		ft. AMSL	INSTALLATION	BER	TE	VLUE	PID	
	GROUND SURFACE	0.0		MUM	STA	17 'N'	(ppm)	
	FILL-GRAVEL and SAND, concrete debris, brown, gray		BENTONITE AND SOIL CUTTINES					
-2.5 -	CL-SILTY CLAY (NATIVE), with trace fine sand, hard, dry to moist, no odor	-2.5	2" Ø BOREHOLE					
-5.0 -	- refusal (@ 5.0ft BGS) END OF HOLE @ 5.0ft BGS	~5.0					0	
-7.5								
-10.0								
-12.5								
-15.0								
-17.5								
-20.0								
-22.5								
-25.0								
-27.5								
-30.0								
-32.5								
N	OTES: MEASURING POINT ELEVATIONS MAY CHANGE: WATER FOUND ♀ STATIC WATER LEVEL ♥ CHEMICAL ANALYSIS ◯	 REFER TO	CURRENT ELEVATION TABLE	1	L	!	<u> </u>	

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-24 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ff BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S.	AMPLE	
11. 003		IT. AMSL	INSTALLATION	MBER	TATE	VALUE	PID
		0.0		R	ۍ ا	z	(ppm)
	FILL ORAVEL and SAND, CONCrete dedris, brown, gray		BENTONITE				
-2.5	CLECTLETY CLAY (NATEVE) with troop fine	-2.5	CUTTINGS				
	sand, hard, dry to moist, no odor		Z"Ø BOREHOLE				
-5.0	- refusal (@ 5.0ft BGS)	5.0		-			o
	END OF HOLE @ 5.0ft BGS						
-7.5							
-10.0							
-12.5							
50							
-15.0							
-17 5							
17.0							
-20.0							
-22.5							
							-
-25.0							
-27.5							
-30.0							
205							
-32,0							
N	DTES: MEASURING POINT ELEVATIONS MAY CHANGE; F WATER FOUND & STATIC WATER LEVEL *	REFER TO	CURRENT ELEVATION TABLE				
L	CHEMICAL ANALYSIS						

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-25 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR	SAMPLE		· · · · · · · · · · · · · · · · · · ·	
		It. AMSL	INSTALLATION	E	ш	Ъ	
	GROUND SURFACE	0.0		BMU	STAT	VAI	(ppm)
	ASPHALT	-,3	ASPHALT			,z	·····
	GM~SANDY GRAVEL (NATIVE), with silt		РАТСН				o
-2.5	CL-SILTY CLAY, with trace fine sand, dense,	-2.0	BENTONITE				
	red/brown, dry to moist, no odor		CUTTINGS				
			2" Ø BOREHOLE				
-5.0	END OF HOLE @ 5.0ft BGS	5.0					
-7.5							
-12.5							
				1			
-15.0	·						
-17.5							
-20.0							
					Į		
22.5							
6610							
-25.0							
27.5		i i i i i i i i i i i i i i i i i i i					
200					ļ		
-30.0					ĺ		
N	DTES: MEASURING POINT ELEVATIONS MAY CHANGE; R	efer to (	CURRENT ELEVATION TABLE				
ļ	CHEMICAL ANALYSIS						
(							
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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-26 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		SAMPLE					
ft. BGG		ft. AMSL	INSTALLATION	MBER	TATE	VALUE	PID			
	GROUND SURFACE	0.0		n N	ភ	, .	(hbu)			
	ASPHALT	3	ASPHALT PATCH				0			
-25	CL-STLTY CLAY with trace fine sand, dense,			ļ						
-2.5	red/brown, dry to moist, no odor		CUTTINGS							
-50		-50	BOREHOLE							
<b>-</b> 0.0	END OF HOLE @ 5.0ft BGS									
-7.5										
						ļ				
-10.0										
-12.5										
-15.0										
-17.5										
-20,0										
-22.5										
-25.0										
-27.5										
20.0										
-30,0										
32.5										
-52.5										
						1	<u> </u>			
	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE WATER FOUND ¥ STATIC WATER LEVEL	; REFER 10 <b>X</b>	GUNKENT ELEVATION TABLE							
L	CHEMICAL ANALYSIS					<u></u>				

(WL-27) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

#### HOLE DESIGNATION: SB-27 DATE COMPLETED: FEBRUARY 9, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS		MONITOR				
1, 86\$		TL AMSL	INS I ALLA I IUN	UMBER	TATE	VALUE	PID (ppm)
		0.0		ž	Ś	"N,	
-	ASPHALT GM-SANDY GRAVEL (NATIVE), with silt		РАТСН				
2.5	CL-SILTY CLAY, with trace fine sand, dense, red/brown, dry to moist, no odor	-2.0	BENTONITE AND SOIL CUTTINGS				
5.0 -	- slightly dark stained soils, no odor (@ 4.5ft		€ 2" Ø BOREHOLE	013			0
	END OF HOLE @ 5.0ft BGS						
7.5							
10.0							
					ļ		
12.5							
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
21.5							
30.0							
32.5							
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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-28 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S,	AMPLE	
	GROUND SURFACE	0.0	ANG FALLATION	UMBER	TATE	VALUE	PID (ppm)
				ž	ى 	ž	
	FILL-CLAY and BRICK DEBRIS, wet, no odor		PATCH				o
-2.5	CL-SILTY CLAY (NATIVE), with trace fine sand, dense, red/brown, dry, no odor	-1.5	BENTONITE				
-5.0			CUTTINGS				0
-7.5		-80	BOREHOLE				
	END OF HOLE @ 8.0ft BGS	0.0					
-10.0							
-12.5							
-15.0							
-17.5							
-20.0							
-22.5			:				
-25.0							
-27.5							
-30.0							
-32.5							
N	DTES: MEASURING POINT ELEVATIONS MAY CHANGE: WATER FOUND ♀ STATIC WATER LEVEL ↓	REFER TO CU	RRENT ELEVATION TABLE		1	<b></b> 1	

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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-29 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR	SAMPLE					
11, 865			INSTALLATION	EB	Ш	Ξn	0.70		
	GROUND SURFACE	0.0		BMD	STAT	. VAI	(ppm)		
		4	ASPHALT			,Z			
	FILL-SAND and GRAVEL, with brick debris,	-1.0	PATCH	014	K		2		
25			BENTONITE						
	sand, dense, red/brown, dry, no odor		CUTTINGS						
	SM/CL-SANDY CLAY, some silt, brown, dry	-4.0	2"Ø BOREHOLE						
-5.0	- refusal (@ 5.0ft BGS)	-5.0							
	END OF HOLE @ 5.0ft BGS								
-7.5									
							-		
-10.0									
-12.5									
-15.0									
10.0							-		
-17.5									
-20.0									
0.25									
-22.0									
-25.0									
-27.5									
20.0									
-30.0									
-32.5	· · · · · · · · · · · · · · · · · · ·								
				l					
1 1	VOTES: MEASURING POINT ELEVATIONS MAY CHANGE; R	EFER TO	CURRENT ELEVATION TABLE						
	CHEMICAL ANALYSIS								
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PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-30 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

Instruction     Instruction     Instruction       ASPHALT     File     0.0       PID     Common Summaria	DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS		MONITOR	SAMPLE					
BRUNN SURFACE     0.0     3974ALT     FILL-CNNER and BRICK DEBRIS, Nack     -7.3     -7.4     APERALT     OB     Construction     Constru			IL AMSL		JER -	ΤE	TUE	PTO		
ASPHALT FILL-CINDER and BRICK DEBRIS, black stand axis DL-SBLTY CLAY INATIVEJ, with trace sand and gravel, dates, from, dry, no odor - with some sand, red/brown, no odor - with some sand, red/brown, no odor - moist (@ BOH BGS) END OF HOLE @ B.0H BGS - noist (@ BOH BGS) -		GROUND SURFACE	0.0		NUME	STA	۲. A	(ppm)		
-2.5       FALCINGER and BRICK DEERIS, black         -2.5       CL-SILTY CLAY (NATIVE), with trace send and gravel, dnase, torown, dry, no odor         -5.0		ASPHALT	3	ASPHALT	015	$ \models $	÷			
-2.5       DL-SILTY CLAY INATIVE), with trace sand and gravel, danse, brown, dry, no odor       DE-SILTY CLAY INATIVE), with trace sand and gravel, danse, brown, dry, no odor         -5.0       - with some sand, red/brown, no odor		FILL-CINDER and BRICK DEBRIS, black	-1.3	PAICH				J		
Gravel, danse, brown, ndy, no odor - with some sand, red/brown, no odor - with some sand, red/brown, no odor -7.5 - moist (@ 8.0ft BSS) END OF HOLE @ 8.0ft BOS -10.0 -12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -20.0 -27.5 -20.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -25.0 -27.5 -26.0 -27.5 -27.	-2.5	CL-SILTY CLAY (NATIVE), with trace sand and								
-5.0 -7.5 - moist (@ 8.0ft BSS) -8.0 END OF HOLE @ 8.0ft BBS -10.0 -12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -30.0 -32.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND Q STATIC WATER LEVEL Y		gravel, dense, brown, dry, no odor - with some sand, red/brown, no odor		AND SOIL CUTTINGS				8		
-7.5       - moiat (@ 8.0ft BGS)         -10.0       END OF HOLE @ 8.0ft BGS         -12.5	-5.0			Corrings						
- moist (@ ROM BGS)       -8.0         - IO.0       END OF HOLE @ B.OM BGS         -12.5       -16.0         -17.5       -20.0         -22.5       -25.0         -25.0       -25.0         -30.0       -32.5         NOTES:       MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND Y STATIC MATER LEVEL Y				<b>4</b> 2" Ø						
- moist (@ 8.0/f BCS)       -a.o       Ed         -10.0       END OF HOLE @ 8.0/f BCS       -a.o       Ed         -12.5       -15.0       -17.5       -17.5         -20.0       -22.5       -25.0       -25.0         -27.5       -30.0       -32.5       -30.0         -32.5       -30.0       -32.5       -31.0         NOTES:       MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND Q STATIC WATER LEVEL Y	-75			BOREHOLE						
-10.0 -12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND 및 STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯		- moist (@ 8.0ft BGS)	-8.0							
-12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS	10.0	END OF HOLE & BUT BUS								
-12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND Y STATIC WATER LEVEL Y CHEMICAL ANALYSIS	-10.0			:						
-12.5 -15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATCH FOUND \$ STATIC WATCH LEVEL \$ CHEMICAL ANALYSIS										
-15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯	-12.5									
-15.0 -17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND I STATIC WATER LEVEL I CHEMICAL ANALYSIS										
-17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND I STATIC WATER LEVEL I CHEMICAL ANALYSIS	-15.0									
-17.5 -20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS										
-20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND I STATIC WATER LEVEL I CHEMICAL ANALYSIS	-17.5									
-20.0 -22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯	ļ									
-22.5 -25.0 -27.5 -30.0 -32.5 NOIES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND I STATIC WATER LEVEL I CHEMICAL ANALYSIS	-20.0									
-22.5 -25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯										
-25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯	225									
-25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯	64.0									
-25.0 -27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE: REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯										
-27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND I STATIC WATER LEVEL I CHEMICAL ANALYSIS	-25.0						ļ			
-27.5 -30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS ◯										
-30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS	-27,5									
-30.0 -32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS										
-32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯	-30.0					ļ				
-32.5 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS								•		
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS	-32.5									
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS										
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND V STATIC WATER LEVEL V CHEMICAL ANALYSIS						]				
CHEMICAL ANALYSIS		NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; R WATER FOUND V STATIC WATER LEVEL V	EFER TO	CURRENT ELEVATION TABLE						
		CHEMICAL ANALYSIS				//				

(WL-31) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-31 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH ft. BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR INSTALLATION		SAMPLE				
10.000	GROUND SURFACE	0.0		UMBER	STATE	r' value	PID (ppm)		
	Δ ΩΡΗΛΙ Τ	3	ASPHALT	~		,z			
	FILL-CINDERS and GRAVEL, gray/black	10	РАТСН				0		
-2.5	SM-SANDY SILT (NATIVE), with some clay and gravel		BENTONITE						
-5.0	CL-SILTY CLAY, with some fine sand, trace gravef, red/brown and gray	4.0	CUTTINGS						
-7.5	- more gravel, dense, moist, no odor (@ 7.0ft B6S)		< 2" Ø BOREHOLE				0		
	END OF HOLE @ 8.0ft BGS		1223						
-10.0									
-12.5									
-15.0									
-17.5									
-20.0									
-22.5									
-25.0									
-27.5									
-30.0									
-32.5									
N	TES MEASURING POINT ELEVATIONS MAY CHANGE	REFER TO C	URRENT ELEVATION TABLE	<u> </u>					
N	DTES: MEASURING POINT ELEVATIONS MAY CHANGE WATER FOUND ♀ STATIC WATER LEVEL ↓ CHEMICAL ANALYSIS ◯	REFER TO C	URRENT ELEVATION TABLE						

(WL-32) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-32 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS		MONITOR				
ft. BGS	GROUND SURFACE	0.0	MULLAJA LONI	VUMBER	STATE	1. VALUE	PID (ppm)
		3	ASPHALT	~		<u> </u>	
+	FILL-GRAVELLY SAND and CINDER	-1.0	РАТСН		}		Q
-2.5	CL-SILTY CLAY (NATIVE), with trace gravel and sand		BENTONITE				
	~ red/brown	6.0	AND SOIL CUTTINGS				0
-5.0	SP-GRAVELLY SAND, brown, moist		2" 0	ļ			
-7.5	– 4" shale layer and clay (@ 6.5ft BGS) – dry, no odor (@ 7.0ft BGS)		ÉOREHOLE				
	END OF HOLE @ 8.0ft BGS	-8.0	122				
-10.0							
12,5							
_15 D							
-0.0							
-17.5							
-20.0							
22.5							
-25.0							
-27.5							
-30.0							
-32.5							
	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE WATER FOUND & STATIC WATER LEVEL CHEMICAL ANALYSIS	E; REFER TO	CURRENT ELEVATION TABLE	<u> </u>	<u> </u>		<u> </u>

(WL-33) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR ŁOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-33 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEP	TH STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR		S	AMPLE	
	GROUND SURFACE	D.O	INSTALLATION	NUMBER	STATE	I' VALUE	PID (ppm)
		-,3 -10	ASPHALT PATCH			z	
-2.5	CL-SILTY CLAY (NATIVE), with trace fine gravel, red/brown		BENTONITE		:		U
5.0	SM-SILTY SAND, with clay, brown, dry, no odor	~4.0	CUTTINGS 2" Ø BOREHOLE				0
-7.5	END OF HOLE @ 6.0ft BGS	-0.0					
-10.0							
12.5							
-15.0							
-17,5							
-20.							
-22.8							
25.0							
-27.5							
-30.0							
-32.5							
	1 NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; R WATER FOUND ♀ STATIC WATER LEVEL ♀ CHEMICAL ANALYSIS ◯		CURRENT ELEVATION TABLE				

PROJECT	NAME: BUFFALO HOWDEN INC.		HOLF RESIGNATION SR.			Pa	gelo
PROJECT	NUMBER: 14791		DATE COMPLETED. FEBR	-04 11.04	10 0	000	
CLIENT:	HODGSON, RUSS, ANDREWS, WOODS & GOODYEA	.R	DRILLING METHOD: DIRF(		10, 20 194	100	
LOCATIO	N: 490 BROADWAY, BUFFALO, NEW YORK		CRA SUPERVISOR: D. STE	TNER	Ö		
		·	· ·	41.000			
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR	1	s	SAMPLE	Ē
		ft. AMSL	INSTALLATION	E	Lin I	Щ	<b>—</b>
	GROUND SURFACE	0.0		IUMBI	STAT	VAL	(p)
	SPHALT	3	ASPHALT	<u> </u>		Z	
	FILL-CINDERS, SLAG, GRAVEL and SAND,	-1.0	PATCH				0
-2.5	CL-STLTY CLAY (NATIVE), with trace fine		BENTONITE AND SOIL				
	gravel, red/brown		CUTTINGS				
	SM-SILTY SANO, with clay, brown, dry, no odor	-4.0	BOREHOLE				
-5.0	- refusal (@ 5.0ft BGS)						
	END OF HOLE @ 5.011 BGS						
-7.5							
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(WL-35) Page 1 of 1

PROJECT NAME: BUFFALO HOWDEN INC. PROJECT NUMBER: 14791 CLIENT: HODGSON, RUSS, ANDREWS, WOODS & GOODYEAR LOCATION: 490 BROADWAY, BUFFALO, NEW YORK

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#### HOLE DESIGNATION: SB-35 DATE COMPLETED: FEBRUARY 10, 2000 DRILLING METHOD: DIRECT PUSH CRA SUPERVISOR: D. STEINER

DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV.	MONITOR	SAMPLE					
ft. BGS		ft. AMSL	INSTALLATION	MBER	ATE	ALUE	PID		
	GROUND SURFACE	0.0		R	ST	, z	(1001)		
	ASPHALT FILL-GRAVELLY SAND, brick debris	3 7 -1.5	ASPHALT PATCH BENTONITE				0		
-2.5	CL-SILTY CLAY (NATIVE), with rock fragments, dense, brown, dry, no odor - refusal (@ 1.5ft BGS)		AND SOIL CUTTINGS 2" Ø BOREHOLE						
-5.0	END OF HOLE @ 1.5ft BGS								
-7.5									
10.0									
-12,5									
-15.0									
-17.5									
-20.0									
-22.5									
-25.0									
-27.5									
-30.0									
-32.5							2		
	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; F WATER FOUND ¥ STATIC WATER LEVEL ¥ CHEMICAL ANALYSIS	I REFER TO	CURRENT ELEVATION TABLE	I	<u> </u>	I			

PROJECT CLIENT: LOCATIO	NUMBER: 14791 HODGSON, RUSS, ANDREWS, WOODS & GOODYEAF N: 490 BROADWAY, BUFFALO, NEW YORK	ł	DATE COMPLETED: FEBRU DRILLING METHOD: DIREC CRA SUPERVISOR: D. STEI	ARY T PUS	10, 20 3H	000	
DEPTH	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV,	MONITOR		Ş	AMPLE	
H. 865		It. AMSL	INSTALLATION	BER	E	ALUE	
	GROUND SURFACE	0,0		MUN	STA	17 . N.	
R	ASPHALT		ASPHALT PATCH			t	t
	CL-SILTY CLAY (NATIVE) with rock fragments	1.5	BENTONITE AND SOIL		1		
-2.5	dense, brown, dry, no odor		CUTTINGS				ĺ
	END OF HOLE @ 1.5ft BGS		BOREHOLE				
-5.0							
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#### SUMMARY OF SAMPLE LOCATIONS

#### Buffalo Urban Development Corporation Former Buffalo Forge Site Buffalo, New York

Location	Test Pit D	imensions	Soil Sample	Depth (fbgs) and	Evidence of	Field Observations / Notes
Location	Length (feet)	Depth (fbgs)	Interval (fbgs)	USCS Soil Classification (visual-manual)	Sand	
Test Pit Lo	ocations	•				
TP-1	20.0	6.0	0.5 - 6.0	0 - 0.5 Brown Clay cover soils 0.5 - 6.0 Various lenses of black, brown and tan/yellow fine sand, Dry.	Yes	
TP-2	15.0	4.0		0 - 4' Brown Clay with some round stone / gravel 1-2" dia. Water perched at 3.0 fbgs.		
TP-3	12.0	4.0		0.0 - 0.5 Brown Clay cover soils. 0.5 - 4.0-Black /dark brown fill soil, some red brick pieces, round stone, trace of slag <1 " dia. Moist		
TP-4	40.0	4.0		1st 15 linear feet of test from west end of property line heading east, was native red sandy clay, moist wet. The remaining 25 linear feet heading east was brick/fill debris with large gravel (2-4' dia) and some sand. A trace foundry like sand found at 2 fbgs, but test pit mostly contained gravel and brick debris.	Yes	Refusal encounter approx 3fbgs.
TP-5	28.0	4.0		On south end of test pit, 0-2.5' clay soils with refusal (rock and/or concrete) at 2.5 fbgs. North end of test pit contained Clay Fill soils with traces of black sand, and brick debris. Moist	Yes	
TP-6	20.0	4.0		South end of test pit contained clay soils from 0-4', with some brick debris. Old drain tile pieces in test pit. No foundry type sand observed. North end of test pit contained clay soils with some concrete/rebar debris, Moist. A trace of black sand detected on north end of test pit.	Yes	
TP-7	36.0	4.0	1.0 - 3.0	0.0 - 1.0 Brown clay cover soils 1.0 - 3.0 Black/gray sand lenses 3.0 - 4.0 Red sandy clay soils,	Yes	excavator scraping rock at 3.5 fbgs.
TP-8	15.0	3.5	0.5 - 3.0	0.0 - 0.5 Red/brown clay cover soils 0.5 - 3.0 Black sand/ round stone, with brick debris, water encountered at 2.5'. Slight petroleum-like odor detected 3.0 - 3.5 Red/brown clay soils.	Yes	Analyzed test pit for TCL STARS list VOCs and PAHs <b>Petroleum-like odor noted</b>
TP-9	10.0	3.5		0 - 0.5 Brown clay cover soils 0.5-3.5 Coarse gravel with fine black foundry sand.	Yes	North end of test pit wall appeared to have brown/red sandy clay from 0.5- 3.5 fbgs
TP-10	10.0	3.5		0.0 - 0.5 Brown clay cover soils 0.5 - 1.0 Fine gravel <1/4" dia, w/some brick fragments, trace of black sand, Moist, 1.0 - 3.5 Red/brown native sandy clay, wet.	Yes	
TP-11	12.0	4.0		0.0 - 4.0 Brown /red sandy clay, wet. Slight trace of black cindery like pieces, <1/2" dia. Two 2-inch pipes running parallel with sidewalk were encountered approx 3.5' fbgs. Approx 15' east of sidewalk.	Yes	
TP-12	12.0	3.5		0.0 - 0.5 Brown clay cover soils, 0.5-1' FILL, brick gravel & sand, Dry. 1.0 - 2.0 Concrete floor/foundation 2.0 - 3.0 Foundry type sand-White/tan, with trace of black sand. 3.0 - 3.5 Native red sandy clay soil.	Yes	
TP-13	12.0	3.5		0.0 - 0.5 Brown clay cover soils 0.5 - 1.0 very thin lenses of black sand & fine gravel. 1.0 - 3.5 Red clay with some gray silt, dry to moist.	Yes	
TP-14	12.0	3.5		0.0 - 0.5 Brown clay cover soils 0.5 - 1.5 Brown fine sand backfill, moist. 1.5 - 2.0 Coarse gravel layer 1-2" dia round stone, trace of fine black sand fill. 2.0 - 3.5 Red sandy clay	Yes	
TP-15	18.0	4.0		0.0 - 1.0 Fine brown sand/clay cover soil-wet. 1.0 - 4.0 Brown clay , with pieces of weather rock, 1.0 - 2.0 dia. 4" cast iron drain pipe found in test pit.		
TP-16	10.0	2.5		0 - 2' Brown clay soils sitting on top of bedrock.		
TP-17	10.0	3.5	0.5 - 2.0	0.0 - 0.5' Brown clay cover soil 0.5 - 3.5 fine brown sand/clay moist to wet. The west sidewall of the test pit contained an area of old cast iron piping, surrounded by black sand fill.	Yes	Sample collected from the black sand fill
TP-18	10.0	3.5	0.5 - 2.5	0.0 - 1.0 Brown clay cover soils, 1.0 - 2.5 Black sand fill, w/ broken concrete debris approx 1-1.5' dia, petroleum-like odor detected, Dry, some misc 2" pipe debris encountered. 2.5- 3.5 Red /brown clay soil.	Yes	Petroleum-like odor noted
TP-19	10.0	3.5		0.0 -1.0 Brown clay cover soils 1.0 - 2.5 Fill brick fine gravel- gray/brown. 2.5 - 3.5 brown/red sandy clay soils, moist.		



#### SUMMARY OF SAMPLE LOCATIONS

#### Buffalo Urban Development Corporation Former Buffalo Forge Site Buffalo, New York

	Test Pit Dimensions		Soil Sample	Depth (fbgs) and	Evidence of	Field Observations / Notes	
Location	Length (feet)	Depth (fbgs)	Interval (fbgs)	USCS Soil Classification (visual-manual)	Sand	Field Observations / Notes	
TP-20	10.0	3.5	0.5 - 1.5	0.0 - 0.5 Brown wet at surface silty clay cover soils, soft, some fine sand, medium plasticity . 0.5 - 1.5 Black sand fill, some brick debris, some fine gravel, moist. 1.5 - 3.5 Brown/red clay soil	Yes		
TP-21	10.0	3.5	1.0 - 3.0	0.0 - 1.0 Brown wet at surface silty clay cover soils, soft, some fine sand, medium plasticity 1.0 - 3.0 Dark brown/black, moist with fine to coarse black sand and large pieces of limestone rock, brick and wood debris. 3.0 - 3.5 Reddish brown, moist, silty clay with trace sand, stiff, high plasticity.	Yes		
TP-22	8.0	7.0		0.0 - 1.0 Brown wet at surface silty clay cover soils, soft, some fine sand, medium plasticity. 1.0 - 6.5 brown/black moist, fill, reworked silty clay with intermixed black foundry sand with brick and wood debris, old electrical conduit, some lime stone debris. 6.5-7.0 Reddish brown, moist, silty clay with trace sand, stiff, high plasticity.	Yes		
TP-23	7.0	4.0		0.0 - 1.0 Brown clay cover soils 1.0 - 3.0 Medium brown silty clay with brick debris 3.0 - 4.0 Reddish brown, moist, silty clay with trace fine sand, high plasticity, firm.			
TP-24	9.0	5.5		1.0 - 4.0 Medium brown sand, with some silt, few fine to coarse gravel backfill, medium density, low plasticity.			
TP-25	8.0	2.5		<ol> <li>A.D. S.D. David and Control a</li></ol>			
TP-26	13.0	3.5	1.0 - 2.0	0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 0.5 - 2.0 Brown sandy Fill, with brick debris, medium density. Some isolated pockets of black fill material. 2.0 - 3.5 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick.	Yes		
TP-27	8.0	3.5		0.0 - 1.0 Brown clay cover soils, with pieces of lime stone and bricks. 1.0 - 3.5 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick.			
TP-28	12.0	6.5	0.5-4.0 4.0-6.5	<ul> <li>00.5 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.</li> <li>0.5 - 4.0 Black/brown Fill w/ brick and wood material, clay tile pipe running in an east to west direction filled with black fine foundry sand, east and south side of test pit a steel pipe comes to a T at approximate center of test pit.</li> <li>4.0 - 6.5 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick. with petroleum-like odor.</li> </ul>	Yes	Sample black fill-0.5-4.0' for Metals, PAHS & PCBs, sampled 4.0-6.5' for VOCs. <b>Petroleum-like odor noted</b>	
TP-29	9.0	4.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel, with lime stone and brick debris. 1.0 - 4.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick.			
TP-30	9.0	4.0		0.0 - 0.5 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.       0.5 - 1.5 Brown/black, moist, fill, reworked silty clay with intermixed black fine foundry sand with brick and limestone debris.       Yes         1.5 - 4.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.       Yes			
TP-31	10.0	5.0	0.5 - 5.0	0.0 - 0.5 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 0.5 - 2.0 Brown, moist, fill, reworked silty clay with intermixed fine black foundry sand with brick and limestone debris. 2.0 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.	Yes	Most of black sand fill is in a possible former utility line or foundation that runs east west found in approximate center of test pit. Refusal on bedrock at 5.0 fbgs.	
TP-32	9.0	3.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 1.0 - 1.5 Brown black, moist, fill, reworked silty clay with brick debris, with intermixed fine black foundry sand. 1.5 - 3.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.			



#### SUMMARY OF SAMPLE LOCATIONS

#### Buffalo Urban Development Corporation Former Buffalo Forge Site Buffalo, New York

I a a stian	Test Pit D	imensions	Soil Sample	Depth (fbgs) and	Evidence of	Field Observations (Notes	
Location	Length (feet)	Depth (fbgs)	Interval (fbgs)	USCS Soil Classification (visual-manual)	Sand	Field Observations / Notes	
TP-33	9.5	4.0	1.0 - 3.0	<ul> <li>0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.</li> <li>1.0 - 1.5 Black, moist, fine foundry sand, dense, loose when disturbed, with brick debris.</li> <li>1.5 - 2.5 Brown, moist, reworked silty clay with trace fine sand with stone and brick debris.</li> <li>2.5 - 3.0 Black, moist, fine foundry sand, dense, loose when disturbed, with brick debris, pinches out towards the west.</li> <li>3.0 - 4.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.</li> </ul>	Yes	Perched groundwater lenses at sand clay interfaces.	
TP-34	8.0	5.0	3.0 - 5.0	<ul> <li>0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.</li> <li>1.0 - 3.0 Reddish brown, moist, fine sand backfill with some silt with few coarse sands and fine to coarse gravel, medium dense, loose when disturbed.</li> <li>3.0 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff, petroleum like odor in grey sandy lenses.</li> </ul>		Sampled only for STARS list VOCs and PAHs Refusal 5.0 fbgs bedrock. <b>Petroleum-like odors noted</b>	
TP-35	8.0	4.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 1.0 - 4.0 Reddish brown, moist, fine sand backfill with some silt with few coarse sands and fine to coarse gravel, medium dense, loose when disturbed		Refusal bedrock 4.0 fbgs.	
TP-36	10.0	3.5		<ul> <li>0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.</li> <li>1.0 - 3.0 Reddish brown, moist, fine sand backfill with some silt with few coarse sands and fine to coarse gravel, medium dense, loose when disturbed.</li> <li>3.0 - 3.5 Black, moist, fine foundry sand, dense, loose when disturbed.</li> </ul>	Yes	Refusal bedrock 3.5 fbgs.	
TP-37	10.0	4.0	1.0 - 1.5	0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.       1.0 - 1.5 Black dark brown, moist, silty clay mixed with fine black foundry sand, medium soft, low plasticity, with pieces plasticity orange fencing.       Yes         1.5 - 4.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.       Yes		Refusal bedrock 4.0 fbgs.	
TP-38	9.0	3.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 1.0 -3.0 Dark brown, moist, reworked silty clay with trace fine sand and few fine to coarse gravels.		Refusal bedrock 3.0 fbgs.	
TP-39	10.0	2.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 1.0 -2.0 Dark brown, moist, reworked silty clay with trace fine sand and few fine to coarse gravels.		Refusal bedrock 2.0 fbgs.	
TP-40	11.0	5.0		0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 1.0 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.			
TP-41	10.0	5.0		0.0 - 0.5 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel. 0.5 - 2.0 Brown, moist, fine sand back fill with some coarse sand and fine to coarse gravel, medium dense, loose when disturbed with woody debris 2.0 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.			
TP-42	10.0	6.0		<ul> <li>0.0 - 1.0 Brown, moist, silty clay cap material, with some fine to coarse sand and fine to coarse gravel.</li> <li>1.0 - 3.0 Brown, moist, reworked silty clay with trace fine sand with limestone debris, rebar and old electrical wiring.</li> <li>3.0 - 5.5 Grey, moist to wet, crushed limestone with some silt and fine sand.</li> <li>5.5 - 6.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.</li> </ul>			
TP-43	9.5	5.0	1.0 - 3.0	0.0 - 1.0 Brown, moist, fine sand with some coarse sand and fine to coarse gravel, medium dense, loose when disturbed. 1.0 - 2.5 Dark brown/black, reworked silty clay with trace sand with brick, limestone and metal debris. 2.5 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.		Foundation approximately 3.0 feet from west wall of test pit, bricks and limestone were mixed coarse black sands.	



#### SUMMARY OF SAMPLE LOCATIONS

# Buffalo Urban Development Corporation Former Buffalo Forge Site Buffalo, New York

	Test Pit Dimensions		Soil Sample	Depth (fbgs) and	Evidence of	Field Observations / Notes	
Location	Length Depth (feet) (fbgs)		Interval (fbgs)	USCS Soil Classification (visual-manual)	Sand		
TP-44	TP-44 10.0 5.0			<ul> <li>0.0 - 1.0 Brown, moist, fine sand with some coarse sand and fine to coarse gravel, medium dense, loose when disturbed.</li> <li>1.0 - 2.5 Dark brown/black, reworked silty clay with trace sand with brick, limestone and metal debris.</li> <li>2.5 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.</li> </ul>		Foundation running east west 2.0 fbgs.	
TP-45	10.0	5.0		0.0 - 0.5 Dark brown, moist, topsoil, silt with little clay, and few fine sands, rootlets, soft, low plasticity. 0.5 - 5.0 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.			
TP-46	11.0	5.5	0.5 - 2.0	<ul> <li>0.0 - 0.5 Dark brown, moist, topsoil, silt with little clay, and few fine sands, rootlets, soft, low plasticity.</li> <li>0.5 - 2.0 Dark grey to black, moist, fine foundry sand, dense, loose when disturbed.</li> <li>2.0 - 5.5 Reddish brown, moist, silty clay with trace fine sand, with lensed grey fine sand layers less then half a cm thick, high plasticity, stiff.</li> </ul>	Yes	Perched groundwater lenses at sand clay interfaces.	
Boring Locations							
SB-1		5.0		0.0 - 1.5 Asphalt and orange brick debris. 1.5 - 5.0 Brown, moist silty clay, with some fine sand with trace fine and coarse gravel, medium soft, low plasticity.			
SB-2		4.8		0.0 - 1.0 Asphalt and orange brick debris. 1.5 - 4.8 Brown, moist silty clay, with some fine sand with trace fine and coarse gravel, medium soft, low plasticity			
SB-3		4.6	0.5 - 1.5	0.0 - 1.0 Asphalt and orange brick and concrete debris. 1.5 - 4.6 Brown, moist silty clay, with trace fine sand with trace fine and coarse gravel, firm, low plasticity.			
SB-4		4.4	0.5 - 1.5	0.0 - 2.0 Brown black, moist, fines with asphalt and brick debris. 2.0 - 4.4 Brown, moist silty clay, with trace fine sand with trace fine and coarse gravel, firm, low plasticity.			
SB-5		2.2	0.5 - 1.5	0.0 - 2.2 Brown, moist silty clay, with trace fine sand with trace fine and coarse gravel, firm, low plasticity			
SB-6		2.1	0.5 - 2.0	2.0 - 2.1 Brown, moist silty clay, with trace fine sand with trace fine and coarse gravel, firm, low plasticity.			

Notes: 1. fbgs = feet below ground surface 2. USCS = Unified Soil Classification System

Appendix B Monitoring Well Construction Logs-Previous Investigations

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

## MONITORING WELL CONSTRUCTION LOG



5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



ERM

WELL: TUM W-08

5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



## **ERM** 5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



WELL: TMW -14

5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554







5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



WELL: TMW-ISD

5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



roject Name & Location	Project No.		Wai	ter Level(s)		Site Elevation Datum		
Bullfr. In Force		(ft below to	pp of PVC casis	ng)				
Prilling Company	Foreman		Date	Time	Level (feet)	Ground Elevation		
urveyor					<u> </u>	Top of Protective Steel Cap Elevation		
ate and Time of Completion $ S  \leq  S  \leq  VD $	Geologist			<u> </u>		Top of Riser Pipe Elevation		
				<u>CO</u>	ISTRU	ICTION DETAILS		
Generalized Soil Description	<u>*Elevation</u>	<u>**Deptin</u>		· · · · · · · · · · · · · · · · · · ·	PROTEC	TTIVE STEEL CAP WITH LOCK		
	0.0	0.0						
	- 0.0 -	_ 0.0 _			EXPAN	SION CAP		
	0.0	0.0				GROUND SURFACE		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			777		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	0.0	Sicher		<	PROTEC	LTIVE STEEL CASING CEMENTED IN PLACE		
				>	BENTO	NITE-CEMENT GROUT		
	- 0.0 -							
	0.0			<	BENTO	NITE SEAL		
	- <sup>0.0</sup> -	-1.5 -			RISER			
	- 0.0 -	-2.5 -		-		MATERIAL: PVC		
				- -   <	WELLS	CREEN		
				-		SLOT SIZE: •10		
				-				
				-		MATERIAL:		
				-	SAND F	ACK		
				-		TYPE: U		
				-		·		
	0.0	-6.5 -		]	BOTTO	M CAP (PVC)		
	 •	L	t		BOTTO	OM OF BOREHOLE		
REMARKS	thish	, mar	<u>vř</u>					

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WELL: TMW-16

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## **ERM** 5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

WELL: TMW- IT

## MONITORING WELL CONSTRUCTION



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# Appendix C Soil Boring Logs Remedial Investigations

ſ	5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 PROJECT: Howden NA, Inc. Former Buffalo Forge Property - BCP #C915280								BORING # <b>B-01</b> ERM PROJECT # 0181805 SHEET 1 OF 1			
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM REPRESENTATI OFFICE LOCATION DATE: START FINISH				IVE J. Reynolds/ C.Voorhees Syracuse, NY 12/01/2014 05/07/2015				
	HOI VEF	RIZOI NOI EAS RTICA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074579.38 STING 1053494.46 AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.22 ft	BOREHOLE DEPTH9 ftBOREHOLE DIAMETER2 in								
Ī										SAM	IPLING DATA	
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	USCS	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
-	-		SANDY SILT (MLS) subangular, fine to medium grained GRAVEL; some fine to coarse	•	-						~8450cpm -	
-	- - - - -	-	gravel, moist, brown (10YR 3/3), [brick debris] SANDY SILT (MLS) moist, brown (10YR 6/3)		- - - - -	MLS		en s	12/12		- - - - BF-B01(0.5-1.5) [(0.5-1.5ft)] - 8040cpm - - -	
	- 2 - - -					MLS		en y	12/12	0.2		
	-		SANDY SILT (MLS) firm, some clay, moist, brown (10YR 6/3)	-	- 3 · - -	MLS		m	12/12		- /650Cpm - - -	
	- 4 - - -	= 605— –	CLAYEY SILT (CL) firm, moist, brown (10YR 6/3)	-	4 - - - -			m	12/12		—7270cpm - - -	
18	- - -			-	- - - -	CL			12/12	2.1	-	
ATE.GDT 8/31/	6 - - -	-	SILTY CLAY (CL-ML) some fine sand, moist, brown (10YR 6/3)	-	- 6 · - - 	CL-ML			12/12	1.7	—6880cpm - - - -	
1 DATA TEMPL	- - - -	-	CLAYEY SAND (SC) fine to medium grained SAND; firm, some silt, little fine to medium gravel, moist, brown (5YR 4/3), [Bedrock refusal @ 9ftbgs.]	ר 	- / - - - -	00			12/12			
- RI.GPJ ERM	- 8 - - -			-		50			12/12	0.9		
FFALO FORGE	- - -	= 600 			- 9 - - -		T. T				-	
BORING LOG FORMER BU	REMARKS:         cpm = counts per minute ftbgs = feet below ground surface         Image: Comparison of the system											
		2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554	nc. / - BCI	P #C91	5280	E	BOI ERN		<b># B-0</b>	<b>2</b> 0181805	
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E	R	M						SHE	ET 1	OF 2		
	RIL	LINC	G CONTRACTOR Parratt-Wolff	ERM	REPR	RESENTA	ATIVE		J.	Reynolds/	C.Voorhees	
C	RIL	LINC	GFOREMAN	OFF					Sy	racuse, N	Y	
	RIL		G METHOD Direct Push	DAT		кı сц			12	/01/2014		
H			SEQUENIENT Geoplobe 6020 DT						10	5 <del>6</del>		
	UR			DOR					21	.5 IL		
			TING 1074535.15	DUK			IER		21			
N.	FR		N DATIM (NAVD 88 (LIS Feet)) ELEVATION 600 ft									
-		110/						<u> </u>		SAM		
							G	ш		0/ 11/		
ЛЕРТН	i	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
-		_	SANDY SILT (MLS) medium dense, moist, brown (10YR 4/3)	_				•			-	
E		-		F		MLS		m	2/12	1.3	8090cpm BF-B02(0-1) [(0-1ft)]	
-		-		ŀ				-	-		-	
-		_	SANDY SILT (MLS) medium dense, moist, brown (10YR 6/3)		1 -			•			8130cpm -	
E		_				MLS		m	2/12	1.2	-	
-		-		-					-		-	
_	2	_	CLAYEY SILT (CL-ML) medium dense, moist, brown (10YR 6/3)		- 2 -						-	
-		_		F		CL-ML		sm.	2/12	0.8	8140cpm	
-		-							7		- bi -boz(z-3) [(z-3i()] -	
		-	CLAYEY SILT (CL-ML) medium dense, wet, brown (10YR 6/3)		3 -						8420cpm	
-				F		CI -MI		m	/12		-	
Ē		_				02			12		-	
F	4 6	605	SILTY CLAY (CL-ML) dense, wet, brown (10YR 6/3)		- 4 -					0.3	—7930cpm	
-		_		-		CL-MI		m	/12		-	
Ē		-							12		-	
-			SILTY CLAY (CL-ML) dense, wet, brown (10YR 4/3)		5 -						—7160cpm	
-									12	2	-	
-		_							12	2	-	
31/18	6			F	_	CL-ML					_	
T 8/		-							12		-	
Е.G С									12/		_	
-LAT			SILTY CLAY (CLML) donos traco fina to modium gravel wat brawn (40VD 4/2)		7 -					2.5		
LEMI		-	SILTE CLAT (CL-WIL) dense, trace line to medium graver, wei, brown (10TR 4/3)						12		-	
ATA		_		-		CL-ML			12/		_	
M M M	8	_		int	- 8 -							
苗 - こ -		-	SILLY CLAY (CL-ML) dense, some fine to medium gravel, trace fine to medium sand, w brown (10YR 4/3)	/et,					5		-	
R -				-		CL-ML			12/	3.4	-	
	(	500-			9 -							
FOR		-	SANDY CLAY (SW-SC) fine to medium grained SAND; moist, brown (10YR 4/3), [Bedro refueal @ 10.5 fthos ]	ock					8		-	
ALO		_		F		SW-SC			12/	0.7	-	
SUFF							• • • • / /					
AER L	k≞M/ nm ÷	4KK = 00	.5: unts per minute, fthas = feet below around surface									
N IOR	ייייק ה רמ											
g	<u>'</u> 20	Fab	Sample Direct push geoprobe sample									
NG L												
SORIN												
ш												

PROJECT: Howden NA	nc	BORING # <b>B-02</b>
Syracuse, New York 13212 By 1 215 445 2554	y - BCP #C915280	ERM PROJECT # 0181805
ERM.	:	SHEET 2 OF 2
DRILLING CONTRACTOR Parratt-Wolff	ERM REPRESENTATIVE	J. Reynolds/ C.Voorhees
DRILLING FOREMAN	OFFICE LOCATION	Syracuse, NY
DRILLING METHOD Direct Push DRILLING EQUIPMENT Geoprobe 6620 DT	FINISH	05/07/2015
HORIZONTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOREHOLE DEPTH	10.5 ft
NORTHING 1074535.15	BOREHOLE DIAMETER	2 in
EASTING 1053437.84		
		SAMPLING DATA
	50	Ше,е
NOL		$\begin{array}{c c} F \\ F \\ F \\ H \\$
	PTH CS APH	
ELLE	US DE	
	SW-SC	0.7
	_ 10.5	-
	-	
	-	
 - 12 -	-	
	_	
	_	
	_	
	_	
	-	-
	_	
<u>9</u> 590 -		
	F	
REMARKS:		

			PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	nc.			E	30	RING	6 # <b>B-0</b>	3
	FR		Syracuse, New York 13214 Former Buffalo Forge Property P: 1-315-445-2554	y - BC	P #C91	5280	E	ERN SHE	1 PRO	JECT # 0 OF 1	0181805
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	I REPR ICE LO E: STA FINI	ESENTA CATION RT SH			J. Sy 12 05	Reynolds/ rracuse, N //01/2014 //07/2015	' C.Voorhees Y
	HO	rizo Noi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074598.05	BOF BOF	EHOLE	E DEPTH	l TER		8.5 2 i	5 ft n	
	VEF	EAS RTIC	STING         1053452.93           AL DATUM (NAVD 88 (US Feet))         ELEVATION         607.9 ft								
	ЭЕРТН	ELEVATION	STRATA DESCRIPTION		ЭЕРТН	JSCS	SRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	IPLING DATA Observations / Remarks
	]	-	CLAYEY SILT (CL-ML) medium dense, some fine to coarse gravel, moist, brown (10YF 4/3)	2	 - -	CL-ML		m M	12/12 F	0.4	~7330cpm - - - -
	-	-	CLAYEY SILT (CL-ML) firm, moist to wet, brown (10YR 4/3)		- 1 - - -	CL-ML		₩	12/12	0.2	BF-B03(0.5-1.5) [(0.5-1.5ft)] 8530cpm - -
	- 2 - - -	-	CLAYEY SILT (CL-ML) firm, moist to wet, brown (10YR 4/3), [some orange staining]		2- - - -	CL-ML		19 19	12/12	0.3	- - - 7960cpm - BF-B03(2-3) [(2-3ft)] -
	-		SILTY CLAY (CL-ML) firm, little coarse gravel, wet, brown (10YR 4/3)		- 3 - - - -			M.	12/12	0.1	—7720cpm - - -
	4  	-		-	 - - -	CL-ML		19 19	12/12	0.1	
8		-	SILTY CLAY (CL-ML) firm, trace fine sand, moist, brown (5YR 4/3)		- 5 - - - -	CL-ML			12/12	1.4	—7340cpm - - - -
FE.GDT 8/31/1	- 6 - -	-	SILTY CLAY (CL-ML) firm, little fine sand, moist to wet, brown (5YR 4/3)		- 6 - - - -	CL-ML			12/12	1.9	— 6280cpm - - - -
M DATA TEMPLA	- - - - - 8		SANDY CLAY (SC) firm, little silt, moist to wet, brown (5YR 4/3), [Bedrock refusal @ 8. ftbgs.]	5	- 7 - - - -	SC			12/18	1.4	—6200cpm - - - -
ORGE - RI.GPJ ER	-				- - 8.5 - - - -						-
UFFALO F	_	-			-						-
ING LOG FORMER BI	REN cpm	//ARk a = cc Grab	<s: ounts per minute ftbgs = feet below ground surface o Sample Direct push geoprobe sample</s: 								
BORI											

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554	9 #C91	5280	E	BOI ERM		6 # <b>B-0</b>	<b>4</b> 0181805	
	ER	M	F. 1-313-443-2334				S	SHE	ET 1	OF 2	
	DRI DRI DRI DRI	LLING LLING LLING LLING	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFFI DATE	REPF CE LC STA FINI	RESENTA DCATION RT SH	TIVE		J. Sy 12 05	Reynolds/ /racuse, N //02/2014 //07/2015	C.Voorhees Y
ľ	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLI	E DEPTH			10	.5 ft	
		NOF	RTHING 1074608.18	BORI	EHOLI	E DIAMET	ΓER		2 i	n	
	VEF		L DATUM (NAVD 88 (US Feet)) ELEVATION 607.8 ft								
ľ										SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	uscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	-	SILTY CLAY (CL-ML) firm, dry to moist, brown (10YR 4/3)					®N.	12/12	0.5	~6730cpm - - -
	- - - -	-		-		CL-IVIL		<b>M</b>	12/12	1	- - - -
	2 - - -	= - 605-	CLAYEY SILT (CL-ML) medium dense, some construction debris, moist, dark brown (10 3/3), [wood, cinders, and white concrete debris]	)YR _ - -	- 2 -	CL-ML		M	12/12	1.1	—6580cpm - - -
	  	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3)		3 -			enz.	12/12		
	4 - - -			-	-	CL-ML		er.	12/12	1.2	
8	- - -	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3)		5 -	CL-ML			12/12	1.2	—7050cpm - - -
TE.GDT 8/31/1	6 - - -	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3), [some oxidation]		- 6 -				12/12	2.4	—7130cpm - - - -
DATA TEMPLA		- - 600-		-		CL-ML			12/12	2.6	-
- RI.GPJ ERM	8  	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3)		- 8 -	CL-ML			12/12	2.4	—7760cpm - - - -
FFALO FORGE	- - -	= - -	SILTY CLAY (CL-ML) firm, some fine to medium gravel, moist, brown (5YR 4/3), [Bedro refusal @ 10.5 ftbgs.]	ck	9 -	CL-ML			12/18	0.6	—7370cpm - - -
BORING LOG FORMER BU	REN cpm	MARK n = co Grab	S: unts per minute ftbgs = feet below ground surface Sample Direct push geoprobe sample								

5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 PROJECT: Howden NA, Inc. Former Buffalo Forge Property - BCP								E	BOF	RING	6# <b>B-0</b>	4
		Syracuse, New Yo P: 1-315-445-255	rk 13214 4	Former Buffalo Forge Proper	ty - BC	P #C91	5280	E	ERM	1 PRC	JECT #	0181805
EK DRII		CONTRACTOR	Parratt	-Wolff	FRI	1 REPR	ESENT		SHE	EI2	OF 2 Revnolds/	C Voorhees
			New Y	ork	OFF	ICE LC	CATION			Sy	racuse, N	Y
DRIL	LING	G METHOD	Direct	Push	DAT	E: STA	RT			12	2/02/2014	
DRIL	LING		Geopro	bbe 6620 DT		FINI	SH			05	07/2015	
HOR			1983 Sta 10746(	atePlane New York West (US Feet) 08 18	BOF	REHOLI REHOLI	E DEPTE E DIAME	1 TFR		10 2 i	.5π n	
	EAS	TING	10533	17.84	201							
VER	TICA	L DATUM (NAVD 88	8 (US Fe	et)) ELEVATION 607.8 ft								
								(J)			SAN	IPLING DATA
DEPTH	ELEVATION		STRA	TA DESCRIPTION		DEPTH	nscs	GRAPHIC LOO	SAMPLE TYPI	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_	_					_	CL-ML			2/18	0.6	-
-	-					10.5 -		axxxx		<del>, ,</del>		-
_	_					-						-
-	_					_						-
- 12	_					-						-
-	_					_						
-	-					_						-
-	-295					_						-
_	_					-						-
-	_					_						-
- 14	_					-						-
-	-					-						-
_	_					_						-
-	_					-						-
-	_					_						-
20-10	_					_						-
	_					-						-
<u> </u>	_					-						-
	_					-						-
	590-					-						-
- 18 -	-					-						-
5	-					-						-
						_						-
						-						-
						-						- -
REN	IARK	S:		holow ground curfered								
cpm		ants per minute ittbg	s = reet									
	Grab	Sample		Direct push geoprobe sample								
DNIN												
2												

		9	PROJECT: 5788 Widewaters Pkwy Svracuse. New York 13214 Former Buffalo Forge Property	nc. y - BCI	P #C91	5280	E	30		6 # <b>B-0</b>	5
	ER	M	P: 1-315-445-2554	-			5	ERN SHE	I PRO	OJECT# 0 OF 2	0181805
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	REPR CE LO E: STAI FINIS	ESENTA CATION RT SH	ATIVE		J. Sy 12 05	Reynolds/ /racuse, N 2/01/2014 5/07/2015	C.Voorhees Y
	HOF	RIZOI NOF	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074577.08	BOR BOR	EHOLE EHOLE	E DEPTH E DIAME	I TER		11 2 i	.5 ft n	
	VEF	EAS	AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.01 ft								
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	PLING DATA Observations / Remarks
-		-	SAND (SP) fine to medium grained SAND; loose, some gravel, dry, black (10YR 2/1)	-		SP		m	12/12	0.6	~7010cpm - - - - BF-B05(0.5-1) [(0.5-1ft)]
-	- 2	-	SILTY CLAY (CL-ML) dense, moist, grayish brown (10YR 5/2)	-	1 -	CL-ML		m	12/12	0.2	—7050cpm - - - -
	- 2	- - 605-	SILTY CLAY (CL-ML) dense, little gravel, wet, brown (10YR 4/3)		- 2 -	CL-ML		E.	12/12	0.5	- 6880cpm BF-B05(2-3) [(2-3ft)] - 5760cpm
	- 4	-	CLAYEY SILT (CL-ML) medium dense, moist to wet, brown (10YR 4/3)	-	- 4 -	CL-ML		m	12/12	0.2	- - - 
		-	CLAYEY SILT (CL-ML) soft maist brown (10YR 4/3) [avidation]	-	5 -	CL-ML		E.	12/12		- - - 6900cpm
31/18	- 6		CLAYEY SILT (CL-ML) soft moist brown (10YR 4/3)	-	- 6 -	CL-ML			6/12	1.1	- - - - 
PLATE.GDT 8/		-		-		CL-ML			6/12	1	-
AM DATA TEM	- 8	- - 600-	CLAVEY SILT (CLML) dopport prover (40VR 4/2) [ovidation]	-	- 8 -				6/12	1.2	- - - - 7380cpm
GE - RI.GPJ EI			CEATET SILT (CE-WE) dense, moist, brown (10TR 4/3), [oxidation]	-		CL-ML			6/12	1.8	-
				-					12/12	0.3	-
BORING LOG FORMER B	REM cpm	/ARk = co Grab	S: unts per minute ftbgs = feet below ground surface Sample								

	ER	) M	5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 PROJECT: Howden NA, I Former Buffalo Forge Propert	nc. y - BCl	P #C91	5280	E	301 ERM SHE	RING 1 PRO	<b>3 # <b>B-0</b> JECT # OF 2</b>	<b>5</b> 0181805
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERN OFF DAT	I REPR ICE LO E: STA FINI:	ESENTA CATION RT SH	TIVE		J. Sy 12 05	Reynolds/ /racuse, N //01/2014 //07/2015	Y C.Voorhees Y
	HOF VEF	RIZOI NOI EAS RTICA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074577.08 STING 1053281.81 AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.01 ft	BOR BOR	EHOLE	E DEPTH E DIAME	I TER		11 2 i	.5 ft n	
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		-	SILTY CLAY (CL-ML) dense, moist, brown (10YR 4/3), [Bedrock refusal @ 11.5 ftbgs.]	-	- - - -	CL-ML			12/18	1.7	~6710cpm - - - - -
	- - - 12 -	-		- - - - - - - -	- -  						- - - - -
	-	 595 		- - - - -	- - - -						- - - -
	- 14 - -			-	-  - -						- 
31/18	- - - - - 16	-		-	- - - -						- - - -
TEMPLATE.GDT 8/		-		- - - - -	- - - -						- - - -
I.GPJ ERM DATA	- - - 18 - -	 590 			- - - - -						- - 
FALO FORGE - R				-	- - - -						- - - - -
BORING LOG FORMER BUI	REM cpm	//ARk a = co Grab	KS: bunts per minute ftbgs = feet below ground surface b Sample Direct push geoprobe sample			· · · · · ·		•			

	9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 PROJECT: Howden NA, In Former Buffalo Forge Property	nc. y - BCP #C9	15280	E	30I ERM		<b># B-0</b>	<b>6</b> 0181805
EF	<u>XM</u>			DEOENT		SHE	ET 1	OF 2	
DR	RILLIN	G CONTRACTOR Parratt-Wolff New York		RESENT	ATIVE I		J.	Reynolds/	C.Voorhees
DR		G FOREMAN	DATE: ST	ART	•		12	2/02/2014	•
DR	RILLIN	G EQUIPMENT Geoprobe 6620 DT	FIN	ISH			05	/07/2015	
HC	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOREHOL	E DEPTH	ł		11	ft	
	NO	RTHING 1074642.78	BOREHOL	E DIAME	TER		2 i	n	
	EAS	STING 1053282.6							
VE	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.64 ft				-			
					0	ш		SAN	
рертн	ELEVATION	STRATA DESCRIPTION	DEPTH	USCS	<b>GRAPHIC LO</b>	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_	_	[Concrete]	_				2		-
-		GRAVELLY SAND (GP-SP) fine to coarse arained SAND: subanaular, fine to medium	0.5			M	12/1;	0.7	-
-	=	grained GRAVEL; loose, some silt, moist, dark brown (10YR 3/3), [cinders]	1	GP-SP	• ^		~		6570cpm
-	-	SANDY SILT (SM) fine grained SAND; dense, moist, brown (10YR 4/3)				000	2		[(0.5-1.5ft)] 6620cpm
-			_			V	12/1		-
- :	2 -			SM				1.4	-
_	_		_			SM	72		
_	605-		_			V7	12/		—BF-B06(2-3) [(2-3ft)] - -
-	=	CLAYEY SILT (CL-ML) medium dense moist to wet black (10YR 4/3)	3						
-	-		_			SM2	/12	nα	-
-	_		-				12	0.0	-
	4 _			CL-ML					-
-	-		-			sm.	2/12	1.1	-
-	_		_				7		-
_	-	SILTY CLAY (CL-ML) firm, dry to moist, grayish brown (10YR 5/2)	- 5						5610cpm -
L	-		_				2/12	2.7	-
- 18			_				-		-
8/31	о —		_				2		-
GDT			-	CL-ML			12/1	2.2	-
	-		-						-
EMP	-		_				2		-
ATA -	600-		_				12/	2.8	-
	8 -	SILTY () AV (() MI) firm trace fine around moist light brown (10VD 6/2)	8	+					
ш- С-	_	Sich Serri (Serrie) initi, adde inite gravel, filoist, inglit DIOWI (1017/0/3)	F				12	<b>^ ^ ^</b>	-
-RIG			F				12	2.0	-
RGE	-	SILTY CLAY (CL-ML) firm, little fine gravel, dry to moist, reddish brown (5YR 4/3),	9	+					6560cpm
0 - 0	-	[oxidation]	-	CL-ML			2/12	1.6	-
IFFAL	_								-
RE	MAR	KS:							
	m = co T	ounts per minute ttbgs = feet below ground surface							
g	Grat	Direct push geoprobe sample							
NG L(									
BORI									

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Former Buffalo Forge Propert	nc. y - BC	P #C91	5280	В	OR	ING	6 # <b>B-0</b>	6
1	ER	M	P: 1-315-445-2554	-			E S	RM HEE	PRO ET 2 (	JECT# OF 2	0181805
-	DRII DRII DRII DRII		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERN OFF DAT	I REPRI ICE LO E: STAF FINIS	ESENTA CATION RT	TIVE		J. Sy 12 05	Reynolds/ rracuse, N /02/2014 /07/2015	′ C.Voorhees Y
	HOF	rizoi Nof	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1074642.78	BOF BOF	REHOLE	DEPTH	ſER		11 2 ii	ft n	
	VER	EAS RTICA	STING 1053282.6 AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.64 ft								
F		-								SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		-	SANDY CLAY (SC) firm, some fine to coarse gravel, moist to wet, gravish brown (10YI 5/2). [Bedrock refusal @ 11 fibres ]	२	_				5		- 6710cpm 
_					_	SC			12/	1.6	-
_		-			- 11 - -		1 1 1.1				-
		_			_						-
_	12	-			_						-
-		- 595-			_						-
-		_			-						-
_		_			_						-
	14	-			_						-
F	14	-			_						-
-		_			-						-
-		-			_						-
-					-						-
/31/18	16	_									-
3DT 8		_			_						-
LATE		-			_						-
TEMP		-			-						-
I DATA		590-			-						-
J ERN	18	_			_						
RI.GP		_			_						-
RGE .		-			-						-
ALO F(					-						-
RUFF.	REM	/ARK	KS:		_						
JRMEF	cpm	= co	unts per minute ftbgs = feet below ground surface								
OG F(	U.S.	Grab	Sample Direct push geoprobe sample								
RING L											
BOI											

	ED	) M	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E			<b>B # B-0</b>	<b>7</b> 0181805
ŀ	DRI		G CONTRACTOR Parratt-Wolff	ERM	/ REPR	RESENTA	TIVE		J.	Reynolds	C.Voorhees
	DRI	LLIN	New York G FOREMAN	OFF					Sy	racuse, N	Y
	DRI DRI	LLIN( LLIN(	G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	DAI	E. STA	SH			05	/02/2014	
ľ	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLI	E DEPTH	ł		11	ft	
		NOF	RTHING 1074612.68	BOF	REHOLI	E DIAME	TER		2 i	n	
	VEE	EAS	STING 1053269.07								
ŀ	V LI	(110,								SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	-	GRAVELLY SAND (GP-SP) fine to medium grained SAND; subangular, fine to coarse grained GRAVEL; loose, trace construction debris, dry to moist, black (10YR 2/1), [cind	ers]	-	GP-SP	。 。 ) 。	m	12/12	1.3	- / 5 lucpm - - -
	- - -	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3)		- 1 - - -	CL-ML		m	12/12	1.4	BF-B07(0.5-1.5) [(0.5-1.5ft)] 7290cpm - - -
	- 2 - - -	- 605-	SILTY CLAY (CL-ML) firm, moist to wet, brown (10YR 4/3)		2 -  	CL-ML		₩Y	12/12	1.5	- - 6540cpm - BF-B07(2-3) [(2-3ft)] - 
	-	-	CLAYEY SILT (CL-ML) firm, moist, brown (10YR 4/3)		- - -	CL-ML		M	12/12	1.8	-
	4  	-	CLAYEY SILT (CL-ML) firm, moist, brown (10YR 4/3)		4 -   	CL-ML		m	12/12	1.9	—7520cpm - - -
	  	-	SILTY CLAY (CL-ML) stiff, dry, reddish brown (5YR 4/3), [oxidation]		- 5 - - -				12/12	2.6	5840cpm - - - -
TE.GDT 8/31/1	- 6 - - -					CL-ML			12/12	2.1	
I DATA TEMPLA	-	= - 600	SILTY CLAY (CL-ML) firm, dry to moist, grayish brown (10YR 5/2), [oxidation]		- 7 - - - -	CL-ML			12/12	2.9	—6030cpm - - - -
- RI.GPJ ERM	- 8 - - -	-	SILTY CLAY (CL-ML) firm, trace fine sand, moist, reddish brown (5YR 4/3)		- 8 - - -	CL-ML			12/12	2.4	
IFFALO FORGE	- - - -	-	SILTY CLAY (CL-ML) firm, trace fine sand, trace fine gravel, moist, reddish brown (5YF 4/3)	\$	9 	CL-ML			12/12	2.6	- / 12Ucpm 
BORING LOG FORMER BL	REN cpm	/ARK i = co Grab	S: unts per minute ftbgs = feet below ground surface Sample Direct push geoprobe sample								

	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 0.2010 P: 0.2010 PROJECT: Howden NA, Inc. Former Buffalo Forge Property - BC						- #004	- 200	E	BOF	RING	6# <b>B-0</b>	7	
	ER	M	Syracuse, New You P: 1-315-445-2554	rk 13214 1	Former Buffa	alo Forge Propert	у - всі	#C91	5280	E	ERN SHE	I PRO ET 2	JECT # OF 2	0181805
	DRII DRII DRII DRII		G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt New Y Direct Geopro	-Wolff ork Push obe 6620 DT		ERM OFF DAT	REPRI CE LOO E: STAF FINIS	ESENTA CATION RT 6H	TIVE		J. Sy 12 05	Reynolds/ /racuse, N /02/2014 /07/2015	' C.Voorhees Y
	HOF	RIZOI NOF EAS	NTAL DATUM (NAD ´ RTHING STING	1983 Sta 107461 105326	atePlane New York 12.68 69.07	West (US Feet)	BOR BOR	ehole Ehole	DEPTH DIAME	TER		11 2 i	ft n	
╞	VER	RTICA	AL DATUM (NAVD 88	(US Fe	et)) ELEVATION	607.57 ft							SAM	
	DEPTH	ELEVATION		STRA	TA DESCRIPTION			DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-			SANDY CLAY (SC) firm, tr refusal @ 11 ftbgs.]	ace fine to	coarse gravel, moist, brow	wn (10YR 4/3), [Bedroc	K		SC			12/12	1.3	~5670cpm - - -
	- 12							- 11						- - - - - - - - - - -
	- 14							· · · · · · · · · · · · · · · · · · ·						- - - - - - -
DT 8/31/18	- 16						-							- - - - -
ATA TEMPLATE.GL		- - 590-												-
RGE - RI.GPJ ERM C	- 18													- - - - - - -
JFFALO FO														-
BORING LOG FORMER BL	REN cpm	//ARk i = co Grab	S: unts per minute ftbgs Sample	s = feet	below ground surfa	ice probe sample								

E	D	2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E	30I ERN		<b>B # B-0</b>	<b>8</b> 0181805
Ē	RIL		G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENT		SHE	ETT.	OF 2 Reynolds	/ C.Voorhees
D	RIL	LIN	New York G FOREMAN	OFF	ICE LC	CATION	I		Sy	racuse, N	IY
D	RIL		G METHOD Direct Push	DAT	E: STA	RT SH			12 05	/02/2014	
Н	IOR		NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	1		11	ft	
		NOF	RTHING 1074622.85	BOR	EHOLE	E DIAME	TER		2 i	n	
		EAS	STING 1053284.75								
	ER		L DATUM (NAVD 88 (US Feet)) ELEVATION 607.75 ft					i -		SAN	
							Ŋ	Щ		0	
DEPTH		ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LO	SAMPLE TYF	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		_	GRAVELLY SAND (GP-SP) fine to coarse grained SAND; subangular, fine to medium	-	-		000		2		~7260cpm
-		_	grained GRAVEL; loose, moist, black (10YR 2/1), [cinders]	-	-	GP-SP	ں ہ ر	S.	12/1	0.6	-
-		_	CLAYEY SILT (CL-ML) dense, moist to wet, brown (10YR 4/3)		- 1 -						BF-B08(0.5-1.5) [(0.5-1.5ft)]
-		_			-	CL-ML		sm,	2/12	0.2	-
F	2			-	-				÷		-
-	2	_	CLAYEY SILT (CL-ML) medium dense, moist to wet, brown (10YR 4/3)	-	- 2 -				2		-
		- 605			-	CL-ML		$\heartsuit$	12/1		7300cpm BF-B08(2-3) [(2-3ft)]
F		-	SILTY CLAY (CL-ML) dense moist gravish brown (10YR 5/2)		- 3 -					1.2	
F		_		-	-	CL-ML		sm.	2/12		-
-					-				12		-
-	4	_	SILTY CLAY (CL-ML) dense, moist, grayish brown (10YR 5/2)	-	- 4 -				8		7010cpm 
-		_			-	CL-ML		W)	12/1	0.5	-
-		_	SILTY CLAY (CLML) dance major brown (10VP 4/3) [evidation]		- 5 -						- 6940cpm
-		_		F	-				/12	31	-
~ ~					-				12	0.1	-
8/31/	6	_			-	CL-ML			0		-
GDT		_		-	-				12/12	2.4	-
LATE		_			- - 7 -						- 6920cpm
TEMF		_	SILTY CLAY (CL-ML) dense, trace fine gravel, moist, brown (10YR 4/3), [oxidation]		-				12	1 2	-
DATA		600-		-	-				12	1.5	-
ERM -	8	_	SILTY CLAY (CL-ML) dense, trace fine to medium sand, trace fine gravel, moist, brown	ר ו	- 8 -						
I I		_	(10YR 4/3)		-	CL-ML			12/12	2.1	-
Я- -		_			- - 9 -				`		- 
FORC		_	SILTY CLAY (CL-ML) dense, trace fine gravel, moist, brown (10YR 4/3)	-	-				12	0.4	-
FALO		_		ŀ	-	UL-IVIL			12/	0.4	-
	EN	1ARK	S:			1					1
	pm	= co	unts per minute ftbgs = feet below ground surface								
<u>н</u> 00	1/2	Grab	Sample Direct push geoprobe sample								
SING L											
BOF											

	FR	) M	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BCF	9 #C91	5280	BORING # <b>B-08</b> ERM PROJECT # 0181805 SHEET 2 OF 2					
ŀ	DRI		G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENTAT	IVE	J.	Reynolds/	C.Voorhees		
	וסח		New York	OFFI	CE LC	CATION		Sy	/racuse, N	Y		
	DRI		G METHOD Direct Push	DATI	E: STA	RT		12	2/02/2014			
	DRI	LLIN	G EQUIPMENT Geoprobe 6620 DT		FINI	SH		05	5/07/2015			
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOR	EHOLI	E DEPTH		11	ft			
		NO	RTHING 1074622.85	BOR	EHOLI	E DIAMETE	ER	2 i	n			
			1053284.75 N DATIM (NAVD 88 (US Feet)) ELEVATION 607.75 ft									
ŀ	VLI						<u> </u>		SAM	IPI ING DATA		
							бП	I	0,			
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LC SAMPI F TYF	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
ľ	-	_	CLAY (CL) dense, moist, brown (10YR 4/3), [oxidation]	_		CL		~		~6530cpm		
	_	-	CLAYEY SAND (SW-SC) dense, trace fine gravel, moist, brown (10YR 4/3). IBedrock	[	10.5 -			12/1	0.5	- 6730cpm		
	-	_	refusal @ 11 ftbgs.]		11 -	SW-SC	2 2 2 2 2 2 2 2			-		
	_	-								-		
ł	-	_		-						-		
	- 12	-		F	-					-		
	_	-								-		
	_	595-		E						-		
ł	-	-		E						-		
	_	_								-		
	_			F						-		
	— 14 _	_			_					-		
ł	-	-								-		
ŀ	-			-						-		
	_	_		F						-		
	-	-		F						-		
1/18	- 16	_		E	_					-		
8/3	-	-		E						-		
- GD	-	_		F						-		
PLATI	-	-		F						-		
TEMI	_	-		þ						-		
DATA	-	- 590		F						-		
ERME	— 18 _	-		F	_					-		
3 L HE	-	_		F						-		
- RI.(	_			F						-		
ORGE	-	_		þ						-		
-0 FC	-	-		F						-		
JFFA	-									-		
IER BI	REN		(S: $\frac{1}{2}$ ) which is a finite state of the law ground surface.									
PORM	wn l											
90	V	Grab										
SING L												
BOF												

			9	5788 Widewaters Pkwy	BORING # B-09					9		
	FR	2		Syracuse, New York 13214 Former Buffalo Forge Proper P: 1-315-445-2554	ty - ВС	P #C91	5280	E	ERN She	I PRO	JECT # OF 1	0181805
	DR	ILL	INC	G CONTRACTOR Parratt-Wolff New York	ERN OFF	A REPR	ESENTA CATION	TIVE		J. Sy	Reynolds/ racuse, N	/ C.Voorhees
	DR		INC.	G METHOD Direct Push	DAT	E: STA	RT			11	/19/2014	
			.IN(	G EQUIPMENT Hand Auger/ Air knite	BOF			4		11	/19/2014	
	110	N	NOF	RTHING 1074994.23	BOF	REHOLE	E DIAME	TER		2 ii	n	
		E	EAS	STING 1053804.1								
	VE	RT	ICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 610.76 ft					1		SAM	
								g	ЫШ		 ද	
	ЭЕРТН		ELEVATION	STRATA DESCRIPTION		ЭЕРТН	SSS	<b>GRAPHIC L</b>	SAMPLE TY	RECOVERY	olD (ppm) 11.7 eV Lam	Observations / Remarks
	-		_	CLAYEY SILT (CL-ML) firm, some fine sand, moist, reddish brown (5YR 4/3)						2	<u> </u>	~2820cpm
	_	6.	-			-	CL-ML		B	12/1		-
	_	0	-	CLAYEY SILT (CL-ML) firm, trace fine sand, trace fine gravel, moist, reddish brown (5	YR	- 1 -				~		BF-B09(0.5-1.5) [(0.5-1.5ft)]
	_		_	4/3), [Bedrock refusal @ 1.67 ftbgs.]		_	CL-ML		Y	12/8		-
	- 2		_			1.67 - 						-
			-			_						-
	-		_			_						-
	_		-			-						-
	_		-			_						-
	- 4		_			_						-
	_		_			-						-
	_		_			_						-
	_		_			_						-
	_	60	05-			_						-
8/31/18	6 		_									
GDT 8	-		_			_						-
LATE.0	_		_			_						-
TEMP	-		-			_						-
DATA	_		_			_						-
ERM	— 8 -		_			-						-
I.GPJ	_		-			-						-
GE - R	_		_			_						-
D FOR	-		-			-						-
JFFAL	_					_						-
<b>JER BL</b>	RE	MA	RK	S:								
FORN	- M	G	rab	Sample								
5 LOG												
ORING												
ш												

		6	5788 Widewaters Pkwy	BORING # B-10				0			
	FR	M	Syracuse, New York 13214 Former Buttalo Forge Propert P: 1-315-445-2554	у - ВС	P #C91	5280	E	ERM SHE	1 PRO	JECT # OF 1	0181805
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERN OFF		ESENTA	TIVE		J. Sv	Reynolds/ racuse. N	C.Voorhees
	DRI DRI DRI	LLIN( LLIN( LLIN(	G FOREMAN G METHOD Direct Push G FOLIIPMENT Hand Auger/ Air knife	DAT	E: STA	RT SH			11 11	/19/2014	
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	l		1.5	5 ft	
		NOF EAS	RTHING 1074981.38 STING 1053722.31	BOF	REHOLE	E DIAME	TER		2 i	n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.46 ft					1		SVN	
		_					00	ЪЕ		SAN	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC L	SAMPLE TY	RECOVERY	PID (ppm) 11.7 eV Lam	Observations / Remarks
-		_	CLAYEY SILT (CL-ML) dense, trace fine sand, moist, reddish brown (5YR 4/3)		-			507	12		~6800cpm - -
-		-			- - - 1 -				12/		- - 
-		-	CLAYEY SILT (CL-ML) dense, trace fine to medium sand, moist, reddish brown (5YR [Bedrock refusal @ 1.5 ftbgs.]	4/3),	- - 15 -	CL-ML		M	6/6		5540cpm
-	- 2	-			-						-
-		_			-						-
-		-			-						-
-		_			-						-
-	- 4	-			_						-
-		- 605			-						-
-		_			-						-
-		_			-						-
8/31/18	- 6	-			- 						-
E.GDT					-						-
EMPLAT		-			-						-
T T T					-						-
J ERM	- 8	_			-						-
- RI.GP		_			_						-
FORGE		-			- - -						- - -
JFFALO					_						-
MER BL	REN cpm	MARK 1 = co	(S: unts per minute ftbgs = feet below ground surface								
JG FOR	M	Grab	Sample								
<b>SING LC</b>											
BOI											

		2	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	lnc. ty - BC	P #C91	5280	BORING # <b>B-11</b> ERM PROJECT # 0181805					
	ER	M					ę	SHE	ET 1	OF 1		
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERM OFF	I REPR		TIVE		J. Sv	Reynolds, racuse N	/ C.Voorhees	
	DRI DRI		G FOREMAN G METHOD Direct Push	DAT	E: STA	RT			11	/19/2014		
	DRI	LLIN	G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/19/2014		
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLE	E DEPTH	ł		1.6	67 ft		
		NO	RTHING 1075042.87	BOF	EHOLE	E DIAME	TER		2 i	n		
	VEF		AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.01 ft									
ŀ		-								SAM	IPLING DATA	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
	_	_	CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3)	-	-				5		~1540cpm -	
	-	-		-	-	CL-ML		B	12/1:		-	
	-		CLAVEX SILT (CLML) dense trace fine to medium stand, moist, brown (10VP 4/3)		- - 1 -						BF-B11(0.5-1.5) [(0.5-1.5ft)]	
_	-	-	[Bedrock refusal @ 1.67 ftbgs.]	-	-	CL-ML		M	8/8			
_	-	Ξ			1.67 -		XXXXX				-	
	- 2 -	_		-	-						-	
	-	-		-	-						-	
	-			-	-						-	
	-	-		-	-						-	
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-	-	-		-	-						-	
31/18	- 6	_		-	-						-	
DT 8/	-	_		-	-						-	
TE.G	-	_		-	-						-	
MPLA	-	_		-	-						-	
TATE	-	-		-	-						-	
M DA	- 8			-	-						-	
J ER	-	-			-						-	
RI.G	-	_		-	-						-	
RGE -	-	600-		-	-						-	
0.50	-	_		-	-						-	
JFFAL	-	_			-						-	
1ER BI	RE		(S:				_	_	_	_		
FORN	(M)	Grah	Sample									
LOG	V	Jiau	, oumpio									
RING												
BO												

		9	5788 Widewaters Pkwy Syraphics New York 42214 Former Buffalo Force Property	NA, Inc. operty - BCP #C915280				BORING # <b>B-12</b>					
	ER	M	P: 1-315-445-2554	, 20		0200	1	ERM SHE	1 PRO	JECT # 0 OF 1	0181805		
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFF DAT	I REPR ICE LO E: STA FINI:	ESENTA CATION RT SH	ATIVE I	<u>:</u>	J. Sy 12 05	Reynolds/ /racuse, N /02/2014 /06/2015	r C.Voorhees Y		
	HO	RIZOI NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))           RTHING         1075021.87           STING         1053482.45           NL DATUM (NAVD 88 (US Feet))         ELEV(ATION	BOR BOR	EHOLE	E DEPTH E DIAME	I TER		5.8 2 i	5 ft n			
	VEr	κπο <i>ι</i>	AL DATON (NAVD 88 (US FEEL)) ELEVATION 607.7 IL					$\mathbf{\Gamma}$		SAM	IPLING DATA		
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	-	-	SANDY SILT (SM) medium dense, some fine to medium gravel, trace construction deb moist, brown (10YR 5/3), [red brick fragments]	ris, _	-	SM		B	12/12	0	~4/30cpm - - -		
			SANDY SILT (SM) medium dense, some fine to medium gravel, trace clay, trace construction debris; moist, brown (10YR 5/3), [red brick fragments]		- 1 - - - -	SM		₩,	12/12	0	5090cpm 		
	- 2 - - -	- - 605 -	CLAYEY SILT (CL-ML) dense, some fine to medium gravel, trace construction debris, moist, brown (10YR 5/3), [red brick fragments]	-	- 2 - - - -	CI -MI		₩,	12/12	0	464UCpm 		
	- - - - 4			-	- - - - 4 -			M.	12/12	0.2	-		
	-	-	CLAYEY SILT (CL-ML) dense, moist, brown to grayish brown (10YR 5/2)	-	- - - - 5 -	CL-ML		W)	12/12	0.9	- - 6090cpm - BF-B12(4-5) [(4-5ft)] - -4950cpm		
8	-	=	CLAYEY SILT (CL-ML) dense, some medium to coarse gravel, moist, grayish brown (1 5/2), [Bedrock refusal @ 5.5 ftbgs.]	0YR	- - - 5.5 -	CL-ML			6/6	0.8			
TE.GDT 8/31/1	- 6 - - -	-		-	 - - -								
DATA TEMPLA	-	- - 600-		-	-						-		
I.GPJ ERM D	- 8 - -	_		-	 - -								
- ALO FORGE - R	-	-			- - - -						-		
JG LOG FORMER BUFI	REI cpm	MARk n = co Grab	KS: bunts per minute ftbgs = feet below ground surface o Sample Direct push geoprobe sample			<u> </u>	<u> </u>	I			1		
BORIN													

ſ			PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	NA, Inc. BORING # B-13				3			
	ED		Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	y - BCI	P #C91	5280	l	ERN		JECT #	0181805
ŀ	DRI		G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENT/	ATIVE		.∟ i i J.	Reynolds/	C.Voorhees
	DRI		New York G FOREMAN	OFF	CE LC	CATION	1		Sy	/racuse, N	Y
	DRI	LLIN	G METHOD Direct Push	DAT	E: STA	RT			12	2/02/2014	
⊦			G EQUIPMENT Geoprobe 6620 DT						05	5.#	
	ΠUr	NO	RTHING 1074991.16	BOR	EHOLI		TER		0 2 i	n	
		EA	STING 1053455.39								
	VEF	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.57 ft								
							0			SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOC	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		-	SANDY SILT (SM) medium dense, some fine gravel, moist, brown (10YR 4/3)			SM		₩3	12/12	0	~4410cpm - - -
	•	-	SANDY SILT (SM) medium dense, trace construction debris, moist, brown (10YR 4/3), brick fragments]	[red	1 -			en s	2/12	0	4870cpm - - -
	- 2	-		-		SM			7		
	• • •	605- -		-	3 -		1111	89 	12/1	0	- - - 4770cpm
		-	CLAYET SILT (CL-WL) dense, some fine sand, moist, reddish brown (SYR 4/3)			CL-ML		m	12/12	0	-
	— 4	-	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		- 4 -	CL-ML		m	12/12	0	
-		-	CLAYEY SILT (CL-ML) dense moist reddish brown (5YR 4/3)		5 -						- 5340cpm
		-			5.5 -	CL-ML			~		- 
8/31/18	- 6	-	GRAVELLY SAND (GW-SW) loose, moist, grayish brown (10YR 5/2), [Bedrock refusal 6.5 ftbgs.]	@		GW- SW			18/18	2.1	- · -  -
TE.GD1			-		6.5 -						-
MPLA		-									-
TATE		600-									-
M DA	8	-	-								-
Ц С		-	-								-
- RI.G											-
RGE		-		-							-
LO FC	- -	_		-							-
3UFF A	05	445									-
MER E	REN cpm	viARI i = co	<ড: punts per minute ftbgs = feet below ground surface								
LOG FOR	m	Gral	o Sample Direct push geoprobe sample								
BORING											

			PROJECT: Howden NA. Ir	NA, Inc.				BORING # <b>B-14</b>					
	1	)	Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	y - BC	P #C91	5280	E	ERN	/ PRC	JECT #	0181805		
	ER	M	8				3	SHE	ET 1	OF 1			
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERM		RESENTA	ATIVE 1		J.	Reynolds/	C.Voorhees		
				DAT	E: STA	RT	1		12	2/02/2014	I		
	DRI		G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	5/06/2015			
Ī	HOF	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLE	E DEPTH	ł		71	ît			
		NO	RTHING 1075024.54	BOF	EHOLE	E DIAME	TER		2 i	n			
		EAS	STING 1053409.6										
┢	VEF	KTIC <i>F</i>	AL DATUM (NAVD 88 (US Feel)) ELEVATION 807.31 ft					r		SAM	IPI ING DATA		
							g	Щ		0,			
	EPTH	EVATION.	STRATA DESCRIPTION		EPTH	scs	SAPHIC LO	WPLE TYI	ECOVERY	D (ppm) .7 eV Lam	Observations / Remarks		
	ä	Ш	SANDY SILT (SW-SM) medium dance trace fine to medium gravel moist brown (10VI	P	B	Š	Ū 	/S	R	⊒£	~4930cpm		
			4/3)		-	SW-SM		M	12/12	0	- · · · · · · · · · · · · · · · · · · ·		
		=	SANDY SILT (SW-SM) medium dense, trace clay, moist, brown (10YR 4/3)		- 1 - - -			\$17.	12	0	5040cpm  -		
	- 2	-		-	- - 	SW-SM			12/	0	-		
		605— _		-	-			m	12/12	0	-		
		-			- - 3 -						- 5140cpm		
			CLAYEY SILT (CL-ML) dense, some fine sand, moist, reddish brown (5YR 4/3)	-	-	CL-ML		m	2/12	0	-		
	- 4	1			- 4 -				<b>v</b> -		-		
			CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)	-	-	CL-ML		m	2/12	0	- 5020cpm BF-B14(4-5) [(4-5ft)]		
		-			- - 5 -				-		- 5250cpm		
		_	CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, reddish brown (5YR 4/3)	-	-				5	0.1	-		
				-	-	CL-ML			12/	0.1	-		
\$/31/18	- 6	_		-									
SDT 8		=			6.5 -				2/12	0.2			
ATE.0		-	4/3), [Bedrock refusal @ 7 ftbgs.]	х —	- 7 -	SM			-		-		
EMPL		- 600-			-						-		
ATA T		_		-	-						-		
RM D	- 8			-							-		
PJ E				-	-						-		
- RI.0				-	-						-		
ORGE		_		-	-						-		
JLO Fi		_		-	-						-		
3UFF/	0.5	-			_						-		
MER E	REN cpm	viARK 1 = co	S: unts per minute ftbgs = feet below ground surface										
OG FOR	M	Grab	Sample Direct push geoprobe sample										
<b>30RING L</b>													

ſ			5788 Widewaters Pkwy Howden NA. I	len NA, Inc.				BORING # <b>B-15</b>				
	1	$\mathcal{O}$	Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Propert	y - BC	P #C91	5280	E	ERN	/ PRC	ROJECT # 0181805		
	ER	M	8				S	SHE	ET 1	OF 1		
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERN		ESENTA	ATIVE		J.	Reynolds/	C.Voorhees	
	DR			DAT	E: STA	RT			3y 11	//acuse, N	T	
	DR		G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/25/2015		
Ī	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	1		21	ft		
		NO	RTHING 1074867.32	BOF	REHOLE	E DIAME	TER		2 i	in		
			STING 1053104.12 AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.68 ft									
ł	V []							Γ		SAM	IPLING DATA	
							OG	Ы		đ		
		NOL					IC F	≽	ERY	n) Lam	Observations / Domarka	
	TH	LA1	STRATA DESCRIPTION		ТН	S	ЧЧ∀	APLI	NOC N	(ppi	Observations / Remarks	
	DEF	ELE			DEF	nsı	GR,	SAN	RE(	PID 11.7		
ł	-	=	[Asphalt]		0.3 -			.000	12		4060cpm	
ł	-	- 605-	GRAVELLY SAND (GP-SP) medium grained SAND; subangular, loose, some construct debris, moist, dark brown (10YR 3/3), Islag, red brick fragments, FOR, Refusal on	ction	_		• ()	5	12/	0	-	
	-	_	concrete.]		_	GP-SP	)				BF-B15(0.5-1.5) [(0.5-1.5ft)]	
	-	_			_		0 o	em,	2/12		-	
	-	_			-		• 🖒		-		-	
	- 2	_			- 2 - -						-	
	-				-						-	
	-	-			_						-	
	-	_			-						-	
	-				_						-	
	- 4	_			_						-	
	-	-			_						-	
	-	_			_						-	
	-	-			-						-	
_	-	600-			-						-	
/31/18	- 6	_									-	
DT 8	-	-			-						-	
ATE.G	-	_			-						-	
EMPL	-	-			_						-	
ATA T	-				_						-	
RM D/	- 8	-									-	
jPJ E	-	_			_						-	
- RI.G	-				-						-	
ORGE	-	_			_						-	
LO F(	-				_						-	
3UFF/		_			_						-	
MER E	REI cpm	MARk າ = co	KS: bunts per minute ftbgs = feet below ground surface									
FOR	m	Grab	) Sample									
50G			• *									
RING												
BC												

ſ		6		5788 Widewaters Pkwy	NA, Inc.				BORING # <b>B-16</b>				
	FR	N	1	Syracuse, New York 13214 Former Buffalo Forge Propert P: 1-315-445-2554	у - ВС	P #C91	5280	E	ERN She	/ PRC	OJECT # OF 1	0181805	
	DR			G CONTRACTOR Parratt-Wolff New York	ERM OFF	I REPR	ESENTA	ATIVE		J. Sy	Reynolds/ /racuse, N	/ C.Voorhees  Y	
	DR			G METHOD Direct Push G FOLIPMENT Hand Auger/ Air knife	DAT	E: STA	RT SH			11 11	/25/2015		
ŀ	НО	RIZ	0	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	ł		21	ft		
		N E	OF AS	RTHING 1074983.8 STING 1053123.76	BOF	REHOLE	E DIAME	TER		2 i	in		
	VE	RTI	CA	L DATUM (NAVD 88 (US Feet)) ELEVATION 605.79 ft					<u> </u>				
								Q	Щ		SAN	IPLING DATA	
	DEPTH	ELEVATION		STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
	-	60	-	GRAVELLY SAND (GP-SP) medium grained SAND; fine to coarse grained GRAVEL; loose, some construction debris, wet, black (10YR 2/1), [slag, red brick fragments. EOI	3.	0.3 -		° °	M.	12/12			
	-	00.	-	Refusal on concrete.]	-	-	GP-SP			/12	0	BF-B16(0.5-1.5) [(0.5-1.5ft)] _ -	
	- - 2		-		-	- - 2 -		• 🗅		12		-	
	-		_			_						-	
	-		_		-	-						-	
	-		_		-	-						-	
	- 4		_		-	-						-	
	-		_		-	_						-	
	-		-		-	-						-	
	-	60	0-		-	-						-	
8/31/18	— 6 -		_		-	-						-	
TE.GDT	-		_		-	-						-	
TEMPLA	-		_		-	- - -						-	
M DATA	- 		_		-	-						-	
SPJ ERN	-		-		-	-						-	
SE - RLG	-		_		-	- - -						- - -	
-O FOR(	-		_		-	-						-	
BUFFAL	-	1.0		· C•		_						-	
<b>JRMER</b>	cpn	viAl 1 =	соі	unts per minute ftbgs = feet below ground surface									
LOG FC	m	Gr	ab	Sample									
ORING I													
ш													

			PROJECT: 5788 Widewaters Pkwy Howden NA, I	n NA, Inc. BORING # B-17					7		
	1	Ų	Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Propert	y - BCI	P #C91	5280	E	RN	1 PRC	JECT #	0181805
ŀ				EDM	DEDD		STIVE	SHE	ET 1	OF 1	C Voorbees
			New York	OFF		CATION	1111		J. Sy	racuse, N	Y
	DRI DRI		G FOREMAN G METHOD Direct Push	DAT	E: STA	RT			11	/25/2015	
ŀ	DRI		G EQUIPMENT Geoprobe 6620 DT		FINE	SH			05	5/07/2015	
	HUI	NO	RTHING 1075178.28	BOR	EHOLI	E DEPTH	1 TER		7.: 2 i	n	
		EAS	STING 1053073.21								
Ļ	VEF	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.63 ft			1		-			
							Ū	ш		SAN	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		- 605-	CLAYEY SILT (CL-ML) medium dense, dry to moist, brown (10YR 4/3)	-	- - -	CL-ML		en y	12/12	0	~6000cpm - - -
		-	SILTY CLAY (CL-ML) medium dense, moist to wet, brown (10YR 4/3)		· 1 -			m	12/12	0	6310cpm - - - -
-	- 2	-		-	 - -	CL-ML		£M}	12/12	0.1	-
-		-	SILTY CLAY (CL-ML) medium dense, wet, brown (10YR 4/3)		- 3 - -	CL-ML		em,	2/12	0.2	- 5670cpm - -
	- 4	-	GRAVELLY SILT (GW-GM) soft, some fine sand, little medium to coarse gravel, moist, brown (10YR 4/3)	,	- 4 - - -	GW-		m	2/12 12	0	- 
-		-	SANDY SILT (SW-SM) soft, little fine gravel, moist, brown (10YR 4/3)		- - 5 -				2		- 6120cpm -
1/18	- 6	- 600- -	-	-	- - - 6 -	SW-SM			12/1	0.7	- - - 6190cpm
TE.GDT 8/3		-	SANDY SILT (SW-SM) soft, trace fine gravel, moist, brown (10YR 4/3)	-	- - -	SW-SM			2/18	0.4	- - -
TA TEMPLA		-	SANDY SILT (SW-SM) soft, some fine to medium gravel, moist, brown (10YR 4/3), [Bedrock refusal @ 7.5 ftbgs.]		- 7 - - 7.5 -	SW-SM				0.6	6010cpm  - -
U ERM DA	- 8	-		-	-  -						-
RIGE - RI.GF				-							-
FFALO FOR		-		-	- - -						-
IER BU	REN	MAR	$\langle S \rangle$								
IG LOG FORM		Grat	o Sample Direct push geoprobe sample								
BORIN											

ſ		9	5788 Widewaters Pkwy Syracuse. New York 13214 Former Buffalo Forge Propert	NA, Inc. operty - BCP #C915280				BORING # B-18					
	ER	M	P: 1-315-445-2554	-			E S	ERM Shee	PRO ET 1 (	OF 1	0181805		
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFF DAT	/I REPR FICE LC FE: STA	ESENTA CATION RT SH	ATIVE		J. Sy 11 11	Reynolds, /racuse, N /19/2014 /19/2014	/ C.Voorhees IY		
ľ	HOF	rizoi Nof	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074942.26	BOF BOF	REHOLE	E DEPTH E DIAME	I TER		4.7 2 ii	75 ft n			
	VEF	EAS RTICA	STING 1053572.42 AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.4 ft										
ľ										SAN	IPLING DATA		
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	-	-	SANDY SILT (SM) soft, moist, brown (10YR 4/3)		_	SM		m	12/12				
	-		SANDY SILT (SM) soft, some clay, moist, brown (10YR 4/3)		- 1 - -	SM		sm2	/12				
	- - 2 -		CLAYEY SILT (CL-ML) soft, some fine sand, trace fine gravel, moist, brown (10YR 4/3	3)	_ _ 2 -				12		- 		
	-	-			-			M.	12/12		-		
	-	- 605			-	CL-IVIL		mz	12/12		- - 		
	- - 4 -	-	CLAYEY SAND (SP-SC) soft, some fine to medium gravel, moist, dark brown (10YR 3 hydrocarbon-like odor, [Bedrock refusal @ 4.75 ftbgs.]	/3),	4 - 	SP-SC		EN S	6/6		- 3500cpm		
	-				4.75 - 						-		
/18	-	-			-						-		
.GDT 8/31	-				_						-		
EMPLATE	-	-			-						-		
RM DATA 1	- - 8	_			-						-		
RI.GPJ EF	-	- 600-			-						-		
FORGE -	- -	-			_						-		
UFFALC	-	_			_						-		
RMER B	REN cpm	/ARK = co	<s: unts per minute ftbgs = feet below ground surface</s: 										
LOG FOF	M	Grab	Sample										
BORING													

		5788 Widewaters Pkwy PROJECT: Howden NA,	NA, Inc. BORING # B-18A					8A			
	)	Syracuse, New York 13214 P: 1-315-445-2554	ty - B(	CP	#C91	5280	I	ERN	I PRO	JECT #	0181805
ERN	M							SHE	ET 1	OF 1	
DRILL		New York	ER OF	IVI F FIC	E LC		ATIVE I	-	J. Sv	racuse. N	/ C.voornees IY
DRILL DRILL	_IN( _IN(	G FOREMAN G METHOD Direct Push	DA	TE:	STA	RT			12	/02/2014	
DRILL		G EQUIPMENT Hand Auger/ Air knife			FINI	SH			12	/02/2014	
HORIZ	ZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BO	RE	HOLE	E DEPTH	ł		4 f	t	
N		RTHING 1074980.94	BO	RE	HOLE	E DIAME	TER		2 i	n	
VERT		L DATUM (NAVD 88 (US Feet)) ELEVATION 608.58 ft									
										SAM	IPLING DATA
_	-						9 0	/PΕ		du	
							l L L	ΕŢ	ER,	(Lan	Observations / Remarks
PTH	EVA	STRATA DESCRIPTION			PTH	S	APF	MPL	б О	7 eV	
					Ш	SN	Ц Ц Ц	SA	RE	11. 11.	4920cpm
-	_	SANDY SILT (MLS) medium dense, some fine gravel, moist, brown (10YR 4/3)		F		MIC		807	12	0.4	
-						WLS			12	0.4	-
-	-	SANDY SILT (MLS) medium dense, some fine gravel, trace clay, moist, brown (10YR	4/3)	t	1 -						5130cpm
_	_			E		MLS		m	2/12	0.6	
- 2	-			E	2 -				~		- 
	_	CLAYEY SILT (CL-ML) dense, some fine sand, little fine gravel, moist, brown (10YR 4	/3)		2			000	2		
-	-			-		CL-ML		$\mathbb{V}$	12/1	0.7	-
-	=	CLAYEY SILT (CL-ML) dense, some fine to medium gravel, moist to wet, brown to gra	ivish	+	3 -						-
_		brown (10YR 5/2), [Bedrock refusal @ 4 ftbgs.]		-		CL-ML		m	2/12	0.7	5070cpm
- 00	-			F					7		
- 4	-			-	4 -						-
-				F							
-	_			_							
-	-			F							
- 18	_			F							
8/31/ 0	-			_							-
GDT	_			F							-
LATE	-			F							-
TEMF	-			F							-
	_			L							-
8 — ERM	-			_							-
G- 60				L							-
н - К	-			L							_
-ORG	_			L							
	_			F							-
	- ARK	Ś:						L			
₩ cpm =	= co	unts per minute ftbgs = feet below ground surface									
G 🖑 G	Grab	Sample									
NG LC											
BORI											

	5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 P: 1-315-445-2554				BORING # B-19 Property - BCP #C915280					9	
	ER	M	P: 1-315-445-2554	у - ВС	P #C9	15280	E	ERM SHE	1 PRO ET 1	JECT # OF 1	0181805
	DRI	LLING	G CONTRACTOR Parratt-Wolff New York	ERN OFF	I REPF	RESENTA DCATION	TIVE		J. Sv	Reynolds/ racuse, N	/ C.Voorhees
	DRI DRI DRI	LLINO LLINO LLINO	G FOREMAN G METHOD Direct Push G FOLIIPMENT Hand Auger/ Air knife	DAT	E: STA	RT			12 12	/02/2015	
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOL	E DEPTH			4.5	5 ft	
		NOF	RTHING 1074905.51	BOF	REHOL	E DIAMET	ER		2 i	n	
	VEF	EAS RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 608.32 ft								
							<i>(</i> ]			SAM	IPLING DATA
	рертн	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_	-	SANDY SILT (SW-SM) fine to medium grained SAND; soft, some fine gravel, moist, bro (10YR 4/3)	own	_	SW-SM		m	2/12	0	~3950cpm - - -
	-	-	SANDY SILT (SW-SM) fine to medium grained SAND; soft, some fine gravel, trace clar	у,	- - 1 -	* * *			2		- 5340cpm -
	- - - 2	-	moist, brown (10YR 4/3)		- - - 2	SW-SM		₩}	12/1	0	- - - 
	-		SANDY SILT (SW-SM) fine to medium grained SAND; soft, some clay, moist, brown (1 4/3)	0YR	_	SW-SM		®}	12/12	0	-
	-	605-	COBBLES (GP) coarse grained GRAVEL; trace construction debris, moist, brown (10Y 4/3), [red brick fragments. EOB. refusal on bedrock.]	'n	- 3	¢		m	2/12		-
	_ 4	_			_	GP o		ŝ	6	0.2	4150cpm = BF-B19(3-4.5) [(3-4.5ft)] 
	-				4.5		0 0 0	5	6/1		-
	-	_			-						-
8	_	_			- - -						-
F 8/31/1	— 6 —	-			-						-
ATE.GD	_	-			-						-
TEMPL/	-				-						-
<b>1</b> DATA	- - 	-			-						-
PJ ERN	-	- 600-			-						-
E - RI.G	-	-			-						-
D FORG	_	_			-						-
UFFAL(	_	_			_						-
RMER B	REN cpm	//ARK n = co	S: unts per minute ftbgs = feet below ground surface								
JG FOF	m)	Grab	Sample								
RING L(											
BO											

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Proper	NA, Inc. roperty - BCP #C915280 BORING # <b>B-20</b> ERM PROJECT # 0181805					<b>D</b> D181805		
	ER	M	1. 1-010-440-2004				S	SHE	ET 1	OF 1	
	DRI DRI DRI DRI	LLING LLING LLING LLING	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERI OFI DA <sup>-</sup>	A REPF FICE LC FE: STA FINI	RESENTA DCATION .RT SH	TIVE		J. Sy 12 05	Reynolds/ racuse, N /02/2015 /06/2015	C.Voorhees Y
	HOF	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOI	REHOL	E DEPTH	I		6 f	t	
	VEF	NOF EAS RTICA	RTHING 1074951.9 STING 1053505.21 AL DATUM (NAVD 88 (US Feet)) FI EVATION 608.2 ft	BOI	REHOL	e diame <sup>-</sup>	TER		2 i	n	
										SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		SANDY SILT (SW-SM) soft, moist, brown (10YR 4/3)			SW-SM		M	12/12	0	5040cpm 
	- - - -		SANDY SILT (SW-SM) soft, some clay, trace fine gravel, moist, brown (10YR 4/3), [re brick fragments.]	d	- 1 · - - -	SW-SM		m	12/12	0	5110cpm - - - - -
	- - -		CLAYEY SILT (CL-ML) dense, trace construction debris, moist, reddish brown (5YR 4	/3)	2.5			M	12/12	0	- 
	-	- 605- - -			-	CL-ML		M	12/12	0	-
	4  		CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3)		4 ·  	CL-ML		m	12/12	0	BF-B20(3-5) [(3-5ft)] 4280cpm 
	- - -		CLAYEY SILT (CL-ML) dense, moist, grayish brown (10YR 5/2), [Bedrock refusal @ 6 ftbgs.]	<b>j</b>	- 5 · 	CL-ML			12/12	0.7	
GDT 8/31/18	- 6 -				- - 6 · -						- 
A TEMPLATE.	-				-						-
I.GPJ ERM DAT	- 8 - -	600-			- 						-  - -
FFALO FORGE - R											-
REMARKS: cpm = counts per minute ftbgs = feet below ground surface Grab Sample Direct push geoprobe sample											

			5788 Widewaters Pkwy Howden NA. I	en NA, Inc. Property - BCP #C915280					1		
	0	9	Syracuse, New York 13214 P 1-315-445-2554	y - BC	P #C91	5280	E	ERM	1 PRC	JECT #	0181805
]	ER	M					S	SHE	ET 1	OF 1	
	DRI	LLING	G CONTRACTOR Parratt-Wolff New York	ERM		RESENTA	TIVE		J.	Reynolds/	C.Voorhees
	DRI			DAT	E: STA	RT			5y 12	/racuse, N 2/02/2015	Ŷ
	DRI		G EQUIPMENT Hand Auger/ Air knife		FINI	SH			05	/06/2015	
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	) BOREHOLE DEPTH 5 ft							
		NOF	RTHING 1074988.21	BOR	EHOLI	E DIAMET	TER		2 i	n	
	VEF		L DATUM (NAVD 88 (US Feet)) ELEVATION 608.43 ft								
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-			SANDY SILT (SW-SM) soft, some fine gravel, moist, brown (10YR 4/3)	-	-	SW-SM		M	12/12	0	~485UCpm - - -
-		-	SANDY SILT (SW-SM) soft, some fine gravel, trace clay, moist, brown (10YR 4/3)		- 1 · - -	SW-SM		m	12/12	0	—4670cpm - - -
	- 2	-	CLAYEY SILT (CL-ML) medium dense, some fine sand, trace fine gravel, moist, reddis brown (5YR 4/3)	sh _	- 2 - - -	CL-ML		89 19	12/12	0	4700cpm - - - -
		= 605- -	CLAYEY SILT (CL-ML) dense, trace fine sand, moist, reddish brown (5YR 4/3), [Bedro refusal @ 5 ftbgs.]	ck -	- 3 - - - -			en y	12/12	0.2	—4900cpm - - - -
-	- 4			-		CL-ML		£M2	12/12	0.7	— = BF-B21(3.5-5) [(3.5-5ft)] - -
8		-			- 5 - - - -		VVVVV				-
E.GDT 8/31/1	- 6	_		-	 - -						
A TEMPLATE		_		-	-						-
M DAT	- 8	_		-	-						-
- RI.GPJ ER	-	600-		-	- - -						- - - -
FALO FORGE				-	- - -						- - - -
R BUF	REN		S:								1
ING LOG FORME	cpm	i = co Grab	unts per minute ftbgs = feet below ground surface Sample								
BOR											

ſ				PROJECT: 5788 Widewaters Pkwy Howden NA, In	IC.			BORING # <b>B-22</b>				
	FR	N		Syracuse, New York 13212 Former Buffalo Forge Property P: 1-315-445-2554	- BCF	' #C91	15280	E	ERN	I PRC	OF 1	0181805
ŀ	DRI		INC	G CONTRACTOR Parratt-Wolff	ERM	REPF	RESENT	ATIVE		J.	Reynolds/	C.Voorhees
	DRI	LL	INC	New York G FOREMAN	OFFI			l		Sy	/racuse, N	Y
	DRI DRI		INC INC	G METHOD Direct Push G EQUIPMENT Geoprope 6620 DT	DATE	STA: FINI	RT SH			11 05	5/04/2015	
ŀ	HO	RIZ	ZON	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BORE	HOL	E DEPTH	ł		81	ft	
		Ν	IOF	RTHING 1075278.51	BORE	EHOLI	E DIAME	TER		2 i	in	
	VE	Е гтг	AS	TING 1053319.43								
ŀ		<b>、</b>									SAM	IPLING DATA
	DEPTH			STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-			[Asphalt] GRAVELLY SAND (GP-SP) medium grained SAND; subangular, medium grained GRAVEL; loose, moist, dark brown (10YR 3/3)		0.5 -	GP-SP	o (	m	12/12	0	- - - - 4450cpm
	-		_	CLAYEY SILT (CL-ML) soft, trace coarse sand, moist, brown (10YR 4/3)		1.5	Gr-Gr		M	12/12	0	BF-B22(0.5-1.5) [(0.5-1.5ft)] - 
	— 2 - - -		-		-	-	CL-ML		19 19	12/12	0	
	- - -		-	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		3 -	CL-ML		M)	12/12	0	4420cpm - - -
-	4 - - -	60	- - )5	CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, reddish brown (5YR 4/3)		- 4 -	CL-ML		W)	12/12	0	—3690cpm - - - -
-	-		-	CLAYEY SILT (CL-ML) dense, trace fine to medium gravel, moist to wet, reddish brown (5YR 4/3)		5 -	CI -MI			12/12	0	3950cpm - - -
GDT 8/31/18	6 - -		-	CLAYEY SILT (CL-ML) dense, trace fine to medium gravel, moist, reddish brown (5YR 4	4/3),	6.5				12/12	0	
A TEMPLATE	-		-	[Bedrock refusal @ 8 ftbgs.]	-		CL-ML			2/12	0	-
PJ ERM DA	- 8 -				-	- 8 -				~		- 
ORGE - RI.G	- - -				-  -  -							- - - -
FFALO F	-	60	-00		-							-
ER BU	RE	MA	RK	S:					•			1
<b>JORING LOG FORM</b>	cpm	ı = Gı	co rab	unts per minute ttbgs = feet below ground surface         Sample         Direct push geoprobe sample								

5788 Widewaters Pkw	PROJECT: Howden NA,	Inc.	BORING # B-23						
Syracuse, New York 13 P: 1-315-445-2554	S212 Former Buffalo Forge Propert	ty - BCP #	#C915	5280	E	ERM	PRO	JECT # (	0181805
DRILLING CONTRACTOR Par	ratt-Wolff	ERM R	EPRE	ESENTA	ATIVE		J. I	Reynolds/	C.Voorhees
DRILLING FOREMAN DRILLING METHOD Dir	ect Push	OFFICE DATE: \$	E LOO STAF	CATION RT			Sy 11	racuse, N /24/2014	Y
DRILLING EQUIPMENT Ge	oprobe 6620 DT	I	FINIS	ЯH			05	/04/2015	
HORIZONTAL DATUM (NAD 1983	StatePlane New York West (US Feet))	BOREH	HOLE				7.5 2 ir	ft n	
EASTING 10	53270.73	BOILE	IOLL						
VERTICAL DATUM (NAVD 88 (US	Feet)) ELEVATION 608.18 ft					· · · · ·			
					ŋ	ш		SAM	PLING DATA
DEPTH DEPTH	RATA DESCRIPTION		DЕРТН	nscs	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
CLAYEY SAND (SC) medium gr	ained SAND; soft, trace fine gravel, moist, brown (10)	′R _		SC			5		~3830cpm
	tium grained SAND: subangular, medium grained	c	0.5 —		0	M	12/1		-
GRAVEL; loose, trace clay, moi	st, black (10YR 2/1)	_			。 () )				3930cpm BF-B23(0.5-1.5) [(0.5-1.5ft)]
		_		GF-3F	o NO	m	12/12		-
	dance trace medium cand, maint brown (40VD 4/2)		2 -						- 4580cpm
	dense, trace medium sand, moist, brown (101R 4/3)	-				m	2/12		-
		_		CL-ML			2		-
- 605					000	2		-	
CLAYEY SILT (CL-ML) dense, r	noist, reddish brown (5YR 4/3)	3	_ <sup>3.5</sup> 	CL-ML		<i>W</i>	12/1	0	—4860cpm
4 		-		CL-ML					-
		4	4.5 —			M	12/12		-
	noiet reddich brown to light brown (5YR 6/4)	-							- 4730cpm
		-					2/12		-
				CL-ML			÷		-
		-							-
CLAYEY SILT (CL-ML) dense, t	race fine gravel, moist to wet, light brown (10YR 6/3),	e	6.5 —				2/18		5140cpm 
		_		CL-ML			-		-
		7	7.5 —						-
		_							-
									-
		_							-
		-							-
		-							-
REMARKS:	pot bolow around ourfood	1				-			
$\mathbb{R}^{\mathbb{N}}_{\mathcal{A}}$ Grab Sample	Direct push geoprobe sample								
BORINC									

			5788 Widewaters Pkwy Howden NA. I	nc.			E	30	RING	6# <b>B-2</b>	4
		J	Syracuse, New York 13214 P: 1-315-445-2554	y - BC	P #C91	5280	E	ERN	/ PRC	JECT # (	0181805
	ER	M					ę	SHE	ET 1	OF 1	
	DRII	LLING	G CONTRACTOR Parratt-Wolff New York	ERN		ESENTA	ATIVE	_	J.	Reynolds/	C.Voorhees
	DRI		G FOREMAN	DAT	E: STA	RT			5y 11	/racuse, N /24/2014	Y
	DRI		G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	/04/2015	
	HOF	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLE	E DEPTH	ł		71	ït	
		NOF	RTHING 1075296.64	BOF	EHOLE	E DIAME	TER		2 i	n	
		EAS	STING 1053241.53								
	VLP	CHC/						r		SAM	PLING DATA
	TH	VATION	STRATA DESCRIPTION		ΗT	ល	PHIC LOG	PLE TYPE	OVERY	(ppm) eV Lamp	Observations / Remarks
	DEP	ELE			DEP	nsc	GRA	SAM	REC	PID 11.7	
	_	_	CLAYEY SAND (SW-SC) medium grained SAND; soft, trace roots, moist, brown (10YF	२	_	SW-SC			2		~4490cpm -
	_	_	4/3)		0.5 -		••• [•* # 0	M	12/1		-
	_	_	GRAVELLY SAND (GP-SP) medium grained SAND; subangular, medium grained GRAVEL; loose, some clay, moist, black (10YR 2/1)	-	-	GP-SP	•				- 4720cpm BF-B24(0.5-1.5) [(0.5-1.5ft)]
	_	_			- - 1.5 -		) Ø	m	/12		- 
	_		CLAYEY SILT (CL-ML) medium dense, some fine sand, moist, reddish brown (5YR 4/3	3)	-				10		-
	— 2 -	_			-	CL-ML			2		-
	_	_	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		2.5 -			B	12/1:		6940cpm
	_			-	-	CL-ML					-
	_	_			- - 35 -			m	/12	0	- 
	_	605	CLAYEY SILT (CL-ML) dense, moist, grayish brown (10YR 5/2)	-	-				12	Ŭ	-
	— 4 -	_		-	_	CL-ML			N		-
	_	_		-	-			W)	12/1		-
	_	_	CLAVEX SILT (CLML) dense trace fine gravel maist reddich brown (SVD 4/3)		- - 5 -						- 5470cpm
	_	_		-	-	CL-MI			/12		-
18	_			-	-	02 1112			12		-
8/31/	- 6 -	_	CLAYEY SILT (CL-ML) some medium to coarse sand, trace fine gravel, moist to wet,	-	- 6 -				0		— 5930cpm -
GDT	-	_	reddish brown (5YR 4/3), [Bedrock refusal @ 7 ftbgs.]	-	-	CL-ML			12/1:		-
PLATE	-	_			- 7 -						-
TEMF	_	_		-	-						-
DATA	_			-	-						-
ERM	- 8 -	_		-							-
I.GPJ	_	_		-	-						-
3E - R	_	600		-	-						-
FORG	-	_		-	-						-
FALO	_	_		-	-						-
R BUF	REN	/ARK	S:				I	1			
<b>DRME</b>	cpm	= co	unts per minute ftbgs = feet below ground surface								
.0G F(		Grab	Sample Direct push geoprobe sample								
<b>SING L</b>											
BOF											

	111	0	PROJECT: 5788 Widewaters Pkwy Howden NA, II	nc.			E	30	RING	6# <b>B-2</b>	5
F	R		Syracuse, New York 13212 Former Buffalo Forge Property P: 1-315-445-2554	/ - BCF	° #C91	5280		ERN	I PRC	OF 1	0181805
D	RIL	LINC	G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENT	ATIVE		J.	Reynolds/	C.Voorhees
D	RIL	LINC	New York G FOREMAN	OFF			I		Sy	racuse, N	Y
D D	ril Ril	LIN( LIN(	G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	DATI	FINI	SH			05	/24/2014	
н	OR	IZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	ł		7.5	5 ft	
		NOF	RTHING 1075352.05	BOR	EHOLE	E DIAME	TER		2 i	n	
v	ER <sup>.</sup>	ΕΑS ΓΙCΑ	LING 1053292.46 AL DATUM (NAVD 88 (US Feet)) FI EVATION 610.17 ft								
										SAM	IPLING DATA
рертн		ELEVATION	STRATA DESCRIPTION		рертн	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		610-	[Asphalt.]	_				000	2		-
		-	GRAVELLY SAND (GP-SP) medium grained SAND; subangular, fine to medium graine	d	0.5 -		<u>ر</u>	<i>W</i>	12/1	0.1	-
		_	GRAVEL; loose, some construction debris, dry, dark brown (10YR 3/3), [Slag.]			GP-SP	。 (_ )	; ;			6880cpm BF-B25(0.5-1.5) [(0.5-1.5ft)]
-		-	SILTY CLAY (CL-ML) medium dense moist to wet aravish brown (10YR 5/2)		1.5 -		0 111111	m	2/12	0.2	7800cpm
-	2	_		-	_				-		-
-		_				CL-ML		m	12	0.2	-
-		_		-					12	0.2	-
-		_	CLAYEY SILT (CL-ML) soft, wet, brown (10YR 4/3)		3 -				2		—7990cpm -
-		_				CL MI		B	12/1	0.1	-
F	4	_			_	CL-ML					-
E		-						m	2/12	0.1	-
		-			5 -				÷		- 
-		605-	CLAYEY SILT (CL-ML) medium dense, trace fine gravel, moist, brown (10YR 4/3)		-	0			5	•	-
- ∞-		_				CL-ML			12/	0	-
8/31/1	6	_	CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, reddish brown (5YR 4/3)	-	- 6 -						—4620cpm -
GDT		_		-		CL-ML			18		-
		=			7 -				12/	0	- 4084cpm
		=	moist, reddish brown (5YR 4/3), [Bedrock refusal @ 7.5 ftbgs.]	,	7.5 -	CL-ML					-
	0	_									-
U ERV	0	_			_						-
RI.GP		_									-
RGE -				F							-
LO FO		_									-
BUFFA	<b></b> .		· · ·								-
	⊨M om	АКК = со	.5: unts per minute ftbgs = feet below ground surface								
en la	b (	Grab	Sample Direct push geoprobe sample								
NG LOC	-										
BORI											

		9	5788 Widewaters Pkwy Syraeuco, New York 12214 Former Buffalo Forge Property	en NA, Inc. Property - BCP #C915280				BORING # <b>B-26</b>			
	ER	M	P: 1-315-445-2554	, 50		0200	E	ERM SHE	I PRO ET 1	JECT # 0 OF 1	0181805
	DRI DRI DRI DRI	LLIN LLIN LLIN LLIN	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	REPF CE LC E: STA FINI	RESENTA DCATION .RT SH	ATIVE I		J. Sy 11 05	Reynolds/ /racuse, N /24/2014 /04/2015	C.Voorhees Y
	HOF	RIZOI NOF EAS RTICA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))           RTHING         1075286.73           STING         1053279.16           AL DATUM (NAVD 88 (US Feet))         ELEVATION         609.29 ft	BOR BOR	eholi Eholi	E DEPTH E DIAME	l TER		8 f 2 i	t n	
										SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		[Asphalt]		0.3				N		4230cpm
	-	-	SAND (SW) fine grained SAND; medium dense, some gravel, moist, brown (10YR 4/3)	-	. 1 .	SW		M	12/1		- - 
	-		GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained GRAVEL; medium dense, trace clay, moist, brown (10YR 4/3)	-	• • •	GP-SP		m.	12/12		
	2 - - -		CLAYEY SILT (CL-ML) medium dense, some sand, trace gravel, moist, brown (10YR 4.	/3)	— 2 ·	CL-ML		M	12/12		
	- - -	-	CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3)		3 -			£B}	12/12		—3780cpm - - - -
	- 4 - - -	- 605— -		-	 - -	CL-ML		£M}	12/12	0	
8	- - -		CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3)		- 5 -	CL-ML			12/12		—4950cpm - - - -
TE.GDT 8/31/1	- 6 - -		CLAYEY SILT (CL-ML) dense, moist to wet, reddish brown (5YR 4/3)		— 6 -	CL-ML			12/12		— 5330cpm - - - -
DATA TEMPLA	- - -		CLAYEY SILT (CL-ML) medium dense, some fine gravel, trace medium to coarse sand, moist, reddish brown (5YR 4/3), [Bedrock refusal @ 8 ftbgs.]	,	· 7 ·	CL-ML			12/12		— 5600cpm - - -
RI.GPJ ERM	- 8 - -				— 8 -						
-FALO FORGE -	-	- 600— -		-	- - -						-
R BUF	REN	<i>I</i> ARK	(S:			I	I				
NG LOG FORME	cpm	i = co Grab	unts per minute ftbgs = feet below ground surface Sample Direct push geoprobe sample								
BORI.											

ſ		•	PROJECT: 5788 Widewaters Pkwy Howden NA, I	nc.			В	ORIN	IG # <b>B-2</b>	.7
	N		Syracuse, New York 13214 Former Buffalo Forge Propert P: 1-315-445-2554	y - BC	P #C91	5280	EF		OJECT #	0181805
ŀ	EK DRI	LLIN	G CONTRACTOR Parratt-Wolff	ERM	/ REPR	RESENTAT	IVE	HEEI	1 OF 1 J. Reynolds	/ C.Voorhees
	DRI		New York	OFF	ICE LC	CATION		ę	Syracuse, N	IY
	DRI		G METHOD Direct Push	DAT	E: STA	RT			11/26/2014	
ŀ	HO		G EQUIPMENT Hand Auger/ Air Knite NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOF		SH F DFPTH			2 ft	
		NO	RTHING 1074865.6	BOF	REHOLE	E DIAMETE	ER	:	2 in	
		EAS	STING 1053767.19							
ŀ	VEF	RTIC/	AL DATUM (NAVD 88 (US Feet)) ELEVATION 610.05 ft						SAN	/PLING DATA
							р И	Ц	<u>م</u>	
		lion						ERY E	Lam	Observations / Remarks
	PTH	EVA <sup>-</sup>	STRATA DESCRIPTION		РТН	S			) (pp 7 eV	observations / Remarks
	BO	Ш			DE	U.S.		RE SA	1. 1.	-5010cpm
	-	-	SANDY SILI (SVV-SIN) loose, moist, drown (101K 4/3)		-	SW-SM		m 21	0	
	-	_			-			9		-
	-		SANDY SILT (SW-SM) loose, some construction debris, moist, dark brown (10YR 3/3)	,	- 1 -	8 8 0 0 0 0		0		
	-	-	[Some cinders. EOB. Refusal on bedrock.]		_	SW-SM		12/1	0.2	5810cpm BF-B27(1-2) [(1-2ft)]
-	- 2	_=			2 -	•**	•]•]•]•]		_	
	-	_			_					
	-	-			-					
	-	_			-					_
	-	-			_					_
	- 4				_					-
	-	_			-					-
	-	- 605-			-					-
	-	-			-					-
8	-	_			-					-
8/31/1	- 6 -				-					-
GDT	-	-			_					-
PLATE	-				-					
A TEM	-	-			_					
A DAT	-	-			-					-
J ERN	- 0	_			_					
RI.GP	-	-								
RGE -	-				_					
-0 FO	-	_			_					_
UFFA		-			_					-
MER E	REI cpm	MARł n = co	KS: punts per minute ftbgs = feet below ground surface							
FOR	M	Grat	o Sample							
G LOG										
<b>30RIN</b>										

	5788 Widewaters Pkwy Syracuse, New York 13214 PROJECT: Howden Former Buffalo Forge Pr				n NA, Inc. BORING # <b>B-28</b>					8	
	N	Ų	Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Propert	ty - BC	CP #C91	15280	E	RM	PRO	JECT #	0181805
ŀ				EDI			S	HEE	T 1 (	OF 1 Revnolds	/ C. Voorbees
			New York	OFI	FICE LC	CATION	IVL		Sy	racuse, N	Y
	DRI DRI		G FOREMAN G METHOD Direct Push	DA	TE: STA	RT			11	/26/2014	
┝	DRI		G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/26/2014	
	HOF		NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1074887 88	BO	REHOL	E DEPTH E DIAMETE	FR		2.5 2 ir	n tt	
		EAS	STING 1053756.49								
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 610.14 ft								
							0	ш		SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LO	SAMPLE TYPI	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
F		610—	SILTY SAND (SM) fine grained SAND; soft, moist, brown (10YR 4/3)		-				2		~5570cpm
-		_			_			M	12/1	0.1	-
E		_			E	SM					
_		-						m	2/12	0.1	-
-	- 2	=			- 2				<del>,</del>		- 
	-		GRAVELLY SAND (GP-SP) medium to coarse grained SAND; subangular, fine to med	dium	_	GP-SP	$\sum_{n=1}^{\infty}$	m	9/9	0	5920cpm
-		_	cinders. EOB. Refusal on bedrock.]		2.5		1. J. S.				-
Ŀ		_			_						-
		_			_						-
	- 4	_			_						-
	·				_						-
		-			_						-
		- 605-			_						-
		-			_						-
/18	- 6	_			-						-
T 8/31	0				_						-
E.GD		_			_						-
1 PLAT											-
ATEN		-			_						-
M DAT	- 8	_			_						-
J ER	0				_						-
RI.GP		-			_						-
- HON					_						-
O FOI		_			_						-
JFFAL		_			-						-
<b>IER B</b>	REN		(S:								
FORN	<u>m</u>	Grah	) Sample								
SOL		2.00									
DRING											
Щ											

	UII		5788 Widewaters Pkwy Howden NA,	NA, Inc. operty - BCP #C915280						9	
	1	J	Syracuse, New York 13214 Former Buffalo Forge Proper P: 1-315-445-2554	ty - B	CP #C91	5280		ERM	1 PRO	JECT #	0181805
E		M		ЕР				SHE	ET 1	OF 1	(C.Voorboos
			New York	OF	FICE LO	CATION		-	J. Sy	racuse, N	Y Voonlees
	JRII DRII	LING	G METHOD Direct Push	DA	TE: STA	RT			11	/26/2014	
	DRIL	LIN	G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/26/2014	
	HOF		NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BO BO		E DEPTH	ł TED		3.5 2 ii	5 ft n	
		EAS	TING 1053734.84	во	KLHOLI		ILK		21		
\	VER	TICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 609.42 ft								
							(1)			SAN	IPLING DATA
СРТЦ	ЛЕРІН	ELEVATION	STRATA DESCRIPTION		ЭЕРТН	SCS	SRAPHIC LOG	SAMPLE TYPE	RECOVERY	alD (ppm) 1.7 eV Lamp	Observations / Remarks
	_		SILTY SAND (SM) fine grained SAND; loose, dry to moist, brown (10YR 4/3)					0)	<u> </u>	ш —	~5370cpm
F					_			m	2/12	0.1	-
F		_			_	SM					-
F		_			_			MV7	42	0.4	-
F		_			_			V	12/	0.1	-
_	2	-	CLAYEY SILT (CL-ML) firm, moist to wet, dark brown (10YR 3/3)		_ 2 -						-
-					F	CL-ML		.000	8	0.1	- 5760cpm
Ē		1			- 3 -			Ü	12/		BF-B29(2-3.5) [(2-3.5ft)]
		-	CLAYEY SILT (CL-ML) medium dense, some fine to medium sand, little fine to mediur gravel, moist, dark brown (10YR 3/3), [Bedrock refusal @ 3.5 ftbos.]	n	-	CL-ML				0.1	-
_		-			- 3.5 - -						-
F	4	-			-						-
F		605-			-						-
-		_			_						-
Ē		_			F						-
- 8		_			_						-
8/31/1	6	-			-						-
GDT					F						-
LATE		_			_						-
TEMP		_			F						-
DATA		_			F						-
ERM	8	_			_						-
GPJ					_						-
й - Л		_			_						-
FORC		- 600			-						-
FALO		=			-						-
R BUF	REM	- 1ARk	S:			1		1			1
ORME	cpm	= co	unts per minute ftbgs = feet below ground surface								
<u>В</u>	5	Grab	Sample								
RING											
BOF											

	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 PROJECT: Howden NA Former Buffalo Forge Prope					n NA, Inc. Property - BCP #C915280					9A
E	D		Syracuse, New York 13212 Former Buffalo Forge Propert P: 1-315-445-2554	y - BC	P #C91	5280		ERM		JECT #	0181805
D	RIL	LING	G CONTRACTOR Parratt-Wolff	ERM	/ REPR	ESENTA		SHE	⊑ii J.	Reynolds	/ C.Voorhees
D	RIL	LING	New York G FOREMAN	OFF		CATION			Sy	vracuse, N	IY
	RIL RIL	LING	G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	DAI	E:STA	RT SH			12 12	2/02/2014	
н	IOR	IZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOREHOLE DEPTH 3.2 ft							
		NOF	RTHING 1074849.89 STING 1053713.45	BOF	REHOLE	E DIAME	TER		2 i	n	
V	'ER	TICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.21 ft								
							U	ш		SAM	IPLING DATA
DEPTH		ELEVATION	STRATA DESCRIPTION		рертн	uscs	<b>GRAPHIC LO</b>	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
_			SANDY SILT (MLS) fine to medium grained SAND; loose, some fine to medium gravel,	,	_			000	2		~5060cpm
F		_	trace day, moist, brown (101rk 4/3)		_	MLS			12/1		-
-		=	SILTY CLAY (CL-ML) firm, moist, reddish brown (5YR 4/3)		- 1 - -				2		5660cpm -
-		_			_	CL-ML		m	12/1:	0	-
-	2	=	CLAYEY SILT (CL-ML) firm, little fine to medium gravel, wet, brown (10YR 4/3), [Bedro	ock	2 - 						-
-		_	refusal @ 3.2 ftbgs.]		-	CL-ML		sm.	/14.4		5200cpm - B-29A(2-3) [(2-3ft)]
-		-		3.2				12		-	
					- 3.2 - - -						-
-	4	_			_						-
-		605— —			-						-
Ē		_			_						-
-		_			_						-
		-			-						-
8/31/1	6	_			_						-
E.GDT		_									-
MPLAT		_			-						-
		_			_						-
ERM D	8	_									-
I.GPJ		-			-						-
GE - R		-			-						-
O FOR		600- -			-						-
3UFFAL		-			_						-
C NER E	kEN pm	IARK = co	.S: unts per minute ftbgs = feet below ground surface								
G FQ	nz	Grab	Sample								
ING LC											
BOR											
		6	PROJECT: 5788 Widewaters Pkwy Howden NA, I	BORING # B-30						0	
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			Syracuse, New York 13212 Former Buffalo Forge Property P: 1-315-445-2554	y - BC	P #C91	5280	E		I PRO	JECT #	0181805
	DRI		G CONTRACTOR Parratt-Wolff	FRM	IRFPR	RESENTA	TIVE	SHE	EI 10	OF 1 Revnolds/	C Voorhees
			New York	OFF		CATION			Sy	racuse, N	Y
	DRI		G FOREMAN G METHOD Direct Push	DAT	E: STA	RT			11	/26/2014	
	DRI	LLIN	G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/26/2014	
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLI				2.6	67 ft	
		NOI FAS	RTHING 10/4845.39 STING 1053765.06	BOF	EHOLI	E DIAME	IER		21	n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 610.06 ft								
										SAM	IPLING DATA
	E	/ATION	STRATA DESCRIPTION		E	S S S S S S S S S S S S S S S S S S S	PHIC LOG	PLE TYPE	OVERY	ppm) eV Lamp	Observations / Remarks
	DEP <sup>-</sup>	ΞĽΕ			DEP'	lsC:	GRAI	SAM	SEC(	D (	
	-	610-	SILTY SAND (SM) fine to medium grained SAND; soft, moist, brown (10YR 4/3)		-		Ĭ		<u> </u>	<u> </u>	~5750cpm
	-	-		-	-	SM		M	12/12	0.1	-
	_		SANDY SILT (SW-SM) soft, moist, brown (10YR 4/3)		- 1 · -	•		H	0		6240cpm -
	- - -	-		-	-	SW-SM		m	12/1	0.1	-
	2 		SANDY SILT (SW-SM) soft, moist to wet, dark brown (10YR 3/3), hydrocarbon-like odc [Bedrock refusal @ 2.67 ftbos.]	or,	- 2 - - -	SW-SM		m	8/8	12.3	—5890cpm - -
	_	-			2.67						-
	_			-	-						-
	_	_			-						-
	- 4			-	-						-
	-	-		-	-						-
	_	_			-						-
	_	605-		-	-						-
	_	-		-	-						-
31/18	6			-	-						-
DT 8/	-	-		-	-						-
ATE.G	_	_		-	-						-
MPL/	_	-		-	-						-
TA TE	_	-			-						-
M DA	- 8	_		-	-						-
J EF	_	-		-	-						-
- RI.GI	_	_		-	-						-
RGE -	_			-	-						-
-0 FO	_	_		-	-						-
UFFAI	-	-			-						-
<b>AER B</b>	REN		KS: punts per minute, ftbas = feet below around surface								
FORM	m	Grah	) Sample								
5 LOG											
ORING											
ă											

			PROJECT: 5788 Widewaters Pkwy Howden NA, I	n NA, Inc. BORING # B-30A					0A		
		Y	Syracuse, New York 13214 Former Buffalo Forge Propert P: 1-315-445-2554	ty - BC	P #C91	5280		ERM	PRO	JECT #	0181805
1	LK DRI	LLIN	G CONTRACTOR Parratt-Wolff	ERI	/ REPR	ESENTA		SHEE	= I 1 ( J.	OF 1 Revnolds/	C.Voorhees
	DRI		New York G FOREMAN	OF	FICE LO	CATION			Sy	racuse, N	Υ
	DRI		G METHOD Direct Push	DA	E: STAI	RT			05	/04/2015	
┢	HOF	LLIN RIZO	G EQUIPMENT Hand Auger/ Air knite NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BO					05. 2 fl	/04/2015	
		NO	RTHING 1074796.71	BOI	REHOLE	E DIAMET	ΓER		2 ir	n	
		EAS	STING 1053716.56								
┢	VEF	RHC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.87 ft					1		SAM	IPI ING DATA
							g	Ц		0,	
		NOI					IC L(	μ	ERY	Lam Lam	Observations / Pomarks
	РТН	EVAI	STRATA DESCRIPTION		PTH	cs	APH	MPLI	S	7 eV	Observations / Remarks
	DE	ELE			DE	Ŝ	ЯÐ	SAI	Ř	ПС 1	5830cpm
F		-	SANDY SILT (MLS) fine grained SAND; loose, dry, reddish brown (5YR 4/3)		-	MIS		sm.	12		-
-		_			_	IVILO			12		-
-		-	SILTY SAND (SM) fine grained SAND; loose, some fine to medium gravel, dry to mois	t,	- 1 - -				~	0	-
-		-	brown (10YR 4/3), [Bedrock refusal @ 2 ftbgs.]		-	SM		m	12/1		5670cpm - B-30A(1-2) [(1-2ft)]
F	2		-		- - 2 -						-
_		-	-		_						-
-		_			_						-
_		-			_						-
_		-			_						-
-	4	_			-						-
F		-			_						-
-		- 605-			_						-
_		-			_						-
_		-	-		_						-
31/18	6	_									-
SDT 8		-			_						-
ATE.G		_			_						-
EMPL		-			_						-
		-			_						-
ERM D	8	-									
GPJ		-			_						-
Й - RI.			-		_						-
FORG		-	-		_  -						-
FALO		-			_						-
IR BUF	REN	/AR	/ <s:< td=""><td></td><td>1</td><td> </td><td></td><td></td><td></td><td></td><td>1</td></s:<>		1						1
ORME	cpm ഹാവ	= co	ounts per minute ftbgs = feet below ground surface								
00 F	٣	Grat	o Sample								
SING L											
BOF											

ſ			5788 Widewaters Pkwy Howden NA,	NA, Inc. BORING # B-31						1	
	N		Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Propert	ty - B	CP #C915	5280		ERM	1 PRO	JECT #	0181805
	EF	<u>RM</u>						SHE -	ET 1	OF 1	(C) Voorbooo
	DR	ILLIN	New York		FICE LO		AIIVE	-	J. Sv	racuse. N	YC.voomees
	DR DR	ILLIN(	G FOREMAN G METHOD Direct Push	DA	TE: STAF	RT			11	/26/2014	
	DR	ILLIN	G EQUIPMENT Hand Auger/ Air knife		FINIS	SH			11	/26/2014	
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BC	REHOLE				4 f 2 i	ť	
		EAS	STING 1053483.18		RENULE		IER		21		
	VE	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.33 ft								
							(1)			SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOC	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10	YR	_				2		~4630cpm -
	-	-	4/3)		-	SM		B	12/1:		-
	-	=	SANDY SILT (SM) fine grained SAND: medium dense, some clay, some gravel, moist	to	- 1 -						- 4230cpm
	-	_	wet, brown (10YR 4/3)	10	_	SM		m	2/12		-
	-	_			-	-			1	0	-
	- 2	2 <u> </u>	SANDY SILT (SM) fine grained SAND; medium dense, some clay, some gravel, moist	to	- 2 -				2	U	
	-	-	wet, dark brown (10ΥΚ 3/3), hydrocarbon-like odor, [EOB. Refusal @ 4πbgs.]		_			, wy	12/1		-
	-	_			-	SM		_			-
	-				_			m	2/12		
	-	_			-				1		-
ł	-	· _			-			000	5		-
	-	-			_			5	12/2		_
ł	-	_			_						-
	-				_						-
/18	- 6	-			_						-
T 8/31	-				_						-
E.GD.	-	-			_						-
APLAT	-	-			_						-
LA TE	-	600— _			_						-
M DA	- 8	-			-						-
J ER	-	_			_						-
- RI.GF	-	-			-						-
RGE .	-	-			-						-
LO FC	-	_			_						-
3UFF A	-				-						-
MER E	RE cpn	IVIARK n = co	No: punts per minute ftbgs = feet below ground surface								
FOR	m	Grab	Sample								
IG LOC		•									
BORIN											

	EP	2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 PROJECT: Howden NA, I Former Buffalo Forge Propert	n NA, Inc. roperty - BCP #C915280				BORING # <b>B-31A</b> ERM PROJECT # 0181805 SHEET 1 OF 1					
	DRI DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFF DAT	REPR ICE LO E: STAI FINIS	ESENTA CATION RT SH	TIVE		J.   Sy 05/	Reynolds/ racuse, N /04/2015 /04/2015	' C.Voorhees Y		
	HO	RIZOI NOF EAS RTICA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1074753.82 STING 1053508.15 AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.88 ft	BOR BOR	EHOLE	E DEPTH E DIAMET	TER		3.5 2 ir	5 ft n			
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	uscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	IPLING DATA Observations / Remarks		
2 FORGE - RI.GPJ ERM DATA TEMPLATE.GDT 8/31/18			SILTY CLAY (CL-ML) firm, some fine sand, dry, reddish brown (5YR 4/3) SILTY CLAY (CL-ML) firm, some fine sand, little fine to medium gravel, dry to moist, red brown (5YR 4/3) CLAYEY SILT (CL-ML) firm, trace construction debris, dry to moist, reddish brown (5YI 4/3), [Trace slag and brock debris.] GRAVEL (GP) angular, coarse grained GRAVEL; firm, some silt, wet, gray (10YR 5/1), [Refusal @ 3.5 ftbgs.]	ddish		CL-ML CL-ML GP	Contraction of the second	<u>80</u>	2	PII	-4340cpm 		
DRING LOG FORMER BUFFAL	REI	MARk ח = co	S: ounts per minute ftbgs = feet below ground surface								-		

ſ			5788 Widewaters Pkwy PROJECT: Howden NA, II	nc.			E	30	RING	6# <b>B-3</b> 2	2
		Ų	Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	y - BC	P #C91	5280	I		1 PRC	JECT # (	0181805
ŀ	EK	M		EDM				SHE	ET 1	OF 1	CVaarbaaa
	DRI		New York		ICF I O		< ΠV⊏ Ι		J. SV	racuse N	Y
	DRI		G FOREMAN	DAT	E: STA	RT	•		11	/26/2014	
	DRI		G EQUIPMENT Geoprobe 6620 DT		FINIS	SH			05	/06/2015	
ſ	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLE	E DEPTH	ł		7.5	5 ft	
		NO	RTHING 1074736.85	BOF	EHOLE	E DIAME	TER		2 i	n	
		EAS	STING 1053468.22								
ł	VEF	KIIC/	AL DATUM (NAVD 88 (US Feet)) ELEVATION $607.27 \text{ ft}$					-		SAM	
							g	ш		0,4,14	
	Ξ	ATION	STRATA DESCRIPTION		Ξ		HIC LC	PLE TYF	VERY	opm) «V Lamp	Observations / Remarks
	JE PT	ILEV			JE P1	ISC(	BRAF	AMF	RECO	1.7 (I	
	 -	ш_	SANDY SILT (SM) fine grained SAND; medium dense, trace gravel, moist, brown (10Y	R	-			0	<u> </u>	ш —	~4390cpm
		_	4/3)	-	-	SM		m	2/12		-
-	-	-		-	-				÷		-
	-		SANDY SILT (SM) fine grained SAND; medium dense, trace clay, moist, brown (10YR	4/3)	- 1 -				2		
	-	-		-	-	SM		M.	12/1		-
-	2	_			- 2						- 
	-	605-	CLAYEY SILT (CL-ML) medium dense, some fine sand, moist, reddish brown (5YR 4/4	•)	-	<u> </u>		-w	12		-
	-	_	-	-	-	CL-ML		Ü	12/	0	-
	-	=	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/4)		- 3 -						-
	-	_			-						~
	-	-		-	-			-000	4		- - - 5030cpm
-	- 4 -	_		-	-	CL-ML		Ü	12/		BF-B32(3-5) [(3-5ft)]
	-	-		-	-						-
	-	_			- - 5 -						- 4750cpm
	-		CLAYEY SILT (CL-ML) medium dense, moist, reddish brown (5YR 4/4)	-	-				5		-
	-	_		-	-	CL-ML			12/	0.7	-
31/18	- 6	-	SANDY SILT (SM) some fine gravel, moist, brown (10YR 4/3). [Bedrock refusal @ 7.5]		- 6 -						—5200cpm
DT 8		_	ftbgs.]		-				2/12		-
TE.G	-	-		-	-	SM			10	0.5	-
MPLA	-	- 600-		-	-				9/9		-
TA TE	-	=			7.5 -				9		-
M DA	8	_		-	-						-
J ER	-			-	-						-
RI.GF		_		-	-						-
- E	-	-		-	-						-
D FOF	-	_		-	-						-
FFAL(	-	-		-	-						-
ER BU	RE	/ARk	KS:								
ORME	cpm	) = co	punts per minute ftbgs = feet below ground surface								
90	Ü	Grab	Sample Direct push geoprobe sample								
ING L											
BOR											

	FR	) M	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E	BORING # B-33 ERM PROJECT # 0181805 SHEET 1 OF 1					
			G CONTRACTOR Parratt-Wolff	FRI	/ REPR	RESENTA				Revnolds	/ C. Voorhees		
	DIA		New York	OFF				•	Sv	racuse. N	IY		
	DRI		G FOREMAN	DAT	E: STA	RT			11	/26/2014			
	DRI		G EQUIPMENT Hand Auger/ Air knife		FIN	SH			11	/26/2014			
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLI	E DEPTH	1		4 f	t			
		NO	RTHING 1074734.22	BOF	REHOLI		TER		2 i	n			
		EAS	STING 1053442.55										
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.15 ft										
										SAM	IPLING DATA		
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
-			SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10'	ŕR	_				~		~4770cpm		
Ē		-	4/3)		_	SM		m	2/12		-		
-		-			_				-		4700		
_		_	SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10'	ŕR	- 1 -				~				
_		_	4/3)		-	SM		m	2/1:	0	-		
-	_ ^	_			- 				-				
-	2	605-	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained		_ 2		ہ ں ~		~		- 48 10cpm		
_		-	GRAVEL; loose, some construction debris, wet, gray to black (10YR 4/1), hydrocarbor	-like	_		° ()	m	2/1:		-		
-		_	odor, [EOB. Retusal @ 4ttogs.]		_		, 0		-		-		
_					_	GP-SP	° O		~		-		
_		_			_		• 🔿	m	2/12	1.8	BF-B33(3-4) [(3-4ft)]		
-							) Ø		-		-		
_	- 4	_			4 - 						-		
_		_			_						_		
-		_			_						-		
_					_						-		
_		_			_						_		
- 18		-			_						-		
8/31/	- 6				_						-		
100		-			_								
TE.G					_								
NPL A		600-			_						-		
A TEI		-			_						_		
DAT					_						-		
ERM	- 8				_						-		
GE-		_			_						-		
- RI.0		_			_						-		
RGE					_						-		
0 - 50		_			_						-		
FFAL		-			_						-		
R BU	REM	MARK	KS:					•			1		
RME	cpm	n = co	ounts per minute ftbgs = feet below ground surface										
EO EO	m	Grab	Sample										
DOL 2													
RING													
BC													

			PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	en NA, Inc. BORING # B-33A					3A		
	ED		Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	y - BCl	P #C91	5280		ERN		JECT #	0181805
	DRI		G CONTRACTOR Parratt-Wolff	ERM	REPR	RESENTA		500	ΞΓΓ	Reynolds/	C.Voorhees
	DRI			OFF	CE LC	CATION	I		Sy	/racuse, N	Y
	DRI	LLIN	G METHOD Direct Push	DAT	E: STA	RT			05	5/04/2015	
	DRI		G EQUIPMENT Geoprobe 6620 DT		FINI				05	5/04/2015	
	HUI	NOF	RTHING 1074781 7	BOR	EHOLI FHOLI	E DEPTF F DIAMF	1 TFR		7.: 2 i	n	
		EAS	STING 1053459.24	2011							
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.32 ft					_			
							(1)			SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	<b>GRAPHIC LOC</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_		SILTY SAND (SM) fine grained SAND; loose, dry, brown (10YR 4/3)	-		SM		sm.	/12		~5050cpm - -
	-	-		-					12		-
	-	-	CLAYEY SILT (CL-ML) firm, dry to moist, reddish brown (5YR 4/3), [black sand, cinders	6,	· 1 -				0		—5310cpm -
	_	-	brick, wood]	-		CL-ML		M	12/1		-
	- 2				- 2 -						- 5820cpm
	-	605—	SILLY CLAY (CL-ML) firm, dry to moist, dark brown (10YR 3/3), [mottled, trace black sa brick]	and,				sm.	12	0	-
	-	-		-					12	0	-
	-	-	SILTY CLAY (CL-ML) firm, dry to moist, dark brown (10YR 3/3), [mottled, black sand]		3 -						-
	_	-				CL-ML		m	12/12		– 5350cpm – B-33A(3-4) [(3-4ft)]
	- 4	-			4				~		- 
	-		CLAY (CL) firm, dry to moist, light reddish brown (5YR 4/3)	-				-w	5		-
	-	-		-		CL		V	12/		-
	_	=	CLAYEY SILT (CL-ML) dense, little sand, moist, reddish black (5YR 4/3)		5 -						—5620cpm
	_	-		-							-
1/18	- 6	-				CL-ML			-	1.4	-
T 8/31	-	_							54/30		-
E.GD.	-	-	SANDY CLAY (SP-SC) fine grained SAND; dense, some fine gravel, moist, brown (10Y	′R	6.5 -				47		—6290cpm
<b>IPLAT</b>	_	_	4/3), [Bedrock refusal @ 7.5 ftbgs]			SP-SC				0.5	-
A TEN	_	600- =			7.5 -						-
A DAT		_		_							-
J ERN	- 0			_							-
RI.GP	-	_		-							-
2GE - I	_	-		F	-						-
O FOF	_	_		-							-
IFF AL	_	_									-
IER BL	RE		(S:								
FORM	cpir m_	1 - CO Grob									
DOG		Giab									
RING											
BO											

	ER	9 M	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E	301 ERN SHE	RING 1 PRC	<b># B-3</b> JECT # OF 1	<b>4</b> 0181805
Ī	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERN OFF	I REPR				J. Sv	Reynolds/ /racuse. N	/ C.Voorhees
	DRI DRI DRI	LLIN( LLIN( LLIN(	G FOREMAN G METHOD Direct Push G FOUIPMENT Hand Auger/ Air knife	DAT	E: STA	RT SH			11 11	/26/2014	
ŀ	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	H		6.5	5 ft	
		NOF EAS	RTHING 1074708.03 STING 1053450.32	BOF	REHOLE	e diame	TER		2 i	n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.12 ft			1	1	-			
							g	Щ		SAN	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LO</b>	SAMPLE TYI	RECOVERY	PID (ppm) 11.7 eV Lam	Observations / Remarks
	- - -		SANDY SILT (SM) fine grained SAND; medium dense, trace gravel, moist, brown (10) 4/3)	Ϋ́R	-	SM		₩}	12/12		~4550Cpm - - -
	- - -		CLAYEY SILT (CL-ML) medium dense, some sand, moist, brown (5YR 4/4)		- 1 - - -	CL-ML		M2	2/12		
	2	605-	CLAYEY SILT (CL-ML) dense, some fine sand, moist, brown (5YR 4/4)		- 2 -				-		- 
	-	-			-	CL-ML		₩2	12/12	0	-
	- - -		CLAYEY SILT (CL-ML) medium dense, some construction debris, moist to wet, reddist brown (5YR 4/4), [abandoned pipe in side of borehole]	n .	- 3 - - -			m	12/12		- - - -
-	- - 4 -		GRAVEL (GP) subangular, coarse grained GRAVEL; medium dense, moist to wet, [Re @ 6.5 ftbgs.]	fusal	- 	CL-ML		1 1 1	2/12		5430cpm \BF-B34(3-5) [(3-5ft)] 4820cpm 
		-			- - 5 - -	GP			~		-
8	-	_			- - -		00 ( 00°,				-
F 8/31/1	- 6	_						-			-
ATE.GD <sup>-</sup>	-				6.5 -			(			-
TEMPL	-	600			-						-
M DATA	- - 8	_			-						-
SPJ ER		_			-						-
3E - RI.0	-	-			- -						-
-O FOR	-	-			-						-
BUFFAL			rç.		_						-
<b>DRING LOG FORMER</b>	cpm	Grab	unts per minute ftbgs = feet below ground surface Sample								
ш											

		~	PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	NA, Inc. BORING # B-35					5		
			Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	y - BCł	P #C91	5280	E		I PRO	JECT #	0181805
	DRI		G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENTA		SHE	J.	Reynolds/	C.Voorhees
	DRI	LLIN	New York G FOREMAN	OFF		CATION	I		Sy	racuse, N	Y
	DRI DRI	LLIN(	G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	DATI	FINI	SH			05	/02/2014	
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	ł		8.5	5 ft	
		NO	RTHING 1074867.05	BOR	EHOLE	E DIAME	TER		2 i	n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.99 ft								
							(J)	ш		SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	<b>GRAPHIC LOC</b>	SAMPLE TYPI	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	_	SANDY SILT (SM) soft, some fine to medium gravel, trace fine to coarse sand, trace construction debris; moist, dark brown (10YR 3/3), [Trace red brick fragments.]	-	- - -	SM		₩}	12/12	0.3	~5520cpm - - -
	-		SANDY SILT (SM) medium dense, some fine gravel, trace construction debris, moist, grayish brown (10YR 5/2), [Trace red brick fragments.]	-	· 1 -	SM		£®}	12/12	1.1	BF-B35(0.5-1.5) [(0.5-1.5ft)] - 5570cpm - -
	- 2 - - -	605 <del>-</del> - -	CLAYEY SILT (CL-ML) dense, moist to wet, grayish brown (10YR 5/2)		- 2 -	CL-ML		19 19	12/12	1.1	– - - 5410cpm - BF-B35(2-3) [(2-3ft)] -
	-		SILTY CLAY (CL-ML) dense, moist, grayish brown (10YR 5/2)		3 -			m M	12/12	0.5	— 5590cpm - - - -
	4 	-		-	 - - -	CL-ML		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	12/12	0.7	
8	-		CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		- 5 -	CL-ML			12/12	1.7	—5370cpm - - -
E.GDT 8/31/1	— 6 - -		SILTY CLAY (CL-ML) dense, trace fine gravel, moist, brown (10YR 4/3)		— 6 -	CL-ML			12/12	1.2	—5050cpm - - -
TA TEMPLAT	-	600 <del>-</del> -	SILTY SAND (SM) medium dense, some fine gravel, moist, brown (10YR 4/3), [Bedrock refusal @ 8.5 ftbgs.]	k	- 7 -				18		
GPJ ERM DA	- - 8 -	-		-	- - - 8.5 -	SM			12/	0.8	-  - -
FALO FORGE - RI.(		-									- - - -
ER BUF	REM	MARK	<pre>{S:</pre>			1	1				1
ING LOG FORME	cpm	n = co Grab	Sample Direct push geoprobe sample								
BOR											

			PROJECT: Howden NA	NA, Inc.				BORING # <b>B-36</b>				
X		9	Syracuse, New York 13212 B: 415 445 2554	y - BC	P #C91	15280	H	ERN	/ PRC	DJECT#	0181805	
E	R	M	F. 1-313-443-2334				:	SHE	ET 1	OF 1		
D	RIL	LIN	G CONTRACTOR Parratt-Wolff	ERM	I REPF	RESENT	ATIVE	Ξ	J.	Reynolds/	C.Voorhees	
D	RIL	LIN	G FOREMAN	OFF	ICE LC E· STA	CATION RT	l		S <u>y</u> 12	yracuse, N 2/01/2014	Y	
	ORIL ORIL	LIN LIN	G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	DAI	FINI	SH			05	5/07/2015		
н	IOR	IZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOL	E DEPTH	1		8.	5 ft		
		NO	RTHING 1074760.13	BOF	EHOL	e diame	TER		2	in		
	/ <b>- -</b>	EAS	STING 1053270.45									
	ER	ΠCA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.56 $\pi$					T		SAM		
							g	Ш		0, (i)		
		NOI.					CLC	ΞΤΥΙ	ΞRΥ	n) Lam	Observations / Demonto	
TH	-	VAT	STRATA DESCRIPTION		ТН	S	PHI	<b>APLE</b>	NOC	(ppr eV	Observations / Remarks	
DEF	Ĺ	Ш			DEF	nsc	GR/	SAN	REO	PID 11.7		
		_	SANDY SILT (SM) fine grained SAND; medium dense, trace gravel, moist, brown (10Y	R	_			000	2		~3940cpm - -	
		605-		-	-	SM		3	12/		-	
E		=	CLAYEY SILT (CL-ML) medium dense, some fine sand, moist, reddish brown (5YR 4/4	), no	- 1 ·						—4930cpm	
-		_	odor		-	CL-ML		m	2/12		-	
		-		-	-				7		-	
-	2	-	CLAYEY SILT (CL-ML) medium dense, moist, reddish brown (5YR 4/4), no odor		- 2 -				2			
-				-	-	CL-ML		$\mathbb{S}$	12/1	0	-	
-		=	CLAVEV SILT (CLML) modium dance, maint to wat raddish brown (EVP 4/4), po odor		- - 3 ·					-	- 4770cpm ∖ BF-B36(2-4) [(2-4ft)]	
F		-	CLATET SILT (CL-WL) Inequaliti dense, moist to wet, reduisit brown (STR 4/4), no odor	-	-			SM2	/12		- \-4860cpm	
-		-		-	-				12		-	
-	4	-		-	-	CL-ML			0		-	
				-	-			S.	12/1:		-	
Ē		-			- 5				-		- 5770cpm	
Ē		-	SILLY SAND (SM) fine grained SAND; medium dense, some fine gravel, moist, brown (10YR 4/3), no odor	-	-				12	0	-	
- 8-		600		-	-				12	0	-	
8/31/1	6	-			-	SM					-	
GDT		_		-	-				12/12	0.8	-	
LATE		-			- 7 -				,-		- 	
TEMP		-	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/4), no odor		-	CL-ML					-	
			SILTY SAND (SM) fine grained SAND; medium dense, some fine gravel, moist, grayish	1	7.5				3/18	0.9		
ERM [	8	-	brown (10YR 5/2), no odor, [Bedrock refusal @ 8.5 ftbgs.]	-	-	SM			÷		-	
GPJ		_	4		8.5					-	-	
E - RI.		-		-	-						-	
FORG		_		-	-						-	
		_			-						-	
	REN	AR	ks:									
C C	pm	= cc	ounts per minute ftbgs = feet below ground surface									
E S	n	Grab	Sample Direct push geoprobe sample									
NG LC												
BORI												

			PROJECT: Howden NA. Ir	NA, Inc.				BORING # <b>B-37</b>				
	1	D	Syracuse, New York 13214 P: 1-315-445-2554	/ - BC	P #C91	5280	E	ERM	1 PRC	JECT #	0181805	
	ER	M					S	SHE	ET 1	OF 1		
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERM	1 REPR	ESENTA	ATIVE		J.	Reynolds/	C.Voorhees	
	DRI	LLIN	G FOREMAN		ICE LO		l		Sy 12	/racuse, N 2/01/2014	Y	
	DRI		G EQUIPMENT Geoprobe 6620 DT	2711	FINIS	SH SH			05	5/07/2015		
	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	DEPTH	ł		9 f	ft		
		NO	RTHING 1074779.96	BOF	REHOLE	DIAME	TER		2 i	n		
		EAS	STING 1053207.31									
	VEr	KIICA	AL DATUM (NAVD 88 (US Feel)) ELEVATION 805.44 It							SAM	IPI ING DATA	
							g	Щ		0		
		NOI					CLO	Σ	ΞRΥ	n) Lam		
	ТН	VAT	STRATA DESCRIPTION		TH	S	ΡΗΙ	<b>APLE</b>	NOC	(ppr eV	Observations / Remarks	
	DEF	ELE			DEF	nsc	GR/	SAN	REO	PID 11.7		
	_	-	SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10Y	'R	-				2		~4070cpm	
	_	605- -	4/3)		-	SM			12/1		-	
	_	=	SANDY SILT (SM) medium dense trace gravel moist reddish brown (5YR 4/4)		- 1 -			_			- 4020cpm	
	_	_		-	-	SM		sm,	/12		-	
	-	-		-	-	e			12		-	
	- 2 -	=	SANDY SILT (SM) medium dense, some clay, moist, reddish brown (5YR 4/4)	-	- 2 -				01		-	
	_	_		-	-	SM		M	12/12	0	-	
	_	=		-	- - 3 -				`		_ 4130cpm \RF_R37(2.4) [(2.4ft)]	
	_	_	SANDY SILT (SM) dense, some clay, moist, reddish brown (5YR 4/4)	-	-			ŝ	12		- 4440cpm	
	_	_			_			V	12/		-	
	4	-		-		SM					-	
	_	_		-	-			sm	2/12		-	
	_	-		-	- 5 -				-		- 	
	_	-	SANDY SILT (SM) dense, some clay, moist, reddish brown (5YR 4/4)	-	-				2		- -	
	_	600- -		-	-				6/1:	0.8	-	
31/18	- 6	-				SM					-	
DT 8/	_	_			-				12	1.4	-	
ATE.G	_	_		-	-				Ö		-	
EMPL/	_	-	SANDY SILT (SM) medium dense, some fine to medium gravel, moist to wet, brown (10	DYR .	- 7 -						—5550cpm -	
TA TE	_	_	4/3), [Bedrock refusal @ 9 ftbgs.]	-	-				6/12	1.4	-	
RM DA	- 8	_		-	-	SM					-	
⊃J EF	-	_			-				5	4	-	
- RI.G	_	_		-	-				./9	I	-	
RGE	-  -	-			- 9 -						-	
OFC	_	_			-						-	
UFFA	_	_			-						-	
<b>AER B</b>	REI		KS: Junts per minute, ftbas = feet below around surface									
FORM	m.	Grah	Sample Direct push geoprobe sample									
POG		2.00										
RING												
BO												

			PROJECT: Howden NA	NA, Inc.				BORING # <b>B-38</b>				
N	1	D	Syracuse, New York 13214 P: 1.315.445.2554	/ - BC	P #C91	5280		ERN	1 PRO	JECT #	0181805	
E	R	M	1. 1-310-440-2004				3	SHE	ET 1	OF 1		
[	DRII	LIN	G CONTRACTOR Parratt-Wolff New York	ERN	AREPR	ESENT	ATIVE		J.	Reynolds/	C.Voorhees	
	DRII	LIN	G FOREMAN		F STAF	CATION RT	1		Sy 12	racuse, N //01/2014	Y	
	JRII DRII		G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	2711	FINIS	SH			05	/07/2015		
ŀ	HOF	rizo	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE		1		9 f	t		
		NO	RTHING 1074766.41	BOF	REHOLE	DIAME	TER		2 i	n		
	/	EAS	STING 1053238.54									
H		IIC/	AL DATOM (NAVD 88 (US Feel)) ELEVATION 805.47 ft					r		SAM		
							ŋ	Щ		O,		
		NOI					CLO	Τ	ΞRΥ	n) Lamı	Observations / Demonto	
T L		VAT	STRATA DESCRIPTION		ТН	Ŋ	<b>A</b> PHI	APLE		(ppr eV	Observations / Remarks	
		Ш			DEF	nsc	GR/	SAN	REO	PID 11.7		
		-	SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10Y	R	_			000	5		~4380cpm - -	
E		605-			_	SM		6	12/		-	
E		=	SANDY SILT (SM) fine grained SAND; medium dense, some gravel, trace clay, moist,		- 1 -						4540cpm	
-			brown (10YR 4/3), no odor		_	SM		m	2/12		-	
		-			-				7		-	
-	2	_	SANDY SILT (SM) fine grained SAND; medium dense, trace clay, moist, reddish brown						2		-	
-		_	(5YR 4/4), no odor		-	SM		B	12/1	0	-	
-		=	CANDY SHIT (SM) find grained SAND: modium dance trace alow moint raddish brown		- - 3 -						- 4390cpm ∖BF-B38(2-4) [(2-4ft)]	
F		_	(5YR 4/4), no odor		-			m	/12		- \_4480cpm	
-		-			-				12		-	
-	4	_			-	SM			0		-	
-					-			M	12/12		-	
F		=			- - 5 -						- 5450cpm	
-		-	SANDY SILT (SM) fine grained SAND; medium dense, trace fine gravel, moist, reddish brown (5YR 4/4), no odor		-				12	0.9	-	
∞ -		-			-				./8	0.8	-	
8/31/1	6	_			_	SM					-	
GDT					-				8/12	1	-	
ATE		=	-		- 7 -						- 	
TEMP		-	SANDY SILT (SM) fine grained SAND; medium dense, some fine to medium gravel, mo	oist	_				2		-	
- ATA		_			-	SM			8/1	1.2	-	
ERM [	8	=	SANDY SILT (SM) fine grained SAND; medium dense, some fine to medium gravel, we	t,	<u> </u>						—5340cpm	
GPJ			grayish brown (10YR 5/2), no odor, [Bedrock refusal @ 9 ftbgs.]		_	SM			112	0.7	-	
- R.		_			-				ω		-	
ORGE		_			- 9 -						-	
		_			_						-	
BUFF	REM		KS:									
RMEF.	pm	= cc	ounts per minute ftbgs = feet below ground surface									
G FG	m	Grab	Sample Direct push geoprobe sample									
NG LC												
BORI												

		HIIIB	PROJECT:						BORING # <b>B-39</b>				
		9	5788 Widewaters Pkwy Syracuse, New York 13214 Former Buffalo Forge Property	y - BC	P #C91	5280	H		1 PRO	JFCT #	0181805		
	ER	M	P: 1-315-445-2554					SHE	ET 1	OF 1			
	DR	ILLIN	G CONTRACTOR Parratt-Wolff	ERM	I REPR	ESENT	ATIVE		J.	Reynolds/	C.Voorhees		
	DR	ILLIN	G FOREMAN	OFF			1		Sy	racuse, N	Y		
			G METHOD Direct Push G EQUIPMENT Geoprope 6620 DT	DAT	E:STA	кı sh			12	/02/2014			
	НО	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	EHOLE	E DEPTH	4		8 f	t			
		NO	RTHING 1075011.78	BOF	EHOLE	E DIAME	TER		2 i	n			
		EAS	STING 1053271.85										
	VEF	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.59 ft					-		S 4 1			
							ŋ	ш		SAIV			
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	uscs	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	_	-	SANDY SILT (MLS) fine grained SAND; medium dense, moist, brown (10YR 4/3)	-	-	MLS		m	2/12	1.8	- 5400cpm - -		
	-	-	-	-	-				÷		- -		
	-	-	SANDY SILT (MLS) fine grained SAND; medium dense, some fine to medium gravel, d	ry to	-				2				
	-	605-		-	-	MLS		, WL	12/1	1.5	-		
	- 2	=	SILTY CLAY (CL-ML) dense. trace fine gravel, moist, brown (10YR 4/3)		- 2 -						BF-B39(1.5-2.5) [(1.5-2.5ft)]		
	-	-		-	-	CL-ML		m	2/12	1.4	-		
	-	-		-	-				1		-		
	-	-	SILTY CLAY (CL-ML) dense, moist to wet, brown (10YR 4/3)	-	- 3 -				2				
	-	_	-	-	-	CL-ML		Ÿ	12/1	0.9	-		
	- - 4		SILTY CLAY (CLAN) does some fing to medium gravel wet to saturated brown (10)	VD	- 4 -						-		
	-	-			-	CI -MI		m	/12	07	- 6900cpm		
	-	-		-	-				12	•	- BF-B39(4-5) [(4-5)()] -		
	-	-	SILTY CLAY (CL-ML) dense, moist to wet, brown (10YR 4/3)		- 5 -				2				
	-			-	-				12/1:	0	-		
31/18	- 6	-		-	-	CL-IVIL					-		
DT 8/3	-	-	-		- 65 -				/12	03	- 		
TE.GI	-	600- -	SILTY SAND (SM) fine grained SAND; medium dense, some fine gravel, moist, brown (10VR 4/3) (Redrock refuse) @ 8 fibes 1	-	- 0.0				12	0.0	-		
MPLA	-	-		-	-	SM			0		-		
TA TE	-	_		-	-				12/12	0	-		
M DA	- 8	-			- 8 -				`		-		
⊃J EF	-	_	-	-	-						-		
- RI.G	-	_		-	-						-		
RGE	-	-	-	-	-						-		
LO FC	F		-	-	-						-		
UFFA	-	-	-	_	-						-		
VER B	REI com	MARł 1 = co	KS: punts per minute ftbas = feet below around surface										
FOR	m	Grat	o Sample Direct push geoprobe sample										
SLOG													
ORING													
ñ													

		5	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554 PROJECT: Howden NA, Inc. Former Buffalo Forge Property - B	CP #C	91528	0	B	SOI RM	RING 1 PRC	<b>6 # B-4</b>	<b>0</b> 0181805
1	ER	M	1.				S	HE	ET 1	OF 1	
	DRI	LLIN	NG CONTRACTOR Parratt-Wolff ER	MRE	PRESE	ENTA	TIVE		J.	Reynolds/	C.Voorhees
	DRI		NG FOREMAN	FICE I		TION			Sy	racuse, N	Y
			NG METHOD Direct Push	1E:51					12	/01/2014	
			NG EQUIPMENT Hand Auger/ Air Knife	FI		DTU			12	/01/2014	
	HOP		ONTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) BC	REHC					1.	π	
			ORTHING 1074881.33 BC	REHC	DLE DI	AMEI	ER		21	n	
		EP TIC									
⊢	VER	(IIC	CAL DATOM (NAVD 88 (US Feel)) ELEVATION 605.57 IL							SVI	
							Ċ	ш		541	
	DEPTH	ELEVATION	STRATA DESCRIPTION	DEPTH		nscs	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-			[Asphalt]	- 03					<u></u>		
_		605	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained	_ 0.3	CD			m	2/12	0	-
-			_ GRAVEL; medium dense, moist, dark black to black (10YR 3/3), no odor, [EOB. Refusal @	-	GP	-36	• ()		-		BF-B40(0.5-1) [(0.5-1ft)]
_			=	- 1							-
E		_	-	L							-
-			-	-							-
-	2		-	_							-
E		_	-	L							-
-			_	-							-
Ē				_							-
E		_		L							-
-			_	-							-
-	4		-	-							-
E		_		L							-
-			_	-							-
-			-	_							-
E		600									-
- 18			-	_							-
8/31/	6		-	_							-
102		_		F							-
ATE.C			-	+							-
MPL/			-	F							-
ATE		_		L							-
DAT			-	+							-
ERM	8		-	F							-
GPJ		_		F							-
-R.			-	+							-
RGE			-	F							-
0 FC		_		E							_
FFAL			-	-							-
R BU	REN	ЛAR	RKS:								
RME	cpm	i = c	counts per minute ftbgs = feet below ground surface								
D FC	B	Gra	ab Sample								
D LO(											
DRINC											
BC											

	5788 Widewaters Pkwy Syracuse, New York 13212 Former Buffalo Forge Proper					E	BOF	RING	6# <b>B-4</b>	1
F		Syracuse, New York 13214 Former Buttalo Forge Propert P: 1-315-445-2554	у - ВС	P #C91	5280	E	ERM SHE	I PRC ET 1	JECT # OF 1	0181805
D	RILLIN	G CONTRACTOR Parratt-Wolff New York	ERM OFF	I REPR	ESENTA CATION	TIVE		J. Sy	Reynolds/ /racuse, N	/ C.Voorhees Y
D	RILLIN	G METHOD Direct Push	DAT	E: STAF	RT			12	2/01/2014	
н		G EQUIPMENT Hand Auger/ Air Knile	BOR			1		12	2/01/2014	
	NO	RTHING 1074990.02	BOR	EHOLE		TER		2 i	n	
	EA	STING 1053076.53								
	ERTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.34 ft					<u> </u>		SAM	
						DG	ш		0, 11	
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	<b>GRAPHIC LC</b>	SAMPLE TYF	RECOVERY	PID (ppm) 11.7 eV Lamı	Observations / Remarks
-	605-	[Asphalt]		- 0.3 -				2		4640cpm
_	-	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained GRAVEL: medium dense, moist to wet, dark brown to black (10VR 3/3). IEOR, Refuse	a @	-		。 。 (\	S.	12/1	0	- - 
E	-	1ftbgs]		- 1 -						
_	_		-	_						-
-	-	-	-	-						-
_			-	-						-
-	-		-	-						-
-	-	-	-	-						-
-	-		-	-						-
-	4	-	-							-
-	_		-	-						-
-	-		-	-						-
-	-	-	-	-						-
-	600-	-	-	-						-
1/18	-	-	-	-						-
T 8/3	_	-	-	-						-
- GD	-		-	-						-
MPLA	-	-	-	-						-
LA TE		-	-	-						-
	8		-	-						-
Ъ Г	_	4	-	-						-
- RI.G			-	-						-
DRGE	-	-	-	-						-
ALO FO	-		-	-						-
BUFF,		/ /	-	-						+
the second secon	cm = cc	punts per minute ftbgs = feet below ground surface								
i li	Gral	b Sample								
IG LOC										
BORI										

		6	PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	NA, Inc. operty - BCP #C915280				BORING # <b>B-42</b>				
F	R	M	Syracuse, New York 13212 P: 1-315-445-2554	/ - BCI	P #C91	15280	E	ERN SHE	I PRC	)JECT # ( OF 1	0181805	
Ĩ	DRIL	LING	G CONTRACTOR Parratt-Wolff New York	ERM	REPF		ATIVE		J.	Reynolds/	C.Voorhees	
	DRIL DRIL	LING	G FOREMAN G METHOD Direct Push	DAT	E: STA	RT	I		5y 11	/racuse, N /25/2014	Ŷ	
[	DRIL	LING	G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	6/05/2015		
	HOR	NOF	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1075197.16	BOR	EHOL EHOLI	E DEPTH E DIAME	TER		71 2i	t n		
		EAS	STING 1053199.88									
	/ER	TICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.52 ft					1		SAM		
THU:		EVATION	STRATA DESCRIPTION		PTH	scs	SAPHIC LOG	MPLE TYPE	COVERY	) (ppm) .7 eV Lamp	Observations / Remarks	
	5		CLAYEY SILT (CL-ML) medium dense, dry reddish brown (5YR 4/3)		DE	S)	5	¶ S	R	E E E	~5820cpm	
-				-				m	12/12		-	
-		_		-		CL-ML			2		-	
		605— —		-				С.	12/1		-	
-	2	=	SANDY SILT (MLS) medium dense, dry to moist, brown (10YR 4/3)		- 2				0		6580cpm -	
Ē				_		MLS		M	12/1	0	-	
E		=	CLAYEY SILT (CL-ML) medium dense, moist, brown (10YR 4/3)		3						- 6920cpm -	
-		_		-		CL-ML		M	12/12		-	
Ē	4	=	CLAYEY SILT (CL-ML) medium dense, some fine sand, dry to moist, brown (10YR 4/3)		- 4						- 6740cpm	
-				-		CL-ML		M	12/12		-	
F		=	CLAVEX SILT (CL-ML) medium dense trace fine gravel moist brown (10VR 4/3)		5				<b>~</b>		- 6320cpm	
Ē		_	hydrocarbon-like odor	-		CL-ML			2/12	6.7	-	
1/18	6	_			- 6				~		-	
DT 8/3		-	SANDY SILT (MLS) medium dense, trace fine gravel, moist to wet, grayish brown (10YI 5/2), hydrocarbon-like odor, [Bedrock refusal @ 7 ftbgs.]	R		MIS			/12	18	- 5340cpm	
ATE.GI		-		-	-7	MEO			12	10	- B-42(6-7) [(6-7ft)] -	
L		_		_							-	
DATA		_		-							-	
ERM -	8	_		-							-	
RI.GPJ											-	
RGE -		_									-	
				-							-	
BUFF,	REN/	IARK	S:								-	
DRMER	2pm	= co	unts per minute ftbgs = feet below ground surface									
GLOG FC	n J	Grab	Sample Direct push geoprobe sample									
BORIN(												

			PROJECT: Howden NA	NA, Inc.				BORING # <b>B-42A</b>				
	V	9	Syracuse, New York 13212 P: 1.315.445.2554	y - BC	P #C91	5280	E	ERM	1 PRO	JECT #	0181805	
	ER	M	1. 1-313-443-2334				ę	SHE	ET 1	OF 1		
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York	ERN		ESENTA	ATIVE		J.	Reynolds/	C.Voorhees	
			G FOREMAN	DAT	E: STA	RT			Зу 05	//acuse, N	Ť	
	DRI		G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	/06/2015		
	HO	rizo	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	ł		7 f	ť		
			RTHING 1075186.92	BOF	REHOLE	E DIAME	TER		2 i	n		
	VEF		AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.93 ft									
										SAN	IPLING DATA	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
	-	-	SANDY SILT (SM) fine grained SAND; loose, some roots, dry, brown (10YR 4/3)		- - -	SM		M	12/12	0.1	~5070cpm - - -	
	-	-	SILTY CLAY (CL-ML) medium dense, little fine sand, dry to moist, reddish brown (5YR [some black sand]	5/3),	- 1 - - -	CL-ML		m M	12/12	0	5500cpm - - - -	
	- 2 - -	605- <u>-</u> -	SILTY CLAY (CL-ML) firm, dry to moist, reddish brown (5YR 4/3), hydrocarbon-like odc	or	2 -  			M	12/12	52.1	— 5050cpm - - -	
	-	-				CL-ML		m	12/12	131.7	-	
	4 	-						m	12/12	163.4	 	
8	-	-	SILTY CLAY (CL-ML) firm, some fine gravel, moist to wet, reddish brown (5YR 4/4), hydrocarbon-like odor, [sheen]		- 5 - - - -	CL-ML			4	44.4	4890cpm - - - -	
E.GDT 8/31/1	- 6 - -	-	SILTY CLAY (CL-ML) medium dense, little fine gravel, wet, reddish brown (5YR 4/4), hydrocarbon-like odor, [Bedrock refusal @ 7 ftbgs.]		6 - 	CL-ML			48/2	23.5	— 5320cpm - - - -	
ATA TEMPLA	-	600- <u>-</u> - -			- 7 - - -						-	
.GPJ ERM D/	- - 8 -	-			- 						- 	
LO FORGE - RI	-										- - - -	
<b>3UFFA</b>	-	44.51			_						-	
3 LOG FORMER	cpr	viARP 1 = cc Grat	No.         punts per minute ftbgs = feet below ground surface         o Sample         Direct push geoprobe sample									
BORING												

		9	5788 Widewaters Pkwy Svracuse, New York 13214 Former Buffalo Forge Property	IA, Inc. perty - BCP #C915280				BORING # B-42B					
	ER	M	P: 1-315-445-2554	_			E	ERN She	1 PRC ET 1	OF 1	0181805		
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFFI DATE	REPR CE LO E: STA FINI	ESENTA CATION RT SH	ATIVE		J. Sy 05 05	Reynolds/ /racuse, N 5/06/2015 5/06/2015	C.Voorhees Y		
	HOF	RIZOI NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1075156.893 STING 1053303.848	BOR BOR	ehole Ehole	E DEPTH E DIAME	l TER		71 2i	it n			
	VLF	107								SAM	PLING DATA		
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	-	-	SANDY SILT (SM) fine grained SAND; loose, little roots, dry, reddish brown (5YR 4/4)	-		SM		M	12/12		~4850cpm - - -		
	-		SILTY CLAY (CL-ML) firm, dry, reddish brown (5YR 4/4)	-	1 -			M.	12/12		—5300cpm - - - -		
	- 2 - - -			-	- 3 -	CL-ML		M.	12/12	0			
	- - - - 4		SILTY CLAY (CL-ML) hard, trace fine sand, dry, brownish (10YR 4/3)		- 4 -	CL-ML		E.	12/12		- - - -		
	-		SILTY CLAY (CL-ML) firm, trace fine sand, dry to moist, reddish brown (5YR 4/4)		5 -	CL-ML		M.	12/12		- 4870cpm B-42B(4-5) [(4-5ft)] - 		
8	-	-	CLAYEY SILT (CL-ML) dense, little fine sand, trace fine gravel, moist, brown (10YR 4/3 SANDY SILT (SM) fine grained SAND; medium dense, trace fine gravel, moist to wet,	3)	5.5 -	CL-ML			4	0.3			
:.GDT 8/31/1	- 6 - -		SANDY SILT (SM) fine grained SAND; medium dense, some coarse gravel, moist to w	et,	6.5 -	SM			48/2	0.9			
A TEMPLATE	-	600 <u>-</u> -	brown (10YR 4/3), [Bedrock refusal @ 7 ftbgs.]		7 -	Sivi					-		
PJ ERM DAT/	- - 8 -	-		-	_						- - - -		
FORGE - RI.G	-	-		-							- - -		
UFFALO	_	_									-		
BORING LOG FORMER BI	REN cpm	viARk n = co Grab	KS: unts per minute ftbgs = feet below ground surface Sample     Direct push geoprobe sample										

			PROJECT: Howden NA, Ir	NA, Inc.				BORING # B-42C				
	N	J	Syracuse, New York 13212 P: 1-315-445-2554	/ - BC	P #C91	5280	E	ERN	1 PRO	JECT #	0181805	
	ER	M						SHE	ET 1	OF 1		
	DRI	LLING	New York				A IIVE 1	-	J. Sv	racuse N	C.voornees Y	
	DRI DRI		G FOREMAN	DAT	E: STA	RT	•		05	/06/2015		
	DRI	LLING	G EQUIPMENT Geoprobe 6620 DT		FIN	SH			05	/06/2015		
	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLI	E DEPTH	1		7 f	ť		
		NOF	RTHING 1075133.26	BOF	REHOLI	E DIAME	TER		2 i	n		
	VEF	EAS RTICA	L DATUM (NAVD 88 (US Feet)) FI FVATION 606 65 ft									
		-								SAM	IPLING DATA	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DЕРТН	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks	
	-	_	SANDY SILT (SM) fine grained SAND; loose, some roots, dry, reddish brown (5YR 4/4)		-	SM		M	12/12		~4580cpm - - -	
	_	_	SILTY CLAY (CL-ML) firm, little roots, dry, reddish brown (5YR 4/4)		- 1 -		111			0	—4650cpm	
	_	-			-	CL-ML		m	2/12		-	
		605-			- 2 -				÷		- 	
		_	CLAY (CL) firm, trace silt, dry to moist, reddish brown (5YR 4/4)		-			000	2		- -	
	_				-	CL		V	12/1	1.1	-	
	_	_	CLAY (CL) firm, little silt, dry to moist, reddish brown to gravish brown (5YR 5/2), [mottle	ed]	- 3 -						4770cpm	
	_	_		-	_	CL		m	2/12	0.9	-	
		_			_				÷		-	
		_	SILTY CLAY (CL-ML) firm, trace fine sand, dry to moist, reddish brown to grayish brown	n	-			000	2		- 4220anm	
	_				-	CL-ML		V	12/	0	- B-42C(4-5) [(4-5ft)]	
	_	_	CLAYEY SILT (CL-ML) firm, trace fine sand, trace fine gravel, moist, reddish brown (5Y	R	- 5 -							
	_	_	4/4)		_	CL-ML				0.6	-	
/18	- 6	_			- 6 -				/24		- 	
F 8/31	_	_	GRAVELLY SAND (GP-SP) medium grained SAND; subangular, coarse grained GRAV	'EL;	-		。 、 へ		48		-	
E.GD <sup>-</sup>	_	600-			_	GP-SP	ں ہ ر			0.1	-	
<b>IPLAT</b>	_	_			- 7 -						-	
A TEN	_	_			-						-	
A DAT		_			-						-	
J ERN		_			-						-	
RI.GP	_				_						-	
RGE -	_	_			-						-	
O FOF	-	_			-						-	
JFFAL					-						-	
IER BL	REN		S: $\frac{1}{1000}$									
FORM	M)	Grah										
DOG		Jiau										
RING												
BC												

			PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	NA, Inc.				BORING # <b>B-43</b>					
	N	Ņ	Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Property	/ - BCF	P #C91	5280	E	RM	PRO	JECT# (	0181805		
	ER	M					STIVE	SHEI	ET 1	OF 1			
	DRI	LLINC	New York		CELO		AIIVE		J. Sv	racuse N	C.voornees Y		
	DRI		G FOREMAN	DATI	E: STA	RT			11	/25/2014			
	DRI	LLINC	G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	/05/2015			
	HOF	RIZON	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	1		7 f	t			
		NOF	RTHING 1075213.28	BOR	EHOLE	E DIAME	TER		2 i	ſ			
	VEE		ING 1053174.05										
	VLI									SAM	IPLING DATA		
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	_	-	CLAYEY SILT (CL-ML) firm, dry, brown (10YR 4/3)	-					2		~5950cpm		
	-	_				CL-ML		M	12/1		-		
	_	-	CII TV CI AV (CI AI) dense de la meist breux (40VD 4/2)		1 -						- 5950cpm		
	_	_	SILLT CLAT (CL-ML) dense, dry to moist, brown (TOTR 4/3)					m	12		-		
		605-							4		-		
	— 2 -	-	[Red brick debris]		- 2 -						—6010cpm -		
	_	_						M	0/12	0	-		
	-	_			3 -						- 6120cpm		
	_		SILTY CLAY (CL-ML) firm, wet to saturated, brown (10YR 4/3)		-			-000	2		-		
	-	_				CL-ML		5	12/		-		
	- 4	-	SANDY CLAY (CL-ML) fine grained SAND: dense, some fine to medium gravel, wet to		- 4 -						—5800cpm		
	_	_	saturated, brown (10YR 4/3)	-		CL-ML		m	2/12		-		
	-	_			-				7		-		
	_	-	SANDY CLAY (SW-SC) fine grained SAND; dense, little fine gravel, moist, brown (10YF	٦	5 -				2				
	-	_	4/3)			SW-SC			12/1	0.2	-		
31/18	- 6	-	CANDY CLAY (CM CC) for arrived CAND, dense, come medium to come group,	int	- 6 -						- 		
DT 8/	_	_	brown (10YR 4/3), [Bedrock refusal @ 7 ftbgs.]	nsı,		SW-SC			12	0.1	-		
TE.GI		600-				500-50			4	0.1	-		
MPLA	_	-		_	7 -		.°.٩ <i>/</i> 2/				-		
TA TE	_	_									-		
M DA	- 8	-			_						-		
J ER	_	_									-		
RI.GF	_										-		
- GE	_	_		_							-		
0 FO	-	_		-							-		
<b>JFFAL</b>											-		
ER BL	REN	MARK											
FORM.	cpm ଙ୍କୁମନ												
00	2	Grab	Direct push geoprobe sample										
<b>SING L</b>													
BOR													

ſ		6	5788 Widewaters Pkwy Syracuse New York 13214 Former Buffalo Forge Property	nc. / - BCF	5280	BORING # <b>B-44</b>					
	ER	M	P: 1-315-445-2554	,			E	ERM Shei	PRC ET 1	OJECT # ( OF 1	0181805
	DRI DRI DRI DRI		IG CONTRACTOR Parratt-Wolff New York IG FOREMAN IG METHOD Direct Push IG EQUIPMENT Geoprobe 6620 DT	erm Offi Date	REPR CE LO STAI FINIS	ESENTA CATION RT SH	TIVE		J. Sy 11 05	Reynolds/ yracuse, N 1/25/2014 5/05/2015	C.Voorhees Y
	HO	RIZO NO EA RTIC	DNTAL DATUM (NAD 1983 StatePlane New York West (US Feet))           DRTHING         1075167.4           STING         1053166.17           CAL DATUM (NAVD 88 (US Feet))         ELEVATION         606.57 ft	BOR	ehole Ehole	E DEPTH E DIAME	I TER		81 2i	ft in	
ľ							<i>(</i> <b>)</b>			SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	_	CLAYEY SILT (CL-ML) soft, saturated, brown (10YR 4/3)	-		CL-ML		m	12/12		~5360cpm
	- - - -	605	SILTY CLAY (CL-ML) dense, some coarse gravel, little construction debris, wet to saturated, brown (10YR 4/3), [Red brick debris.]		1 -	CL MI		₩J	12/12		—5470cpm
	- - - -	_	- - - - -	-	3 -			₩Y.	12/12	0	
	- - - - 4	_	SILTY CLAY (CL-ML) dense, wet, brown (10YR 4/3)	-	_	CL-ML		M	12/12	-	_
	- - -	-	-	-	5 -			M	12/12		- - 
/18	- - - - 6	-	SILTY CLAY (CL-ML) dense, moist, reddish brown (5YR 4/3)	-	_	CL-MI			12/12	0.8	
ATE.GDT 8/31	- - -	600	- - - -	-					12/12	1.2	
M DATA TEMPL	- - - - 8	_	SILTY SAND (SM) fine to medium grained SAND; medium dense, some fine to medium gravel, moist to wet, grayish brown (10YR 5/2), hydrocarbon-like odor, [Bedrock refusal ftbgs.]	"""""""""	- 8 -	SM			12/12	5	- 5910cpm 5-44(7-8) [(7-8ft)] 
FORGE - RI.GPJ ER	-	_		-	-						
IFFALO I	-	_	-								
FORMER BU	REI cpm	MAR n = c Gra	KS: ounts per minute ftbgs = feet below ground surface b Sample Direct push geoprobe sample								
BORING LOG											

		9	5788 Widewaters Pkwy Svracuse, New York 13214 Former Buffalo Force Property	nc. v - BCF	9 #C91	5280	E	301	RING	6# <b>B-4</b>	4A
	EF	RM	P: 1-315-445-2554	, 20.			E	ERM SHE	1 PRO ET 1	JECT # ( OF 1	0181805
	DR DR DR DR	ILLIN ILLIN ILLIN ILLIN	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFFI DATI	REPR CE LC E: STA FINI	ESENTA CATION RT SH	ATIVE I		J. Sy 05 05	Reynolds/ /racuse, N /06/2015 /06/2015	C.Voorhees Y
	НО	RIZO NO EA:	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1075129.05 STING 1053154.79	BOR BOR	eholi Eholi	E DEPTH E DIAME	I TER		7 f 2 i	t n	
	VE	RIIC	AL DATUM (NAVD 66 (US Feel)) ELEVATION <nuii> II</nuii>					<u> </u>		SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		SANDY SILT (SM) fine grained SAND; loose, little clay, little roots, dry, grayish brown (10YR 5/2)	-		SM		m	12/12		~4970cpm 
	-	-	SILTY CLAY (CL-ML) firm, dry to moist, reddish brown (5YR 4/4), [minor black sand]		1 -	CL-ML		m	12/12		—4630cpm 
	- 2 - -	2 -	CLAY (CL) firm, trace silt, dry to moist, reddish brown (5YR 4/4)		- 2 -	CL		m	12/12	0	—5110cpm - - -
	-	-	SILTY CLAY (CL-ML) medium dense, little fine sand, moist, reddish brown (5YR 4/4)		3 -	CL-ML		E.	12/12		—5230cpm - - -
	4 	<b>↓</b> −	SILTY CLAY (CL-ML) firm, dry to moist, reddish brown (5YR 4/4)		- 4 -	CL-ML		M	12/12		—4860cpm 
18	-	-	CLAYEY SILT (CL-ML) medium dense, moist, reddish brown (5YR 4/4)		5 -	CL-ML			24		—5600cpm - - -
.GDT 8/31/	- 6 - -	; - -	SILTY SAND (SM) fine grained SAND; medium dense, some fine gravel, moist to wet, brown (10YR 4/3)		- 6 -	SM			48/	0.3	
DATA TEMPLATE.	-	-	SILTY SAND (SM) fine grained SAND; medium dense, some fine gravel, moist to wet, brown (10YR 4/3), [Bedrock refusal @ 7 ftbgs.]		7 -	SM					5270cpm 
JFFALO FORGE - RI.GPJ ERM E		3			_						
BORING LOG FORMER BI	RE cpr	MARI n = co Grat	KS: ounts per minute ftbgs = feet below ground surface o Sample Direct push geoprobe sample								

	FR	) M	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554 PROJECT: Howden NA, Former Buffalo Forge Proper	lnc. ty - BC	P #C91	5280	E	BOF ERM SHE	RING	<b>6 # B-4</b> DJECT # OF 1	<b>5</b> 0181805
ŀ	DRI	LLIN	G CONTRACTOR Parratt-Wolff	ERM	/ REPR	ESENTA	TIVE		J.	Reynolds	C.Voorhees
			New York	OFF	ICE LO	CATION			Sy	/racuse, N	Y
	DRI	LLIN(	3 FOREMAN 3 METHOD Direct Push	DAT	E: STA	RT			11	/25/2014	
	DRI	LLIN	G EQUIPMENT Hand Auger/ Air knife		FINIS	SH			11	/25/2014	
Ī	HO	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	DEPTH			1 f	ft	
		NOF	RTHING 1075046.26	BOF	REHOLE	DIAME	TER		2 i	n	
		EAS	TING 1052988.69								
	VEF	RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 604.65 ft								
										SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
F	-	_	[Asphalt.]		- 03 -						-
ļ			[Concrete. EOB. Refusal due to concrete.]		_ 0.0 _			m	0/12		-
		_			_ 1 _	-	P P P P		-		_
		_									-
					_						-
ŀ	— 2	_			_						-
		-			_						-
		_			-						-
		_			-						-
		-			-						-
		_			_						-
	4	_			_						-
		_			-						-
		600-			_						-
		_			_						-
		_			_						_
		_			_						-
1/18	6	_									-
F 8/3		_			_						-
:GD	-	_			_						-
LATE		-			_						-
TEMF		_			_						-
ATA		_			_						-
MD,	- 8	-									
Ш С		-			_						-
RI.G		_			_						-
Ч		-			_						-
FOR	-	_			-						-
FALC		595—			_						-
BUF	RFI		S.					1			
RMER	cpm	ייי געריי ר = co	unts per minute ftbgs = feet below ground surface								
FOR	m	Grab	Sample								
LOG											
RING											
BO											

			3	5788 Widewaters Pkwy		0 #C01	5280	E	30	RING	6# <b>B-4</b>	6
	ER	N	A	P: 1-315-445-2554	- DCr	#031	5200	1	ERN SHE	1 PRC	)JECT # OF 1	0181805
	DRI	LL	INC	G CONTRACTOR Parratt-Wolff New York	ERM OFFI	REPR CE LO	ESENT/ CATION	ATIVE		J. Sy	Reynolds/ /racuse, N	′ C.Voorhees Y
	DRI DRI		INC	G METHOD Direct Push	DATE	E: STA	RT			11	/25/2014	
	DRI			G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	5/05/2015	
	HO	∠ا≻ ∧		NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) THING 1075150 38	BOR	EHOLE EHOLE	E DEPTE E DIAME			81 2 i	t n	
		E	EAS	STING 1052994.65	DON							
	VEF	RΤ	ICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 604.81 ft								
											SAN	IPLING DATA
	DEPTH			STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-			SILTY SAND (SM) fine grained SAND; soft, dry to moist, brown (10YR 4/3)	_		SM		®?	12/12		~6090cpm - - -
	_		=	SANDY SILT (MLS) firm, drv to moist, reddish brown (5YR 4/3)		1 -						-
	-		_		-		MLS		M	12/12		- - 6100cpm - BF-B46(1-2) [(1-2ft)] -
	2 -			CLAYEY SILT (CL-ML) firm, dry to moist, brown (10YR 4/3)	_	- 2 -				0		—5830cpm -
	_		_		-		CL-ML		M	12/12		-
	_		_			3 -						- 
	- - -		_	CLAYEY SILI (CL-ML) firm, moist to wet, brown (10YR 4/3)	-		CL-ML		m.	12/12		-
	— 4 - -		-	SILTY CLAY (CL-ML) dense, wet, brown (10YR 4/3)		- 4 -	CL-ML		m	2/12	0	
	-	60	00-			5 -				~		
	-		_	SILTY CLAY (CL-ML) dense, some fine gravel, trace medium to coarse sand, moist, bro	own	U				2		-
	-		_				CL-ML			12/		-
/31/18	- 6		_			_						
SDT 8	-		_			6.5 -				2/12		5640cpm
ATE.0	-			SANDY SILT (MLS) the grained SAND; medium dense, some tine gravel, moist to wet, brown (10YR 4/3)			MIS			÷		-
EMPL	_		_				IVILO			2		-
ΑΤΑ Τ	_		=	SANDY SILT (MLS) fine grained SAND; dense, moist, brown (10YR 4/3), [Bedrock refu	sal	7.5 -	MLS			12/1		5650cpm
RM D	- 8		=	@ 8 ftbgs.]		- 8 -						_
GPJ E	-		_		F							-
- RI.0	_				F							-
ORGE	-		_		-							-
ALO F	-	_	_		F							-
BUFF.		59 10	15- RK	·S·								[
RMER	cpm	ייק ו=	CO	unts per minute ftbgs = feet below ground surface								
5 FOI	M	G	rab	Sample Direct push geoprobe sample								
IG LO												
BORIN												

			Ð	5788 Widewaters Pkwy Howden NA. I	nc.			E	30	RING	6# <b>B-4</b>	7
	V		)	Syracuse, New York 13214 Former Buffalo Forge Propert	y - BC	P #C91	5280		ERN	/ PRC	JECT #	0181805
	ER	N	1					:	SHE	ET 1	OF 1	
	DRI	LLI	NO	G CONTRACTOR Parratt-Wolff New York	ERN			ATIVE 1		J.	Reynolds/	C.Voorhees
	DRI DRI			G FOREMAN G METHOD Direct Push	DAT	E: STAI	RT	•		11	/25/2014	•
	DRI		NC	G EQUIPMENT Geoprobe 6620 DT		FINIS	SH			05	/05/2015	
	HO	RIZ	0	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOF	REHOLE		1		6.5	5 ft	
		N F	OF AS	RTHING 10/5215.2 STING 1052924.43	BOF	REHOLE	DIAME	IER		21	n	
	VEF	RTI	CA	L DATUM (NAVD 88 (US Feet)) ELEVATION 603.94 ft								
											SAM	IPLING DATA
	DEPTH	FI EVATION		STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		_	SANDY SILT (MLS) fine grained SAND; medium dense, little fine gravel, moist, brown (10YR 4/3)		-			€}	12/12		~5440cpm - - -
	-		_			-	MLS		1 1 1 1	12/12		- - 
	- 2 - - -		-	SANDY SILT (MLS) fine grained SAND; medium dense, little fine gravel, moist, reddish brown (5YR 4/3)	1	2   	MLS		€\$	12/12	0	
	-	60		SANDY SILT (MLS) fine grained SAND; medium dense, some clay, little fine gravel, me reddish brown (5YR 4/3)	oist,	- 3 - - - -	MLS		(₹ €	12/12		
	- 4 - -		_	SANDY SILT (MLS) fine grained SAND; medium dense, some clay, moist to wet, reddi brown (5YR 4/3)	sh	- 4 - - -	MLS			12/12		
8	-		_	SILTY SAND (SM) fine to medium grained SAND; medium dense, some fine to mediun gravel, moist to wet, brown (10YR 4/3)	n	- 5 - - - -	SM			12/12	0.4	—5190cpm - - - -
.GDT 8/31/1	- 6 - -		-	SILTY SAND (SM) fine to medium grained SAND; medium dense, moist to wet, brown (10YR 4/3), [Bedrock refusal @ 6.5 ftbgs.]		6 6.5	SM			6/6	0.3	4660cpm - - -
RM DATA TEMPLATE	- - - - - 8											- - - - - -
FALO FORGE - RI.GPJ EF		59	- - 5- - -									- - - - - -
BORING LOG FORMER BUFI	REN cpm	MAI n = Gr	RK coi	S: unts per minute ftbgs = feet below ground surface Sample Direct push geoprobe sample								1

		2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E	BO ERN	RING 1 PRC	6 # <b>B-4</b> DJECT #	<b>8</b> 0181805
	ER	M	8				5	SHE	ET 1	OF 1	
	DRI	LLIN	G CONTRACTOR Parratt-Wolff	ERN	1 REPR	RESENTA	ATIVE		J.	Reynolds	C.Voorhees
	DRI	LLIN	G FOREMAN	OFF			l		Sy	/racuse, N	Y
	DRI		G METHOD Direct Push	DAI	E: STA	RI			11	/1//2014	
┝			G EQUIPMENT Hand Auger/ Air Knire	DOF					11	/1//2014	
	HUI			BOF					1.0 2 i	55 IL	
			TING 1073705.4	BUF	CHOL		IER		21		
	VEF		ALDATUM (NAVD 88 (US Feet)) FLFV/ATION 610.29 ft								
ŀ	•=-							Γ		SAM	IPLING DATA
							g	щ		-	
		NO					LC LC	Ţ	Ϋ́	amp	
	Ţ	ATIC	STRATA DESCRIPTION		Ţ		UH UH	Щ	NE VE	n Z L	Observations / Remarks
	EPT	Ъ			EPT	SCS	3AF	AMF	ö	, д В	
╞	ä	<u> </u>	(Apple 16)		Ö	Š	Ū	Ś	R	<u> </u>	
ļ		610- <del>-</del>			0.3 -		0	ŝ	12		4310cpm
		_	GRAVELLY SAND (GP-SP) medium to coarse grained SAND; medium to coarse grain GRAVEL: loose, dry to moist, dark brown (10YR 3/3)	ed	_	GP-SP	• ^	Ü	12/		- BF-B48(0.5-1.0) [(0.5-1ft)]
F		=			- 1 -		dana			0	
t			CLAYEY SILI (CL-ML) soft, some rock tragments, saturated, reddish brown (SYR 4/3) [Bedrock refusal @ 1.83 ftbos ]	,	_	CL-MI		m	/10		8210cpm BF-B48(1.0-1.5) [(1-1.5ft)]
ŀ		_			-				10		-
ŀ	- 2	_			1.83 -						
ļ					_						-
ł		_			_						-
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					-						-
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ŀ		-			-						-
F		605-			_						-
		_			_						-
31/1	- 6	-									
DT 8					_						-
LE.GI		_			_						-
IPLA.		-			_						-
LEV					-						-
DATA		-			_						-
RM	- 8	-									
PJ F				·	-						-
- RI.0		-			-						-
RGE		-			-						-
0 F0		_			_						-
FFAL		-			_						-
R BU	RE	MAR	KS:			1				1	1
RME	cpm	n = cc	unts per minute ftbgs = feet below ground surface								
C FO	M	Grab	Sample								
ОЧС											
NINC											
Ы											

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 Former Buffalo Forge Propert	nc. y - BC	P #C91	5280	E	301 Erm		<b>6 # B-4</b>	<b>9</b> 0181805
	ER	M	P: 1-315-445-2554				5	SHE	ET 1	OF 1	
	DRI DRI DRI DRI	LLIN LLIN LLIN LLIN	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERN OFF DAT	I REPR ICE LO E: STA FINI	ESENTA CATION RT SH	ATIVE		J. Sy 11 11	Reynolds. /racuse, N /17/2014 /17/2014	/ C.Voorhees IY
	HO	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	1		2.6	67 ft	
	VEF	NOF EAS RTICA	RTHING 1075258.9 STING 1053740.62 AL DATUM (NAVD 88 (US Feet)) ELEVATION 612.04 ft	BOF	REHOLE	E DIAME	TER		2 i	n	
										SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		[Asphalt.] GRAVELLY SAND (GP-SP) medium to coarse grained SAND; subangular, fine to coar grained GRAVEL: loose moist, dark brown (10YR 3/3)	se	0.3 - 0.5 -	GP-SP GP	, 	m	12/12		
	-	-	GRAVEL (GP) subangular, fine to coarse grained GRAVEL; loose, some concrete, mo gray (10YR 5/1)	ist,	- 1 - - -			m	12/12	0	12600cpm \BF-B49(0.5-1.5) [(0.5-1.5ft)] 6690cpm 
	- - 2 -	610-	CLAYEY SILT (CL-ML) medium dense, some medium sand, moist, dark brown (10YR [Bedrock refusal @ 2.67 ftbgs.]	3/3),		CL-ML		m	8/8		
	-				2.67 - 						-
	- - 4 - -	-									- - - - -
8	-	-			- - - -						- - - - -
ATE.GDT 8/31/	- 6 - - -										
DATA TEMPI	-	-			-						-
GPJ ERM L	8 - -	-			 _ _						
FALO FORGE - RI					  						- - - - -
BORING LOG FORMER BUF	REM cpm	MARk 1 = co Grab	S: unts per minute ftbgs = feet below ground surface Sample								

	ER	S N	)	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 PROJECT: Howden NA, I Former Buffalo Forge Propert	nc. y - BC	P #C91	5280	E	BOI ERM SHE	RING 1 PRC	<b>B # <b>B-5</b> DJECT # OF 1</b>	<b>0</b> 0181805
	DRI DRI DRI DRI	LLII LLII LLII		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFF DAT	I REPR ICE LC E: STA FINI	ESENTA CATION RT SH	ATIVE		J. Sy 11 11	Reynolds, /racuse, N /17/2014 /17/2014	/ C.Voorhees Y
	HO	RIZ( N( E/ RTI(	ON OF AS CA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1075282.06 TING 1053665.61 IL DATUM (NAVD 88 (US Feet)) ELEVATION 610.73 ft	BOF BOF	REHOLI	E DEPTH E DIAME	l TER		21 2i	ït n	
ľ											SAM	IPLING DATA
	DEPTH	ELEVATION		STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
			_	[Asphalt.]		- 03 -				2		
_		610	-0-	GRAVELLY SAND (GP-SP) medium to coarse grained SAND; subangular, medium gr GRAVEL; loose, moist, dark brown (10YR 3/3)	ained		GP-SP	。 [。 ()	M	12/1		-
			_	GRAVEL (GP) loose, some concrete, moist, gray (10YR 5/1)		- 1 -				0	0	BF-B50(0.5-1.5) [(0.5-1.5ft)] 10700cpm
-		-	-	SILTY CLAY (CL-ML) firm, moist, brown (10YR 4/3), [Bedrock refusal @ 2 ftbgs.]		1.5 -	CL-ML		M	12/1:		- 6100cpm - BF-B50(1.5-2.0) [(1.5-2ft)]
	- 2		-			2 - 		21212121212				
-		-	-			-						-
-		-	_			-						- - -
	- 4											-
-		-	_			-						-
-	-	605	-			_						-
3/31/18	6	000				- 						-
GDT 8			_			_						-
MPLATE			_			-						-
ATA TEI		_	-			-						-
ERM D	- 8		_									-
- RI.GPJ		-	_			- - -						-
FORGE			-			_						-
JFFALO		-	_			-						-
IER BL	REN	/AF	RK	S:								
LOG FORM	epir M	Gra	ab	Sample								
BORING												

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 Former Buffalo Forge Property	nc. y - BC	P #C91	5280	E	301 =RM		<b># B-5</b>	<b>1</b> 0181805
	ER	M	P: 1-315-445-2554				5	SHE	ET 1	0F 1	0101000
	DRI DRI DRI DRI	LLIN LLIN LLIN LLIN	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFF DAT	I REPR ICE LC E: STA FINI	ESENTA CATION RT SH	ATIVE		J. Sy 11 11	Reynolds, racuse, N /17/2014 /17/2014	/ C.Voorhees IY
	HOF	RIZOI NOF EAS RTICA	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))           RTHING         1075232.45           STING         1053591.02           AL DATUM (NAVD 88 (US Feet))         ELEVATION         609.89 ft	BOF BOF	REHOLE	E DEPTH E DIAME	I TER		3 f 2 i	t n	
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_		[Asphalt.]		0.3 -			.002	12		4790cpm
	-		GRAVELLY SAND (GP-SP) fine to coarse grained SAND; angular, medium to coarse grained GRAVEL; loose, contains construction debris, wet, dark brown (10YR 3/3), [Contains slag, brick fragements.]		- - - 1 -	GP-SP		5	12/		- - 
	-	-	CLAYEY SILT (CL-ML) dense, some fine to medium gravel, wet, light brown (10YR 6/3	)	-	CL-ML		M	12/12	0.1	-
	2 - - -	-	CLAYEY SILT (CL-ML) firm, some fine sand, little fine to medium gravel, saturated, ligh grayish brown (10YR 5/2), [Bedrock refusal @ 3 ftbgs.]	it .	- 2 - - - - -	CL-ML		M.	12/12		BF-B51(1.5-2.5) [(1.5-2.5ft)] 4500cpm - -
	- - - - - 4	-		-	- - -						-
		- 605		-	-						-
8/31/18	- - - 6	-		-	- - -						-
EMPLATE.GDT	-	-		-	- - -						-
J ERM DATA T	- - 8 -			-	- - 						-
D FORGE - RI.GF	-	-		- - - -	- - -						- - - -
JFFAL(	-	- 600-			-						-
<b>3ORING LOG FORMER BU</b>	REN cpm	MARK a = co Grab	S: unts per minute ftbgs = feet below ground surface Sample								

			PROJECT: 5788 Widewaters Pkwy Howden NA, II	nc.			E	30	RING	6 # <b>B-5</b>	2
	N	Ľ	Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Property	y - BC	P #C91	5280	E	ERN	1 PRO	JECT #	0181805
	ER	M		501			5	SHE	ET 1	OF 1	
	DRI	LLIN	G CONTRACTOR Parratt-Wolff New York				ATIVE 1		J.	Reynolds/	C.Voorhees
	DRI			DAT	E: STA	RT	1		3y 11	/17/2014	.1
	DRI		G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/17/2014	
	HOF	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOL	E DEPTH	1		4 f	t	
		NO	RTHING 1075187.71	BOR	EHOLI	E DIAME	TER		2 i	n	
		EAS	STING 1053503.92								
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.89 ft				1	_		0.41	
							U	ш		SAN	
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	<b>GRAPHIC LO</b>	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_		[Asphalt.]		- 0.3 -				2		
	-		GRAVELLY SAND (GP-SP) medium to coarse grained SAND; medium to coarse grain	ed	-	GP-SP	° \ ~ \	M	12/1		-
	-	-	GRAVEL; loose, contains construction debris, moist, dark brown (10YR 3/3), [Contains	· _	- - 1 -		dana				BF-B52(0.5-1.5) [(0.5-1.5ft)]
	-	-	SILTY CLAY (CL-ML) dense, moist, reddish brown (5YR 4/3)		-			507	4		_ `-6510cpm -
	-	-		-	-	CL-IVIL		V	12		-
	— 2 -		SILTY CLAY (CL-ML) dense, little fine sand, wet, light brown (10YR 6/3)		- 2 ·					0	6340cpm
	_	_		-	-	CL-ML		m	2/12		_
	_	_		-	-				÷		-
	-		CLAYEY SILT (CL-ML) medium dense, little fine sand, wet, light brown (10YR 6/3),	-	- 3 -				~		6110cpm -
	-	-	[Bedrock refusal @ 4 ftbgs.]		-	CL-ML		M	12/1:		-
	- 4	605-			- 						-
	_	-		ŀ	-						-
	-	-			-						-
	-	_		-	-						-
	_	_		-	-						-
8	-	-		ļ	-						-
3/31/1	— 6 -	_		ŀ							-
SDT 8	-	_			-						-
ATE.0	_	_		-	-						-
EMPL	_	-			-						-
TA TE	_				-						-
M DA	- 8				-						-
J ER	_				-						-
RI.GP	_	_		F	-						-
GE - I	_	600-		ŀ	-						-
FOR	-	_		ļ	-						-
FALC	_	_		-	-						-
R BUF	REN	/ARK	(S:			1	1	1			1
<b>JRME</b>	cpm	= co	unts per minute ftbgs = feet below ground surface								
G FC	M.	Grab	Sample								
1G LO											
<b>30RIN</b>											
								-			

ſ		5	5788 Widewaters Pkwy	1C.	0 #004	5000	E	30	RING	6 # <b>B-5</b>	3
	FR	M	Syracuse, New York 13214 Former Buffalo Forge Property P: 1-315-445-2554	/ - BCł	#C91	5280	E	ERN SHE	1 PRO	JECT # OF 1	0181805
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM OFFI DATI	REPR CE LC E: STA FINI	ESENTA CATION RT SH	ATIVE		J. Sy 11 11	Reynolds/ /racuse, N /24/2014 /24/2014	' C.Voorhees Y
	HOF	RIZO NO EAS RTIC/	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1075224.58 STING 1053450.46 AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.01 ft	BOR BOR	eholi Eholi	E DEPTH E DIAME	l TER		4.8 2 i	33 ft n	
ľ										SAN	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
F	-	=	[Asphalt.]		0.3 -				2		
F		-	CLAYEY SILT (CL-ML) medium dense, moist to wet, brown (10YR 4/3)			CL-ML		Ÿ	12/1		-
-		_	CLAYEY SILT (CL-ML) dense, wet, brown (10YR 4/3)		1 -						BF-B53(0.5-1.5) [(0.5-1.5ft)] 5930cpm
_		-		-		CL-ML		₩2	12/12		-
-	- 2		CLAYEY SILT (CL-ML) medium dense, trace fine to medium gravel, wet, brown (10YR - [Bedrock refusal @ 4.83 ftbgs.]	4/3),	- 2 -			sm.	/12	0	BF-B53(1.5-2.5) [(1.5-2.5ft)] - 5950cpm -
_		-							12		-
		605- - - -		-	_	CL-ML		<b>₩</b>	12/22		- - - - 
		=			4.83 -						-
31/18	- - - 6	-		-	_						-
LE.GDT 8/	• • •	-		-							-
TEMPLA	- -	_		_							-
ERM DATA	8	- 600-		-	_						-
E - RI.GPJ	•	-		-							-
ALO FORGE		-		-							- - -
BUFF	RE		 {\$ <sup>:</sup>								
VG LOG FORMER	cpm	Grat	ounts per minute ftbgs = feet below ground surface								
BORIN											

	FR	S N		5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BC	P #C91	5280	E	30 ERN SHE		6 # <b>B-5</b> DJECT # OF 1	<b>4</b> 0181805
	DRI		NG	G CONTRACTOR Parratt-Wolff	ERM	REPR	ESENTA	ATIVE		J.	Reynolds	C.Voorhees
	וחח			New York	OFF	ICE LO	CATION	I		Sy	/racuse, N	ΙY
	DRI	lli Lli	NG	G METHOD Direct Push	DAT	E: STA	RT			11	/24/2014	
	DRI	LLI	NG	G EQUIPMENT Hand Auger/ Air knife		FINI	SH			11	/24/2014	
	HOF	RIZ	٥N	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	ł		1.3	33 ft	
		Ν	OF	RTHING 1075357.99	BOR	EHOLE	E DIAME	TER		2 i	n	
		E	AS	TING 1053458.39								
	VEF	110		L DATUM (NAVD 88 (US Feet)) ELEVATION 610.1 ft					_		CAN	
								רי)	ш		SAN	
	DEPTH	ELEVATION		STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPI	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_	610	)	[Asphalt.]		- 0.3 -				2		4710cpm
	_		_	GRAVELLY SAND (GP-SP) fine to coarse grained SAND; subangular, fine to medium	-	-	GP-SP	0.0	B	12/1	0	-
	_		-	grained GRAVEL; loose, moist to wet, dark brown (10YR 3/3)		- - 1 -		$^{\circ}$			Ū	BF-B54(0.5-1.0) [(0.5-1ft)]
	-			[Large slag-like clasts. EOB. Refusal on berock.]		1.33 -			$\mathbb{S}$	4/4		-
	_		_		-	-						-
	- 2		-		ļ	-						-
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31/18	- 6		_		-							_
DT 8	_		-		F	-						-
TE.GI	_				-	-						-
<b>1</b> PLA	-		_		ŀ	-						-
V TEN	-		-		-	-						-
DAT/	-				ļ	-						-
ERM	- 8 -		_		ŀ							-
I L L E	-		-		ŀ	-						-
- RI.(	_				F	-						-
RGE	-		-		ļ	-						-
O FC	_				ŀ	-						-
IFFAL	-		_									-
ER BU	REN	MAR	RK	S:								
JRME	cpm	ו = ו	соι	unts per minute ftbgs = feet below ground surface								
ğ		Gr	ab	Sample								
IG LC												
ORIN												
ш												

ſ		6	578	38 Widewaters	Pkwy	PROJECT:	Howden NA,	Inc.			E	30	RING	6# <b>B-5</b>	5
	FR		Syr P:	acuse, New Y 1-315-445-25	ork 13214 54	Former	Buffalo Forge Propert	ty - BC	P #C91	5280	1	ERN SHE	I PRC	OJECT # 0	0181805
ľ	DRI				Parratt New Y	-Wolff ork		ERM OFF	I REPF	ESENT/	ATIVE I		J. Sy	Reynolds/ /racuse, N	' C.Voorhees Y
	DRI		IG MET	HOD	Direct Geopre	Push bbe 6620 DT		DAT	E: STA FINI	RT SH			11 05	/24/2014	
ŀ	HOF	RIZ	ONTAL I	DATUM (NAD	1983 Sta	atePlane New	York West (US Feet)	BOR	EHOLI	E DEPTH	ł		7 f	it	
		N0 EA	RTHIN STING	G		BOR	EHOLI	E DIAME	TER		2 i	n			
	VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 610.79 ft														
											g	Щ		SAM	IPLING DATA
	DEPTH	ELEVATION			STRA	TA DESCRIP	TION		DEPTH	uscs	GRAPHIC LC	SAMPLE TYF	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_		[Asph	alt.]					0.3			.000	12		- 
	-	610	_ GRAV _ graine	/ELLY SAND (GP- d GRAVEL; loose,	SP) medium some const	to coarse grained s ruction debris, dry t	SAND; subangular, fine to coa to moist, dark brown (10YR 3/3	rse 3),	-	CP-SP	• ( <u>)</u>	5	12/	0.8	-
	-		[Some	e slag-like material.]	I			-	-	01-01	) 0	000	2		—BF-B55(0.5-1.5) [(0.5-1.5ft)] -
-	-	_	SILTY	Y CLAY (CL-ML) de	nse, moist, r	eddish brown (5YR	R 4/3)		1.5			$\heartsuit$	12/1		
	- 2 -		_					-		CL-ML			8	0	-
	-	-	_					-	-			$\heartsuit$	12/1		-
	-		SILTY	CLAY (CL-ML) de	nse, moist to	o wet, brown (10YR	2 4/3)		- 3 -				0		-
	-	_	_					-	-	CL-ML		M	12/1:	3.1	6880cpm - BF-B55(3-4) [(3-4ft)]
	4		CLAY	EY SILT (CL-ML) d	lense, moist	, light brown (10YR	6/3)		- 4 -						—6510cpm
	-		_					-	-	CL-ML		M	12/12	1.5	-
	-		CLAY	EY SILT (CL-ML) d	lense, some	fine gravel, moist,	brown (10YR 4/3)		- - 5 - -						- 4840cpm -
	-		-					-	-	CL-ML			12/12	0	-
3/31/18	- 6 -	605	CLAY	EY SILT (CL-ML) d	lense, some	medium to coarse	sand, trace fine gravel, moist,		- 6 -						- 4450cpm -
GDT 8	-		brown	n (10YR 4/3), [Bedro	ock refusal @	2 7 ftbgs.]		-	-	CL-ML			12/12	0.3	-
PLATE	-	-							- 7 -						-
TEN	-		-					-	-						-
RM DA	- 8	-	_					-	-						-
GPJ E	-		-					-	-						-
3E - RI.	-	-	_					-	-						-
O FOR	-		_					-	-						-
<b>3UFFAL</b>	-	-							-						_
RAMER E	REN cpm	//AF	KS: ounts p	er minute ftbo	gs = feet	below ground	surface								
LOG FOF	m	Gra	b Samp	ble		Direct push	a geoprobe sample								
BORING															

	X	2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	nc. / - BC	P #C91	5280		BO	RING // PRC	<b>B # B-5</b>	<b>6</b> 0181805
E	RI	M	F. 1-313-443-2334					SHE	ET 1	OF 1	
D D D D	RILL RILL RILL RILL		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	I REPF ICE LC E: STA FINI	RESENT OCATION RT SH	ATIVE N	Ξ	J. Sy 11 05	Reynolds/ /racuse, N /24/2014 5/04/2015	' C.Voorhees Y
Н	ORI	ZON	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLI	E DEPT	Н		8.5	5 ft	
	1	NOF	RTHING 1075500.92	BOR	EHOLI	e diame	ETER		2 i	n	
V	I FRT	EAS	STING 1053414.7 N DATUM (NAVD 88 (US Feet)) ELEVATION 611.44 ft								
										SAM	IPLING DATA
DEPTH		ELEVATION	STRATA DESCRIPTION		рертн	uscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		_	GRAVELLY SAND (GP-SP) medium to coarse grained SAND; fine to medium grained		-		000		2		~7590cpm
-		-	GRAVEL; loose, trace construction debris, moist, dark brown (10YR 3/3), [I race red bridebris.]	CK -	-	GP-SP		)   }	12/1		- - 
_	6	10-			- - 1.5 ·		enti	m	2/12		- - 9510cpm
_	0	_	CLAYEY SILT (CL-ML) medium dense, some fine to medium sand, trace construction debris, moist, brown (10YR 4/3), [Trace red brick debris.]	-	-				1		-
-	2	_			-	CL-ML			2		-
-		_		-	-			Ð	12/1		BF-B56(2-3) [(2-3ft)]
-		=	CLAVEX SILT (CLML) dense moist raddish brown (SVD 4/3)		- 3 -					0	- 9100cpm
-		_			-			m	/12		-
-		_		-	-				12		-
_	4	_		-	-	CL-ML			N		-
-		_		-	-			M	12/1		-
-		=	CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, reddish brown (5YR 4/3)		- 5 -						- 9140cpm
_		_	() ( (	-	-	CL-ML			2/12		-
18	0	_			-				1		- -
8/31	6	-	CLAYEY SILT (CL-ML) medium dense, some medium to coarse sand, trace fine gravel	, _	- 6 -				0		
E.GDT	6	05— _	moist, brown (10YH 4/3)	-	-	CL-MI			6/1:	0.2	-
IPLATI		_		-	-						-
A TEN		_			- - 7.5 -				/12		- 6560cpm
A DAT.	0	_	SAND (SW) coarse grained SAND; firm, some fine gravel, little clay, moist to wet, brow (10YR 4/3), [Bedrock refusal @ 8.5 ftbgs.]	n	-	<b>C</b> 14/			9	0.1	-
J ERN	0	-		-	-	500			6/6		-
RI.GP		-			8.5		-^*.*.*.				-
GE -		_			-						-
0 - 0		_		-	-						-
UFFAL		_		-	-						_
R RI	EMA		S:					_	_	_	
N FORM	5) G	irah	Sample Direct push geoprobe sample								
L I I I I I I I I I I I I I I I I I I I											
DRING											
ы											

ſ			5788 Widewaters Pkwy PROJECT: Howden NA, Ir	IC.			E	BOF	RING	6# <b>B-5</b>	7
			Syracuse, New York 13214 P: 1-315-445-2554 Former Buffalo Forge Property	/ - BCI	P #C91	5280	E	ERM	I PRO	JECT #	0181805
	EK			EDM	DEDD			SHE	ET 1	OF 1	C Voorboos
			New York	OFF	CELO	CATION			J. Sy	racuse, N	Y
	DRI DRI	LLIN LLIN	IG FOREMAN IG METHOD Direct Push	DAT	E: STA	RT			11	/24/2014	
	DRI	LLIN	IG EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	/04/2015	
	HOI	RIZC	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOR	EHOLE	E DEPTH	ł 		8 f	t	
			Interview         Interview <t< td=""><td>BOR</td><td>EHOLE</td><td>E DIAME</td><td>TER</td><td></td><td>21</td><td>n</td><td></td></t<>	BOR	EHOLE	E DIAME	TER		21	n	
	VEF	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 610.7 ft								
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_		[Asphalt.]		0.3 -			000	2		5120cpm
	_	610-	SANDY GRAVEL (GP-SP) fine to coarse grained SAND; medium to coarse grained	liko		GP-SP	° • ^	S.	12/1		-
	_	:	debris.]		· 1 -		ں ۱۱۱				- BF-B57(0.5-1.5) [(0.5-1.5ft)] - 5150cpm
	_		SANDY SILT (MLS) fine to medium grained SAND; dense, some clay, little medium to			MLS		m	2/12		-
	_	_	coarse gravel, dry to moist, brown (10YR 4/3)	-					1		-
	- 2		CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		- 2 -				2		-
	_			_		CL-ML		Ŵ	12/1		5640cpm - BF-B57(2-3) [(2-3ft)]
	_	:			3 -						- 4850cpm
	-	•	SILTY CLAT (CL-ML) dense, moist, reddish brown (STR 4/3)	-				sm,	/12	0	-
	_	_	-	-					12	0	-
	4	•		-		CL-ML					-
	_		-					M	2/12		-
	_	:			5 -				`		- 5050cpm
	_		CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, reddish brown (5YR 4/3)	-					12		-
	_	605-	-	_		CL-ML			12/		-
3/31/18	6 	:	CLAYEY SILT (CL-ML) dense, some fine gravel, little medium to coarse sand, moist to	wet,	- 6 -						4710cpm
SDT 8	_		brown (10YR 4/3)			CL-ML			2/12		-
ATE.0	_	-	-		7 -				-		- 
EMPL	_		SILTY SAND (SM) medium to coarse grained SAND; dense, some fine gravel, moist to						2		-
ATA T	_	-	wei, brown (101R 4/3), [Bedrock reiusal @ 6 lugs.]			SM			12/1	0.3	-
RM D	- 8	:			- 8 -						-
B L HE	_		-								-
- RI.0	_	_									-
ORGE	_		-	_							-
ALO F	_	-									-
BUFF,			Kð.								
RMER	cpm		ounts per minute ftbgs = feet below ground surface								
G FOF	m	Gra	b Sample Direct push geoprobe sample								
IG LOC											
BORIN											

ſ		•	PROJECT: 5788 Widewaters Pkwy Howden NA, Ir	nc.			E	301	RING	6# <b>B-5</b>	8
	N	Ų	Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Property	y - BC	P #C91	5280	E	ERM	I PRC	JECT #	0181805
ŀ	ER	M		EDM				SHE	ET 1	OF 1	C Voorboos
	DRI		New York		ICE LO				J. Sv	racuse. N	Y
	DRI DRI	LLIN(	G FOREMAN G METHOD Direct Push	DAT	E: STA	RT			11	/24/2014	
	DRI	LLIN	G EQUIPMENT Geoprobe 6620 DT		FINI	SH			05	/04/2015	
ſ	HOF	rizoi	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	ł		6 f	t	
		NO	RTHING 1075393.21	BOR	EHOLE	EDIAME	TER		2 i	n	
		EAS	STING 1053225.99								
ŀ	VER	CHC/	AL DATOIN (NAVD 66 (US Feet)) ELEVATION 606.72 IL				1		SAM		
							Ŋ	Ш		0	
		NOI					СГС	Σ	ΞRΥ	n) Lamı	
	ΤH	VAT	STRATA DESCRIPTION		TH	ပ္ပ	НЧ	<b>IPLE</b>	NO	(ppr eV	Observations / Remarks
	DEF	ELE			DEF	nso	GR/	SAN	REO	PID 11.7	
	_	11	[Asphalt.]		- 0.3 -				2		- 
	-	_	GRAVEL (GP) angular, coarse grained GRAVEL; loose, some medium to coarse sand,	, dry	-	GP	[0, 0]	S.	12/1		
	-	=	to moist, dark brown (10YR 3/3)		- - 1 -		60 1999				- 6180cpm
ŀ	_	_	SILTY CLAY (CL-ML) dense, dry to moist, grayish brown (10YR 5/2), [Mottled.]		-			-002	12		-
	-	_		ŀ	-	CL-ML		Ü	12/		-
ŀ	- 2	=	SILTY CLAY (CL-ML) dense, drv, brown (10YR 4/3)		- 2 -						—6400cpm
	_	_			-	CL-ML		sm2	2/12	0	-
	-			-	-				-		-
	-	-	SILTY CLAY (CL-ML) dense, moist, light brown (10YR 6/3)		- 3 -				01		6280cpm -
	-	_			-	CL-ML		M	12/12		-
	- 4	605— =			- 4 -				-		- 
ł	-	-	SILTY CLAY (CL-ML) dense, little fine gravel, moist, brown (10YR 4/3)		-			000	2		-
ł	-				-	CL-ML		$\heartsuit$	12/		-
	-	=	SILTY CLAY (CL-ML) dense, some fine gravel, trace medium to coarse sand, moist, bro	own	- 5 -						—4590cpm
	_	-	(10YR 4/3), [Bedrock refusal @ 6 ftbgs.]		-	CI -MI			12	03	-
8	-	_			-				Ö		-
8/31/	6 -	-			- 6 -						-
GDT	-	-			-						-
LATE.	-				-						-
LEMP	-	_			-						-
ATA -	-	_			-						-
RMD	- 8	-		-	_						_
PJ E	-	-		F	-						-
- RI.0	_	600-			-						-
JRGE	-	-		-	-						-
LO F(	-	-		ŀ	-						-
<b>UFFA</b>	-				-						-
<b>MER E</b>	REN com	/IARK	KS: punts per minute_ftbas = feet below around surface								
FORM	m	Grah	Sample Direct push geoprohe sample								
LOG											
RING											
BO											
		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Former Buffalo Forge Property	nc. / - BCI	<sup>-</sup> #C91	5280	E	30F		6 # <b>B-5</b>	<b>9</b> 0181805
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	ER	M	P: 1-315-445-2554				S	SHE	ET 1	OF 1	0101005
	DRI DRI DRI DRI	LLIN( LLIN( LLIN( LLIN(	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	REPR ICE LO E: STA FINIS	ESENTA CATION RT SH	TIVE		J. Sy 11 05	Reynolds/ /racuse, N /25/2014 /04/2015	′ C.Voorhees Y
	HO	RIZOI NOF EAS	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))           RTHING         1075417.88           STING         1053167.56	BOR BOR	ehole Ehole	E DEPTH E DIAME	I TER		9 f 2 i	t n	
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 609.29 ft							SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		[Asphalt.] GRAVELLY SAND (GP-SP) medium to coarse grained SAND; fine to medium grained GRAVEL; loose, some construction debris, moist, dark brown (10YR 3/3), [Some slag-li	ike	0.3 - - - - 1 -	GP-SP	。 。 () 〉///	en S	12/12		- - 6420cpm - - BF-B59(0.5-1.0) [(0.5-1ft)] -
	- - - - 2		SANDY CLAY (SC) firm, some construction debris, moist, dark brown (10YR 3/3), [Som slag-like debris.]	ne	- 1.5 - - - 2 -	SC CL-ML		€M2	12/12		- - 6740cpm - BF-B59(1.0-2.0) [(1-2ft)] - 7040cpm - 6340cpm
	-	-	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		- - -			M	12/12	0	-
	- - -	-		-	-	CL-ML		M	12/12	0	-
	- 4 - - -		CLAYEY SILT (CL-ML) dense, moist, grayish brown (10YR 5/2)		- - - 4.5 -	CL-ML		£₩2	12/12		
18	- - -		CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, brown (10YR 4/3)	-	- 5 - - - -				6/12		
VTE.GDT 8/31/	6 - - -	-		-		CL-ML			6/12	0.2	
I DATA TEMPLA	-		SILTY SAND (SM) fine to medium grained SAND; medium dense, some fine gravel, mo to wet, brown (10YR 4/3), [Bedrock refusal @ 9 ftbgs.]	bist	- 7 - - -				6/12	0.2	—4890cpm - - - -
- RI.GPJ ERM	- 8 - - -	-		-		SM			6/12	0	
FFALO FORGE	-	= 600— _ _			- 9 - - -						-
BORING LOG FORMER BU	REI cpm	MARk n = co Grab	S: ounts per minute ftbgs = feet below ground surface Sample Direct push geoprobe sample								

		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 Former Buffalo Forge Property	nc. y - BCI	P #C91	5280	E	301 = DN		6 # <b>B-6</b>	0
	ER	M	P: 1-315-445-2554				5	SHE	ET 1	OF 1	0101005
	DRII DRII DRII DRII	LLIN( LLIN( LLIN( LLIN(	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERM OFF DAT	REPR CE LC E: STA FINI	ESENT/ CATION RT SH	ATIVE		J. Sy 11 05	Reynolds/ /racuse, N //25/2014 5/04/2015	C.Voorhees Y
ľ	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	1		6.	5 ft	
		NOF EAS	RTHING 1075323.51 STING 1053118.53	BOR	EHOLI	E DIAME	TER		2 i	in	
	VER	RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION 608.12 ft			1					
							U	ш		SAM	PLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LO	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		[Asphalt.]		0.3 -			-000	5		- 
	-	-	GRAVELLY SAND (GP-SP) medium to coarse grained SAND; fine to medium grained GRAVEL; loose, some construction debris, moist, dark brown (10YR 3/3), [Some slag-li	ike		GP-SP	° ()	Ÿ	12/		-
	-		debris.]				) 0		2		BF-B60(0.5-1.5) [(0.5-1.5ft)] - -
	-	-	SANDY CLAY (SC) medium dense, some construction debris, moist, dark brown (10YR	2	1.5 -	SC		$\mathbb{V}$	12/		- - - 5220apm
	- 2		CLAYEY SILT (CL-ML) dense, trace fine to medium sand, moist, brown (10YR 4/3)		- 2 -				N		BF-B60(1.5-2.5) [(1.5-2.5ft)] 5160cpm
	-	_		-	•	CL-ML		$\mathbb{V}$	12/1	0	-
	-	605-	CLAYEY SILT (CL-ML) dense, moist, reddish brown (5YR 4/3)		3 -				N		5450cpm -
	-	-						B	12/1:		-
	- 4	_		-	<u> </u>	CL-ML					-
	-	-		_				M	12/12		-
	-		SILTY SAND (SM) medium grained SAND; medium dense, some fine to medium grave	۱,	5 -						- 7670cpm -
	-	-	moist to wet, brown (10YR 4/3), [Bedrock refusal @ 7 ftbgs.]	-					8	0.1	-
31/18	- 6	_		-	-	SM			12/		-
3DT 8/	-	-								0.2	-
LATE.	-	-		-	- 7 -						-
A TEMF	-	_		-	•						-
M DAT	- - 8	-									-
PJ ER	-	600- -		-							-
- RI.G	-	-		-							-
FORGE	-			-							-
FALO	-	-		-							-
ER BUI	REN	/ARK	S:			1	1			1	
FORM	chiu M	- co Grab	Sample Direct push deoprobe sample								
G LOG											
BORIN											

		9	5788 Widewaters Pkwy Svracuse New York 13214 Former Buffalo Forge Propert	nc. v - BC	P #C91	5280	E	BOF	RING	6# <b>B-6</b>	1
	ER	M	P: 1-315-445-2554	<b>,</b> -			E	ERM SHE	1 PRC ET 1	OJECT # OF 1	0181805
	DRI DRI DRI DRI	ILLIN ILLIN ILLIN	G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERN OFF DAT	I REPR ICE LO E: STAI FINIS	ESENTA CATION RT SH	TIVE		J. Sy 11 11	Reynolds/ /racuse, N /19/2014 /19/2014	' C.Voorhees Y
	HO	RIZC	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOF	REHOLE	E DEPTH	l		1.8	83 ft	
		NC EA	RTHING 1074904.45 STING 1053669.93	BOF	REHOLE	E DIAME	TER		2 i	n	
	VEF	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 608.55 ft					_		SAM	
	DEPTH	ELEVATION	STRATA DESCRIPTION		рертн	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
			SILTY SAND (SM) medium to coarse grained SAND; soft, moist, brown (10YR 4/3)		-	SM		m	12/12		~3130cpm - - -
	-	: 	GRAVELLY SAND (GP-SP) medium to coarse grained SAND; fine to medium grained GRAVEL; loose, trace silt, moist to wet, dark brown (10YR 3/3)		- 1 - - _ _ 1.5 -	GP-SP GP		m	10/10	0	- - 3140cpm - BF-B61(1.0-1.5) [(1-1.5ft)] 3140cpm
	2 	- -	[Bedrock refusal @ 1.83 ftbgs.]		- 1.83 - 		0   \-				-
	-	-			-						-
	- - 4	- 605 - -			- 						- - 
	-				- - -						-
1/18	- - - 6	-			  						-
VTE.GDT 8/3	-	-			- - -						-
ATA TEMPL₽	-	- 			-						-
ERM D	- - 8 -				- 						
GE - RI.GPJ	- - -	-600 -			-						-
JFFALO FOR	- - -		-								- - - -
FORMER BU	REI cpm	MAR 1 = c	KS: pounts per minute ftbgs = feet below ground surface								
RING LOG		Gra	o Sample								
BO											

		9	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BCP	#C91	5280	B	OR RM I	ING PROJ	# <b>B-6</b> 2	<b>2</b> 0181805
	ER	M	F. 1-313-443-2004				S	HEE	T 1 C	)F 1	
	DRI DRI DRI DRI		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Hand Auger/ Air knife	ERM F OFFIC DATE	REPR CE LO : STAI FINIS	ESENTA <sup>-</sup> CATION RT SH	TIVE		J. F Syr 05/0	Reynolds/ acuse, N 04/2015 04/2015	C.Voorhees Y
ŀ	НО	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BORE	HOLE	DEPTH			0.7	ft	
	VE	NO EAS	RTHING 1074965.13 STING 1053141.06 AL DATUM (NAV/D 88 (US Feet)) FUEVATION 605.55 ft	BORE	HOLE	E DIAMET	ER		2 in		
ŀ	• []									SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
		-	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to medium grained	_		GP-SP		m	8.4	0	~-6350cpm - -
		605- - -  -			0.7 -	N			8		- - - - -
	— 4 - - -										
31/18	- - 6	-600 - -		-							- - 
TEMPLATE.GDT 8/	• • •										- - - -
I ERM DATA				-							-
ORGE - RI.GPJ	• • •	-		-							- - - -
JFFALO F		-		_							- -
BORING LOG FORMER BU	REI cpn	MARI n = co Grat	KS: bounts per minute ftbgs = feet below ground surface b Sample								

			PROJECT: Howden NA. Inc	C.			E	30	RING	# <b>B-6</b>	3
	1		Syracuse, New York 13214 P: 1-315-445-2554	- BCF	#C91	5280	E	RN	1 PRO	JECT #	0181805
	EF	RN	1.				S	SHE	ET 1	OF 1	
	DR	ILLIN	NG CONTRACTOR Parratt-Wolff New York				ATIVE		J. Sv	Reynolds/	C.Voorhees
	DR DR		NG FOREMAN NG METHOD Direct Push	DATE	: STA	RT	I		05	/04/2015	•
	DR		NG EQUIPMENT Hand Auger/ Air knife		FIN	SH			05	/04/2015	
	HO	RIZ	ONTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLI				2.1	l ft	
		EA	ASTING 1053158.09	DURI			IER		21	1	
	VE	RTIC	CAL DATUM (NAVD 88 (US Feet)) ELEVATION 605.72 ft								
							5			SAN	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOC	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		[Asphalt]		0.3 -						
	-	605	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to medium grained	E		GP-SP	° '				-
	-		SANDY SILT (SM) fine grained SAND; medium dense, some fine gravel, some concrete,	,	1 -		$^{)}$			0	
	-		dry to moist, brown (10YR 4/3), [concrete debris and rebar, Concrete refusal @ 2.1ftbgs.]	]		SM					-
	- 2	-	-	-							-
	-			_	2.1 -						-
	-	-	_	-							-
	-		-	-							-
	-	_	_	-							-
	- 4		_	-	-						-
	-		-	-							-
	-	-	_	-							-
	-		-	F							-
	-	600	_ )_	E							-
/31/18	- 6 -		-		-						-
BDT 8	-		-								-
-ATE.0	-	-	-	F							-
TEMPI	-		-	_							-
DATA	-	-	-	-							-
ERM I	- 8		-	-	-						-
.GPJ	-		-	_							-
3E - R	-	-	-	-							-
FORG	-		-	-							-
FFALC	-	-	-	F							-
ER BUI	RE	MAR	RKS:	I							1
<sup>-</sup> ORME	cpn	n = c	counts per minute ttbgs = feet below ground surface								
LOG I											
RING											
BO											

	ED	2	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	Pkwy ork 13214 54	PROJECT: Former I	Howden NA, I Buffalo Forge Propert	nc. y - BCł	P #C91	5280	E			B # <b>B-6</b>	<b>4</b> 0181805
	DRI DRI DRI DRI DRI		G CONTRACTOR G FOREMAN G METHOD G EQUIPMENT	Parratt New Y Direct Hand A	-Wolff ork Push Auger/ Air knife		ERM OFF DAT	REPRI CE LO E: STAF FINIS	ESENTA CATION RT SH	ATIVE		J. Sy 05	Reynolds/ rracuse, N /04/2015 /04/2015	' C.Voorhees Y
	HOI VEF	RIZOI NOF EAS RTICA	NTAL DATUM (NAD RTHING STING NL DATUM (NAVD 8	1983 Sta 10749 <sup>-</sup> 105314 8 (US Fe	atePlane New ` 77.38 42.75 eet)) ELEVATI	York West (US Feet)) ION 605.69 ft	BOR BOR	EHOLE EHOLE	DEPTH DIAME	l TER	_	1.7 2 ii	7 ft n	
ľ													SAM	PLING DATA
	DEPTH	ELEVATION		STRA	TA DESCRIPT	ION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	_	_	[Asphalt]					0.3						
	- - - - - - - - 2 - - -	- 605- - - - - - - -	SANDY SILT (SM) fine g 4/3), [Concrete Refusal @	rained SANI ⊉ 1.7ftbgs.]	D; medium dense, tr	ace fine gravel, dry, brown (1	0YR	1.7 -	SM				0	
	- - - - - - - 4 - -													- - - - - -
-E.GDT 8/31/18	- - - - - - - - - - -							· · · · ·						- - - - - - -
GPJ ERM DATA TEMPLA	- - - - - - - 8							· · · · · · · · · · · · · · · · · · ·						-
UFFALO FORGE - RI.		-					-							-
BORING LOG FORMER BU	REI cpm	MARK 1 = co	:S: unts per minute ftbg	gs = feet	below ground s	surface								

ſ		2	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13212 P: 1-315-445-2554 PROJECT: Howden NA, I Former Buffalo Forge Propert	nc. y - BC	P #C91	5280	E	30 Ern	RING 1/ PRO	<b># B-6</b>	<b>5</b> 0181805
╞	ER DRI		G CONTRACTOR Parratt-Wolff	ERM	1 REPRI	ESENTA	TIVE	SHE	ET 1 ( J.	OF 1 Reynolds/	C.Voorhees
	DRI DRI	LLIN	New York G FOREMAN G METHOD Direct Push	OFF DAT	ICE LO E: STAF	CATION RT			Sy 05	racuse, N /29/2015	Y
	DRI	LLIN	G EQUIPMENT Hand Auger/ Air knife		FINIS	SH			05	/29/2015	
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOR	REHOLE				0.8	3 ft	
		FAS	STING 1074999.49 STING 1053148.88	BOR	EHOLE		IER		2 11	1	
	VEF		AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.08 ft								
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-		SILTY SAND (SM) fine grained SAND; loose, some fine to coarse gravel, dry, brown (	0YR	-					0	-
_		-	4/3), [Concrete refusal @ 0.8ftbgs.]	-	-	SIM				0	-
		= 605—			- 0.8 - -		·				-
-		-			-						-
		_		-	-						-
	- 2			-	-						-
		_		-	-						-
		-		-	-						-
		_		-	-						-
-		-		-	-						-
_	- 4			-							_
		-		-	-						-
-		_		-	-						-
				-	-						-
		_		-	-						-
1/18	6	-		-	-						-
T 8/3	-	-000		-	_						-
.GD 	-	-		-	_						-
IPLAT		_		-	-						-
A TEN		-			-						
I DAT.		_			-						-
ERN	- 8			-	-						-
RI.GP.		-		-	-						-
4- 19-		_		-	-						-
FOR		-		-	-						- -
FALO		_		-	-						-
R BUF	RE	/AR	۱ ۲۶:								1
RME	cpm	1 = cc	ounts per minute ftbgs = feet below ground surface								
G FC											
NG LC											
BORI											

FI	<b>)</b> M	5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554 P: 1-315-445-2554	nc. y - BCI	⊃ #C91	5280	E	BOI ERM SHE	RING I PRC ET 1	G # <b>TM</b> DJECT # OF 2	<b>W-12</b> 0181805
DR DR DR DR		G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G EQUIPMENT Geoprobe 6620 DT	ERN OFF DAT	REPR ICE LO E: STA FINI:	ESENTA CATION RT SH	TIVE		J. Sy 12 05	Reynolds/ /racuse, N 2/01/2014 5/07/2015	′ C.Voorhees Y
HC VE	NO NO EAS RTIC/	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074522.33 STING 1053485.67 AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.1 ft	BOR BOR	EHOLE EHOLE	E DEPTH E DIAMET	TER		10 2 i	1.5 ft n	
									SAN	IPLING DATA
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LOG</b>	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		SILTY SAND (SM) fine to medium grained SAND; loose, little gravel, moist to dry, dark brown (10YR 3/3), [some cinders, brick]	-	- - -	SM		m	12/12	0.5	~8100cpm - - -
-	-	SANDY SILT (SM) fine grained SAND; loose, moist, dark brown (10YR 3/3), [cinders]		- 1 - - -	SM		EM2	12/12	0.4	BF-TMW12(0.5-1.5) [(0.5-1.5ft)] - 7800cpm - - -
- 2 - - -	<sup>2</sup> 605 – – –	CLAYEY SILT (CL-ML) firm, some gravel, some coarse sand, moist, dark brown (10YR 3/3), [cinders]	-	- 2 - - - -	CL-ML		M.	12/12	0.3	— 6830cpm - - - -
-	 	SANDY SILT (SM) fine grained SAND; medium dense, little gravel, moist to wet, light br (10YR 6/3)	rown	- 3 - - - -	SW		mz	12/12	0.5	- - 6760cpm - BF-TMW12(3-4) [(3-4ft)] -
-			-	-			£M2	12/12	0.4	- - - -
18	-	SILTY CLAY (CL-ML) firm, dry to moist, reddish brown (5YR 4/4)	-	- 5 - - -					2.2	
TE.GDT 8/31/			-	- - -	CL-ML			18	2.7	
DATA TEMPLA	600		-	- - -				48/	1.5	-
- RI.GPJ ERM	3 <u>-</u> - -	SILTY CLAY (CL-ML) firm, trace fine sand, dry to moist, reddish brown (5YR 4/4)	-	- 8 - - - -	CL-ML				2.4	
FFALO FORGE		SANDY CLAY (SP-SC) fine to medium grained SAND; medium dense, little silt, little fine medium gravel, moist, reddish black (5YR 4/4). [Redrock refusal @ 10.5 ftbos ]	e to	- - - 9.5 -	SP-SC			18/18	0.3	- 
RE	MAR	(S:								
NG LOG FORME	m = co ] Grat	ounts per minute ftbgs = feet below ground surface								
BORI										

PROJECT: Howden NA.	Inc.	BORING # TMW-12
Syracuse, New York 13214 P: 1.315-445-2554	ty - BCP #C915280	ERM PROJECT # 0181805
ERM		SHEET 2 OF 2
DRILLING CONTRACTOR Parratt-Wolff New York	ERM REPRESENTA	TIVE J. Reynolds/ C.Voorhees
DRILLING FOREMAN	DATE: START	12/01/2014
DRILLING EQUIPMENT Geoprobe 6620 DT	FINISH	05/07/2015
HORIZONTAL DATUM (NAD 1983 StatePlane New York West (US Feet	BOREHOLE DEPTH	10.5 ft
NORTHING 1074522.33	BOREHOLE DIAME	TER 2 in
EASTING 1053485.67 VERTICAL DATUM (NAVD 88 (US Feet)) ELEVATION 607.1 ft		
		SAMPLING DATA
		de de
NOLL		$ \begin{array}{c} \neg \\ \neg \\ \neg \\ \neg \\ \neg \\ \end{matrix} $
	CS PTH	APL APL APL APL APL APL APL APL APL APL
	N DE	PIC BR CR
	SP-SC	0.3
	_ 10.0	
	-	
	-	
	-	
	_	-
	_	-
	_	-
	_	-
	-	-
	_	
	-	
	-	
	_	
REMARKS:		• · · ·
cpm = counts per minute ftbgs = feet below ground surface		
Grab Sample Direct push geoprobe sample		
5 n		

ſ			PROJECT:	nc			F			;# TM	N-13
	0	9	Syracuse, New York 13214 Former Buffalo Forge Property	y - BC	P #C91	15280				JFCT#	0181805
	ER	M	P: 1-315-445-2554				5	SHE	ET 1	OF 1	
Ē	DRI	LLIN	G CONTRACTOR Parratt-Wolff	ERN	1 REPF	RESENTA	TIVE		J.	Reynolds/	C.Voorhees
	DRI	LLIN	New York G FOREMAN	OFF	ICE LC	CATION			Sy	racuse, N	Y
	DRI	LLIN	G METHOD Direct Push	DAT	E: STA	RT			11	/26/2014	
	DRI		G EQUIPMENT Hand Auger/ Air knife	DO	FINI	SH			05	/06/2015	
	HOP		NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)) RTHING 1074750.72	BOF			TER		4.0 2 i	ο/π n	
		EAS	STING 1053650.61	501	CIICE						
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.54 ft								
										SAM	IPLING DATA
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
	-	_	CLAYEY SILT (CL-ML) medium dense, moist to wet, brown (10YR 4/3) LIMESTONE		_				~		~4810cpm -
	-				_	CL-ML		M	12/1:		-
	-	=			- - 1 ·						-
	-	-	SANDY SILT (SM) fine to medium grained SAND; firm, some fine to medium gravel, we brown (10YR 4/3). [some brick]	et,	_			ŝ	12		- 5050cpm
	-	605— _			_	SIVI		Ü	12/		BF-TMW13(1-2) [(1-2ft)]
	- 2	=	SANDY SILT (SM) fine to medium grained SAND; firm, some medium to coarse gravel,		- 2						
-	-	_	wet, brown (10YR 4/3), [some brick]		-	SM		sm,	2/12	0	-
	-	-			_				1		-
_	-	=	SANDY SILT (SM) fine grained SAND; medium dense, some fine to medium gravel,		- 3 -				~		—4910cpm -
	-		saturated, brown (10YR 4/3)		_	SM		M	2/12		-
	- - 4	_			- 4						- —4710cpm
	-	_	GRAVELLY SILT (GP-GM) subangular, fine to coarse grained GRAVEL; soft, saturated	d,	-	CP CM			9.6		-
-	-	-			-				10/		-
-	-	_			- 4.8 ·						-
_	-	-			_						-
∞	-	_			-						-
8/31/1	— 6 -	-			_						-
3DT	-	- 600-			-						-
ATE.(	-	-			-						-
EMPL	-	_			-						-
ATA T	-				_						-
SM D/	- 8	_									-
Ъ	-	-			-						+ -
-RI.G	-	_			_						-
RGE	-	-			_						-
O FO	-				-						-
JFFAL	-	_			-						-
IER B(	REN		(S:	_				_	_		
FORM	Cpm										
DOG	V	Giao									
SING											
BOF											

EF	) RM	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554	nc. y - BCF	9 #C91	5280	E	BOF ERM BHEI	RING PRO	5 # <b>TM</b> JECT # 0 OF 1	<b>N-14</b> 0181805
DR	ILLIN	G CONTRACTOR Parratt-Wolff New York	ERM OFFI	REPR	ESENTA CATION	TIVE		J. Sy	Reynolds/ racuse, N	' C.Voorhees Y
	ALLIN ALLIN	G FOREMAN G METHOD Direct Push G FOLIIPMENT Geoprope 6620 DT	DATE	STAF	RT SH			12	/01/2014	
НО	RIZO	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet))	BOR	HOLE	DEPTH			9.5	5 ft	
	NO EAS	RTHING 1074798.51 STING 1053249.08	BORI	EHOLE	DIAME	TER		2 ii	n	
VE	RTIC/	AL DATUM (NAVD 88 (US Feet)) ELEVATION 606.54 ft							SAM	
	-					ЮG	ΥE		<u>م</u>	
DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC L</b>	SAMPLE TY	RECOVERY	PID (ppm) 11.7 eV Larr	Observations / Remarks
-	-	SANDY SILT (SM) fine grained SAND; medium dense, some gravel, moist, brown (10Y 4/3)	/R _		014		en (n	12		~4310cpm - -
-	-		-		SM		U'	12/		-
-	-	CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3), [some slag and brick fragmen	ts]	1 –			s07.	12		4340cpm - -
-	605-		-	2	CL-IVIL		V	12/		-
-	-	CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3), [some slag and brick debris]	-	2			ŝ.	12	0	-
-	-		-	2 -	CL-IVIL		V	12	0	- - 3860cpm
-	-	Wet, (10YR 4/3), [cobbles and bricks]	-	5			ŝ	/12		BF-TMW14(2-4) [(2-4ft)] - -
-	-		-	_	•		C/	12		-
-	-		-				sm.	12		-
-	-			5 –				12		- - 
-	-	CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3)	-	0						-
	-			_	CL-MI					-
DT 8/31	-		-		CE-IVIE					-
ATE.G	-000			7 –						- - 
TEMPI	-	CLAYEY SILT (CL-ML) dense, trace fine gravel, moist, brown (10YR 4/3)	-		CL-MI			48/54	1.5	-
				- 8 -						- - 
		CLAYEY SILT (CL-ML) dense, moist, brown (10YR 4/3), [Bedrock refusal @ 9.5 ftbgs.]	I  -  -	J						-
E - RI.G	-				CL-ML					-
D FORG	-			95 -						-
	-		-	0.0						-
RE RE	MAR m = co	<s: ounts per minute ftbgs = feet below ground surface</s: 								
g Fo	Grat	o Sample Direct push geoprobe sample								
RING LC										
BOB										

		PROJECT: Howden NA	nc			F	301			W-15
		Syracuse, New York 13212 P: 1 215 4/5 2554 Former Buffalo Forge Property	y - BC	P #C91	15280	6	ERM	1 PRO	JECT #	0181805
EI	RM	F. 1-315-445-2354				Ś	SHE	ET 1	OF 3	
DF	RILLIN	IG CONTRACTOR Parratt-Wolff	ERM	REPF	RESENT	ATIVE		J.	Reynolds	/ C.Voorhees
DF	RILLIN	IG FOREMAN	OFF	ICE LC		١		Sy	racuse, N	IY
DF	RILLIN RILLIN	IG METHOD Direct Push IG EQUIPMENT Geoprobe 6620 DT	DAT	E. STA	SH			05	/25/2014	
НС	ORIZO	ONTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOL	E DEPTH	+		20	.5 ft	
	NC	RTHING 1075122.31	BOR	EHOL	e diame	TER		2 i	n	
	EA	STING 1052918.18								
VE	RTIC	AL DATUM (NAVD 88 (US Feet)) ELEVATION 604.14 ft					-		SAM	
						Ū	ш		SAIV	
рертн	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	GRAPHIC LO	SAMPLE TYF	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks
-		SANDY SILT (SM) fine grained SAND; medium dense, moist, brown (10YR 4/3)		. –						~4910cpm
-							M	12/12		-
-		-			SM			`		-
-	_						ŝ	12		
-		-	-	-			V	12/		ΒΕ-ΤΜΙΨΤ5(1-2) [(1-2π)] 
	2 _	SANDY SILT (SM) fine grained SAND; medium dense, little fine gravel, moist, brown (1	10YR	- 2 ·						
_		4/3)		-			m	2/12	0	-
E		-	-	-	SM			-		
-	-	-		-	SIVI			2		-
_		-	-	-			S.	12/1		-
-	4 600.	SANDY SILT (SM) find grained SAND: medium dages little find gravel, meist roddich		- 4 ·						- 5640cpm
-	000	brown (5YR 4/4)	-	-	SM		m	/12		-
-			-		OW			12		-
-	-	SANDY SILT (SM) fine grained SAND; medium dense, trace fine gravel, moist, brown		- 5 -						—5060cpm
-		(10YR 4/3)	-	- -	SM				0.2	-
1/18	6			- 6 ·						- 4980cpm
T 8/3	_	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to medium grained GRAVEL medium dense, drv. brown (10YR 4/3)		-		° (		4	- <b>-</b>	-
- Е Е		_			GP-SP	ے ت ر		9/38	0.7	-
	_	<ul> <li>SANDY SILT (SM) fine grained SAND; medium dense, some fine to medium gravel, medium</li></ul>	oist,	- 7 -	014	ΪĴ		сэ (		5510cpm
ATEN		reddish brown (5YR 4/4)		7.5	SIVI				0.4	5290cpm
	0	GRAVEL (GP) subangular, fine to coarse grained GRAVEL; medium dense, moist to w	/et,		GP	$\delta$				-
I ERN	-	dark gray (10YR 4/1), [Bedrock @ 8.2 ftbgs.]		8.2					0	-
RI.GP.		LIMESTONE, [water bearing fracture @ 14ttbgs.]	-	-		$\langle \rangle \rangle$				-
н- Ю-	505		F	-						-
1 FOR	555	-	-	-						-
FFAL(			ŀ							-
RE	MAR	ks:					*			1
	m = c	ounts per minute ftbgs = feet below ground surface								
8	Gra	b Sample Direct push geoprobe sample								
ING L										
BOR										

ſ		9	PROJECT: 5788 Widewaters Pkwy Syracuse, New York 13214 P: 1-315-445-2554	Howden NA, I Forge Property	nc. y - BCF	• #C915	5280	E	BORING # TMW-15 ERM PROJECT # 0181805						
	ER	M						S	SHEI	ET 2 (	OF 3				
	DRI	LLING	G CONTRACTOR Parratt-Wolff New York		OFFI		ESENTA CATION	IIVE J. Reynolds/ C.Voorhees							
	DRI		G FOREMAN		DATE	E: STAF	RT		11/25/2014						
	DRI	LLING	G EQUIPMENT Geoprobe 6620 DT		FINISH 05/06/2015										
	HO	RIZO	NTAL DATUM (NAD 1983 StatePlane New York We	est (US Feet)]	BORI	EHOLE	DEPTH			20.	.5 ft				
		NOF FAS	TING 1075122.31		BORI	HOLE	DIAME	IER		2 1	n				
	VEF	RTICA	L DATUM (NAVD 88 (US Feet)) ELEVATION	604.14 ft											
										SAM	PLING DATA				
	DEPTH	ELEVATION	STRATA DESCRIPTION			DEPTH	nscs	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks			
ŀ			LIMESTONE, [water bearing fracture @ 14ftbgs.](Continued)		_			Ŵ		<u> </u>	<u> </u>	-			
		_			-							-			
		_			-			$\rangle\rangle\rangle$				-			
		_			-			X				-			
		_			-							-			
	- 12	_			-	-						-			
		_			-							-			
		_			-			X				-			
		_			-							-			
		_			-							-			
	- 14	590-	LIMESTONE		-	- 14 -		XX				-			
		_			-							-			
		_			-			$\sum$				-			
		_			-			X				-			
8		_			-							-			
8/31/	- 16				-	-						-			
GDT		_			-							-			
PLATE		_			-			$\gg$				-			
V TEM		_			-			XX				-			
DAT		_			F							-			
ERM	- 18	_			F	-						-			
RI.GP.		_			F			>>>				-			
GE - F		-			F			X				-			
D FOR		_			-							-			
IFFAL(		_			F							-			
ER BU	RE	MARK	S:		I	I	K			I					
-ORM	cpn	1 = co	unts per minute ttbgs = feet below ground surface												
LOG F	12	Grab	Sample Direct push geoprob	e sampie											
RING															
BO															

		2	5788 Widewaters Syracuse, New Yo P: 1-315-445-255	Pkwy ork 13214 54	PROJECT: Former Buffalo	Howden NA, I Forge Propert	nc. y - BCF	P #C91	5280	E	BORING # <b>TMW-15</b> ERM PROJECT # 0181805						
1	ER DRI		G CONTRACTOR	Parrat	-Wolff		ERM	REPRI	ESENTA	ATIVE	TIVE J. Reynolds/ C.Voorhees						
	DRI DRI DRI	LLIN( LLIN(	G FOREMAN G METHOD G FOLIIPMENT	New Y Direct Geopre	ork Push bbe 6620 DT		OFFICE LOCATION Syracuse, NY DATE: START 11/25/2014 EINISH 05/06/2015						Υ				
┢	HOF	RIZOI	NTAL DATUM (NAD	1983 St	atePlane New York W	/est (US Feet)]	BOR	EHOLE	DEPTH	ł		20	.5 ft				
		NOF EAS	rthing Sting	10751: 10529	22.31 18.18	BOR	EHOLE	DIAME	TER		2 i	n					
	VEF	RTICA	L DATUM (NAVD 88	B (US Fe	et)) ELEVATION	604.14 ft					_		SAM				
		_								90	ЪП		<u></u>				
	DEPTH	ELEVATION		STRA	TA DESCRIPTION			DEPTH	nscs	GRAPHIC LI	SAMPLE TY	RECOVERY	PID (ppm) 11.7 eV Lam	Observations / Remarks			
F			LIMESTONE(Continued)											-			
F		-						20.5 -		<i>×///×</i>				-			
Ē														-			
F		_												-			
-	- 22	_						-									
Ē		-												-			
F														-			
F		-												-			
E	- 24	_ 580-						-						-			
F		-												-			
F		_												-			
Ē		-												-			
1/18	- 26	-						_						-			
DT 8/3		_												-			
ATE.GI		-												-			
TEMPL							F							-			
DATA	_	_					F							-			
J ERM	- 28	_					F	-						-			
- RI.GP		_					F							-			
ORGE		- 575-					F							-			
		_					È							-			
ER BUFI	REN	/ARK	(S:		<u> </u>												
FORME	cpm	0 = CO	unts per minute ftbg	is = feet	below ground surface												
1 DOL	7	Grab	Sample			be sample											
SORING																	

			5788 Widewaters Pkwy Howden NA, Ir	BORING # TMW-16				N-16						
	N		Syracuse, New York 13212 P: 1-315-445-2554 Former Buffalo Forge Property	/ - BCI	P #C91	5280	E	ERM PROJECT # 0181805						
	ER	M						SHE	ET 1	OF 1				
	DRI	LLING	New York				A IIVE I	Syracuse, NY						
	DRI DRI	LLIN(	G FOREMAN G METHOD Direct Push	DAT	E: STA	RT			11	/25/2014				
	DRI	LLING	G EQUIPMENT Geoprobe 6620 DT		FINISH 05/05/2015									
	HOF	RIZOI	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet)	BOR	EHOLE	E DEPTH	1		6.5	5 ft				
		NOF	RTHING 1075208.51	BOR	EHOLE	E DIAME	TER		2 i	n				
	VEF		L DATUM (NAVD 88 (US Feet)) FI FVATION 608 44 ft											
										SAM	PLING DATA			
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	NSCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks			
	_	_	SILTY CLAY (CL-ML) soft, moist to wet, light brown (10YR 6/2)					000	2		- 5270cpm			
	-	_				CL-ML		W)	12/1		-			
	_	=	SILTY CLAY (CL-ML) dense, some coarse gravel, moist, brown (10YR 4/3), [some bric	k	1 -					0.1	—5900cpm			
	_		fragments]			CL-ML		m	2/12		-			
	-	_							7		-			
	- 2	_	CLAYEY SILT (CL-ML) medium dense, moist, brown (10YR 4/3)		- 2 -				2					
	_	_				CL-ML		B	12/1	0	-			
	-	=	CLAVEX SILT (CLML) modium donon, moist, brown (40VD 4/2)		- 3 -						- 6340cpm			
	-	- 605-	CLATET SILT (CL-WL) medium dense, moist, brown (10TR 4/3)					m	/12	0.1	-			
	_	_		-				V	12	0.1	-			
	4	=	CLAYEY SILT (SM) medium dense, some fine sand, moist to wet, gravish brown (10YF	2	— 4 -						-			
	-		5/2), [moderate petroleum like odor]			SM		M	12/12	2.9	5920cpm - BF-TMW16(4-5) [(4-5ft)]			
	_	=			5 -				`		- 5880cpm			
	-	_	CLAYEY SILT (CL-ML) medium dense, trace fine sand, trace fine gravel, moist, grayish brown (10YR 5/2)			CL-ML					-			
m	-	_	CLAYEY SILT (CL-ML) dense, some fine sand, trace fine gravel, moist, brown (10YR 4	/3),	5.5 -				3/18	0.1	—5930cpm - -			
3/31/18	— 6 _	_	[Bedrock refusal @ 6.5 ftbgs.]			CL-ML			7					
BDT 8	_				6.5 -						-			
ATE.0	_	_									-			
EMPL	_	_									-			
ΑΤΑ Τ	_	_									-			
RM D	- 8	_			_									
3PJ E	_	600-									-			
- RI.0	_	_									-			
ORGE	-	_									-			
ALO F	-										-			
BUFF.			·S·								-			
RMER	cpm	i = co	unts per minute ftbgs = feet below ground surface											
G FOF	M	Grab	Sample Direct push geoprobe sample											
IG LOC														
BORIN														

ſ		6	5788 Widewaters Pkwy	NA, Inc. BORING # TMW-16A				W-16A						
	FR	M	Syracuse, New York 13214 Former Buffalo Forge Propert P: 1-315-445-2554	у - ВС	P #C91	5280	E	ERM PROJECT # 0181805 SHEET 1 OF 1						
ŀ	DRI	LLING	G CONTRACTOR Parratt-Wolff New York	ERM			TIVE	TIVE J. Reynolds/ C.Voorhees Syracuse NY						
	DRI DRI	LLIN(	G FOREMAN G METHOD	DAT	E: STA	RT		11/25/2014						
	DRI		G EQUIPMENT Hand Auger/ Air knife	<b>D</b> 00	FINI	SH			11	/25/2014				
	HOF	rizoi Nof	NTAL DATUM (NAD 1983 StatePlane New York West (US Feet) RTHING 1075232.18	BOR	REHOLE	E DEPTH	I TER		4.t 2 i	n ti				
		EAS	STING 1053057.77											
	VEF	RTICA	AL DATUM (NAVD 88 (US Feet)) ELEVATION 607.04 ft					-						
							U	ш		SAN	IPLING DATA			
	DEPTH	ELEVATION	STRATA DESCRIPTION		DEPTH	nscs	<b>GRAPHIC LO</b>	SAMPLE TYP	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks			
	-		SILTY CLAY (CL-ML) soft, moist to wet, light brown (10YR 6/2)	-							~5940cpm			
	-	_		-	-	CL-ML		M	12/12		-			
	-		SILTY CLAY (CL-ML) dense some coarse gravel moist brown (10VR 4/3)		- - 1 -					0.2	- 6310cpm			
	-	_		-	-	CL-ML		m	2/12		-			
	-	_		-	-				1		7700 mm			
-	- 2	605	CLAYEY SILT (CL-ML) medium dense, moist, brown (10YR 4/3)	-					2					
	-	_			-	CL-ML		$\mathbb{C}$	12/1	0.4	-			
	-		CLAYEY SILT (CL-ML) medium dense, moist, brown (10YR 4/3)		- 3 -						5910cpm			
	-	_		-	-	CL-ML		m	2/12		-			
-	- 1	-		-	- - 1				7	0.1	- 			
	-	_	CLAYEY SILT (SM) medium dense, some fine sand, moist to wet, reddish brown (5YR	8 4/4),	-	SM		M	6/6		- 6230cpm			
	-	=			_ 4.5 - _		ΛΛΛΛΛ.				-			
	-			-	-						-			
	-	_		-	-						-			
/18	- 6	_			-						-			
F 8/31	-	_		-	-						_			
E.GD1	-	_		-	-									
<b>IPLAT</b>	-	600-		-	-						-			
A TEN	-	_			-									
A DAT	- 8	-			-						-			
J ERN	-	_		-	-						-			
RI.GP	-	_		-	-						-			
- 305	-			-	-						-			
OFO	-	_		-	-						-			
UFFAL	-	_			-						-			
<b>MER B</b>	REN com	MARK 1 = co	KS: junts per minute ftbas = feet below ground surface											
FOR	m	Grab	Sample											
5 LOG														
DRING														
ы														

				5788 Widewaters Pkwy Howden NA,	NA, Inc.				BORING # TMW-17					
	FR	N		Syracuse, New York 13212 Former Buffalo Forge Propert P: 1-315-445-2554	y - BC	P #C91	5280	E	ERM PROJECT # 0181805 SHEET 1 OF 1					
	DRI DRI DRI DRI			G CONTRACTOR Parratt-Wolff New York G FOREMAN G METHOD Direct Push G FOLUPMENT Hand Auger/ Air knife	ERM OFF DAT	ERM REPRESENTATIVE     J. Reynolds/ C.Voorh       OFFICE LOCATION     Syracuse, NY       DATE: START     12/01/2014					/ C.Voorhees Y			
					BOR			4		3.	75 ft			
	VE	N E RTI		RTHING 1075295.23 STING 1053582.25 AL DATUM (NAVD 88 (US Feet)) ELEVATION 605.91 ft	BOREHOLE DIAMETER 2 in									
											SAM	IPLING DATA		
	DEPTH			STRATA DESCRIPTION		рертн	USCS	GRAPHIC LOG	SAMPLE TYPE	RECOVERY	PID (ppm) 11.7 eV Lamp	Observations / Remarks		
	-			[Asphalt] GRAVEL (GP) subangular, coarse grained GRAVEL; medium dense, moist, (10YR 4/3	3)	- 0.3 - -	GP					- 		
	-	60	)5 <u>-</u> - -	GRAVELLY SAND (GP-SP) fine grained SAND; subangular, fine to coarse grained GRAVEL; medium dense, trace silt, moist, dark brown (10YR 3/3)		- 1 - - -	GP-SP	° 0				4520cpm - - -		
	- - 2 - -		-	CLAYEY SILT (CL-ML) medium dense, some fine sand, moist, brown (10YR 4/3), [trac brick fragments]	;e _	- - 2 - - -	CL-ML	0				- 4330cpm - - - -		
	- - - -		-	CLAYEY SILT (CL-ML) medium dense, some fine sand, trace gravel, moist, brown (10 4/3), [Bedrock refusal @ 3.9 ftbgs.]	YR -	- 3 - - - - 3.9 -	CL-ML					4330cpm - - - -		
	- 4 - - -		-		-	-						-		
8/31/18	- - - - 6	60	- - -00-		-	- - - -						- - - - 		
V TEMPLATE.GDT	-		-		-	- - - -						- - - -		
I.GPJ ERM DATA	- 8 - -				- - - -	- - - -						- - - - -		
FFALO FORGE - R	-				-	- - - -						- - - - -		
BORING LOG FORMER BUF	REI cpn	MA ו =	RK co	KS: ounts per minute ftbgs = feet below ground surface								1		

Appendix D Monitoring Well Construction Logs-Remedial Investigation

#### **ERM** 5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

#### MONITORING WELL CONSTRUCTION





5788 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



WELL: TMW -14

5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554







5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



WELL: TMW-ISD

5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554



roject Name & Location	Project No.		Wa	er Level(s)		Site Elevation Datum
Bullfal Force	6181805		(ft below to	pp of PVC casis	18)	
Prilling Company	Foreman		Date	Time	Level (feet)	Ground Elevation
urveyor			···· · · · ·			Top of Protective Steel Cap Elevation
ate and Time of Completion	Geologist					Top of Riser Pipe Elevation
				CON	ISTRU	ICTION DETAILS
Generalized Soil Description	*Elevation	<u>**Deptin</u>			PROTEC	TTIVE STEEL CAP WITH LOCK
	0.0	0,0				
	- 0.0	_ 0.0 _		<	EXPANS	SION CAP
	0.0	0.0				GROUND SURFACE
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					PROTEC	TIVE STEEL CASING CEMENTED IN PLACE
	0.0	Surface				
	0.0				BENTO	NITE-CEMENT GROUT
	0.0				BENTO	NITE SEAL
	- <b>-</b> 0.0				RISER	DIAMETER:
				-		MATERIAL: PVC
				- -   <	WELLS	CREEN
				-		SLOT SIZE: •10
				-		MATERIAL:
				-	SAND P	PACK
				-		түр <u>в:</u> 0
				-		
	0.0	- 6.5 -		· 	BOTTO	M CAP (PVC)
	 	L	L		BOTTC	OM OF BOREHOLE
REMARKS	+ wsh	, man	Ví			

ţ

WELL: TMW-16

:

#### **ERM** 5/88 Widewaters Parkway, Dewitt, NY 13214 (315) 445-2554

WELL: TMW- IT

#### MONITORING WELL CONSTRUCTION



 $\mathcal{X}^{n}$ 

# Appendix E Ground Water Sampling Records

SITE Buffalo For	ge Site					DATE	13	March 2012		
PROJECT NUMBER	R:	0157929								
SAMPLE ID : TMW	V-01									
WELL ID : TM	W-01					Time C	Onsite:	Tir		
SAMPLERS : L. V	Vitters					0800			1533	
J. 1	Fox					0817			1535	
Depth of well (	from to	op of casii	ng)			10.12	2'	Time:	0842	
Static water lev	vel (fro	m top of c	casing)			5.04	1	Time:	0841	
Water level afte	er purg	ging (from	n top of c	asing)		_		Time:		
Water level bef	ore sar	npling (fr	rom top c	of casing	g)			Time:		
Purging Method	l: N/ <i>I</i>	A	We	ell Volu	ıme C	Calcula	tion:	1 volu	ume 3	volumes
Airlift	Lo	ow-Flow Pu	mp 1	in. well:		ft. of wa	ter x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	in. well:		ft. of wa	ter x 0.36	=	gal. $x 3 =$	gal.
Submersible	D	ed. Pump	4	in. well:		ft. of wa	ter x 0.65	=	gal. $x 3 =$	gal.
Volumo of w	tor rom	avad	6	in. well:		ft. of wa	ter x 1.47	=	gal. $x 3 =$	gal.
volume of wa	ater remo	oveu: oal	>3 vol	11mes: ve	5	no		purged dry?	Ves	no
		gui.		unico. ye		110		puigeu ury.	yes	110
Field Tests:										
	рН	Cond.	Turb.	DO	Te	mp.	DEP	SAL	TDS	ORP
units	-	µs/cm	NTU	mg/L	°C	2	-	-	g/L	mV
Initial	7.97	464	1609	5.39	8.30	)				75.9
1 Volume										
2 Volumes										
3 volumes										
Sampling										
Time of Sample	e Colle	ction:	084	8						
		•		1			• 137	.1 1		
Collection Met	hod:		Ana	ilyses:		Analyt	ical Me	thod:	0.1	
X Disposa	ble baile	r	$\frac{X}{Y}$	V(	)Cs -	8260	X	503.1	Other	
Tenon b	aller		$\frac{\Lambda}{\chi}$	5v	otals		0270 TAI			
Submers	sible Pur	, nn	$\frac{\Lambda}{\chi}$	P(	B		8082			
Low-Flo	w Samp	ling	<u></u>	M	NA		0002			
Other:		8	X	Ot	her	(	Cyanide			
							-			
Observations										
Weather/Temp	peratur	e: I	Fog, Tem	p. +/- 4	2°F, w	ind, W,	estimat	ted 10 mph		
Sample Descrip	otion:	Heavy	brown tı	ırbidity						
Free Pro	oduct?	yes	no X	de	escribe					
5	Sheen?	yes	no X	de	escribe					
	Odor?	yes	no X	de	escribe					
Comments:				<b>.</b> .						
Well went dry, remo	oved a	pproxima	tely 1.5 li	ters tota	11.					

SITE Buffalo For	ge Site				DAT	Е <u>13</u>	March 2012	2	
PROJECT NUMBER	R:	0157929							
SAMPLE ID : TMW	V-06								
WELL ID : TM	W-06				Time	Onsite:	Tii	me Offsite:	
SAMPLERS : L. V	Vitters				0800			1533	
J. 1	Fox				0817			1535	
Depth of well (	from to	op of casii	ng)			6'	Time:	0941	
Static water lev	vel (fro	m top of c	casing) .		<u>5.</u> 2	20'	Time:	0940	
Water level after	er purg	ging (from	n top of c	asing)	······		Time:		
Water level bef	ore sar	npling (fr	om top o	of casing	<u> </u>		Time:		
Purging Method	l: N/A	A	We	ell Volu	ıme Calcu	lation:	1 vol	ume 3	volumes
Airlift	Lo	ow-Flow Pu	mp 1	in. well:	ft. of v	vater x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	3 in. well:	ft. of v	water x 0.36	=	gal. x 3 =	gal.
Submersible	De	ed. Pump	4	in. well:	ft. of v	vater x 0.65		gal. x 3 =	gal.
Volume of w	ator rom	oved.	6	5 in. well:	ft. of v	vater x 1.47	' =	gal. x 3 =	gal.
volume of wa		gal.	>3 vo	lumes: ve	5 1	าด	purged dry?	ves	no
		0		j -			r8 j -	,	
Field Tests:								,	1
	pН	Cond.	Turb.	DO	Temp.	DEP	SAL	TDS	ORP
units	-	μs/cm	NTU	mg/L	°C	-	-	g/L	mV
1 Volumo	8.88	422	92.7	7.99	7.92				92.0
2 Volumes									
3 Volumes									
				<u> </u>					
Sampling									
Time of Sample	e Colle	ction:	095	55					
Collection Met	hod:		Ana	alvses:	Anal	vtical Me	ethod:		
X Disposa	ble baile	r	Х	VC	DCs - 82	60 X	503.1	Other	
Teflon b	ailer		Х	SV	OCs	8270			
Dedicate	ed pump	,	Х	Me	etals	TAL	1		
Submers	sible Pur	np	X	PC	CB	8082			
Low-Flo	w Samp	ling		M	NA				
Other:			<u>X</u>	Ot	her	Cyanide			
Observations									
Weather/Temp	peratur	re: (	Overcast,	, Temp.	$+/-42^{\circ}F$ , w	ind, W, e	stimated 5 r	nph	
Sample Descrip	otion:	Modera	ate brow	n turbid	ity				
Free Pro	oduct?	yes	no X	de	scribe				
C	Sheen?	yes	no X	de	scribe				
	Odor?	yes	no X	de	scribe				
Comments:									
Total volume remov	ved ~0.	9 liter; we	ell went c	lry.					

SITE Buffalo For	ge Site				DATI	DATE 13 March 2012				
PROJECT NUMBER	R:	0157929								
SAMPLE ID : TMW	/-04									
WELL ID : TM	W-04				Time	Onsite:	Tir	ne Offsite:		
SAMPLERS : L. V	Vitters				0800					
J. 1	Fox				0817			1535		
Depth of well (	from to	op of casi	ng)		8 58		Time	1432		
Static water lev	vel (fro	m top of c	casing)			7'	Time:	1431		
Water level after	er purg	ging (from	n top of c	asing)			Time:			
Water level bef	ore sar	npling (fr	com top c	of casing	g)		Time:			
			1	11 7 7 1	″ <u> </u>					
Purging Method	1: IN / P	4	VVe		ime Calcul	ation:	1 volt	ame 3	volumes	
Airlift	L(	w-Flow Pu	mp 1	in. well:	ft. of w	ater x $0.04$		gal. $x^3 =$	gal.	
Bailer	Pe	eristaltic Pui	mp 3	in. well:	ft. of w	ater x $0.36$		gal. $x^3 =$	gal.	
Submersible	D	ed. Pump	4	in. well:	ft. of w	ater x 0.65		gal. $x 3 =$	gal.	
Volume of wa	ater rem	oved:	6	in. well:	ft. of w	ater x 1.47		gal. $x 3 =$	gal.	
		gal.	>3 vol	umes: ye	s n	)	purged dry?	yes	no	
Field Tester										
rielu Tests.	рH	Cond.	Turb	DO	Temp.	DEP	SAL	TDS	ORP	
units		us/cm	NTU	mg/L	°C	-	-	g/L	mV	
Initial	9.69	810	70.1	2.52	7.8			0,	-68.5	
1 Volume										
2 Volumes										
3 Volumes										
Sampling										
Time of Sample	e Colle	ction:	143	5						
Collection Met	hod:		Ana	lyses:	Analy	rtical Me	ethod:			
X Disposa	ble baile	r	Х	, vo	DCs - 826	) X	503.1	Other		
Teflon b	ailer		X	SV	/OCs	8270		•		
Dedicate	ed pump	,	Х	M	etals	TAL				
Submers	sible Pur	np	Х	PC	CB	8082				
Low-Flo	w Samp	ling		M	NA					
Other:			X	Ot	her	Cyanide,	HRGC Finger	print for Pertr	oleum ID	
Observations										
Weather/Temp	peratur	e: I	Fog, Tem	peratur	e +/- 42°F, w	ind, W,	estimated 1	0 mph		
Sample Descrip	otion:	Moder	ate to hea	avy gray	/-brown turb	idity		1		
Free Pro	oduct?	yes	no X	de	escribe	<i>,</i>				
S	Sheen?	yes X	no	- de	escribe Slight	/moder	ate petroleu	ım-like		
	Odor?	yes X	no	- de	escribe slight	/moder	ate petroleu	m-like		
Comments:				-			÷			
Removed approxim	ately 4	.5 liters to	otal.							

SITE Buffalo For	ge Site				DATE	13	March 2012	2	_
PROJECT NUMBER	R:	0157929							
SAMPLE ID : TMV	V-11								
WELLID: TM	W-11				Time (	Onsite:	Tiı	me Offsite:	
SAMPLERS · I I	Wittors				0800	01101001			
	Fox				0817			1535	
J.									
Depth of well (	from to	op of casi	ng)		11.6	5'	Time:	1058	
Static water lev	vel (fro	m top of c	casing)		2.11	1	Time:	1057	
Water level aft	er purg	ging (from	n top of c	asing)			Time:		
Water level be	fore sat	npling (fr	om top c	of casing	r)		Time:		•
trater lever be	ore bui		om top e	i cusing			Time.		
Purging Method	l: N/ <i>A</i>	4	We	ell Volu	ume Calcula	ation:	1 vol	ume 3	volumes
Airlift	Lo	ow-Flow Pu	mp 1	in. well:	ft. of wa	ater x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	in. well:	ft. of wa	ater x 0.36	=	gal. x 3 =	gal.
Submersible	D	ed. Pump	4	in. well:	ft. of wa	ater x 0.65	=	gal. x 3 =	gal.
			6	in. well:	ft. of wa	ater x 1.47	=	gal. x 3 =	gal.
Volume of w	ater rem	oved:						_	
		gal.	>3 vol	umes: ye	s no	· <u> </u>	purged dry?	yes	no
Field Tests									
Tield Tests.	nН	Cond	Turb	DO	Temn	DFP	SAL	TDS	ORP
unite	P11	us/cm	NTU	mg/I	°C	DLI		g/I	mV
Initial	10.85	μ3/ cm 416	"ERR1"	4 48	8 29	_		g/ L	116.0
1 Volume	10.00	110	913	1.10	0.27				110.0
2 Volumes			710						
3 Volumes									
						1			
Sampling									
Time of Sampl	e Colle	ction:	110	0					
	1 1			1	. 1	136	.1 1		
Collection Met	hod:		Ana	ilyses:	Analy	tical Me	thod:		
X Disposa	ble baile	r	$\frac{X}{X}$	V(	DCs - 8260	X	503.1	- Other	
Tetion b	ailer		$\frac{X}{X}$		OCs	8270			
Dedicat	ea pump	)	$\frac{\lambda}{\lambda}$	M	etals	1AL			
Submer	Sible Ful	ling	<u>^</u>	FC		0002			
Other:	w Samp	ung	v	N	hor	Cyanida			
Ouler.			<u> </u>	0		Cyanite			
Observations									
Weather/Tem	peratur	'e' (	Overcast.	Temp	$+/-45^{\circ}F$ , win	d. W. es	timated 5-1	10 mph	
Sample Descrip	otion	Moder	ato to hor	www.brow	vn turbidity	<i>(() <i>() () () () () <i>() () () <i>() () () <i>() () () () <i>() () <i>() () () <i>() <i>() () <i>() () <i>() <i>() () <i>() <i>() () <i>() <i>(, <i>)() <i>() <i>() <i>() <i>() <i>(, <i>)() <i>() <i>(</i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i></i>	linated of	io inpit	
	- 1	WIGUEI		100					
Free Pr	oauct?	yes	no $\frac{x}{x}$	- ae	escribe				
	sheen?	yes	no X	_ de	escribe				
	Odor?	yes	no X	de	escribe				
Comments:									
"Err1"= low battery	; replac	ed battery	y and sec	ond rea	ding was 913	NTU			
Removed approxim	ately								

SITE Buffalo For	ge Site					DATE	13	March 2012		
PROJECT NUMBER	R:	0157929								
SAMPLE ID : TMW	/-10									
WELL ID : TM	W-10					Time C	Onsite:	Tir	ne Offsite:	
SAMPLERS : L. V	Vitters					0800			1533	
J. ]	Fox					0817			1535	
Depth of well (	from to	op of casin	ng)	•••••		8.99'		Time:	1022	
Static water lev	el (fro	m top of c	casing)	•••••		2.47		Time:	1021	
Water level after	er purg	ging (from	n top of ca	asing)				Time:		
Water level bef	ore sar	npling (fr	rom top o	f casing	;)			Time:		
Purging Method	l: N/A	A	We	ll Volu	ıme C	Calcula	tion:	1 volu	ume 3	volumes
Airlift	, Lo	ow-Flow Pu	mp 1	in. well:		ft. of wat	ter x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	in. well:		ft. of wat	ter x 0.36	=	gal. x 3 =	gal.
Submersible	D	ed. Pump	4	in. well:		ft. of wat	ter x 0.65	=	gal. x 3 =	gal.
			6	in. well:		ft. of wat	ter x 1.47	=	gal. x 3 =	gal.
Volume of wa	ater rem	oved:	1					1.1.2		
		gai.	>3 VOI	umes: ye		no		purged ary?	yes	no
Field Tests:										
	рΗ	Cond.	Turb.	DO	Te	mp.	DEP	SAL	TDS	ORP
units	-	µs/cm	NTU	mg/L	°C		-	-	g/L	mV
Initial	11.4	842	106.8	6.42	6.7	9				46.5
1 Volume										
2 Volumes										
3 Volumes										
Sampling										
Time of Sample	e Colle	ction:	102	5						
1										
Collection Met	hod:		Ana	lyses:		Analyt	ical Me	thod:		
X Disposa	ble baile	r	<u>X</u>	VC	)Cs -	8260	X	503.1	Other_	
Teflon b	ailer		<u>X</u>	SV	OCs		8270			
Dedicate	ed pump	)	$\frac{X}{X}$	M	etals		TAL			
Submers	sible Pur	np 1:	<u>X</u>	PC	.D	•	8082			
Low-Fid	w samp	iing	v		hor		Cuanida			
			<u> </u>	0	lici		Cyantue			
Observations										
Weather/Temp	peratur	e: (	Overcast,	Temp.	+/- 42	<sup>o</sup> F, wind	d, W, es	stimated 10	mph	
Sample Descrip	otion:	Moder	ate browi	n turbid	ity					
Free Pro	oduct?	yes	no X	de	scribe					
9	Sheen?	yes	no X	de	scribe					
	Odor?	yes	no X	de	scribe					
Comments:				•		- 1·				
Well very turbid an	d going	g dry, rem	noved app	oroxima	tely 3.	U liters t	total.			

SITE Buffalo For	ge Site				DATE	13	March 2012		
PROJECT NUMBER	<b>ર</b> :	0157929							
SAMPLE ID : TMW	/-09								
WELL ID : TM	W-09				Time (	Onsite:	Tir	ne Offsite:	
SAMPLERS : L. V	Vitters				0800			1533	
J. ]	Fox				0817			1535	
Depth of well (	from to	op of casin	ng)	•••••		·	Time:	1259	
Static water lev	rel (fro	m top of c	casing)	•••••	<u>1.95</u>	<u>,</u>	Time:	1258	
Water level after	er purg	ging (from	n top of c	asing)	·····		Time:		
Water level bef	ore sar	npling (fr	om top o	of casing	g)		Time:		
Purging Method	l: N/ <i>A</i>	A	We	ell Volu	ume Calcula	ation:	1 volu	ume 3	volumes
Airlift	Lo	w-Flow Pu	mp 1	in. well:	ft. of wa	ter x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	in. well:	ft. of wa	ter x 0.36	=	gal. x 3 =	gal.
Submersible	De	ed. Pump	4	in. well:	ft. of wa	ter x 0.65	=	gal. x 3 =	gal.
17.1		1	$\epsilon$	in. well:	ft. of wa	ter x 1.47	=	gal. x 3 =	gal.
Volume of Wa	ater remo	ovea:	>3 10	umos: vo			purgod dry?	VOC	20
		gai.	-5 00	umes. ye			purged dry:	yes	110
Field Tests:									
	рΗ	Cond.	Turb.	DO	Temp.	DEP	SAL	TDS	ORP
units	-	µs/cm	NTU	mg/L	°C	-	-	g/L	mV
Initial	10.34	754	279	2.80	8.11				33
1 Volume									
2 Volumes									
3 volumes									
Sampling									
Time of Sample	e Colle	ction:	130	5					
				1			.1 1		
Collection Met	hod:		Ana	alyses:	Analy	tical Me	thod:	2.1	
X Disposa	ble baile	r	$\frac{X}{X}$	V(	DCs - 8260	X	503.1	Other	
Tetion b	aller		$\frac{\lambda}{v}$	5v	ocs	8270 TAI			
Submar	sible Pur	,	$\frac{\Lambda}{V}$	N	rB	8082			
Low-Flo	w Samn	ling	<u></u>	N	NA	0002			
Other:	w builtp		x	Ot	her	Cvanide,	HRGC Finger	print for Petro	oleum ID
			<u></u>			<u> </u>		1	
Observations									
Weather/Temp	peratur	e: 1	Mostly St	anny <i>,</i> Te	emp. +/- 48°F	, wind,	WSW, estin	nated 10 m	ph
Sample Descrip	otion:	Moder	ate brow	n turbid	lity				
Free Pro	oduct?	yes	no X	de	escribe				
9	Sheen?	yes X	no	de	scribe Slight	t to mod	lerate petrol	leum-like	
	Odor?	yes X	no	- de	escribe Slight	petrole	um-like		
Comments:				-		-			
Very turbid, remove	ed appr	roximatel	y 3.5 liter	s total.					

SITE Buffalo For	ge Site				DATE	E 13	March 2012	-	
PROJECT NUMBER	R:	0157929							
SAMPLE ID : TMV	V-08								
WELL ID : TM	W-08				Time	Onsite:	Tir	ne Offsite:	
SAMPLERS : L. V	Vitters				0800			1533	
J. 1	Fox				0817			1535	
Dopth of wall (	from to	on of casi	na)		7.03	1	Timo	1226	
Static water lev	vel (froi	m top of c	casing)			' 2'	Time:	1335	
Water level aft	er purg	ing (from	n top of c	asing)			Time:		
Water level bef	fore sar	npling (fr	rom top c	of casing	5)		Time:		
Purging Method	l: N/A	A	We	ell Volu	ıme Calcul	ation:	1 volu	ume 3	volumes
Airlift	Lc	ow-Flow Pu	mp 1	in. well:	ft. of w	ater x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	in. well:	ft. of w	ater x 0.36	=	gal. x 3 =	gal.
Submersible	De	ed. Pump	4	in. well:	ft. of w	ater x 0.65	=	gal. x 3 =	gal.
			6	in. well:	ft. of w	ater x 1.47	' =	gal. x 3 =	gal.
Volume of wa	ater remo	oved: gal.	>3 vol	umes: ye	5 <u>n</u>	0	purged dry?	yes	no
Field Tests									
	pН	Cond.	Turb.	DO	Temp.	DEP	SAL	TDS	ORP
units	-	µs/cm	NTU	mg/L	°C	-	_	g/L	mV
Initial	10.02	480	3672	4.13	7.51				106
1 Volume									
2 Volumes									
3 Volumes									
Sampling									
Time of Sample	e Colle	ction:	134	:0					
Collection Mot	had		Ana	lucoci	Anala	tical Ma	thad		
X Disposa	hle baile	r	X	uyses. Vo	Allaly		503 1	Other	
Teflon h	ailer	1	$\frac{\pi}{x}$	SV	0Cs	8270	505.1	Ould	
Dedicate	ed pump	,	$\frac{x}{x}$	M	etals	TAL			
Submer	sible Pun	np	$\frac{x}{x}$	PC	CB	8082			
Low-Flo	w Samp	ling		M	NA				
Other:	-	0	X	Ot	her	Cyanide,	HRGC Finger	print for Petro	oleum ID
Observations									
Weather/Tem	peratur	e: 1	Mostly Sı	unny, Te	$emp. +/- 50^{\circ}$	F, wind,	W, estimate	ed 10-20 mi	oh
Sample Descrip	ption:	Moder	ate to hea	avy gray	-brown turb	idity	,		
Free Pro	oduct?	yes	no X	de	scribe	-			
2	Sheen?	yes X	no	de	scribe Sligh	t to mod	lerate petrol	leum-like	
	Odor?	yes X	no	- de	scribe Slight	t petrole	um-like, sliş	ghtly sweet	
Comments:		-	·	-		-			
Very turbid, well w	ent dry	, remove	d approx	imately	1.4 liters tota	1.			

SITE Buffalo For	ge Site				DATI	E 13	March 2012		
PROJECT NUMBER	R:	0157929							
SAMPLE ID : TMV	V-07								
WELL ID : TM	W-07				Time	Onsite:	Tir	ne Offsite:	
SAMPLERS : L. V	Vitters				0800			1533	
J. 1	Fox				0817			1535	
Depth of well (	from to	op of casin	ng)	•••••		)'	Time:	1136	
Static water lev	vel (fro	m top of c	casing)		<u>1.4</u>	0'	Time:	1135	
Water level aft	er purg	ging (from	n top of c	asing)	······		Time:		
Water level bet	fore sar	npling (fr	om top o	of casing	5)		Time:		
Purging Method	l: N/ <i>A</i>	A	We	ell Volu	ıme Calcul	ation:	1 volu	ume 3	volumes
Airlift	Lo	ow-Flow Pu	mp 1	in. well:	ft. of w	ater x 0.04	=	gal. x 3 =	gal.
Bailer	Pe	eristaltic Pu	mp 3	3 in. well:	ft. of w	ater x 0.36	=	gal. x 3 =	gal.
Submersible	De	ed. Pump	4	in. well:	ft. of w	ater x 0.65	=	gal. x 3 =	gal.
<b>V</b> 1 (		1	$\epsilon$	5 in. well:	ft. of w	ater x 1.47	=	gal. x 3 =	gal.
volume of w	ater remo	ovea:	>3 10	himos: vo	- <b>n</b>	2	purgod dry?	VOC	<b>n</b> 0
		gai.	23 10	iumes. ye	<u> </u>		puigeu ury:	yes	110
Field Tests:									
	pН	Cond.	Turb.	DO	Temp.	DEP	SAL	TDS	ORP
units	-	µs/cm	NTU	mg/L	°C	-	-	g/L	mV
Initial	10.67	822	232	7.67	6.63				109.7
1 Volume									
2 Volumes									
3 Volumes									
Sampling									
Time of Sample	e Colle	ction:	114	0					
Collection Met	hod:		Ana	alyses:	Analy	vtical Me	thod:	0.1	
X Disposa	ble baile	r	$\frac{\lambda}{v}$		DCs - 826	0 X	503.1	Other	
Terion t	aller		$\frac{\Lambda}{Y}$	5v	otala		Sampled ~	0.2 liters	
Submer	sible Pur	, nn	$\frac{\Lambda}{\chi}$	PC	'B	8082	(If sufficie	nt volume)	
Low-Flo	w Samp	ling	<u></u>	M	NA		(ii suitiete	in volune)	
Other:	r	8	x	Ot	her	Cyanide			
			<u></u>			5			
Observations									
Weather/Temp	peratur	e: I	Fog, Tem	p. +/- 4	5°F, wind, W	, estimat	ed 5-10 mp	h	
Sample Descrip	otion:	Moder	ate brow	n turbid	ity				
Free Pre	oduct?	yes	no X	de	scribe				
S	Sheen?	yes	no X	de	scribe				
	Odor?	yes	no X	- de	scribe				
Comments:			·	-					
Well went dry, rem	oved aj	pproxima	tely 0.4 li	iters tota	ıl				

Image: Problem of well. $\overline{VW}$ (fiet below top of casing)       Fump Used         before lowflow: $5.70$ (fiet below top of casing) $5.70$ (fiet below top of casing)         before lowflow: $5.70$ (fiet below top of casing) $5.70$ (fiet below top of casing) $ISLe$ Time Finished: $IQ2e$ $ISL$ $Imit$ $+/-3\%$ $+/-10\%$ $ISL$ $Imit$ $+/-3\%$ $+/-10\%$ $Imit$ $ITHE       ITHE       ISLE INU Imit ISLE       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII$			
$j = rTD^{\circ}$ (feet below top of casing)     Fump Used       before lowflow: $5.70^{\circ}$ (feet below top of casing) $5.70^{\circ}$ (feet below top of casing)       Bottom of well:     NW     (feet below top of casing) $5.70^{\circ}$ $5.70^{\circ}$ P     Turb.     Temp.     pH     Cond.     DO     Flow $0.10^{\circ}$ $4+/-10^{\circ}$ $+/-3^{\circ}$ $0.1$ unit $+/-3^{\circ}$ $1.00-400$ $+/-10$ mv $27:1$ $7,37$ $7.53$ $0.7127$ $6.16^{\circ}$ $6.7$ $6.7$ .4 $27:1$ $7,37$ $7.53$ $0.7127$ $6.16^{\circ}$ $6.7$ .4 $1.00-400$ $4.7.10$ $4.7.3^{\circ}$ $4.7.10$ $4.7.40$	: 0.0 well	lotes: PD:	
Fump Used         Fump Used         Fump Used         Settom of well: $\overline{NW}$ (feet below top of casing)         Flow top of casing)         Flow top of casing)         Flow top of casing)         Flow top of casing)         Time Finished: $ICCe$ ISU       Flow $ORP$ Comments         MUU       deg, C       SU       us/cm       INTU       Gond. $DO$ Flow $ORP$ Comments         MUU       deg, C       SU       us/cm       INTU $4+/-10\%$ $4+/-3\%$ $0.1$ unit $+/-3\%$ $100-400$ $+/-10$ mv       IO0-400       IO0-400       IO0-400       IO       IO       IO			
Pump Used         Pump Used         JSL       Time Finished: $IC2$ Flow top of casing:         Bottom of well: $NW$ (feet below top of casing:         Time Finished: $IC2$ Flow Inter Used         PH Cond.       DO       Flow ORP       Comments         MITU       deg C       SU       us/cm       mg/L       mul/min.       mv         A JJJ       D.JZJ       O/KD       SD       colspan="2">mv         Used       PH       Cond.       DO       Flow       ORP       Comments $U7:1       1, 3, 7, 7 5, K_D 5, S_D 100.400 +/-10 mv       -10.400 +/-10 mv       -10.400 +/-10 mv       -10.400 +/-10 mv       -10.400 +/-10 -10.400 +/-10 -10.400 -10.400 -10.4$			
Pump Used         Jectore lowflow: $5.70$ (feet below top of casing)         Bottom of well: $\overline{NW}$ (feet below top of casing)         Time Finished: $152e$ Flow       ORP       Comments         MTU       deg, C       SU       us/cm       SU         Time Finished: $152e$ Flow       ORP       Comments         MTU       deg, C       SU       us/cm       mg/L       ml/min.       mv         ATTO       SU       us/cm       mg/L       SU       SU         MTU       deg, C       SU       us/cm       mv         JST       OT.1 unit       +/-10%       mv       Comments         AS3       O.72.7       SS.4       A         AS3       O.72.7       SS.4       A       A       A         A       SS			
Pump Used         Jefore lowflow: $5.70$ (feet below top of casing)         Bottom of well: $\overline{NW}$ (feet below top of casing)         Turb. Temp. pH       Cond. DO       Flow       ORP         Flow       ORP $MTU$ deg. C       SU       us/cm       mg/L       m/min.       mv $4/-10\%$ $4/-3\%$ $6/\delta'0$ $57.7$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $4/-10$ mv $27.7$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $6/\delta'0$ $4/-10$ mv $100-400$ $+/-10$ mv $-100$ $-100$ $-100$ $-10$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ $-100$ <t< td=""><td></td><td></td></t<>			
$I_{J}$ $J_{J}$ $J_{J}$ $I_{J}$			
Image: product of the low for the			
Image: Property of the product of			
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Image: product of the second streng sector sect		-	
$\mu$ , $\pm$ 170 $\mu$ fieet below top of casing)       Pump Used         before lowflow: $\underline{5.70}$ (feet below top of casing)         Bottom of well: $\underline{NM}$ (feet below top of casing)         Time Finished: $\underline{1522}$ Flow of casing)         Flow $\underline{1512}$ Time Finished: $\underline{1522}$ Flow $\underline{100}$ $\underline{100}$ $\underline{100}$ ISID       Time Finished: $\underline{1522}$ Flow $\underline{100}$ $\underline{100}$ $\underline{100}$ $\underline{100}$ $\underline{100}$ ORP Comments         ISID       Let $\underline{152}$ Flow $\underline{100}$ $\underline{100}$ $\underline{100}$ $\underline{100}$ $\underline{100}$ Comments         ISID       ORP Comments         ISID       ISID       SU       ISID       Flow $\underline{100}$ $\underline{100}$ $\underline{100}$ Comments         ISID       SU       ISID       SU       ISID       SU         ISID       SU       SU       SU       SU       ISID         ISID       SU       SU <th colspa<="" td=""><td></td><td></td></th>	<td></td> <td></td>		
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Pump UsedPump Usedbefore lowflow: $5.70$ (feet below top of casing)Bottom of well: $NM$ (feet below top of casing)Time Finished: $ICCe$ ISTeTurb.Time Finished: $ICCe$ Filme Finished: $ICCe$ FilowORPORLORPForth in the finished: $ICCe$ FilowORPFlowORPFlowORPCond.DOFlowORPComments#/- 10%100-400+/- 10%+/- 10PITCond.DOFlowORPCommentsISUus/cmmentsCond.DOFlowORPCommentsISUus/cmISUISUISUISUISUISUISUISUISUISUISUISUISUISUISUISU <th colspan<="" td=""><td></td><td></td></th>	<td></td> <td></td>		
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Image: Pump Used period       Pump Used period         before lowflow: $\underline{S.70}$ (feet below top of casing)       Frank period         before lowflow: $\underline{S.70}$ (feet below top of casing)       Frank period         Bottom of well: $\underline{NM}$ (feet below top of casing)       Frank period         ISTA       Time Finished: $\underline{ISZ}$ ISTA         P       Turb.       Temp.       pH       Cond.       DO       Hlow       ORP       Comments         ff)       NITU       deg. C       SU       us/cm       mg/L       ml/min.       mv       Comments		の変換を	
$\mu$ $i$	feet (on/off)		
$\frac{1510}{1510}$	DTW Pump	Time	
$\mu$ $i$ $f$ Pump Used         before lowflow: $5.70$ (feet below top of casing) $i$ $i$ Bottom of well: $NM$ (feet below top of casing) $i$ $i$	Time Started:	Tim	
Pump Used	Static water level be B		
Pump Used	)		
	litions: COUCH	eather Conditic	
ate: 5/37/15 Project Name: DUTTALO IDIGE Project Number: 0181802	TMW-12 Date	Well ID: 1	
LOW FLOW DATA SHEET			

Not sampled										/	/	and the second se	Ieet (III)	ne DTW Pump	Time Started:	Static water level berr Bot		Conditions:
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Sample Tin Total Vol. I	Sample ID.		/									OOT-DOT		Flow ml/min.			Za	Pump Usec
ne: <sup>9</sup> urged: nitials:		1										./	+ /_ 10 ms	ORP			P	
Gallons			 								-	 		Comments	• 1 • • • • • • • • • •			
PID: 0.0 74

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Static water level before lowflow: $4,74$ (feet below top of casing) Bottom of well: $\overline{NVM}$ (feet below top of casing)       Cond Construction of well: $\overline{NVM}$ (feet below top of casing)         Time Started:       LC 40       Time Finished:         Time Started:       LC 40       Time Finished:         Static water level before lowflow $\overline{V}$ ( $\overline{M}$ Time Finished:         Time Started:       DO       Ellow ORP Comments $\overline{MUD}$ Turb: $Temp. pH (Cond. mg/L)       DO       Ellow ORP Comments         \overline{MUD}       PH (\overline{S}, C       Cond. \overline{MZ}       ORE \overline{M}       Cond. \overline{MZ} \overline{MUD}       PH (\overline{S}, C       Cond. \overline{MZ}       DO       Ellow \overline{MZ}       ORE \overline{M}       Cond. \overline{MZ}       Cond. \overline{MZ}       Cond. \overline{MZ}       Cond. \overline{MZ}       Cond. \overline{MZ}       DO       Ellow \overline{MZ}       ORE \overline{MZ}       Cond. MZ$		Gallons	in 2	Total Vol. Pur							-		
Funde values       Funde values       Funde values         Static water level before low from: $4.74$ (freet below top of casing) Bottom of well: <u>NVVA</u> (freet below top of casing)       Suffer values       Suffer values       Suffer values       Comp Used         Time Started:       Turb.       Time Finished:         Time finished:         Time $\frac{1}{100}$ DIW       Form $\frac{1}{100}$ Comments         Garding $\frac{1}{100}$ NTUL       Time Finished:         Time $\frac{1}{100}$ NTUL       Time $\frac{1}{100}$ Comments $\frac{1}{100}$ $\frac{1}{100}$ ORP       Comments $\frac{1}{100}$	1-245652	5 65.5	MW-155	Sample ID: 7				130	ph al	pe fre	recher	Notes:   ex	
Fund Used       Frame Used         Static water level before lowflow: $4, 74$ (freet below top of casing)       Supervised         Static water level before lowflow: $4, 74$ (freet below top of casing)         Time Started:         Time Started:         Time $1 Leve       Flow top of casing)         Time 2 V_{10}       PH       Cond.       DO       Flow       ORP       Comments         Time 1 Leve       Flow       ORP       Cond.       DO       Flow       ORP       Comments         Flow       ORP       Cond.       DO       Flow       ORP         Flow       ORP       Comments         Flow       OR       Cont       Flow       ORP       Comments         Flow       OR       Flow       ORP       Cond.       Flow       OR       Flow       ORP       Cond.       Slow       $											-		
Static water level before lowflow: $4, 74$ (feet below top of casing) Bottom of well: $\underline{NVM}$ (feet below top of casing)       Fump Used         Time Started: $\underline{IC40}$ Time Finished:         Colspan="2">Colspan="2">Colspan="2">Comments         DTW       Pump       Time Finished:         Colspan="2">Cond       DO       Flow       ORP       Comments         PH       Cond.       DO       Flow       ORP       Comments         PH       Cond.       DO       Flow       ORP       Comments         Flow       OR       Flow       ORP       Comments         Sign       DO       Flow       ORP       Comments         Sign       DI       DI       O       Sign       Sign       DI       DI       DI       O       Constant       Constant       Constant       Sign       O													
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Prime Static water level before lowflow: $4.74$ (feet below top of casing) Bottom of well: NVM (feet below top of casing)       Pump Used         Time Started:       Image: Time Finished:         Time Started:       Time Finished:         Pump Intub.       Temp.       pH       Cond.       DO       Flow       ORP       Comments         Stated:       Time Finished:         *       DIW       Pump Used         PH       Cond.       DO       Flow       ORP       Comments         *       Flow       ORP       Comments         *       Flow       ORP       Comments         *       *       *       *         *       *       *       *         *       *       *         *       *         *       *       *         *       <th colspan="2</td> <td>in line we</td> <td>141</td> <td>1001</td> <td>(2)</td> <td>100</td> <td>101101</td> <td>1,00</td> <td>1 100</td> <td>1010</td> <td>9/1</td> <td>0.11</td> <td>100</td>	in line we	141	1001	(2)	100	101101	1,00	1 100	1010	9/1	0.11	100	
Static water level before lowflow: $4.74$ (feet below top of casing) Bottom of well: <u>NVW</u> (feet below top of casing)       Fump Used         Time Started:       I $24\rho$ Time Finished:         Static water level before lowflow: $4.74$ (feet below top of casing)       Bottom of well: <u>NVW</u> (feet below top of casing)         Time Started:       I $24\rho$ Time Finished:         Static water level before lowflow: $126\rho$ Flow on $26\rho$ OUV       Pump Dised         Time Started:       I $26\rho$ Flow $0RP$ Comments         Flow       ORP       Comments         feet $0n/off       NTU       deg C       SU us/cm^2       IS 0.2       Flow       ORP       Comments         S, 12 an       S, 0.2 AS = 4 0.25       I AS 1 / 2S       I AS         S, 12 an an an         S, 12 an an an$		2	1011	20	10S	Croci	1,00	12 100	0.00	NO	591	1172	
Static water level before lowflow: $\frac{4}{7.74}$ (feet below top of casing) Bottom of well: $\overline{NVM}$ (feet below top of casing) Time Started: $I_{D'IM}$ Time Finished: $I_{D'IW}$ Pump Turb. Temp. pH Cond. DO Elow ORP Comments feet (on/off) NTU deg. C SU us/cm mg/L ml/min. mv $V_{17}R$ an 0.ao IS.uo S.oU us/cm mg/L ml/min. mv $S_{17}R$ an 0.ao IS.uo S.oU 100-400 +/-10 mv $S_{17}R$ an 0.ao IS.uo S.oU 1.2.1 (20 IG3.1 $S_{17}R$ an 0.ao IS.ao IV. 760 1.12 100-400 +/-10 mv $S_{17}R$ an 0.ao IS.ao 7.62 0.861 1.12 126 IG3.1 $S_{17}R$ an 0.ao IS.ao 7.62 0.861 1.12 126 IG3.1 $S_{17}R$ an 0.ao IS.ao 7.62 0.861 1.00 1.25 IS.1 $S_{17}R$ an 0.ao IS.ao 7.62 0.861 1.07 125 IS.1 $S_{17}R$ an 0.ao IS.ao 7.62 0.861 1.07 125 IS.1 $S_{17}R$ an 0.ao IS.ao 7.64 0.538 1.07 125 IS.1	-		1001	110-	1102	C (3)4	714	Nr al	0 40	* .	nt'S		
Pump Used         Static water level before lowflow: $4,74$ (feet below top of casing)       Pump Used         Static water level before lowflow: $4,74$ (feet below top of casing)       Bottom of well: $\underline{NVN}$ (feet below top of casing)         Time Started:       Time Finished:         Time Started:       Time Finished:         Count       DO       Flow       ORP       Comments         Time Started:       Time Finished:         Time Started:       DO       Flow       ORP       Comments         DTW       Pump Time.       Time Finished:         Time for the count       DO       Flow       ORP       Comments         feet       (on/off)       NTU       deg. C       SU of $2,62$ A $2,62$ ORP       Comments         SUM       SUM       SUM       SUM       ORP       Comments         SUM       SUM       SUM       SU			1201	175	1 20 1	8 CR. 2	444	15.03	00.00	04	5.54	110	
Further level before lowflow: $4.74$ (feet below top of casing)       Pump Used         Static water level before lowflow: $4.74$ (feet below top of casing)       Fump Used         Time Started:       Lo Yo       Fump Used         PUTW       Pump Trurb.       Time Finished:         PUTW       Pump Trurb.       Temp. pH       Cond.       DO       Flow       ORP         MITU       deg. C       SU       us/cm       mg/L       ml/min.       mv         S(18       on       O.0.06       I Nut       deg. C       SU       us/cm       mg/L       ml/min.       mv       ml         S(18       on       O.0.06       I Nut       I So       I Nut <th< td=""><td></td><td></td><td>1425</td><td>125</td><td>107</td><td>618.0</td><td>7,62</td><td>15.05</td><td>6.00</td><td>on</td><td>5.44</td><td>105</td></th<>			1425	125	107	618.0	7,62	15.05	6.00	on	5.44	105	
Pump Used         Static water level before lowflow: $4.74$ (feet below top of casing) Bottom of well: $\underline{NVN}$ (feet below top of casing)       Comp Used         Time Started:       Lot $\underline{NTU}$ Time Finished:         Time Started:       Time Finished:         Pump $\underline{Turb.}$ Temp: $\underline{PH}$ Cond. $\underline{DO}$ Flow $\underline{ORP}$ Comments $\underline{ITW}$ Pump $\underline{Ised}$ $\underline{PUmp Used}$ $\underline{ITmP}$ Time Finished:         PDTW       Flow $\underline{ITU}$ ORP       Comments $\underline{ITW}$ $\underline{Pump Used}$ $\underline{ITW}$ Pump Used $\underline{ITW}$ <th colsp<="" td=""><td></td><td>-</td><td>13.1</td><td>125</td><td>1.)1</td><td>0,808</td><td>7,62</td><td>15.02</td><td>0100</td><td>04</td><td>5.31</td><td>100</td></th>	<td></td> <td>-</td> <td>13.1</td> <td>125</td> <td>1.)1</td> <td>0,808</td> <td>7,62</td> <td>15.02</td> <td>0100</td> <td>04</td> <td>5.31</td> <td>100</td>		-	13.1	125	1.)1	0,808	7,62	15.02	0100	04	5.31	100
Funny Used         Static water level before lowflow: $4.74$ (feet below top of casing)       Pump Used         Static water level before lowflow: $4.74$ (feet below top of casing)         Dottom of well: $\underline{NW}$ (feet below top of casing)         Time Started:         Time Started:         DTW       Pump       Turb.       Time Finished:         PH       Cond.       DO       Flow       ORP       Comments			1/22.0	120	1.12	2799	7.61	ISior	6.00	aИ	5,27	1055	
Furne Static water level before lowflow: $4.74$ (feet below top of casing) Bottom of well: $\underline{NVW}$ (feet below top of casing)       Furne Used         Time Started:       Le 4 $\mu$ Time Finished:         Time Started:       Le 4 $\mu$ Time Finished:         DTW       Pump       Time Finished:         E       DTW       Pump       Time Finished:         PLI       Cond.       DO       Flow       ORP       Comments         MUTU       deg. C       SU       us/cm       mg/L       ml/min.       mv         PLI       Cond.       DO       Flow       ORP       Comments         - 10%       100-400       +/-10%       100-400       +/-10 mv         - 10%       - 10%       100-400       +/-10 mv         - 10%       - 10%       - 10%       - 10%			167.8	120	1,21	0.789	761	14,86	0.00	20	5.18	1050	
<t< td=""><td></td><td></td><td>163,1</td><td>120</td><td>2,52</td><td>1440</td><td>8.04</td><td>15,00</td><td>0.00</td><td>on</td><td>8622</td><td>1045</td></t<>			163,1	120	2,52	1440	8.04	15,00	0.00	on	8622	1045	
Static water level before lowflow: $4,74$ (feet below top of casing)       Fump Used         Static water level before lowflow: $4,74$ (feet below top of casing)       Get pump Used         Time Started:       Io 40         Fump Used       Fine Finished:         Pump Turb.       Temp.         pH       Cond.         feet       (on/off)         NTU       deg. C         SU       us/cm*         mg/L       ml/min.			+/-10 mv	100-400	+/-10%	+/-3%	0.1 unit	+/-3%	+/-10%			11 - T	
Static water level before lowflow:     4.74     (feet below top of casing)     Pump Used       Static water level before lowflow:     4.74     (feet below top of casing)     6co pumr       Time Started:     1040     Time Finished:     6co pumr       DTW     Pump     Turb.     Temp.     pH     Cond.     DO     Flow     ORP			MM	ml/min.	mg/L	us/cm	US	deg. C	UTU	(on/off)	feet		
Static water level before lowflow:       4.74 (feet below top of casing)       Fump Used         Bottom of well:       IMM (feet below top of casing)       Geo pum         Time Started:       Io 40       Time Finished:	ents	Comm	ORP	Flow	DO	Cond.	Нď	Temp.	Turb.	Pump	DTW	Time	
Static water level before lowflow: $\frac{4.74}{NW}$ (feet below top of casing) Bottom of well: $\underline{NW}$ (feet below top of casing)							me Finished:	Ti	1040		Time Started:		
Static water level before lowflow: 4.74 (feet below top of casing)					y)	top of casing	_(feet below	NW	tom of well:	Bo			
Pump Used		)	ound	(000)	5 ·	top of casing	(feet below	4.74	ore lowflow:	ter level bef	Static wa		
Conditioner (10UAV ±70°E				Pump Used				τ, Έ	1 = 70	cloudy	ditions:	Weather Con	

PID D.1

	Sam Sam Sam Sam Tota			5.35 ON O 11.59 1.30 1.50 5.0 10	5.20 00 0 11.57 7.38 1533 3.53 10	5. 210 MN O 11.45 7.38 1535 3.90 15	5.25 ON O 11.02 1-31 DTU 3.93 20	5.85 ON 0 11.82 7.54 1548 4.40 15	5:29 on 0-11 11.92 7.30 1553 (587.840/15	53 of $+/-10%$ $+/-3%$ 0.1 unit $+/-3%$ $+/-10%$ 100	DTW Pump Turb. Temp. pH Cond. DO r fort (m/off) NTU deg. C SU us/cm mg/L ml	me Started: 1040 Time Finished: 1200	Static water level before lowflow: 5, 23 (feet below top of casing) Bottom of well: 19, 20 (feet below top of casing)	ions: Mondry, + 70° F
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AD: 5.7 DAM

LOW FLOW DATA SHEET         Weil ID: TMML       Date: $\underline{S}_{271}/\underline{S}_{2}$ Project Name: $\underline{M}_{101}$ Project Number: $\underline{M}_{102}$ Weather Conditions:       Colom 4: 70°       Project Number: $\underline{M}_{102}$ Project Number: $\underline{M}_{102}$ Static writer lovel before lowflow: $\underline{4}$ , $\underline{4}$ , $\underline{2}$ Gene before lowflow: $\underline{4}$ , $\underline{4}$ , $\underline{2}$ Time bains       Pump Used         Time Started:       I $\underline{3}$ Time Started: $\underline{1}$ South ways of easing         Time Started:       I $\underline{3}$ Time Finished: $\underline{1}$ South ways of $\underline{4}$ , $\underline{10}$ ,	Cond.     DO     Flow     ORP     Comments       us/cm     mg/L     ml/min.     mv $mv$ +/-3%     +/-10%     100-400     +/-10 mv $mv$   <t< th=""><th>Gulling per</th><th>a martine</th><th></th><th>1 palla</th><th>Samo</th></t<>	Gulling per	a martine		1 palla	Samo
LOW FLOW DATA SHEET         Well ID: TMML(c)       Date: $\underline{S}[27] 5$ Project Name: <u>OMCU FOGC</u> Project Number: $\underline{O}[X] S$ Weather Conditions: <u>Cloudy</u> <u>t</u> 70°       Fund Forder       Project Number: $\underline{O}[X] S$ State water level before lowflow: <u>4.4.8</u> (feet below up of casing)       Fund Value <u>Composition of well:</u> <u>NUV</u> feet below up of casing)       Fund Value <u>Composition of well:</u> <u>NUV</u> <u>Cond.</u> <u>DO</u> How <u>Composition of well:</u> <u>NUV</u> <u>Cond.</u> <u>DO</u> How <u>Composition of well:</u> <u>NUV</u> <u>Cond.</u> <u>DO</u> How <u>Comments</u> Time <u>DIW</u> <u>Pump</u> <u>Tub.</u> <u>Temp.</u> <u>pH</u> <u>Cond.</u> <u>DO</u> How <u>Incl.0100000000000000000000000000000000000</u>	Cond.     DO     Flow     ORP     Comments       us/cmn     mg/L     ml/min.     mv $+/-3\%$ $+/-10\%$ $100-400$ $+/-10$ mv $+/-3\%$ $+/-10\%$ $100-400$ $+/-10$ mv $-/-3\%$ $+/-10\%$ $100-400$ $+/-10$ mv $-/-3\%$ $+/-10\%$ $-/-10$ mv $-/-10$ mv $-/-3\%$ $-/-10\%$ $-/-10$ mv $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$ $-/-3\%$ $-/-10\%$ $-/-10\%$	(the point of	sai al	11. 100	flow u	Hilling
LOW FLOW DATA SHEET         Weil ID: TMUL( $L$ Date: $\underline{S} ] \underline{371}   \underline{5}$ Project Name: $\underline{M} (\underline{M} )$ Project Number: $\underline{M}   \underline{5}   \underline{5}$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         mv $+/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv         100-400 $+/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv         100-400 $-1/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv         100-400 $-1/-3\%$ <td></td> <td>St Charl</td> <td>1 on lowe</td> <td>west dr</td> <td>Notes: Well</td>		St Charl	1 on lowe	west dr	Notes: Well
$\begin{tabular}{ c c c c c c c } \hline \begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         mv           +/-3%         +/-10%         100-400         +/-10 mv         100-400					
$\begin{tabular}{ c c c c c } \hline \textbf{LOW FLOW DATA SHEET} \\ \hline \textbf{Well ID: TMMM} & Date: S and S a$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv $mv$ +/-3%         +/-10%         100-400         +/-10 mv $mv$ Image: Strain Stra					
LOW FLOW DATA SHEET         Well ID: TM/M/Le       Date: $\underline{S}[\underline{3}]1/5$ Project Name: $\underline{M}(M)$ Forget Number: $\underline{O}[\underline{8}]8/5$ Weather Conditions: $\underline{C}[\underline{0}, \underline{0}, \underline{1}]5$ Project Number: $\underline{O}[\underline{8}]8/5$ Project Number: $\underline{O}[\underline{8}]8/5$ Static water level before lowflow: $\underline{4}, \underline{4, \underline{8}}$ (feet below top of casing)       Pump Used         Static water level before lowflow: $\underline{4}, \underline{4, \underline{8}}$ (feet below top of casing)       Pump Used         Time Started: $\underline{13}$ Time Finished: $\underline{13}$ Cond.       DO       Elow       ORP       Commonts         feet $\underline{0}n/\underline{0}$ $\underline{1}/\underline{3}$ Time Finished: $\underline{13}$ $\underline{100,400}$ $4/-10$ mv $\underline{100,400}$ $4/-10$ mv         feet $\underline{0}n/\underline{0}$ $\frac{1}{\sqrt{-35}}$ $0.1$ unit $\frac{1}{\sqrt{-35}}$ $\sqrt{-100}$ $4/-10$ mv $\frac{1}{\sqrt{-10}}$ $\frac{1}{-1$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         mv $+/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv         1 $+/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv         1 $-10$					
LOW FLOW DATA SHEET         Well ID:       Twoject Name: $\Delta f(M)$ $Folget Name:$ $Doldel$ Project Namber: $D M R R$ Weather Conditions:       Cloudy $t$ $TO^{\circ}$ Eastern of well: $M R R$ From Used       From Used       Section of well: $M R R$ From Used       From Vised       From Vised       From Vised       From Vised       From Vised $M R R R$ From Vised $M R R R R R R$ From Vised $M R R R R R R R R$ From Vised $M R R R R R R R R R R R R R R R R R R R$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv $mv$ +/-3%         +/-10%         100-400         +/-10 mv $mv$ Image: Strain Stra					
LOW FLOW DATA SHEET         Well ID: TMWL(c       Date: $\underline{S}  \underline{J}T   \underline{S}$ Project Nume: $\underline{M}  \underline{G}   \underline{S}   \underline{S}  $	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         mv $+/-3\%$ $+/-10\%$ 100-400 $+/-10 \text{ mv}$ 1 $+/-3\%$ $+/-10\%$ 100-400 $+/-10 \text{ mv}$ 1 $-10$	+				
LOW FLOW DATA SHEET         Weilt ID: TMML/2       Date: $5$ [37]1/5       Project Name: $6$ (GOL Colspan=2000 FOL 2000 FO	Cond.     DO     Flow     ORP     Comments       us/cm     mg/L     ml/min.     mv $ $ +/-3%     +/-10%     100-400     +/-10 mv $ $					
LOW FLOW DATA SHEET         Weil ID: TM MILe       Date: $\underline{S}$ $\underline{S}$ Troject Name: $\underline{M}$ $\underline{M}$ $\underline{M}$ Project Number: $\underline{O}$ $\underline{N}$ $\underline{N}$ Weather Conditions: $\underline{UOV}$ , $\underline{T}$ $\underline{T}$ $\underline{T}$ $\underline{T}$ $\underline{Fump}$ Used $\underline{Fump}$ Used         Static water level before lowflow: $\underline{T}$ , $\underline{4}$ , $\underline{4}$ $\underline{8}$ (feet below top of casing) $\underline{Fump}$ Used $\underline{Fump}$ $\underline{M}$ $\underline{G}$ $\underline{F}$ Time Started: $\underline{I}$ $\underline{S}$ Time Finished: $\underline{I}$ $\underline{S}$ $\underline{S}$ $\underline{Fump}$ $\underline{I}$ $\underline{M}$ $\underline{Cond.}$ $\underline{DO}$ Flow $\underline{ORP}$ Comments $\underline{Eeet}$ $\underline{On}$ $\underline{I}$ $\underline{I}$ $\underline{V}$ $\underline{I}$ $\underline{S}$ $\underline{I}$ $\underline{S}$ $\underline{I}$ $\underline{I}$ $\underline{I}$ $\underline{S}$ $\underline{I}$ $\underline{I}$ $\underline{I}$ $\underline{S}$ $\underline{I}$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv $mv$ +/-3%         +/-10%         100-400         +/-10 mv $mv$ Image: Second Seco					
LOW FLOW DATA SHEET         Weil ID: $\underline{TMMU}$ Date: $\underline{S}  \underline{ST}   \underline{S}$ Project Name: $\underline{MfM}$ Folget       Project Number: $\underline{S}  \underline{SC}$ Weather Conditions: $\underline{COQV}$ $\underline{T70^\circ}$ Fump Used       Fump Used         Static water level before lowflow: $\underline{4.4.8}$ (feet below top of casing)       Fump Used $\underline{CopVuV}$ Time Started: $\underline{I} \underline{3.2}$ Time Finished: $\underline{I} \underline{3.2}$ Time Finished: $\underline{I} \underline{3.2}$ Time $\underline{DTW}$ Pump       Tub.       Temp. $\underline{pH}$ Cond. $\underline{DO}$ Flow $\overline{MV}$ Mean in the started $\underline{MTU}$ $\underline{deg. C}$ $\underline{SU}$ $\underline{MU}$ $\underline{MV}$ $\underline{MV}$ $\underline{MV}$ Model $\underline{MU}$ $\underline{deg. C}$ $\underline{SU}$ $\underline{MU}$ $\underline{MV}$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv $mv$ +/-3%         +/-10%         100-400         +/-10 mv $mv$ Image: State					
LOW FLOW DATA SHEET         Well ID: $\underline{MMLC}$ Date: $\underline{S}[\underline{371}]15$ Project Name: $\underline{MMLC}$ Project Number: $\underline{CMMC}$ Project Number: $\underline{CMC}$ Project Numer: $\underline{CMC}$ Project Numer:	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         1mv           +/-3%         +/-10%         100-400         +/-10 mv         100-400           Image: the state of t	/				
LOW FLOW DATA SHEET         Well ID: TMML       Date: $\underline{S}[\underline{371}]15$ Project Name: $\underline{OUGU}$ Project Number: $\underline{O}[\underline{8C}]$ Weather Conditions: $\underline{COQV}$ $\underline{170^\circ}$ Pump Used         Static water level before lowflow: $\underline{4.48}$ (feet below top of casing)       Pump Used         Ime Static d: $\underline{132^\circ}$ Time Finished: $\underline{132^\circ}$ Time Finished: $\underline{132^\circ}$ Time Stated: $\underline{132^\circ}$ Time Finished: $\underline{132^\circ}$ Time Finished: $\underline{132^\circ}$ Flow       ORP       Comments         feet       (on/off)       NTU       deg. C       SU       us/min       mv       output         Ime       int $+/-3\%$ 0.1 unit $+/-3\%$ $+/-10\%$ 100-400 $+/-10$ mv	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         +/-3%         +/-10%         100-400         +/-10 mv		/			
LOW FLOW DATA SHEET         Well ID: TM/ML       Date: $\underline{S}  \underline{J}T   \underline{J}S$ Project Name: $\underline{MfdN}$ Project Number: $\underline{J}  \underline{J}SC$ Weather Conditions: $\underline{C}  \underline{Oudy}, \underline{f}   \underline{J}O^{\circ}$ Froject Name: $\underline{MfdN}$ Pump Used         Static water level before lowflow: $\underline{f}, \underline{4}, \underline{8}$ (feet below top of casing)       Pump Used $\underline{Comp}$ Pump Used         Time Started: $\underline{I}_{\underline{S}}$ Time Finished: $\underline{I}_{\underline{S}} \underline{S}_{\underline{S}}$ Time Finished: $\underline{I}_{\underline{S}} \underline{S}_{\underline{S}}$ Found interments         Time $\underline{DTW}$ Pump $\underline{Comp}$ $\underline{C}$ <td>Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         100-400         +/-10 mv         100-400         100-400         +/-10 mv         100-400</td> <td></td> <td></td> <td>/</td> <td></td> <td></td>	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         100-400         +/-10 mv         100-400         100-400         +/-10 mv         100-400			/		
LOW FLOW DATA SHEET         Well ID: TMML/L       Date: $\underline{S}  \underline{S} \uparrow I ^{5}$ Project Name: $\underline{S} \downarrow \underline{f} O  \underline{S} / S$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         +/- 3%         +/- 10%         100-400         +/- 10 mv				1	
LOW FLOW DATA SHEET         Weil ID: TMML       Date: $\underline{S}[\underline{ST}]/\underline{15}$ Project Name: $\underline{SUFGN}$ Project Number: $\underline{O}/\underline{8}/\underline{8}$ Weather Conditions:       Cloudy $\underline{1}$ $\underline{10^{\circ}}$ (feet below top of casing)       Pump Used       Pump Used         Static water level before lowflow: $\underline{4}$ $\underline{4}$ $\underline{6}$ (feet below top of casing)       Pump Used $5000000000000000000000000000000000000$	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         +/-3%         +/-10%         100-400         +/-10 mv					
LOW FLOW DATA SHEET         Well ID: TMWIC       Date: $\underline{S}[\underline{371}]15$ Project Name: $\underline{O}(\underline{F}(\underline{N}))$ Project Number: $\underline{O}[\underline{8}]$ Project Number: $\underline{O}[\underline{8}]$ Weather Conditions: $\underline{1004}$ $\underline{170^{\circ}}$ Pump Used       Pump Used       Pump Used       Sequence       Pump Used       Sequence       Funne Used       Sequence       Pump Used       Sequence       Pump Used       Sequence       Sequence       Pump Used       Sequence	Cond.         DO         Flow         ORP         Comments           us/cm         mg/L         ml/min.         mv         +/-10 mv				-	V
LOW FLOW DATA SHEET         Weill ID: TM/M/LC       Date: $\underline{S}[\underline{\partial}T]/\underline{15}$ Project Name: $\underline{Mf(M)}$ FO(4L)       Project Number: $\underline{O}/\underline{8}/\underline{8}$ Weather Conditions: $\underline{Mody}$ $\underline{170^\circ}$ Pump Used       Pump Used       Static water level before lowflow: $\underline{4.4.8}$ (feet below top of casing)       Pump Used	Cond.     DO     Flow     ORP     Comments       us/cm     mg/L     ml/min.     mv     Interview	3% 0.1 unit	10% +/-3	+/-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	の一般が
LOW FLOW DATA SHEET         Weil ID: TMM/le       Date: $\underline{S}[\underline{37}]1/5$ Project Name: $\underline{MFGM}$ Forget Number: $\underline{NK}$ Project Number: $\underline{NK}$ Weather Conditions: $\underline{COQY}$ , $\underline{f}$ , $\underline{70^{\circ}}$ Pump Used       Fump Used $\underline{Coup}$ Fump Used $\underline{Cup}$ $\underline{Fump Used}$ $\underline{Cup}$ Fump Used $\underline{Cup}$ $\underline{Cup}$ $\underline{Fump Used}$ $\underline{Fum P Used}$ $$	Cond. DO Flow ORP Comments	C SU	TU deg.	n/off) N	feet (o	100
LOW FLOW DATA SHEET         Weil ID: TMWL       Date: $5  271/15$ Project Name: $MfW$ Project Number: $018/80$ Weather Conditions: $10004$ $170^{\circ}$ Project Number: $018/80$ Static water level before lowflow: $4, 48$ (feet below top of casing)       Pump Used         Static water level before lowflow: $4, 48$ (feet below top of casing)       Pump Used         Time Started: $1320$ Time Finished: $1325$	.263	p. pH	urb. Tem	'ump Tu	DTW F	Time
LOW FLOW DATA SHEET         Well ID: $\underline{TMNIG}$ Date: $\underline{5} \underline{37115}$ Project Name: $\underline{01600}$ FOIGE       Project Number: $\underline{0180}$ Weather Conditions: $\underline{1000}$ $\underline{170^{\circ}}$ Pump Used       Fump Used       Geopurp         Static water level before lowflow: $\underline{4.48}$ (feet below top of casing)       Geopurp       Geopurp       Geopurp	13.2	Time Finished:	C	132	me Started:	Ti
LOW FLOW DATA SHEET         Well ID: TMNIC       Date: Slar1/15       Project Name: Outfold       Forget       Project Number: O18180         Weather Conditions:       Cloudy ± 70°       Fump Used       Fump Used	op of casing)	$\frac{S}{\Lambda}$ (feet below to	vflow: 4,4 f well: NM	evel before lov Bottom o	Static water le	
LOW FLOW DATA SHEET         Well ID: TMW16       Date: 5)27115       Project Name: 04/00 Fold       Project Number: 018/80	Pump Used		700	May t	tions:	Weather Condi
	WHAN FORD Project Number: 018180	Project Name:	1/15	Date: 5)2	<b>TMWIG</b>	Well ID:
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## Appendix F Background Fluorescence Report



Background Fluorescence Analysis (BFA)

## DRAFT Qualitative BFA Evaluation Former Buffalo Forge Property City of Buffalo, Erie County, New York

Wednesday, 21 October 2015





## **Background Fluorescence Analysis (BFA) Basics**

Determination of groundwater flow direction is usually based on the interpolation of potentiometric head or groundwater level measurements from the existing monitoring well network. The average linear velocity of ground water is then calculated using flow equations that assume isotropic homogeneous aquifer conditions. In reality, these assumptions often are problematic and groundwater flow direction and seepage velocity assessments may be prone to error. The main objective of BFA is to document the fluorescence "fingerprint" of groundwater at a site and perform a comparison to evaluate possible groundwater flow paths. It is often possible to separate preferential (faster) from matrix (slower) groundwater flow. Every groundwater sample has a unique fluorescence "fingerprint" due to the presence of numerous fluorescent organic compounds in different concentrations. Some fluorescence "fingerprints" may share some main peaks or bear similarities along certain "fingerprint" segments. The qualitative BFA approach provides an additional line of evidence and to aid the interpretation of potential preferential ground water flow paths at a site and associated contaminant transport behavior.

## Sampling and Preparation

Five groundwater samples were collected at the Former Buffalo Forge Property in the City of Buffalo, Erie County, New York (the Site) between 27 May and 29 May 2015 using low-flow sampling techniques. Additional sample volume from each well was transferred into two 40-ml transparent glass vials. Immediately after sample collection, all vials were stored in a cooler to prevent photo-degradation of the fluorescent organic compounds. The samples were transported under chain of custody to Nano Trace Technologies<sup>TM</sup> (Nano Trace) laboratory in Orphund, Switzerland on 5 June 2015. All samples were filtered in the laboratory using acid-washed 0.45-µm glass fiber filters to aid sample preservation prior to fluorescence analysis. All filtered samples were analyzed using a quartz cell on a calibrated spectro-fluorometer. Between each sample run, Milli-Q® water was analyzed to assess the instrumental background and to assure that the cell was clean prior to the next analysis.

## **Results and Interpretations**

Several main peaks were used as tracers (e.g. 303 nm, 368 nm, 448 nm, and 513 nm) to facilitate the evaluation of hydraulic connectivity. The relative fluorescence intensity (RFI), a value linearly correlated to the dissolved organic carbon (DOC) concentration in

groundwater, varied between 2 RFI – 562 RFI (with the maximum recorded for well TMW-16 at 327 nm). For comparison, non-impacted natural spring systems typically show an average of 25 RFI. RFI is unitless and specific to the spectro-fluorometer used in the analysis.



This table summarizes all peaks found between the fluorescence emission of 286 nm and 714 nm. The numbers in red font represent the dominant peaks whereas the number in the cell indicates the RFI. The RFI emission values are proportional to the total concentration of organics in the sample and reflect all fluorescent organic substances that emit at this specific wavelength range. All main and shoulder peaks are used in addition of fluorescence "fingerprint" similarity (similar slope segments) to describe each fluorescence "fingerprint". The wide variety of peaks suggests an older spill history as many compounds of concern are degrading, producing many degradation by-products.



The above table presents a well association matrix for the samples analyzed. Each fluorescence "fingerprint" is compared with other fluorescence "fingerprints" using a proprietary computer code and its similarity (peak location, fluorescence yield of peaks, slopes) is rated. The rating uses five different colors to demonstrate similarity (blue, green, orange) or dissimilarity (grey, black) of the fluorescence "fingerprints". Blue and green cells are interpreted as indicating potential preferential hydraulic connections along which some of the organic compounds are transported in groundwater. Orange cells provide useful information on porous (matrix) groundwater flow and natural attenuation processes between two compared wells.

Information of the left table is incorporated into the Site map. Only three color codes are used to evaluate preferential/porous (matrix) ground water flow conditions: blue, green, and orange. If two fluorescent fingerprints are identical or similar (i.e., most main peaks and both curves match), three scenarios are hydrologically possible:



- 1. A hydraulic connection exists between Well A and Well B (because their organic fluorescent content is very similar);
- 2. The two wells are not hydraulically connected; both wells may be located in the fringe zone of a plume. The components have undergone a similar degradation and therefore show a similar fluorescence "fingerprint"; or
- 3. The two wells are not hydraulically connected; their similarity is due to two similar yet unconnected sources.

Once all conditions of the well association table above are met, preferential groundwater flow paths may emerge.

The BFA suggested one possible potential groundwater flow path at the Site. Some peaks matched between TMW-12 and TMW-15D.



However, the fluorescence "fingerprints" of the various samples are generally different, suggesting that any hydraulic connection between the wells appears unlikely. Samples from TMW-14, TMW-15S, and TMW-16 contain higher amounts of fulvic acids, which may be the result of natural attenuation processes.

The areas with the highest fluorescence yields are found in TMW-15S and TMW-16. Another point of interest is the fluorescence yield at emission wavelength 513 nm; peaks at this location usually suggest nitrogen-containing fluorescence substances (i.e., amines or sewage). They also may be derived from degradation process of more complex organic nitrogen-containing compounds. Disclaimer: BFA is a qualitative tool using a synoptic sample approach. The results of this study should not be used as single line of evidence. Aquifers are open and dynamic systems. The potential preferential groundwater flow paths presented above are suggestions only. To irrefutably demonstrate any hydraulic connection, Nano Trace recommends tracer testing.

## Appendix G Investigation-Derived Waste Documentation



#### 24-Hour Emergency Phone Number 1-800-843-8265

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**BILL OF LADING** 

Appendix H Conceptual Site Plan





# The Forge on Broadway

IN ACCORDANCE WITH COPYRIGHT LAWS, SILVESTRI ARCHITECTS RETAINS THE RIGHT OF OWNERSHIP OF THE DESIGN IDEAS, CONCEPTS, AND OTHER INFORMATION EXPRESSED IN THIS DOCUMENT.







## BUFFALO, NEW YORK

Appendix I Project Schedule

#### PROJECT SCHEDULE 5-23-18 BUFFALO FORGE SITE 2019 COC

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