FORMER EMERSON POWER TRANSMISSION FACILITY
TOMPKINS COUNTY, ITHACA, NEW YORK

INTERIM SITE MANAGEMENT PLAN
OPERABLE UNIT NOS. 1 AND 2

NYSDEC SITE NO. 755010
USEPA ID NO. NYD00228625

PREPARED FOR:
EMERSON ELECTRIC CO.
8000 WEST FLORISSANT AVENUE
ST. LOUIS, MISSOURI 63136

PROJECT NO.: 31405608.001
DATE: OCTOBER 2022

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REVISIONS TO FINAL APPROVED SITE MANAGEMENT PLAN

REVISION NO.	DATE SUBMITTED	SUMMARY OF REVISION	NYSDEC APPROVAL DATA

PROFESSIONAL ENGINEER CERTIFICATION STATEMENT

I, David Alan Rykaczewski, certify that I am currently a New York State registered professional engineer and that this Interim Site Management Plan for the former Emerson Power Transmission facility in Ithaca, New York was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

STATE OF NEW YORK
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EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented at Operable Unit 1 (OU-1) and Operable Unit 2 (OU-2) of the former Emerson Power Transmission Facility (EPT) at 620 South Aurora Street, Ithaca, New York (Site), as well as the inspections, monitoring, maintenance and reporting activities required by this Interim Site Management Plan (Interim SMP). These controls and activities are necessitated by the nature and extent of residual contamination at the Site, its planned conveyance to L Enterprises, LLC (or an affiliated company), and its proposed future use.

The Site has a record of industrial use dating back to 1906, when the Morse Industrial Corporation (Morse) founded the facility. In 1928, Morse was acquired by Borg-Warner Corporation, which sold the facility to Emerson Electric Co. in 1983. Eventually, the facility came to be owned and operated by EPT, a wholly owned subsidiary of Emerson. The termination of industrial operations occurred between 2009 and 2011. Thereafter, in 2015, in connection with Emerson's sale of EPT and other companies in its Power Transmission Solutions business, ownership of the facility property was transferred to another Emerson subsidiary, EMERSUB 15, LLC. EMERSUB 15, LLC intends to transfer ownership of a considerable portion of the Site (everything but OU-1) to L Enterprises, LLC, or an affiliate, which intends to redevelop the Site for mixed use (Restricted-Residential, Commercial, and/or Industrial).

Environmental investigation and remedial activities at the facility have been occurring since the 1980s. The initial impetus for the investigation was the discovery of groundwater contaminated with volatile organic compounds (VOCs), including trichloroethylene (TCE), released from the historic fire water reservoir. Although this contamination was discovered during EPT's ownership of the Site, it related back to industrial activities preceding Emerson's acquisition in 1983. In 1987, Emerson, EPT, and the New York State Department of Environmental Conservation (NYSDEC) entered into an Administrative Order on Consent (Index No. A7-0125-87-09), which was subsequently amended to remove EPT as a respondent in 2014. In 1994, NYSDEC approved a Record of Decision that called for the implementation of a dual-phase extraction system to address the groundwater contamination in the fire water reservoir area. The system commenced operation in 1996 and was expanded in 2016.

Over time, the scope of the investigation has expanded beyond the groundwater contamination associated with the former fire-water reservoir, resulting in the identification of other areas of concern (AOCs). In all, the site investigation has identified thirty-five (35) AOCs, one of which (AOC 35 – Isolated Locations, encompasses twelve (12) distinct areas of the Site). These are divided into two Operable Units ("OUs"). OU-1 includes the location of the former fire water reservoir and the dual-phase extraction system (AOC 24), while OU-2 includes the rest of the AOCs. The identification of the additional AOCs prompted the issuance of a Record of Decision (ROD) Amendment in 2009, requiring the performance of additional investigative and remedial activities at the Site. The scope of OU-2 and the area of the former EPT facility property subject to the 1987 Administrative Order on Consent was significantly reduced in 2018, when NYSDEC approved the removal of approximately 34.3 acres of largely undeveloped land from OU-2 (the "Boundary Modification Area").

Also in 2018, in preparation for the conveyance of the property to L Enterprises, LLC, Emerson commenced Interim Remedial Measures (IRMs) to address sixteen (16) AOCs with soil contamination. This work was completed in 2019. The general approach taken during the IRM field activities was to conduct removal actions of soils exceeding restricted-residential, commercial, industrial, and protection of groundwater soil cleanup objectives, as applicable based on L Enterprises, LLC's redevelopment plans and other factors.

In addition to the IRM work, in 2020, Emerson concluded a Feasibility Study to address other contamination and potential exposure pathways at the Site, including, but not limited to, site-wide chlorinated VOCs, barium, and cyanide in groundwater, isolated areas of site-wide non-aqueous phase liquid, seeps containing various chemicals of concerns, a historical underground well, and soil vapor intrusion into Site buildings. Together with the IRM work, the Feasibility Study laid the foundation for the remedial actions selected in the 2021 ROD Amendment (AROD) which has preceded EMERSUB 15 LLC's transfer of OU-2 (and the Boundary Modification Area) to L Enterprises, LLC. Additionally, the Site is subject to certain requirements that originated under EMERSUB 15, LLC's former State Pollution Discharge Elimination System (SPDES) Permit, which was formally terminated and replaced by a SPDES permit equivalent on August 1, 2022. These requirements are intended to protect water quality at a tributary of the Cayuga River Inlet. The SPDES permit equivalent, which was approved shortly before the termination of the SPDES Permit, on July 15, 2022, will be implemented as part of the final remedy for the Site to monitor potential discharge of site-related contaminants from groundwater to surface water.

As mentioned above, the proposed conveyance to L Enterprises, LLC (or an affiliate), the redevelopment plans and the nature and extent of residual contamination at the Site, trigger the need for this Interim SMP. Despite conveying its ownership interest in OU-2 (and the Boundary Modification Area), Emerson will continue performing its duties under the Administrative Order on Consent and the AROD. The groundwater contamination is unlikely to be remediated to acceptable limits in the near-term, hence the need for long-term institutional and engineering controls[1]. Moreover, the IRM work left areas of contaminated soil in place, and, among other things, the potential for soil vapor intrusion in site-related activities must be addressed in a redevelopment scenario. Consequently, institutional and engineering controls, inspections, monitoring, maintenance, and reporting are required for the Site. These are summarized in the table below.

Site Identification:	**Site No. 755010: Former Emerson Power Transmission Facility (OU-1 & OU-2), 620 South Aurora Street, Ithaca, New York 14850**
Institutional Controls:	1. The Site may be used for restricted residential; commercial, and/or industrial use; as set forth below: OU-1: Industrial Use only OU-2: Restricted-Residential, Commercial, and/or Industrial Uses only The diagram attached as Figure 10 indicates the approved land uses per the AROD.
	2. All ECs must be inspected at a frequency and in a manner defined in the Interim SMP.
	3. All ECs must be operated and maintained as specified in this Interim SMP.
	4. The use of groundwater underlying the property is restricted as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health
	5. Groundwater and other environmental or public health monitoring must be performed as defined in this Interim SMP.
	6. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this Interim SMP.
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this Interim SMP.
	8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this Interim SMP.

[1] Because the Boundary Modification Area is no longer subject to the Consent Order and AROD, subsequent references in this document to the transaction involving L Enterprises, LLC will mention the transfer of title only with respect to OU-2.

Site Identification:	Site No. 755010: Former Emerson Power Transmission Facility (OU-1 & OU-2), 620 South Aurora Street, Ithaca, New York 14850
	9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this Interim SMP.
	10. Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
	11. The potential for soil vapor intrusion must be evaluated for any occupied building, existing or new, within the IC boundaries noted on Figure 8, and any potential impacts that are identified must be monitored or mitigated.
	12. Vegetable gardens will only be permitted in raised beds following approval of the NYSDEC. Farming on the Site is prohibited unless indoors such as a hydroponic growing operation.
	13. Should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs in the restricted residential area of the Site, and the upper 1 foot of exposed soil exceeds the applicable SCO in the commercial and industrial areas of the Site.
	14. Complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).
	15. If new areas of contamination are identified after demolition of existing structures and/or removal of building slabs, the nature and extent of contamination in such areas where access was previously limited or unavailable will be immediately and thoroughly investigated pursuant to either an amended Excavation Plan or another NYSDEC-approved work plan. Citizen Participation Plan (CPP) activities will continue, as necessary, through this process. Any required remediation will be completed prior to or in association with redevelopment.

Site Identification:	**Site No. 755010: Former Emerson Power Transmission Facility (OU-1 & OU-2), 620 South Aurora Street, Ithaca, New York 14850**
Engineering Controls:	1. Cap and cover systems, including both excavated areas covered with clean fill and existing concrete and asphalt surfaces at specified locations as described below, must be maintained. <u>Areas Capped</u> Soil/fill materials at a depth of 3 feet and below that are capped with geosynthetic clay liner and asphalt (AOC 1 in OU-2) <u>Areas Covered with Clean Fill</u> Soil/fill materials at a depth of 2 feet and below that are covered with clean fill in areas of the Site designated for restricted-residential use (AOCs 31, 32, 34, 35A, 35D, 35H, 35K, and 35L in OU-2; test pits TP-7, TP-9, TP-11, TP-17, TP-22; and sewer line removal area in Building 13A). Soil/fill materials at a depth of 1 foot and below that are covered with clean fill in areas of the Site designated for commercial use (AOCs 28 and 29 in OU-2) or Industrial use (AOC 30 in OU-2). <u>Existing Areas Covered with Concrete and Asphalt</u> Soil/fill materials at any depth that are covered with existing concrete and asphalt surfaces where COCs are known to remain at concentrations above applicable SCOs (AOCs 29, 31, 32, 34, 35A, 35C, and 35H in OU-2) and future areas below the concrete slab of a building where the upper 2 feet of exposed soil exceeds the applicable SCO in the restricted residential area of the Site, and the upper 1 foot of exposed soil exceeds the applicable SCO in the commercial and industrial areas of the Site.
	2. The dual-phase extraction (DPE) and treatment system at OU-1, together with the network of twelve groundwater and vapor extraction wells spanning across OU-1 and OU-2, is to be maintained and operated until specified in writing by the NYSDEC. Two additional extraction wells will be installed during the expansion of the system into AOC 1.
	3. Petroleum recovery from Building 4 and select Site monitoring wells.
	4. Future re-routing and monitoring of groundwater seeps.
	5. Any future sub-slab depressurization (SSD) systems are to be maintained and operated until specified in writing by the NYSDEC.

Inspections:	**Frequency**
1. Site-wide	Annually

Site Identification:	**Site No. 755010: Former Emerson Power Transmission Facility (OU-1 & OU-2), 620 South Aurora Street, Ithaca, New York 14850**
Monitoring:	
1. Site-wide groundwater	Annually
2. DPE and treatment system	
a. aqueous influent and effluent	Quarterly
b. vapor influent and effluent	Quarterly
c. treatment area groundwater	Semi-Annually or Annually
3. SPDES Permit Equivalent Outfalls	Monthly or Quarterly
4. Non-aqueous Phase Liquid (NAPL)	Quarterly
Maintenance:	
1. DPE and treatment system	Monthly
Reporting:	
1. DPE and Treatment System O&M and Monitoring Report	Annually
2. Inspection Report	Annually
3. Periodic Review and Site-wide Groundwater Monitoring Report	Annually
4. Remedial Site Optimization Report	TBD

Further descriptions of the above requirements are provided in detail in the latter sections of this Interim Site Management Plan.

1 INTRODUCTION

1.1 GENERAL

This Interim Site Management Plan (Interim SMP) is a required element of the remedial program for the Former Emerson Power Transmission (EPT) (Operable Unit 1 [OU-1] and Operable Unit 2 [OU-2]) located in Ithaca, New York (hereinafter referred to as the "Site"). See Figure 1. The Site is currently in the New York State (NYS) Superfund Program, Site No. 755010, which is administered by New York State Department of Environmental Conservation (NYSDEC or Department).

Emerson Electric Co. (Emerson) and EPT entered into an Order on Consent (No. A7-0125-87-09), on July 12, 1987 with the NYSDEC to remediate the Site. Based on results obtained during additional investigations conducted at the Site, the NYSDEC issued a December 1994 Record of Decision (ROD), a June 2009 ROD Amendment, and a 2021 ROD Amendment (AROD). In December 2014, EPT transferred the property to EMERSUB 15, LLC, a wholly owned subsidiary of Emerson, in anticipation of the sale of its Power Transmissions Solutions business, of which EPT was a part. In connection with this transaction, the Consent Order was amended to make Emerson the sole respondent responsible for the remediation. In addition, in October 2018 the NYSDEC approved a boundary modification for the Site decreasing the Site size from 94.3 acres to approximately 60 acres (includes OU-1 and OU-2). A figure showing the Site location and boundaries of this Site is provided in Figure 2. The boundaries of the Site are more fully described in the metes and bounds site description that is part of the Environmental Easement provided in Appendix A.

After completion of the interim remedial measure (IRM) described in Section 2.3 below, some contamination was left at this Site, which is hereafter referred to as "remaining contamination." Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Tompkins County Clerk, requires compliance with this Interim SMP and all ECs and ICs placed on the site.

This Interim SMP was prepared to manage remaining contamination at the Site until the Final SMP is executed. This Interim SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This Interim SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the Interim SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion when issued;
- Failure to comply with this Interim SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the Order on Consent (Index No. A7-0125-87-09; Site No. 755010) for the site, and thereby subject to applicable penalties.

All reports associated with the Site can be viewed at the Tompkins County Library document repository or by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the site is provided in Appendix B of this Interim SMP.

This Interim SMP was prepared by WSP USA Inc. (WSP), on behalf of Emerson, in accordance with the requirements of the NYSDEC's DER-10 ("Technical Guidance for Site Investigation and Remediation"), dated May 3, 2010, and the guidelines provided by the NYSDEC. This Interim SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 REVISIONS

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. The NYSDEC can also make changes to the Interim SMP or request revisions from the remedial party. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shutdown of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the

Environmental Easement for the site, the NYSDEC project manager will provide a notice of any approved changes to the Interim SMP, and append these notices to the Interim SMP that is retained in its files.

1.3 NOTIFICATIONS

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

1. 60-day advance notice of any proposed changes in site use that are required under the terms of the Order on Consent or the AROD, 6 NYCRR Part 375 and/or Environmental Conservation Law.
2. A one-time notice, to be given 7-days in advance of any type of new remedial field activity not associated with the Administrative Order on Consent or the AROD.
3. 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan. If the ground-intrusive activity qualifies as a change of use as defined in 6 NYCRR Part 375, the above mentioned 60-day advance notice is also required.
4. Notice within 48 hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
5. Notice within 48 hours of any non-routine maintenance activities.
6. Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
7. Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this Interim SMP will include the following notifications:

1. At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the Order on Consent, and all approved work plans and reports, including this Interim SMP.
2. Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1 includes contact information for the above notifications. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table 1 – Notifications*

Name	Contact Information	Required Notification**
Karen A. Cahill	315-426-7432 karen.cahill@dec.ny.gov	All Notifications
Gary Priscott	315-426-7551 gary.priscott@dec.ny.gov	All Notifications
Margaret Sheen	315-426-7405 margarget.sheen@dec.ny.gov	Notifications 1 and 8
Kelly Lewandowski (NYSDEC Site Control)	518-402-9569 kelly.lewandowski@dec.ny.gov	Notifications 1 and 8
Anthony Perretta	518-402-7860 anthony.perretta@health.ny.gov	Notifications 4, 6, and 7

* Note: Notifications are subject to change and will be updated as necessary.

** Note: Numbers in this column reference the numbered bullets in the notification list in this section.

2 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 SITE LOCATION AND DESCRIPTION

The Site is located in Ithaca, Tompkins County, New York and is identified as Section 92 Block 8 and Lot P/O 106.-1-8 and Section 106 Block 1 and Lot 8 on the on the city of Ithaca Tax Map; and Section 40 Block 3 and Lot 3 on the town of Ithaca Tax Map. The Site is an approximately 61.5-acre area and is bounded by residential neighborhoods to the north, undeveloped, steep woodlands to the south, South Aurora Street to the east, and undeveloped, steep woodlands and ultimately West Spencer Street to the west (see Figure 2). The former manufacturing plant complex is referred to as Operable Unit 02 (OU-2); the former Fire Water Reservoir (FWR) located immediately west of the main plant is referred to as Operable Unit 01 (OU-1) (see Figure 2). The boundaries of the Site are more fully described in Appendix A –Environmental Easement. The owner(s) of the Site parcel(s) at the time of issuance of this Interim SMP is/are:

1. EMERSUB 15, LLC, a wholly owned subsidiary of Emerson. EMERSUB 15, LLC will retain ownership of OU-1.
2. Following transfer of OU-2, the owner of OU-2 will be L ENTERPRISES, LLC or a related entity. The specific responsibilities of the owner of OU-2 and the Remedial Party (Emerson) with respect to OU-2 are set forth in Appendix C.

2.2 PHYSICAL SETTING

2.2.1 LAND USE

The Site consists of the following: a former manufacturing plant complex and surrounding access roads and parking lots. The Site is currently vacant and zoned to allow for mixed uses of residential, commercial, and industrial in both the City of Ithaca and Town of Ithaca. This zoning was accomplished through the following plans and approvals:

- City of Ithaca: Chain Works Planned Unit Development District pursuant to Ordinance Number 2019-14 approved by the Common Council of the City of Ithaca on September 4, 2019.
- Town of Ithaca: Planned Development Zone District for the Chain Works District pursuant to Local Law No. 12 of 2021 entitled “A Local Law to Amend Zoning Chapters 270 and 271 of the Town of Ithaca Code to Provide a Planned Development Zone for the Chain Works District” approved by the Town Board of the Town of Ithaca on September 27, 2021.

The planned future use of the Site is a combination of restricted residential, commercial, and/or industrial (Figure 3). A sanitary sewer line originating from the former National Cash Register (NCR) facility runs along the eastern portion of the Site parallel to South Aurora Street. The main plant building consists of a series of interconnected buildings constructed on manmade terraces along the bedrock slope. There are two larger free-standing buildings (Buildings 21 and 24) located immediately north and northwest of the main buildings, and several smaller buildings including a former oil shed (Building 30) located immediately south of the main buildings, a guard house north of the main buildings, a former railroad shed, gas house, and treatment system enclosure west of the main buildings. Two drainage ditches run north-south along a former rail spur on the western side of the Site.

The properties adjoining the Site, and in the neighborhood surrounding the Site, primarily include residential and commercial properties. The land immediately south of the Site includes undeveloped land once considered part of the Site prior to a

boundary modification followed by a mix of commercial and residential properties thereafter; the properties immediately north of the Site include predominantly residential properties; the properties immediately east of the Site include a mix of commercial and residential properties; and the properties to the west of the Site include predominantly residential properties.

2.2.2 GEOLOGY

The Site is located on the northern edge of the Appalachian Plateau Physiographic Province, which is characterized in central New York by deeply dissected hilly uplands and glacially gouged stream valleys and lowlands. The Site lies on the limits of one of the dissected uplands and overlooks the Cayuga Valley basin, which formed in a former stream valley eroded and enlarged by the advance of glaciers.

Regional upland geology is comprised of bedrock overlain by glacial deposits of varying thickness and a thin veneer of regolith. In the vicinity of Ithaca, New York, bedrock is classified as the Ithaca Siltstone which is typically well-cemented with generally non-fossiliferous beds ranging in thickness from 0.1 inch to 2.5 feet in thickness. Overburden on the undeveloped hillslopes in the eastern portion of the Site is comprised of a thin, discontinuous veneer of dark gray bedrock-derived gravelly silt. The shallowest depths to bedrock (i.e., less than 1 foot below ground surface [bgs]) occur along the undeveloped hillsides and beneath buildings and roadways located on excavated bedrock terraces. The overburden is thickest to the west of the main building in the area of the retaining wall (greater than 25 feet bgs) and is comprised primarily of man-made fill, which consists of silty or clayey sand and gravel containing varying amounts of cinder fragments and construction debris. In other areas of the Site, coal ash, slag, and brick fragments are also present.

A geologic cross section is shown in Figure 4. Site specific boring logs are provided in Appendix D.

2.2.3 HYDROGEOLOGY

In the western areas of the Site, where the overburden is thickest, saturated conditions occur between approximately 10 and 20 feet bgs and the top of bedrock. The saturated overburden, where present, has been labeled the A-hydrogeologic zone (A-zone). The underlying B-hydrogeologic zone (B-zone) is characterized as very highly- to highly-fractured weathered bedrock which is typically saturated. On the Site, the B-zone extends to a depth of approximately 8 to 10 feet below the top of bedrock in areas with minimal overburden (i.e., less than 10 feet). The underlying transitional zone (C-zone) extends from the base of the B-zone to a maximum depth of approximately 55 feet bgs, and the D-zone extends from the bottom of the C-zone to a minimum depth of 145 feet bgs.

Groundwater flow direction within the overburden and the B-zone generally mimics surface topography, which slopes to the northwest. Groundwater flow within the C and D zones is predominantly through vertical and horizontal joint sets and horizontal bedding plane fractures within the upper sections of bedrock.

A groundwater contour map is shown in Figure 5. Groundwater elevation data is provided in Table 2. Groundwater monitoring well construction logs are provided in Appendix D. Boring logs and construction diagrams for any future monitoring or remediation wells will be added to Appendix D of the final SMP.

2.3 INVESTIGATION AND REMEDIAL HISTORY

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 8.0 - References.

The facility was founded in 1906 by Morse Industrial Corporation, manufacturer of steel roller chain for the automobile industry. Morse operated the facility until approximately 1928 when it was bought by Borg-Warner Corporation, manufacturer of automotive components and power transmission equipment. In 1983, Emerson acquired Morse from Borg-Warner. As a result, the Ithaca facility eventually became part of the former EPT, a wholly owned subsidiary of Emerson and part of Emerson's Power Transmission Solutions business. EPT continued to manufacture industrial roller chain, bearings, and clutching for the power transmission industry until operations ceased in 2009. The facility was subsequently decommissioned and has been vacant since 2011. In December 2014, Emerson transferred the property to EMERSUB 15,

LLC, a wholly owned subsidiary of Emerson, in anticipation of the sale of Emerson Power Transmission Solutions business. Up until the late 1970s, Borg-Warner used trichloroethene (TCE), a common solvent at the time, for cleaning and degreasing metal parts. An estimated sixty metal piercing and clanking machines were in operation from the early 1950s to 1977. Additional operations included metal finishing, plating, pickling, and salt bath quenching utilizing barium chloride and cyanide salts.

In 1987, groundwater containing elevated concentrations of volatile organic compounds (VOCs), specifically chlorinated VOCs (CVOCs), was discovered, originating from the FWR (OU-1) in the western portion of the property. Subsequent to reporting these findings to NYSDEC, Emerson and EPT entered into a Consent Order with the NYSDEC (Index No. A7-0125-87-09; NYSDEC 1988) requiring Emerson to develop and implement a Remedial Investigation and Feasibility Study (RI/FS) followed by a remedial program to address the release of hazardous substances to the environment. The RI Report was completed by Radian Corporation (later Radian International LLC) in 1990 (Radian 1990). A groundwater pump and treat system was installed as an IRM to address VOC-affected groundwater near the FWR; operation began in late 1991. In 1994, the FS completed by Radian proposed a dual-phase groundwater extraction and treatment system as the remedial alternative based on testing that indicated such a system would outperform the existing IRM (Radian 1994). The alternative was approved by NYSDEC and detailed in the 1994 ROD (NYSDEC 1994). The dual-phase extraction (DPE) and treatment system began operating in 1996.

Based on the results of a supplemental remedial investigation (SRI) and Alternatives Analysis performed between 2004 and 2008, NYSDEC issued a ROD Amendment in 2009. The limits of OU-1 and OU-2 are shown in Figure 2. Descriptions of OU-1 and OU-2 and their regulatory status are summarized below.

2.3.1 OU-1

Subsequent to the 2009 ROD Amendment, a variety of activities have occurred in OU-1 including decommissioning the FWR; evaluating the potential presence of non-aqueous phase liquid (NAPL) below the FWR; removal of NAPL since 2010; and upgrading the DPE and treatment system. EMERSUB 15, LLC, a wholly owned subsidiary of Emerson, will retain ownership of that portion of the property coterminous with OU-1.

The pre-existing IRM DPE system (as upgraded in 2009) consisted of 10 wells, 9 were aligned in a north-south direction downgradient of and below the FWR to the west, and 1 well was immediately south of the FWR (EW-9-86C). Of the 10 DPE wells, four wells (EW-4-25B, EW-5-25B, EW-7-25B, and EW-10-25B) were installed in the highly fractured B-zone and the upper C-zone. The remaining six DPE wells (EW-1-62C, EW-2-62C, EW-3-60C, EW-6-60C, EW-8-62C, and EW-9-86C) were installed in the C-zone primarily to intercept and contain impacted groundwater in the lower portion of the C-zone. The OU-1 Groundwater IRM will be a component of the final remedy for the Site.

Following the 2009 ROD Amendment (NYSDEC 2009), several additional investigations were completed in OU-1. The findings indicated that the highest concentrations of CVOCs in groundwater occurred within two bedding plane fractures underlying the reservoir at 550 and 544 feet above mean sea level (amsl). These bedding plane fractures, as well as a deeper bedding plane fracture at 515 feet amsl, were identified as the primary migration pathways for affected groundwater. The pre-2009 system largely addressed these same intervals. In June 2015, the DPE and treatment system was modified and enhanced to include 12 extraction points (abandoning EW-9-86C, and installing EW-9R-72C, EW-11-43C, and EW-12-45C targeting the bedding plane fractures).

OU-1 is addressed in the AROD, which is described in greater detail in Section 2.4 below.

2.3.2 OU-2

OU-2 includes several areas of concern (AOCs), including AOC 1, the Former Department 507 Degreaser in Building 4, where soil and groundwater affected by CVOCs were identified and delineated over the course of several investigations. At the request of NYSDEC, WSP's Phase II SRI Report, dated August 5, 2016, included summary information on this area. Much of the remainder of OU-2 was subject to soil, soil vapor, and groundwater investigations as part of the Phase II SRI. WSP's IRM Work Plan, dated August 8, 2018, was developed to address the excavation of shallow soil in the former degreaser area as well as other areas of OU-2 to reduce potential migration of constituents of concern to groundwater. Ownership of OU-2 will be conveyed to L ENTERPRISES, LLC.

A sanitary sewer line was initially constructed across a portion of the Site to serve the former NCR facility to the south. The line extends approximately 2,700 feet from the southern property boundary to the north-northeast across OU-2 and connects to the main city sewer line on South Aurora Street (Figure 2). The line lies within two easements previously granted to NCR by Morse Chain Company. Another easement for a lateral to the NCR sewer line benefits Ithaca College. The original easements extended 10 feet from the center line, for a total width of 20 feet.

In October 2018, the NYSDEC approved a proposal by Emerson to remove 34.34 acres of undeveloped land in the southern portion of the property (Figure 2) from the area subject to the Order on Consent, the Administrative ROD, and the Registry of Inactive Hazardous Waste Sites (NYSDEC 2018d). A condition to the boundary modification was the filing of a deed restriction requiring soil vapor assessments prior to any habitable structures being connected to or being constructed within 40 feet from the centerline on either side of the sewer running from the former NCR property and the Ithaca College lateral (Appendix E). The New York State Department of Health (NYSDOH) requested the restriction to account for potential vapor intrusion. The deed restriction was filed and recorded on September 6, 2018 (Appendix E). As shown in Figure 2, the southern portion of the sewer and the lateral are no longer within the limits of Site No. 755010.

Residual source materials were removed from several manholes and two trench systems within the buildings in 2017 (WSP 2018a). The cleanout was accomplished by physical means (shovel, breaker bars, scrapers, etc.) followed by final removal by high vacuum. The use of water to remove solid residuals from manholes was minimized by temporary plugging to prevent solid residuals and wash water from being discharged to the sanitary sewer system.

The final IRM Work Plan for soils was submitted to and approved by the NYSDEC in August 2018 (WSP 2018b). The primary objectives of the work plan were to remediate soil in OU-2 to meet applicable soil cleanup objectives (SCOs) and to facilitate future use of the property consistent with L Enterprises, LLC redevelopment plans; the proposed institutional controls are further described in Section 3.2. The IRM activities were completed in August 2019; the Soil IRM Construction Completion Report was submitted to NYSDEC in October 2020. The OU-2 Soil IRM will be a component of the final remedy for the Site while providing for the removal of sources to groundwater contamination. The AOCs to which were addressed and the soil cleanup objectives, based on whether constituent concentrations exceed the SCOs for direct contact (based on anticipated future land use), the protection of groundwater, or both, are summarized in Table 3.

Approximately 4,550 cubic yards of soil were excavated during the IRM. The general components associated with the IRM included the following:

- Site preparation activities (e.g., utility locating, clearing, erosion and sedimentation controls, pavement removal)
- Excavation of affected soil (depths varied depending on the soil cleanup objectives and depth to bedrock)
- Confirmation and documentation sampling
- Offsite disposal of excavated soil consistent with waste disposal characterization results
- Installation of demarcation layer where affected soil remains
- Backfilling excavations with clean fill from off-site sources
- Installation of an engineered cap at AOC 1 to reduce infiltration through affected soil that will remain in place
- Restoration of the cover consistent with historical cover or in anticipation of future use.

At the request of NYSDEC, the IRM work incorporated actions to further address portions of the sanitary sewer network inside the facility, including:

- investigation of soil conditions below the invert elevations of the sewer pipe at select locations
- removal of sewer lines and manholes in which barium was detected at concentrations above the Protection of Groundwater (PoG) SCO
- vacuuming of residuals from the exposed bedrock pipe traces and manhole areas
- placing flowable fill in the excavation cavity and the sewer line trench to minimize infiltration.

OU-2 is addressed in the AROD, which is described below in Section 2.4.

2.4 REMEDIAL ACTION OBJECTIVES

The Remedial Action Objectives (RAOs) for the Site as listed in the AROD dated September 2021 are as follows:

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

2.5 REMAINING CONTAMINATION

The following sections describe contamination remaining in place above Unrestricted Use SCOs, as well as a summary of data generated during Soil IRM activities. For contingencies regarding undocumented areas of contaminated soils that may be encountered elsewhere onsite (e.g., during Site regrading, demolition, or redevelopment activities), please refer to Section F-12 of the Excavation Work Plan (Appendix F). In accordance with DER-10, AOCs in areas designated for future Restricted Residential Use were covered with 2 feet of clean fill and AOCs in areas designated for Commercial or Industrial Use were covered with 1 foot of clean fill.

2.5.1 SOIL

Table 4 and Figures 6-A through 6-G summarize the results of all soil samples collected from areas with remaining contamination that exceed the Unrestricted Use SCOs including the soil data generated during the Soil IRM activities after completion of remedial action. The data table is organized by contaminant classes and major compounds that exceed applicable criteria.

The following subsections summarize the activities performed during the Soil IRM (WSP 2018, WSP 2020). Tables 5-A through 5-P and Figures 6-A through 6-G summarize the results of soil samples collected during the IRM and samples used to define excavation limits compared to the restricted residential, commercial, or industrial SCOs, as applicable. As previously stated, the applicable Restricted Use SCOs varied per AOC and were selected based on the planned future use of the property.

The data in Tables 5-A through 5-P includes results for all samples collected during the Soil IRM activities or historical soil samples used to define the excavation boundaries. Data shaded gray indicates that the soil represented by that sample was excavated. Data shown boxed, in bold italics, or in orange exceeds one or more SCOs and represents remaining contamination. In general, except as specifically noted in the following subsections, confirmation samples (sample prefix

"CS") that exceeded applicable criteria were excavated followed by additional sampling. Documentation samples (sample prefix "DS") were collected to document the remaining contamination after completion of remediation activities.

AOC 1 – FORMER DEPARTMENT 507 DEGREASER

CVOCs were present in shallow and deep soil at concentrations exceeding PoG SCOs within the driveway and utility corridor in the former Department 507 Degreaser area. The IRM for shallow soil within AOC 1 was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. The IRM for deep soil that could not be safely excavated was construction of a low-permeability cap to minimize infiltration to the deeper soil zone. The final area of soil excavation and cap construction was approximately 1,580 square feet.

Soil was excavated to a depth of approximately 3 feet where the shallowest of several active utilities (high pressure gas line) was encountered. As evident by facility drawings and field observations, gas, water, electric, fuel oil, storm water, and sanitary sewer lines were present within or near the footprint of the AOC 1 excavation. In accordance with the IRM Work Plan, a 5-foot horizontal buffer was maintained to protect the integrity of the active utility lines.

Confirmation samples were collected for CVOC analysis along the excavation perimeter and excavation bottom at a depth of 3 feet to assess compliance with the SCOs (Table 5-A and Figure 6-B). All confirmation sample results were below the PoG SCOs for CVOCs. Documentation samples were also collected from the excavation bottom where deeper excavation could not be performed due to the presence of active utilities (Table 5-A and Figure 6-B). Two of the four documentation samples, DS-2-BT and DS-4-BT, contained trichloroethene (TCE) above the PoG SCO. Inactive utilities were removed within the excavation footprint and plugged at the perimeters under the guidance of facility personnel. The final limits of excavation, sample locations, and active utility lines are shown on Figure 6-A.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation at a depth of approximately 3 feet bgs. The excavation was backfilled with imported fill that was placed and compacted to a depth of 1-foot bgs, followed by installation of a low-permeability cap consisting of a geosynthetic clay liner (GCL), aggregate subbase, and asphalt pavement.

AOC 26 – BUILDING 24 AREA

AOC 26 comprises two separate areas, one inside Building 24 on the second level and one outside Building 24 in the parking lot and access road between Buildings 1 and 24, where CVOCs were present in shallow soil at concentrations exceeding PoG SCOs.

BUILDING 24 INTERIOR

The IRM to address CVOCs present in shallow soil above PoG SCOs within a localized area inside Building 24 included excavation to bedrock with off-site disposal and confirmation sampling to assess compliance with the RAOs. The final area measured approximately 25 feet by 12 feet (300 square feet). After concrete saw cutting and removal, soil was excavated to bedrock, approximately 2.5 feet below the top of the concrete surface. Several active and inactive utilities were encountered including sanitary sewer, water, and electrical conduit.

Following excavation, one confirmation sample (CS-1-EW) was collected for CVOC analysis from the eastern sidewall; existing sample data from two samples (26-1 and 26-2) collected during the Phase II SRI were used as final confirmation samples on the west and north sidewalls (Table 5-B and Figure 6-B). Because excavation was advanced to bedrock, no bottom sample was collected. None of the sample results exceeded the PoG SCOs. Inactive utilities (water and sewer) within the excavation were removed and plugged at the perimeter under the guidance of facility personnel. A storm water drain line damaged during excavation was repaired. The final limits of excavation, sample locations, and active and inactive utility lines are shown on Figure 6-B.

After completion of the excavation and sampling, the area was backfilled with imported fill that was placed and compacted to a depth of 6 inches bgs, followed by replacement of the concrete slab.

BUILDING 24 EXTERIOR

The IRM to address CVOCs present in shallow soil above PoG SCOs in the outdoor portion of AOC 26 included excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. After pavement removal, soil was excavated to bedrock along the southern portion of the excavation. The northern portion was excavated to a depth up to

4.5 feet bgs. Railroad ties from a former rail spur were removed as necessary to facilitate the removal of soil. The final area encompassed approximately 9,700 square feet.

Confirmation samples were collected for CVOC analysis along the excavation perimeters and bottom where bedrock was not encountered to assess compliance with the SCOs (Table 5-B and Figure 6-B). Documentation samples were collected along the sidewalls below the existing sidewalk on the western side. None of the compliance samples contained CVOCs above PoG SCOs. Active utilities within the excavation footprint were protected during work. Utilities within the excavation area determined to be inactive were removed and plugged at the perimeter under the guidance of facility personnel as necessary. Discolored soils encountered near active utility lines and at the drainage ditch inlet near the southwest corner of Building 24 were sampled for polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs) (samples "PIPE1", "PIPE2", and "DITCH") at the request of the NYSDEC; however, the NYSDEC did not require additional removal where criteria were exceeded, on the basis that only slight exceedances of the SCOs occurred. The final limits of excavations, sample locations, and active utility lines are shown on Figure 6-B.

Following completion of the excavation and sampling, a demarcation layer was installed across the base of the excavation where bedrock was not encountered and the area backfilled with imported fill that was placed and compacted to a depth of 6 inches bgs. After backfilling, the surface was restored with in-kind replacement of the asphalt pavement. Additionally, the storm water ditch running adjacent to Building 24 was reconfigured and lined with riprap to improve upgradient drainage from Parking Lots 4 and 5 and Buildings 11A, 13B, and 24.

AOC 27 – FORMER SALT BATHS AREA

Barium and chromium were present at concentrations above the Restricted Residential (RR) SCOs, and barium was present at concentrations above the PoG SCO in samples collected below the concrete floor and former salt baths in Building 14. The IRM included excavation of loose or fractured bedrock containing salt crystallization with off-site disposal. The final area of excavation and restoration was approximately 1,060 square feet.

Prior to excavation the concrete slab and concrete-lined salt baths were removed using wet sawing methods. After concrete removal, loose and fragmented bedrock material was removed using conventional excavation equipment to competent bedrock which was encountered at depths ranging from approximately 4 inches to 4.5 feet bgs.

While no compliance sampling was originally proposed, the NYSDEC requested the collection of two samples of residuals that could not be effectively excavated and loose fill materials near a drain line beneath one of the former salt baths. Based on SCO exceedances of barium in the two samples, the NYSDEC requested additional removal of loose bedrock and utility trench fill which was performed by vacuum extraction until only competent bedrock remained and salt crystallization was no longer observable. The two inactive drain lines were plugged with grout. The final limits of excavation and inactive utility lines are shown on Figure 6-C. The sampling results are provided in Table 5-C.

The final bedrock surface and perimeter walls below the original floor surface were screened by X-ray fluorescence (XRF) methods which showed elevated barium concentrations. Based on the results, the area was backfilled with controlled density fill (CDF), also referred to as flowable fill. The CDF was placed to within 6 inches of the top of the existing slab. After curing, crushed stone was placed on top of the CDF to the top of the concrete grade.

AOC 28 – BUILDING 30/OIL SHED AREA

CVOCs were present at concentrations above the commercial and PoG SCOs in soil samples collected in the Building 30/Oil Shed area. The IRM for AOC 28 included excavation of soil with elevated CVOC concentrations followed by compliance sampling to assess IRM performance against the RAOs. AOC 28 consists of two areas; a larger area nearest to the oil shed and a smaller area at the base of the bedrock outcrop northeast of the oil. Excavation was completed to the limits and depths as planned followed by confirmation sampling for CVOCs. As specified in the IRM Work Plan, sample depth measurements in the larger area of AOC 28 were recorded in feet amsl due to the unevenness of the initial ground surface and inconsistent excavation depths that were necessary to attain the PoG SCOs for CVOCs. No exceedances of CVOC criteria were recorded in the perimeter and bottom confirmation samples; one historical sample collected during the Phase II SRI was used as a final confirmation sample for CVOCs (Table 5-D).

During excavation activities, discolored soils were encountered in a portion of the excavation. At the request of the NYSDEC, four samples were collected from the discolored materials (M1 through M4 on Table 5-D) and analyzed for

CVOCs, metals, PCBs, and cyanide. Arsenic, barium, and cyanide were found at concentrations above commercial and PoG SCOs. Based on the results, ten additional samples were collected for delineation (S-1 through S-10). Several samples exceeded barium and arsenic SCOs, but none exceeded cyanide SCOs. The discolored soils were removed to the extent practicable; however, the NYSDEC did not require additional compliance sampling. The NYSDEC accepted the PoG exceedances for arsenic and barium without additional excavation with the agreement that downgradient monitoring wells will be monitored for metals as part of the selected remedy for groundwater pursuant to the AROD. The commercial SCO exceedances would be addressed by a soil cover of at least 1-foot thickness. One final confirmation sample (CS-16-BT) was collected near sample M-4 to confirm removal of soil containing cyanide above SCOs (Table 5-D). The final limits of excavation and sample locations are shown on Figure 6-D.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation where bedrock was not encountered and the area backfilled with imported fill to a depth of 6 inches bgs. The surface was covered with topsoil to existing grade and revegetated. The smaller portion of the excavation located to the north at the base of the bedrock outcrop was restored with gravel. The final area of excavation and restoration in the upper portion of AOC 28 was approximately 4,100 square feet and in the lower portion was approximately 350 square feet (Figure 6-D).

AOC 29 – FORMER PROPANE ABOVEGROUND STORAGE TANK AREA

PAHs and metals (arsenic) were present in soil at concentrations exceeding commercial SCOs within the former propane storage tank area (Figure 6-E). The IRM for AOC 29 included excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. While AOC 29 is located in an area designated for future commercial use (subject to a 1-foot excavation and soil cover), the NYSDEC requested that the excavation be increased to a depth of 2 feet. After removing several concrete tank saddles, soils were excavated to a depth of 2 feet bgs with final limits of the excavation and backfilling measuring approximately 16,000 square feet. No excavation was conducted near the edge of the steep slopes located on all sides of AOC 29.

After initial excavation to a depth of 2 feet bgs, compliance samples were collected for PAH and arsenic analyses along the excavation perimeter and bottom. Documentation samples were collected at the bottom of the excavation and on the north, east, south, and west sidewalls where additional excavation was not practicable adjacent to the steep slopes or to the edge of the asphalt roadway. Approximately half (13 of 24) of the final documentation samples exceeded commercial SCOs for one or more PAHs or arsenic (Table 5-E).

Three confirmation samples exceeded 500 mg/kg total PAHs. One of the samples (CS-2-WW) slightly exceeded the criterion at 660 mg/kg after excavation to a depth of 2 feet; however, the NYSDEC did not require deeper excavation at this location. The NYSDEC required additional 0.5 foot of soil excavation to a total depth of 2.5 feet bgs below two of the samples, CS-5-WW and CS-7-WW, that contained 8,042 and 5,723 mg/kg total PAHs respectively. One additional confirmation sample CS-8-BT was collected at a depth of 2.5 feet bgs after additional excavation; it contained 22 mg/kg total PAHs. The final limits of excavation and sample locations are shown on Figure 6-E.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation followed by backfilling with 1.5 feet of imported fill to a depth of 6 inches below the original ground surface. AOC 29 was not restored with topsoil to accommodate the planned future use of this area. The 1.5 feet of fill exceeded the commercial land use soil cover requirement of 1 foot.

AOC 30 – RICE PADDY AREA (ALSO KNOWN AS DISTURBED AREA)

PAHs and metals (arsenic) were present in shallow soil at concentrations exceeding industrial SCOs within the former rice paddy area (Figure 6-E). The IRM for PAHs and arsenic in shallow soils included excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of 1 foot bgs. No excavation was conducted within 5 feet of the edge of the steep slope located on the north and south sides of the excavation. The final limits of excavation and restoration measured approximately 3,420 square feet.

While not required per DER-10 guidance, the NYSDEC requested removal of soil containing PCBs in two deep samples which exceeded the industrial SCO of 25 mg/kg. These two smaller areas were excavated to 10 feet bgs and 7 feet bgs, respectively. In accordance with the IRM Work Plan, no compliance samples were collected after excavation of soil containing PCBs. Finally, several piles of asphalt debris were also removed at the western perimeter of AOC 30.

Compliance samples were collected for PAH and arsenic analyses along the main excavation perimeter and bottom, documentation samples were collected on the north and south sidewalls where additional excavation was not practicable adjacent to the steep slopes, and data from four historical soil borings were used as final confirmation samples where applicable along the east and west sidewalls (Table 5-F). Except for two sample locations, additional excavation was performed where confirmation samples exceeded the SCOs for PAHs. Confirmation sample results at two locations (CS-1-BT beneath one of the asphalt piles and CS-13-EW at a depth of 0.75 to 1 foot bgs) slightly exceeded industrial PAH SCOs but were accepted by the NYSDEC to remain in-place. Approximately half (3 of 7) of the final documentation samples exceeded industrial SCOs for one or more PAHs or arsenic. The final limits of excavation and sample locations are shown on Figure 6-E.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation and the area backfilled with imported fill to a depth of 6 inches bgs. The surface was then covered with 6 inches of topsoil to existing grade for a total cover of 1 foot and revegetated. The final limits of excavation and restoration measured approximately 3,420 square feet.

AOC 31 – UPPER PARKING LOT 6

Metals were present in shallow soil at concentrations above the RR SCOs in a grassed and wooded area adjacent to upper parking lot 6 (Figure 6-E). The IRM to address metals, specifically arsenic, barium, cadmium, chromium, copper, and nickel, included excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of 2 feet bgs. The final limits of excavation and restoration measured approximately 900 square feet.

Compliance samples were collected for metals analyses along the excavation perimeter and bottom (Table 5-G and Figure 6-E). Confirmation samples were collected along the eastern perimeter. Documentation samples were also collected from the excavation bottom and along the excavation perimeter adjacent to the existing roadway where pavement will remain. The confirmation sample results at one location (CS-5-EW) slightly exceeded the RR SCOs for arsenic and barium but were accepted by the NYSDEC to remain in-place. All three documentation samples, two from under the asphalt pavement and one from the excavation bottom, contained one or more metals above the RR SCOs. The final limits of excavation and sample locations are shown on Figure 6-E.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation and the area backfilled with imported fill to a depth of 6 inches bgs. The surface was covered with topsoil to existing grade and revegetated.

AOC 32 – FORMER SPRAY POND/DRAINAGE DITCH AREA

PCBs, PAHs, and metals, including arsenic, barium, lead, and mercury, were present at concentrations above RR SCOs in surface soil and drainage ditch soil in the former spray pond/drainage ditch area (Figure 6-F). The IRM to address these contaminants of concern (COCs) included excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. AOC 32 consists of two areas along the drainage ditch separated by a culvert. The upgradient portion is near the main Site entrance from South Aurora Street. The downgradient portion consists of Open Ditch 1 and Open Ditch 2 and is downslope of Buildings 17 and 18 and the former fire water reservoir. The upgradient portion was approximately 1,640 square feet at the completion of excavation. The combined area of excavation and restoration in the lower portion of AOC 32 comprising Open Ditch 1 and 2 was 18,150 square feet.

Soil was excavated to a depth of 2 feet bgs or to bedrock if shallower except in a downgradient portion of Open Ditch 2 near the skimmer/weir and Outfall 001 where soil was removed to approximately 3 to 4 feet bgs. Excavation was bounded by the railroad shed and steep slopes on the upslope side of the ditch, by the existing curb and pavement of Parking Lot 3, by the landscape planter (former containment structure for a 20,000-gallon fuel oil tank) and associated retaining wall, and the recovery wells and treatment system piping associated with the OU-1 groundwater treatment system. The former containment structure was identified as historical AOC 13 in 2008. Railroad ties from two former rail spurs were removed as necessary to facilitate the removal of soil.

The oil skimmer and weir box were removed and cleaned before general excavation near the end of Open Ditch 2. During excavation in this area, three groundwater seeps with a small amount of oily product were found below the level of the weir box inlet and outlet.

After excavation, compliance samples were collected and analyzed for PAHs, PCBs, and metals (arsenic, barium, lead, and mercury) (Table 5-H). Based on the compliance sample results, the NYSDEC accepted the final limit of excavation at the midpoint between samples TP-1 and CS-2-EW along the eastern perimeter (please note that TP-1 and CS-2-EW were removed during the excavation, such that they do not appear on Figure 6-F). Documentation samples were collected from the excavation bottom where bedrock was not encountered, along the steep slopes on the upslope and downslope sides of the drainage ditch, adjacent to the existing railroad shed and roadways where structures and pavements will remain, and in the vicinity of recovery wells and piping associated with the groundwater IRM system.

Most documentation samples (53 of 63) contained one or more COCs above RR SCOs (Table 5-H). A bluish staining, believed to be a result of historical discharge of water containing Prussian Blue to the drainage ditch, was found on portions of the bedrock surface below the drainage ditch. Because removal of the affected bedrock was not practicable, the entire length of the downgradient drainage ditch was lined with GCL before backfilling. The final limits of excavation, GCL, and locations of delineation borings, test pits, confirmation, and documentation samples are shown on Figure 6-F. Compliance sampling results are provided in Table 5-H.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation where bedrock was not encountered and the area backfilled with imported fill. The upgradient portion (near guard shack) of the drainage ditch was restored with a layer of woven geotextile followed by a 1-foot layer of NYSDOT 620.03 riprap. The downgradient drainage ditch was similarly constructed except with the GCL added to prevent surface water contact with bluish stained bedrock. The remaining areas of AOC 32 were covered with 6 inches of topsoil to the existing grade and revegetated.

AOC 34 – AREA EAST OF BUILDINGS 13A AND 14

CVOCs above PoG SCOs and PAHs above RR SCOs were present in surface soil samples collected east of Buildings 13A and 14 (Figure 6-C). The IRM for soil within AOC 34 was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of approximately 2 feet in the portion of AOC 34 affected only by PAHs (grassed area between building 13A and roadway) and to 2 to 3 feet in CVOC affected areas (paved area). Asphalt pavement was removed as necessary to facilitate removal of CVOC-impacted soils. Except as noted below, pavement was not removed to address PAH-impacted soils. The final combined excavation and restoration area in AOC 34 was 4,150 square feet.

Compliance samples were collected for CVOC or PAH analyses (or both where required) along the excavation perimeter and bottom. Data from three historical soil borings (34-01, 34-04, and WSP-SB-622) were used as final confirmation samples. None of the compliance samples exceeded PoG SCOs for CVOCs. Areas with confirmation sample results that exceeded the RR SCOs for PAHs were subjected to additional excavation. Sample P1 contained benzo(b)fluoranthene at a concentration slightly above the RR SCO but was accepted by the NYSDEC to remain in place. Four of seven final documentation samples contained one or more PAHs above RR SCOs. The final limits of excavation for CVOCs and PAHs, sample locations, and active utility lines are shown on Figure 6-C. The compliance sampling results are provided in Table 5-I.

Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation and backfilled with imported fill to a depth of 6 inches bgs. The asphalt pavement for the roadway was replaced in kind. The original gravel-covered portion of AOC 34 near the methanol transfer station was also paved with asphalt. The remaining surfaces were covered with topsoil to existing grade and revegetated.

AOC 35 – ISOLATED LOCATIONS

Isolated locations in which COCs were identified above screening levels during the Phase II SRI were combined under one AOC and differentiated by letter designation as described below:

- AOC 35A – East of Building 24
- AOC 35C – Building 11A
- AOC 35D – Near Parking Lot 4
- AOC 35G – South of Parking Lot 3
- AOC 35H – Parking Lot 3
- AOC 35K – Former Railway Right-of-Way / SB-240

— AOC 35L – Former Railway Right-of-Way / DS-1

All of the AOC 35 subareas are located in portions of the Site planned for future restricted residential use and contain COC concentrations above PoG or RR SCOs. The following sections describe the COCs present and the IRM actions performed for each of the AOC 35 subareas.

AOC 35A – EAST OF BUILDING 24

Arsenic was detected at concentrations above the RR SCO in surficial soils in the area east of Building 24 (Figure 6-D). The IRM originally planned for this area was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. During excavation activities to the original limits of approximately 920 square feet, a layer of dark-colored ash-like material was encountered at a depth of approximately 1 to 2 feet bgs. Post-excavation confirmation samples showed exceedance of RR SCOs for arsenic in this material. Original delineation samples collected during the Phase II SRI showed that the topsoil above the discolored layer did not exceed RR SCOs.

In April 2019, additional delineation samples were collected to determine the extent of arsenic exceedances in the top 2 feet of fill subject to the RR SCO criteria.

In October 2018, a soil cover plan was approved by the NYSDEC and NYSDOH to address arsenic exceedances of the RR SCO in AOC 35A. The revised IRM included a 2-foot soil cover over the area known to contain arsenic above the RR SCO and extending the soil cover to include areas where the ash-like materials were encountered. Data from one historical sample at TP-18 was used to delineate the limits of the soil cover on the northwest side. No additional samples were collected and no trees were removed during execution of the revised IRM plan. After placing a demarcation barrier, the existing thickness of fill above the ash-like layer was supplemented with additional topsoil such that the final thickness of the soil cover is at least 2 feet. Additional topsoil, particularly in the original excavation area, was placed to assure proper drainage. The final surface, measuring approximately 6,840 square feet, was revegetated with grass. The limits of excavation and soil cover, boring locations and sample locations are shown on Figure 6-D. Compliance sampling results are provided in Table 5-J.

AOC 35C – BUILDING 11A

CVOCs were present at concentrations above PoG SCOs, and PAHs were present at concentrations above RR SCOs in soil beneath the concrete slab in Building 11A (Figure 6-B). The IRM for soil within AOC 35C was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Following concrete removal, soil was excavated to bedrock, which was encountered between 0.5 feet to 3 feet bgs. Excavation to the west was bounded by the existing loading dock wall. A localized area along a utility corridor was excavated to a depth of 6 feet bgs. Inactive utilities including a former fire suppression line were removed.

Compliance samples were collected for both CVOCs and PAHs. Confirmation samples were collected along the eastern and southern excavation perimeter. Existing SRI sample data from borings 35-37, 35-38, and 35-39 were used as final confirmation samples along the northern and western sidewalls. No bottom samples were collected along the excavation bottom. One documentation sample was collected from the trench fill where the utility corridor extended below the loading dock on the north side. There were no exceedances of PoG criteria for CVOCs. One or more PAHs exceeded RR SCOs in all samples; however, all of the samples were below the concrete pavement. The final limits of excavation, sample locations, and utility lines are shown on Figure 6-B. The compliance sampling results are provided in Table 5-K.

Following completion of excavation and sampling, the excavation was backfilled with imported fill then covered with a layer of crushed gravel to the top of the concrete slab elevation. The final excavation and restoration area measured approximately 1,350 square feet.

AOC 35D – NEAR PARKING LOT 4

PAHs were present at concentrations above RR SCOs in surficial soil near Parking Lot 4 (Figure 6-C). The IRM for soil in AOC 35D was excavation with off-site disposal. Soil was excavated to a depth of 2 feet bgs. Existing SRI sample data were used as final confirmation samples along the perimeter; no additional compliance samples were collected. The final limits of excavation are shown on Figure 6-C. The SRI data used as final confirmation samples are provided in Table 5-L.

Following completion of excavation, a demarcation layer was installed across the base of the excavation and backfilled with imported fill to a depth of 6 inches bgs. The surface was restored with topsoil to the existing grade, and the area was revegetated. The final excavation and restoration area measured approximately 350 square feet.

AOC 35G – SOUTH OF PARKING LOT 3

Metals, specifically arsenic, barium, cadmium, lead, and mercury, were present at concentrations above RR SCOs in the area south of Parking Lot 3 (Figure 6-F). The IRM for soil in AOC 35G was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of 2 feet bgs along the upslope side of the drainage ditch.

Compliance samples were collected for arsenic, barium, cadmium, and lead analyses from the excavation bottom and perimeter. Confirmation samples collected from the east, south, and west sidewalls and documentation samples from the bottom of the excavation did not exceed RR SCOs for metals. The arsenic concentration on the north sidewall (labeled CS-2-EW) adjacent to AOC 32 (which had not yet been remediated) exceeded the RR SCO. While expanding the excavation approximately 5 feet to the north, a seep containing oil was exposed near the interface of the AOC 32 drainage ditch. Oily soil at the interface was sampled and found to contain CVOCs above PoG criteria and metals and PCBs above RR SCOs (sample S-1-BT), and the material was then removed.

To assess the extent of oil seepage from bedrock laterally, five test pits (TP-1 through TP-5) were installed along the presumed path of the soil/bedrock interface in the east-west directions which were part of AOC 32. After allowing the test pits to equilibrate for 24 hours, no oil seepage was observed in any of the test pits. Before backfilling, samples from the test pits were collected and analyzed for the COCs identified in AOC 32 (PAHs, PCBs, and metals). TP-1 and TP-2 contained exceedances of RR SCOs and were further excavated. Samples from TP-3, TP-4, and TP-5 did not exceed RR SCOs and were later used as documentation samples for AOC 32. The test pit data are provided with AOC 32 compliance sample results in Table 5-H.

A final documentation sample (DS-3-BT) collected after final excavation near TP-2 in July 2019 did not exceed RR SCOs for PCBs, PAHs, or metals. The final limits of excavation in AOC 35G, test pit locations, and sample locations are shown on Figure 6-F. Compliance sampling results are provided in Table 5-M.

Following completion of excavation and sampling, a layer of GCL was extended from the AOC 32 drainage ditch up the slope of AOC 35G (a small amount of backfill was placed first for GCL protection against protruding bedrock) followed by backfill with imported fill to a depth of 4 inches bgs. To reduce erosion and stabilize the steep slope, a layer of geotextile was placed across the footprint of AOC 35G. Riprap and stone were placed to form a drainage swale and barrier to protect the slope. The final excavation and restoration area measured approximately 650 square feet.

AOC 35H – PARKING LOT 3

PAHs were detected at concentrations above RR SCOs in surficial soil adjacent to Parking Lot 3 near the groundwater IRM treatment building (Figure 6-D). The IRM for soil in AOC 35H was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of 2 feet bgs.

Compliance samples were collected for PAH analysis after initial excavation. Confirmation samples were collected along the eastern and western excavation perimeter. One Phase II SRI sample (35-34) was used as a final confirmation sample along the north wall. Documentation samples were collected on the excavation bottom and south wall under the asphalt pavement. Confirmation samples that exceeded the SCOs along the east sidewall were followed by additional excavation approximately 18 feet to the east. After three successive confirmation samples, one of which (CS-4-EW) exceeded 500 mg/kg total PAHs, did not identify the limit of excavation to the east, additional delineation samples were collected in April 2019.

Three of four delineation samples (P1, S1, and S3) collected from a heavily wooded area adjacent to Parking Lot 3 exceeded PAH SCOs, likely due to the presence of asphalt contained in the soil in this area. The NYSDEC reviewed the results and the Site conditions. Based on the presence of asphalt debris strewn throughout the wooded area, the NYSDEC approved the plan to remove the debris and scrape the surface in a manner that removed visibly impacted materials and protected existing tree roots. Following excavation of soil exceeding 500 mg/kg total PAHs, two final documentation samples were collected. All final documentation samples contained one or more PAHs slightly above RR SCOs. The final limits of excavation and surface debris removal and sample locations are shown on Figure 6-D. Compliance sampling results are provided in Table 5-N.

Following completion of excavation, a demarcation layer was installed across the base of the 2-foot excavation and the area backfilled with imported fill to a depth of 6 inches bgs. The entire AOC 35H including the area where asphalt debris was

removed was covered with topsoil to the existing grade and revegetated. The final area of excavation and restoration measured approximately 1,120 square feet.

AOC 35K – FORMER RAILWAY RIGHT-OF-WAY

Arsenic was detected in one sample at a concentration above RR SCOs in surficial soils in AOC 35K along the former rail line (Figure 6-D). The IRM for AOC 35K was excavation with off-site disposal. The initial area measured approximately 500 square feet. Soil was excavated to a depth of 2 feet bgs. Railroad ties from the former railway were removed as necessary to facilitate the removal of soil.

Existing SRI sample data were used as final confirmation samples along the perimeter; no additional compliance samples were collected from AOC 35K. The final limits of excavation are shown on Figure 6-D. The SRI data used as final confirmation samples are provided in Table 5-O. Following completion of excavation, a demarcation layer was installed across the base of the excavation and backfilled with imported fill to a depth of 6 inches bgs. The surface was covered with topsoil to existing grade and revegetated. The drainage ditch adjacent to the AOC 35K was not included in the excavation area, but a portion of it was reconstructed during backfilling and restoration. Woven geotextile was placed over the fill followed by a 6-inch layer of riprap for erosion protection along the ditch line and for support of the existing weir box. The final area of excavation and restoration measured approximately 620 square feet.

AOC 35L –FORMER RAILWAY RIGHT-OF-WAY

PAHs were detected at concentrations above RR SCOs in surficial soils along a second portion of the former railway right-of-way (Figure 6-D). The IRM for AOC 35L was excavation with off-site disposal and compliance sampling to assess IRM performance against the RAOs. Soil was excavated to a depth of 2 feet bgs and included a portion of a drainage ditch that was not flowing at the time of excavation. Railroad ties from the former railway line were removed as necessary to facilitate the removal of soil.

Compliance samples for PAH analysis were collected along the excavation perimeter. Confirmation samples were collected along the east and west sidewalls and documentation samples were collected along the north and south sidewalls where further excavation was not practicable due to steep slopes. The confirmation sample results (CS-1-WW and CS-2-EW) slightly exceeded the RR SCO for benzo(b)fluoranthene but were accepted by the NYSDEC to remain in place. The final limits of excavation and sample locations are shown on Figure 6-D. Compliance sampling results are provided in Table 5-P. Following completion of excavation, a demarcation layer was installed across the base of the excavation and backfilled with imported fill to a depth of 6 inches bgs. The surface was covered with topsoil to existing grade and revegetated. The drainage ditch was restored as a grassed swale to match the existing ditch lining. The final excavation and restoration area measured approximately 1,400 square feet.

2.5.2 GROUNDWATER

Table 6 and Figures 7-A through 7-F summarize the results of all samples of groundwater that exceed the standards, criteria and guideline (SCGs) after completion of the remedial action. Isopleth maps illustrating the distribution of VOC-affected groundwater within the B-, C- and D-hydrogeologic zones in the immediate vicinity of the FWR and downgradient of the former reservoir are shown in Figures 7-G, 7-H, and 7-I, respectively. In addition, the estimated discharge zone between the C-zone and B-zone is shown on Figures 7-G and 7-H; this is where groundwater from the C-zone discharges into the overlying B-zone. In evaluating the fracture zones and groundwater concentrations downgradient of the FWR, the discharge zone occurs approximately 203-feet downgradient of the FWR which corresponds to elevations of 524 to 534 feet above mean sea level.

The COCs in Site groundwater include CVOCs, barium, and cyanide; and petroleum hydrocarbons as NAPL. The COCs were identified based on their presence in groundwater samples at concentrations above the New York State Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values (1998) for Class GA groundwater (hereinafter referred to as “evaluation criteria”).

Table 6 presents the most recent groundwater sample analytical results for the COCs in Site wells. The CVOC list includes each compound detected at a concentration above its evaluation criterion in one or more groundwater samples. The table also includes the groundwater evaluation criteria and highlights exceedances of the criteria. Figures 7-A through 7-C present the

sample analytical results within the B-zone across the Site and within OU-1 (FWR), respectively; Figures 7-D through 7-F illustrate similar information for the C- and D-zone wells.

CVOCS

BUILDING 24 AREA

An area of CVOC-affected groundwater extends north-northwest parallel to the groundwater flow gradient emanating at Building 24, as evidenced by exceedances in B-zone wells LBA-MW-23, LBA-MW-41, and MW-40T (Figure 7-A). The primary area of impact is at MW-40T. Downgradient delineation is provided by MW-21B, MW-22B, MW-27B, MW-28B, MW-29B, and WSP-MW-01B; upgradient delineation is provided by LBA-MW-42N; and cross-gradient delineation to the west is provided by LBA-MW-32 and LBA-MW-22.

Within the C zone, CVOC exceedances were reported for LBA-MW-24, which is co-located with B-zone well LBA-MW-41 (Figure 7-D). Unlike the B-zone wells, similar concentrations of both cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride were reported at this location. Cross-gradient delineation for LBA-MW-24 is provided by LBA-MW-32 and MW-38T. The screened elevations in downgradient B-zone wells WSP-MW-01B and MW-27B correspond to those for LBA-MW-24, which indicate significantly lower concentrations CVOCs. Farther downgradient, MW-22B is screened below this level and provides indication that CVOC-affected groundwater near Building 24 is primarily restricted to the B hydrogeologic zone and shallowest C hydrogeologic zone.

A potential source of CVOC impact to groundwater in this area is the shallow overburden beneath the building and the drive/parking area west of the building (Figure 6-B). CVOCs present in soil and asphalt sub-base in these areas at concentrations above the PoG SCOs were excavated to bedrock during implementation of the soil IRM to reduce the mass of CVOCs present. The building excavation was backfilled with gravel before the concrete floor was replaced and the exterior excavation area was backfilled with clean fill and gravel sub-base before the asphalt pavement was replaced.

BUILDING 2 AREA

CVOCs were detected at concentrations above the evaluation criteria in LBA-MW-34N, within Building 2 (Figure 7-A). Downgradient delineation is provided by LBA-MW-30 and cross-gradient delineation to the north is provided by LBA-MW-22. Cross-gradient to the west is LBA-MW-38 in which cis-1,2-DCE was detected slightly above the evaluation criterion. Vertical delineation in this area is provided by the absence of exceedances in co-located C-zone well LBA-MW-34S and nearby C-zone well LBA-MW-37 (Figure 7-D).

The source of CVOC impact to groundwater in this area may be associated with contaminated soil, which was present beneath Building 11A, which is upgradient of LBA-MW-34N (Figure 6-B). Soil beneath the concrete pad in Building 11A was excavated during implementation of the soil IRM to reduce the mass of CVOCs present. Because the planned future use of Building 11A is greenspace, the concrete floor was not replaced, rather the excavation was backfilled with clean fill and gravel to bring the ground surface to grade.

BUILDINGS 4 AND 5 AREA

CVOC-affected groundwater is present in the B hydrogeologic zone within and downgradient of Building 5 at WSP-MW-03B and LBA-MW-39 (Figure 7-A). Notably, 1,1,1-trichloroethane (1,1,1-TCA) and one of its daughter products, 1,1-dichloroethane (1,1-DCA), were detected at elevated concentrations in the samples collected from these wells. These compounds were generally not detected or were detected at trace concentrations across the Site. Downgradient delineation is provided by WSP-MW-02B; vertical delineation is provided by LBA-MW-26 and WSP-MW-02C (Figure 7-D). These data indicate that CVOC concentrations in the vicinity of Buildings 4 and 5 are isolated to this area and restricted to the B hydrogeologic zone of fractured bedrock.

CVOCs typically detected in Site groundwater (cis-1,2-DCE and vinyl chloride) were minimally above the NYSDEC evaluation criteria in nearby C-zone well LBA-MW-27, north of Building 5 (Figure 7-D). This impact is unlikely to be related to that observed in the B-zone wells which derived from 1,1,1-TCA, not TCE. Downgradient delineation in the C hydrogeologic zone is provided by MW-44T.

The source of impact in this area has not been identified. An evaluation of soil conditions, proximate to WSP-MW-03B, indicated that presence of CVOCs at concentrations orders of magnitude below the PoG SCOs (Figure 6-C). The primary CVOCs detected in the soil samples were TCE and 1,1,1-TCA.

BUILDING 30 AREA

CVOC-affected groundwater is present within the B hydrogeologic zone, north of Building 30 (Former Oil Shed) (Figure 7-A). CVOCs, primarily cis-1,2-DCE, were detected at concentrations above the evaluation criteria in the sample collected from WSP-MW-04B. Cross-gradient delineation is provided by data for B-zone wells LBA-MW-14 and LBA-MW-31. Downgradient delineation within the B and C zones in this area is incomplete (Figure 7-D).

The source of CVOC impacted groundwater is the overburden material (soil and fill) northeast of the building where these constituents were detected at concentrations above the PoG SCOs (primarily tetrachloroethene and TCE) (Figure 6-D). Soil in this area was excavated during implementation of the soil IRM to reduce the mass of CVOCs present.

PARKING LOT 6 AREA

An isolated area of CVOC-affected groundwater was identified south of Parking Lot 6 based on the unusual presence of 1,1,1-TCA and 1,1-DCA, minimally above the evaluation criteria, in B-zone well WSP-MW-05B (Figure 7-A). Cross- and downgradient delineation are provided by LBA-MW-13, LBA-MW-14, and LBA-MW-15. Although vertical delineation is incomplete, the low levels reported do not warrant further evaluation (Figure 7-D).

The potential source of the CVOC impact to groundwater in this area is not known; there were no exceedances of the PoG SCOs in the soil samples collected in this general area. Based on 1,1,1-TCA detections in soil vapor samples collected as part of the boundary modification investigation activities, the source is most likely attributable to historical releases of solvents via the NCR sanitary sewer.

AOC 1

CVOCs were identified at concentrations above the NYSDEC evaluation criteria within the B hydrogeologic zone, west of Building 4 (Figure 7-A). The affected wells include: MW-9B, MW-10B, MW-11B, MW-24B, MW-25B, and MW-26B, and pumping test well PTW-1. The highest concentrations were present along a narrow southeast- to northwest-trending fracture set at MW-10B, MW-26B, and PTW-1. The impact is relatively well defined by the significantly lower concentrations reported laterally at MW-25B and MW-11B, upgradient at MW-24B, and downgradient at MW-4B. Although the vertical extent of potential impact in this area was not evaluated, no CVOCs were detected in the sample collected from C-zone well LBA-MW-28 to the west, or in downgradient, C-zone well EXB-10 (Figure 7-D).

The concrete retaining wall west of AOC 1 impedes lateral flow within overburden and B-zone groundwater. Based on facility drawings, it appears that a portion of groundwater accumulating behind (i.e., east of) the wall was historically captured and conveyed to a drain system on the downgradient (i.e., west) side of the wall and from there to the Retaining Wall Sump and finally to the sanitary sewer. This is described in more detail in Section 2.5.4.

The results for various soil investigations completed in this area indicated the presence of CVOCs, primarily TCE, at concentrations above the PoG SCOs in surface soil samples (i.e., underlying the pavement which is primarily asphalt) and in some subsurface samples within the driveway and utility corridor (Figure 6-A). Because the subsurface samples were collected in areas of perched water overlying bedrock, the results are more likely indicative of contaminant migration from the surface and accumulation along the lower permeability silt and clay zone than an actual CVOC source in soil at depth. The IRM addressed shallow soil within this AOC by excavating to a maximum depth of approximately 3.5 feet (where not affected by active utilities) with off-site disposal, confirmation sampling, and backfilling with clean fill. In addition, a low-permeability GCL and asphalt cap was installed to minimize infiltration of precipitation and subsequent migration to groundwater.

OU-1

OU-1 includes all source areas for CVOCs in groundwater described above and is being remediated pursuant to an IRM and the AROD. Data for wells within the area are presented in Figures 7-A and 7-D and Table 6 to provide an overall understanding of conditions throughout the Site. Additional information regarding the IRM is presented in Section 3.3 further below.

BARIUM

BUILDING 24 AREA

Barium was detected above the NYSDEC evaluation criterion in C-zone well LBA-MW-42S, within Building 24, during investigation activities conducted in 2013 and 2014 (Figure 7-E). Downgradient delineation was provided by data for on-site C-zone well LBA-MW-24. The source of barium in this area is unknown.

BUILDING 2 AREA

Barium-affected groundwater extends northwest-ward in the shallow B-zone bedrock in a linear trend between MW-4, LBA-MW-34N, and LBA-MW-30 as evidenced by exceedances of the NYSDEC evaluation criteria (Figure 7-B). Downgradient delineation in the B hydrogeologic zone is provided by on-site wells MW-8-40 and MW-20B where barium concentrations are well below the criteria.

Upgradient C-zone well MW-39T, which monitors the same elevation as MW-4, contained barium above the evaluation criterion (Figure 7-E). No exceedances were reported in downgradient C-zone wells LBA-MW-34S and LBA-MW-37, which are on the Site and lie along the midpoint of the linear trend of exceedances discussed above, indicating that barium affected groundwater in the Building 2 area is isolated to the shallow bedrock hydrogeologic zone. Barium was also detected above the evaluation criterion in downgradient D-zone well, MW-9-100. Downgradient delineation is provided by the off-site wells screened in the Cayuga Valley alluvium, which receives groundwater discharge from the on-site C and D hydrogeologic units and off-site bedrock well MW-17-40, which has an open interval in the B hydrogeologic zone directly beneath the Cayuga Valley alluvium.

The source of the eastern barium plume is unknown. The MW-39T well screen is set from 50 to 60 feet bgs with the top roughly 45 feet bgs (Figure 7-B). This arrangement makes it unlikely that there is an on-site surface or near surface source which could have migrated in groundwater to these depths. Given the location of this well approximately 60 feet from the upgradient property line, the potential exists that the source of impact observed at this location is off-site. No additional information regarding a potential upgradient source is available. Migration from MW-39T is likely along long vertical fractures to the west primarily within the B hydrogeologic zone, observed during historical geophysical studies, contributing to the elevated concentrations at MW-4 and other downgradient wells in this area.

FORMER SALT BATHS – BUILDING 14

Barium-affected groundwater extends from Buildings 14, 15, and 35 along a westerly trend (Figure 7-B). Concentrations above the evaluation criterion were detected in samples collected from B-zone wells LBA-MW-18 and LBA-MW-35, immediately west of the former salt baths, and in WSP-MW-02B, west of Building 5. Cross- and downgradient delineation for LBA-MW-18 is provided by B-zone wells LBA-MW-06, LBA-MW-16, LBA-MW-17, and WSP-MW-07B. Cross-gradient delineation of WSP-MW-02B, which is screened across a deeper interval than LBA-MW-18 and LBA-MW-35, is provided by MW-18A and MW-26A.

Barium is also present at concentrations above the evaluation criterion in C-zone wells to the west of the salt baths, including interior building wells LBA-MW-43S and LBA-MW-44W, and exterior wells LBA-MW-26, WSP-MW-02C, and WSP-MW-06C (Figure 7-E). The elevated barium concentration reported in C-zone well MW-44T may not be representative of groundwater conditions but reflect the presence of suspended solids in water (i.e., the turbidity was greater than 100 nephelometric units). Cross-gradient delineation is provided by data for LBA-MW-12 and WSP-MW-07C. Downgradient delineation is provided by the data for wells MW-17-40, MW-18A, and MW-26A, which are screened in the Cayuga Valley alluvium which receives groundwater discharge from the on-site C hydrogeologic zone.

The likely source of barium impact to groundwater in this area is the historical operation of the salt baths which likely released treatment fluids to groundwater, with subsequent lateral migration along the process/sanitary sewer system and vertical migration in bedrock. Residual barium in the materials lying beneath the sub-slab of Building 14 was addressed during implementation of the IRM which included the excavation of remaining fill, soil, weathered bedrock, and residual fine-grained material in this building and the removal of nearby sewer lines (Figure 6-C). Following excavation/removal, flowable fill was placed in the excavation cavity and the sewer line trench to limit further infiltration into fractured bedrock.

WEST OF BUILDING 3

Barium is present at concentrations above the evaluation criterion in B-zone well MW-5-40, west of Building 3 (Figure 7-B). Cross- and downgradient delineation are provided by data for LBA-MW-38, MW-3B, MW-5B, and MW-26B. Vertical

delineation is provided by data for co-located C-zone well MW-15C (Figure 7-E). The source of the impact is not known, but it may reflect preferential migration along the sanitary and storm sewer lines in this area.

CYANIDE

BUILDING 15 AND FORMER BUILDING 16

Cyanide was detected in groundwater at concentrations above the evaluation criterion in B-zone wells extending east to west from LBA-MW-17 to LBA-MW-44E and north to south from LBA-MW-19 to LBA-MW-18/LBA-MW-35 (Figure 7-C). Within the B zone, cyanide is delineated downgradient by LBA-MW-04, -05, and -06, and WSP-MW-07B; LBA-MW-04 and LBA-MW-09 provide for lateral delineation to the north and west; it is noted that there is a slight exceedance at LBA-MW-39. Exceedances of the criterion in the C hydrogeologic zone were limited to LBA-MW-43S and LBA-MW-44W. Cross-gradient delineation to the northeast is provided by data for WSP-MW-07C; downgradient delineation is provided by LBA-MW-26 and WSP-MW-06C (Figure 7-F).

The highest concentrations of cyanide in this area of the facility were reported for groundwater samples collected within or downgradient of the footprint of the former Building 16 (LBA-MW-43N on the upper level in Building 35, and in downgradient wells LBA-MW-08 and LBA-MW-36 on the next lower level in Building 8).

The primary source of cyanide to groundwater in this area was likely the historical storage of cyanide salts in Building 15 and case hardening of products in cyanide salts in former Building 16 immediately upgradient of these wells. In general terms, cyanide salts and water would be mixed to form an aqueous solution or be used as a floating slag of salts to case harden the exterior of products. Groundwater would have become impacted by migration through cracks or holes in the flooring, including floor drains, trenches, baths (if present), or within or along the process/sanitary sewer system, to the soil/fill and underlying weathered bedrock. A potential secondary source of cyanide is believed to have contributed to elevated concentrations observed to the north of Building 15, resulting from copper-cyanide plating operations which occurred in Building 4.

BUILDING 30 AREA AND RICE PADDY

Cyanide was detected at concentrations above the evaluation criterion in samples collected from B-zone wells LBA-MW-13 and WSP-MW-04B in the vicinity of AOC 28, Building 30 (former Oil Shed) and in B-zone well LBA-MW-14 within AOC 30, the Rice Paddy (Figure 7-C). The source of the cyanide impact in this area is not known.

Delineation is provided downgradient of LBA-MW-14 by data for WSP-MW-08B. Cross-gradient delineation to the northeast is provided by well LBA-MW-31, where cyanide was not detected above the groundwater evaluation criterion. The bedrock beneath Building 30 and between WSP-MW-04B to the north and the Rice Paddy to the south, may produce divergent groundwater to the north and the southwest away from Building 30 at the overburden-bedrock interface and account for the distribution of cyanide exceedances in groundwater.

2.5.3 GROUNDWATER SEEPS

Table 7 summarizes the results of all seep samples that exceed the groundwater or surface water SCGs.

BUILDING 24 SEEP

A weep hole that emanates from beneath the west wall of Building 24 (hereinafter referred to as the Building 24 Seep) discharges water to the adjacent ditch which parallels the building (Figure 6-B). Discharge typically occurs during and following precipitation or snow melting events. The ditch itself receives additional flow from two storm drains south of Building 24, and, thus, flows nearly continuously, even when the seep is dry. During low-flow periods, flow in the ditch percolates into the subsurface before reaching the northern (downstream) pipe discharge from the ditch.

The Building 24 Seep was originally connected to a pipe that extended from a weep hole along the base of the building's foundation to beneath a former transformer pad. In 2015, a Self-Implementing PCB Remediation Work Plan (WSP 2014) was undertaken to remove the transformer pad from the west wall of the building. Following removal of the transformer pad, a polyvinyl chloride (PVC) pipe was attached to the weep hole and extended from the building to the drainage ditch to

minimize the potential for erosion. Discharge from this pipe is currently routed through an 18-inch diameter corrugated high-density polyethylene pipe installed in the Building 24 drainage ditch, where it is treated using an activated carbon sock.

In December 2018, the source of CVOCs inside Building 24 was remediated as part of the soil IRM activities. After concrete removal to the prescribed limits, soil and sub-base materials were excavated to bedrock. During this work, an additional study to determine the source of water at the Building 24 Seep was performed. The study concluded that the Building 24 Seep is hydraulically connected to a 4-inch hexagonal clay pipe, a presumed roof drain line; however, there is no solid pipe connection from the clay pipe to the Building 24 Seep.

TCE, cis-1,2-DCE, or both were detected at concentrations above SCGs in these samples; no other CVOCs were detected. These samples were collected during different periods of flow, including when flow was initially observed following the onset of a precipitation event, in the midst of an event, and near the cessation of flow. Benzo(a)pyrene (a PAH) and iron were also reported above the SCGs in one sample collected. Sodium was consistently present at concentrations exceeding SCGs in these samples.

The source of the CVOCs in the Building 24 Seep is not known, but it presumably underlies the building (formerly used by NCR) similar to the soil excavated from beneath a portion of the building during implementation of the soil IRM. Historical discharge from the pipe and the shallow bedrock underlying the building may have been the initial source of impact to the exterior soil and may be the primary source of impacted groundwater.

RETAINING WALL SUMP

The Retaining Wall Sump is near the footbridge east of Outfall 001 at the north end of the retaining wall which parallels Building 4 (Figures 7-A through 7-F). The sump is a precast concrete vault which is 3 feet by 3 feet and 3 feet deep with a baffle across the middle. Water enters the vault from the south via a 6-inch diameter cast iron pipe and exits to the north through a 4-inch diameter cast iron pipe, discharging to the sanitary sewer along South Cayuga Street (preliminarily confirmed in November 2017 and confirmed by the local publicly owned treatment works in early 2020). Water in the sump is currently being treated using a granular activated carbon boom to address the presence of CVOCs; cis-1,2-DCE and vinyl chloride have been detected above SCGs. In addition, PAHs, iron, sodium, manganese, and total cyanide have been detected above evaluation criteria.

In July 2020, an evaluation of the inlet pipe to the retaining wall sump was conducted. This included a video survey and cleaning of the pipe. The survey identified two cleanouts located at approximately 90 feet and 210 feet from the sump. In addition, weep holes were located at the base of the retaining wall and appear to be connected to the inlet pipe. A dye tracer study conducted in August 2020, concluded that the retaining wall sump receives water from behind the retaining wall.

WEIR BOX SEEPS

During the Soil IRM, the oil skimmer and weir box were removed and cleaned before general excavation near the end of Open Ditch 2 (Figure 6-F). During excavation, three groundwater seeps with a small amount of oily product were found below the level of the weir box inlet and outlet. The seeps, which emanated from the exposed bedrock surface at a similar elevation, were approximately 3.5 feet apart: Seep 1 is to the northeast, approximately 2.5 feet to the southwest is Seep 2, and approximately 1 foot further to the southwest is Seep 3. The seep water analytical results indicate the presence of cis-1,2-DCE, TCE and vinyl chloride at concentrations that exceed SCGs.

Following completion of excavation and sampling, the area beneath the skimmer/weir box was backfilled with gravel to allow seep water to accumulate. As an interim measure, seeps were fitted with an activated carbon sock to filter water potentially containing CVOCs. The skimmer and weir box were replaced at the same pre-excavation elevation (below the level of the seeps); the wooden shed which previously enclosed the weir box was not replaced.

The source of the water and CVOCs emanating from the seeps is currently unknown and is being evaluated during the pre-design studies.

2.5.4 SOIL VAPOR

Table 8 and Figure 8 summarize the results of all samples of soil vapor that exceed the SCGs after completion of the remedial action.

Sub-slab and indoor air sample data suggest that indoor air may be affected by vapor intrusion in some areas of the on-site buildings. Figure 8 illustrates locations where sub-slab and indoor air samples were collected by WSP between 2005 and 2010 and by LaBella on behalf of L Enterprises, LLC in 2013. The figure presents the results for those constituents in the NYSDOH matrices (A, B, and C; Figure 8) which identify potential actions to be taken based on the relative concentrations in sub-slab vapor and indoor air samples including: (1) No Further Action, (2) Identify Sources and Resample or Mitigate, (3) Monitor, or (4) Mitigate. The figure identifies the most conservative action to be considered for each building in which testing was performed; the primary driver is TCE.

2.5.5 NON-AQUEOUS PHASE LIQUID

Non-aqueous phase liquid has been defined as a measurable thickness of separate phase product on the groundwater surface as observed in wells or piezometers. NAPL has been observed on the water surface at several locations across the central portion of the Site (Figure 9). Analysis of the NAPL identified across the site is primarily No. 2 fuel oil or motor oil. Only three monitoring wells continue to contain NAPL which is recovered and/or measured on a quarterly basis (MW-8B, LBA-MW-35, and LBA-MW-39). Sorbent socks are installed in these wells to collect the NAPL over time and are removed and disposed of quarterly.

In June of 2015 during expansion of the IRM Dual Phase Extraction System, a historical well (HISTWELL 1) of unknown purpose containing light non-aqueous phase liquid (LNAPL) was discovered in the area surrounding the former fire water reservoir (Figure 9). Initial field measurements indicated that the well was constructed of a 4-inch diameter steel casing that extended to approximately 145-feet bgs within the D-Zone hydrologic unit. The condition of the well was corroded and attempts to probe the well depth caused collapsing of the casing into the open borehole. Subsequently, in July of 2015 the well was retrofitted with a 2-inch diameter PVC casing to allow sample collection and downhole access. The LNAPL was identified as motor oil, consistent with the predominance of diesel range organics. LNAPL was recovered from the well periodically over several years. Due to the deteriorated and unknown conditions of HISTWELL 1 and the presence of LNAPL, the NYSDEC requested that the well be abandoned and replaced with a new well nearby to evaluate the presence of LNAPL and CVOCs in the lower bedrock zone (D-zone). Therefore, in July 2021 HISTWELL 1 was abandoned and replaced with nearby well MW-50-160D. As of December 2021, no LNAPL has been detected in the replacement well.

During the Phase II ESA in 2013, a small diameter hole was cored through the wall in Building 4 (Figure 9) to investigate the source of staining and evaluate soil and groundwater conditions behind the wall. Following removal of the concrete core at sample location LB-WB-1Wall, a water and NAPL mix seeped through the hole. The product was found to be primarily comprised of motor oil (73 percent) with a lesser amount of No. 2 fuel oil (27 percent). Following further delineation activities, as shown on Figure 9 wall borings B5-WALL and LB-WB-2 WALL define the extent of NAPL behind the wall in Building 4. At both the Boring B1 and B2 locations along the east wall of Buildings 3 and 4, a second boring was drilled approximately 4 feet above the finished floor; neither boring contained any liquid, suggesting there is not a significant volume of oil and groundwater building up behind the wall.

Between Buildings 3 and 4 and the retaining wall (i.e., the exterior portion of the AOC 1 investigation area), where there is a significant thickness of fill, observations of potential product were primarily observed during subsurface investigations at elevations where wet conditions were observed during borehole advancement and generally within or overlying the native clay and silt zone that separates the fill from the underlying bedrock. The actual presence of NAPL in this area was evaluated through the installation of wells MW-47A, MW-48A, and MW-49A. As of December 2021, no NAPL has been observed in any of the wells.

Site-wide NAPL recovery has been conducted as a presumptive remedy. Where identified through continued monitoring and observation, NAPL recovery will be performed using product-only recovery methods such as sorbent socks in wells and piezometers and interceptor drains and product skimmers in Buildings 3 and 4.

3 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 GENERAL

Since remaining contamination exists at the Site, Institutional Controls (ICs) and Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all IC/ECs at the site. The IC/EC Plan is one component of the Interim SMP and is subject to revision by the NYSDEC project manager.

This plan provides:

- A description of all IC/ECs on the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the controls to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs, such as the implementation of the Excavation Work Plan (EWP) (as provided in Appendix F) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs required by the site remedy, as determined by the NYSDEC project manager.

3.2 INSTITUTIONAL CONTROLS

A series of ICs is required by the AROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and (3) limit the use and development of the Site to restricted residential, commercial, and/or industrial uses only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under this Interim SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The IC boundaries are shown on Figure 10. The roles and responsibilities for the IC are provided in Appendix C. These ICs are:

- The property may be used for: restricted residential; commercial, and/or industrial uses as shown on Figure 10;
- All ECs must be operated and maintained as specified in this Interim SMP;
- All ECs must be inspected at a frequency and in a manner defined in the Interim SMP;
- The use of groundwater underlying the property is restricted as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health;
- Groundwater and other environmental or public health monitoring must be performed as defined in this Interim SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this Interim SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this Interim SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this Interim SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this Interim SMP;

- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for soil vapor intrusion (SVI) must be evaluated for any occupied buildings, existing or new, within the IC boundaries noted on Figure 8, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens shall be performed in raised beds following approval of the NYSDEC. Farming on the Site is prohibited, unless indoors such as a hydroponic growing operation;
- Should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs in the restricted residential area of the Site, and the upper 1 foot of exposed soil exceeds the applicable SCO in the commercial and industrial areas of the Site;
- Complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3); and
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. If new areas of contamination are identified after demolition of existing structures and/or removal of building slabs, the nature and extent of contamination in such areas where access was previously limited or unavailable will be immediately and thoroughly investigated pursuant to either an amended Excavation Work Plan or another NYSDEC-approved work plan. Citizen Participation Plan (CPP) activities will continue, as necessary, through this process. Any required remediation will be completed prior to or in association with redevelopment.

3.3 ENGINEERING CONTROLS

3.3.1 COVER AND CAP

Exposure to remaining contamination at the site is prevented by a cover and cap system placed over soil/fill materials with COC concentrations above applicable SCOs.

A cover system, installed in AOCs where soil remained above direct contact SCOs (restricted residential, commercial, industrial), is comprised of a minimum of 2 feet of clean fill in AOCs designated for future restricted residential use (AOCs 31, 32, 34, 35A, 35D, 35H, 35K, and 35L), and 1 foot of clean fill in AOCs designated for future commercial use (AOCs 28 and 29) and industrial use (AOC 30). The cover system is comprised of imported backfill (NYSDOT Item 4 gravel) installed to a depth of 6 inches below the original ground surface followed by imported topsoil to the original ground surface, with the exception of AOC 29 which did not receive topsoil based on plans for redevelopment as a paved parking lot. A demarcation layer was installed across the base of the excavations that were not excavated to bedrock before backfilling (AOCs 29, 30, 31, 32, 34, 35A, 35D, 35H, 35K, and 35L).

Portions of existing concrete and asphalt roadways serve as cover systems above remaining contamination in several AOCs. In AOCs 29, 31, 32, 34, 35A, and 35H, the asphalt roadway serves as a cover where documentation samples exceeded direct contact SCOs for metals, cyanide, or PAHs. In AOC 35C, the concrete slab in Building 11A serves as a cover where documentation samples exceeded the direct contact SCO for PAHs. In general, no excavation was performed below concrete or asphalt in which soil exceeded restricted residential, commercial, or industrial SCOs.

A low-permeability cap was installed in AOC 1 where soil remained at concentrations above the protection of groundwater SCO for CVOCs after excavation to a depth of 3 feet. The cap was designed to minimize infiltration and potential migration of CVOCs in deeper soils that could not be safely excavated during the Soil IRM activities due to the presence of active utilities (water, gas, electric, and storm/sanitary sewers). Following completion of excavation and sampling, a demarcation layer was installed across the base of the excavation in AOC 1 at a depth of 3 feet bgs. The excavation was backfilled with imported backfill (NYSDOT Item 4 gravel) that was placed and compacted to a depth of 1 foot bgs, followed by installation of a low-permeability cap consisting of a GCL, 6 inches of aggregate base, and a 6-inch thickness of asphalt pavement. The asphalt consisted of 4 inches of asphalt base course and 2 inches of asphalt wearing course separated by a geotextile interlay to minimize the potential for cracking.

Figure 11 presents the location of the cover and cap system and applicable demarcation layers. The Excavation Work Plan (EWP) provided in Appendix F outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed. Procedures for the inspection of this cover are provided in the Monitoring and Sampling Plan included in Section 4.0 of this Interim SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) (Appendix G) and an associated Community Air Monitoring Plan (CAMP) to be prepared for the site. Any disturbance of the site's cover system must be overseen by a qualified environmental professional as defined in 6 NYCRR Part 375, a Professional Engineer (PE) who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

3.3.2 DUAL-PHASE EXTRACTION AND TREATMENT SYSTEM

Procedures for operating and maintaining the DPE and treatment system are documented in the Operation and Maintenance Plan (Section 5.0 of this Interim SMP and Appendix H). As-built drawings for the DPE and treatment system, signed and sealed by a PE who is licensed and registered in New York State, are included in Appendix H – Operations and Maintenance Plan. Figure 11 shows the location of the DPE and treatment system for the site. Procedures for operating and maintaining any future SSD systems installed within onsite buildings will be incorporated into the Operation and Maintenance Plan and as-built drawings will be included in the Plan. Details of the existing DPE and treatment system and the future SSD systems are provided in the following sections.

A DPE and treatment system began operating at the Site in OU-1 in January 2009, and was expanded in 2016, as an IRM to remove VOCs from groundwater below the former fire water reservoir (also in OU-1). It was designed to meet the following objectives:

- intercept contaminated groundwater flow from the highly fractured and interconnected bedrock (B-zone) and from the horizontal bedding plane fractures at the base of the C-zone between 515 and 518 feet amsl.
- reduce the concentrations of VOCs in the subsurface by extracting both aqueous and vapor phases for treatment.

The system currently consists of twelve groundwater and vapor extraction wells containing pneumatic pumps to recover groundwater. An air compressor located in the treatment building supplies pressurized air to the pneumatic pumps that facilitates removal of groundwater from the extraction wells. The air exhaust tube is vented to the vapor recovery system within the extraction well. Groundwater pumped from the wells is conveyed to a 1,000-gallon equalization holding tank located inside the treatment building. Once the equalization tank fills to approximately 850 gallons, the water is pumped through a series of six bag filters to eliminate suspended solids. Following the bag filtration units, the water is conveyed to a low-profile tray air stripper equipped with a sump, discharge pump, and blower. After treatment by the low-profile tray air stripper, the water is pumped through two 250-pound liquid phase granular activated carbon (GAC) units. In addition, the vapor stream from the air stripper is treated by two vessels of vapor phase GAC in series before being discharged to the atmosphere. The treated water effluent is then discharged via a 4-inch diameter pipe to the weir box where it combines with Open Ditch 2 water and discharges to existing State Pollutant Discharge Elimination System (SPDES) discharge Outfall No. 001 in accordance with the SPDES permit equivalent (Appendix I).

The recommended groundwater technology for AOC 1 CVOCs consists of additional extraction and expansion of the existing OU-1 IRM DPE system into AOC 1 with the installation of two B-zone extraction wells and a conveyance system along with other ancillary components such as pre-design studies (aquifer pumping tests, electrical resistivity study), groundwater monitoring using existing wells, monthly performance monitoring, and data evaluation and reporting.

3.3.3 PETROLEUM RECOVERY FROM BUILDING 4 AND SELECT SITE MONITORING WELLS

The remedy for addressing petroleum (i.e., NAPL) in select monitoring wells and behind the wall in Building 4, as described in the AROD, consists of the following: (1) construction of a collection trench and sump or wells for recovery of weathered petroleum product along the base of the eastern wall in Building 4; and (2) passive product collection and removal from existing on-site wells. The current NAPL monitoring and recovery program is described in Section 2.4 of the Monitoring and Sampling Plan (Appendix J). However, the collection trench and sump or wells for recovery of weathered petroleum product

along the eastern wall in Building 4 have not been constructed, as such, this section will be updated accordingly as part of the Final SMP.

3.3.4 SUB-SLAB DEPRESSURIZATION SYSTEMS

Chlorinated VOCs have been detected in sub-slab gas and indoor air samples at concentrations greater than the NYSDOH indoor air guidelines in many of the onsite buildings. While there are no currently active SSD systems operating at the Site, the AROD requires mitigation of impacts from the potential for soil vapor intrusion into existing or future buildings onsite. SSD systems or other appropriate engineering controls to address indoor air may be used in existing buildings as an engineering control in the future. An SVI evaluation work plan shall be submitted to the NYSDEC prior to a change of use that involves modifications to existing buildings and/or construction of new buildings, including underground parking structures. Design criteria will be incorporated into future revisions of this Interim SMP.

3.3.5 RE-ROUTE AND MONITOR GROUNDWATER SEEPS

A pre-design study is underway to determine the final remedy to address the groundwater seeps. The pre-design study report with recommendations for the final remedy is expected to be completed in the fall of 2022. As such, this section will be updated accordingly as part of the Final SMP.

3.3.6 CRITERIA FOR COMPLETION OF REMEDIATION/TERMINATION OF REMEDIAL SYSTEMS

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10. Unless waived by the NYSDEC, confirmation samples of applicable environmental media are required before terminating any remedial actions at the site. Confirmation samples require Category B deliverables and a Data Usability Summary Report (DUSR).

As discussed below, the NYSDEC may approve termination of a groundwater monitoring program. When a remedial party receives this approval, the remedial party will decommission all site-related monitoring, injection and recovery wells as per the NYSDEC CP-43 policy.

The remedial party will also conduct any needed site restoration activities, such as asphalt patching and decommissioning treatment system equipment. In addition, the remedial party will conduct any necessary restoration of vegetation coverage, trees and wetlands, and will comply with NYSDEC and United States Army Corps of Engineers regulations and guidance. Also, the remedial party will ensure that no ongoing erosion is occurring on the site.

COVER AND CAP

The composite cover and cap systems are permanent controls, and the quality and integrity of these systems will be inspected at defined, regular intervals in accordance with this Interim SMP in perpetuity.

SUB-SLAB DEPRESSURIZATION (SSD) SYSTEM

There are no currently active SSD systems operating at the Site. However, should an SSD system be installed in the future, the active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC and the NYSDOH project managers. If monitoring data indicates that the SSD system may no longer be required, a proposal to discontinue the SSD system will be submitted by the remedial party to the NYSDEC and NYSDOH project managers.

DUAL-PHASE EXTRACTION AND TREATMENT SYSTEM

The DPE and treatment system will not be discontinued unless prior written approval is granted by the NYSDEC project manager. In the event that monitoring data indicates that the DPE and treatment system may no longer be required, a proposal

to discontinue the system, including the results of an impact study, will be submitted by the remedial party. Conditions that may warrant discontinuing the DPE and treatment system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards or the site SCGs as appropriate, (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC; or (3) the NYSDEC has determined that the DPE and treatment system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC project manager.

4 MONITORING AND SAMPLING PLAN

The Monitoring and Sampling Plan is included in Appendix J and describes the following items:

- Site-wide groundwater monitoring
- DPE and treatment system groundwater monitoring
- SPDES permit equivalent monitoring (Appendix I)
- NAPL monitoring and recovery
- SVI monitoring

The Monitoring and Sampling Plan in Appendix J describes the measures for evaluating the overall performance and effectiveness of the selected remedies for the Site. To monitor the effectiveness of the selected remedies, samples will be collected from existing groundwater monitoring wells and extraction wells on a routine basis. The proposed network of wells and the proposed frequency of sampling events are detailed in Tables 2.2 and 2.3 of the Monitoring and Sampling Plan, which is included in Appendix J. The expansion of the DPE treatment system into AOC 1 will create the need for new extraction and monitoring wells. These wells will be added to the final SMP.

The Monitoring and Sampling Plan does not include requirements for SSD systems; however, should a system be installed at the Site, the Monitoring and Sampling Plan will be updated accordingly to incorporate any specific requirements.

The Monitoring and Sampling Plan does not address system performance monitoring associated with the DPE treatment system. These requirements are described in the Operation and Maintenance (O&M) Plan (Appendix H).

4.1 GENERAL

The Monitoring and Sampling Plan in Appendix J describes the measures for evaluating the overall performance and effectiveness of the remedy and may only be revised with the approval of the NYSDEC project manager. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the site are included in the Monitoring and Sampling Plan. Quality Assurance and Quality Control procedures are detailed in Section 4 of the Monitoring and Sampling Plan (Appendix J).

The Monitoring and Sampling Plan and information included in Section 4.2 below describe the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, surface water, indoor air);
- Assessing compliance with applicable NYSDEC SCGs, particularly groundwater standards and Part 375 SCOs for soil; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

To adequately address these issues, the Monitoring and Sampling Plan in Appendix J and Section 4.2 below provide information on:

- Sampling locations, protocol and frequency;
- Information on all designed monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP.

4.2 SITE-WIDE INSPECTION

Site-wide inspections will be performed at a minimum of once per year by the responsible party (RP) as described in Appendix C (which sets forth the responsibilities of the RP and property owner). These periodic inspections must be conducted when the ground surface is visible (i.e., no snow cover). Site-wide inspections will be performed by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State. Modification to the frequency or duration of the inspections will require approval from the NYSDEC project manager. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix K – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- Whether stormwater management systems, such as basins and outfalls, are working as designed;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

Inspections of all remedial components installed at the site will be conducted. A comprehensive site-wide inspection will be conducted and documented according to the SMP schedule, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Reporting requirements are outlined in Section 7.0 of this plan.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC project manager must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as defined in 6 NYCCR Part 375. Written confirmation must be provided to the NYSDEC project manager within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.3 DUAL-PHASE EXTRACTION AND TREATMENT SYSTEM MONITORING

Monitoring of the DPE and treatment system is detailed in the O&M Plan found in Appendix H. Quarterly aqueous and vapor phase sampling at the air stripper and between the carbon vessels shall be completed to evaluate the effectiveness of the DPE and treatment system in removing and treating VOC mass collected from the subsurface and to calculate the total mass removal.

The DPE and treatment system groundwater monitoring detailed in the Monitoring and Sampling Plan found in Appendix J will be completed on a semiannual basis (spring and fall) from select monitoring wells, and from groundwater extraction wells on an annual basis (fall) to evaluate groundwater quality and effectiveness of the DPE and treatment system.

4.4 POST-REMEDIATION MEDIA MONITORING AND SAMPLING

Samples shall be collected from the groundwater and indoor air (following mitigation) on a routine basis as summarized in the following subsections and elaborated on in the Monitoring and Sampling Plan found in Appendix J. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

4.4.1 SITE-WIDE GROUNDWATER MONITORING

Groundwater monitoring will be performed to assess the performance of the remedy. Site-wide groundwater monitoring will be completed on an annual basis (fall) to evaluate groundwater quality across the Site. The network of existing monitoring wells has been selected to monitor upgradient, within, and downgradient of Soil IRMs. Details of the monitoring network and procedures for groundwater sampling are included in Appendix J. Modification to the frequency or sampling requirements will require approval from the NYSDEC project manager.

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC project manager will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC project manager. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC project manager.

Deliverables for the groundwater monitoring program are specified in Section 7.0 – Reporting Requirements.

4.4.2 GROUNDWATER SEEPS

As of the date of this document, a pre-design study is underway to determine the final remedy to address the groundwater seeps. As such, this section will be updated once the pre-design study is finalized.

4.4.3 SOIL VAPOR INTRUSION SAMPLING

There is no requirement for soil vapor intrusion sampling at the present time. However, a soil vapor intrusion evaluation work plan shall be prepared and submitted to the NYSDEC and the NYSDOH should there be any change of use that involves modifications to existing buildings and/or construction of new buildings, including underground parking lots. Procedures for conducting soil vapor intrusion sampling and the frequency are included in the monitoring and sampling plan in Appendix J.

5 OPERATION AND MAINTENANCE PLAN

5.1 GENERAL

The O&M Plan set forth in Appendix H provides a description of the measures necessary to operate, monitor and maintain the mechanical components of the DPE and treatment system. The O&M Plan:

- Includes the procedures necessary to allow individuals unfamiliar with the site to operate and maintain the DPE and treatment systems;
- Will be updated periodically to reflect changes in site conditions or the manner in which the DPE and treatment systems are operated and maintained.

Among other things, this O&M Plan includes a complete description of system start-up and testing procedures; system monitoring devices and alarms; routine/non-routine operation and maintenance; troubleshooting, adjustment, and repair procedures; and warning devices. A copy of the O&M Plan, along with the complete Interim SMP, is to be maintained at the site. The O&M Plan is not to be used as a stand-alone document, but as a component document of this Interim SMP.

6 PERIODIC ASSESSMENTS/ EVALUATIONS

6.1 CLIMATE CHANGE VULNERABILITY ASSESSMENT

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

The Site is considered to have a low vulnerability related to climatic conditions and therefore a vulnerability assessment has not been performed. There are no State or Federal wetlands or floodplains located on the Site. Additionally, most storm water is handled by constructed drainage features at various locations in and surrounding the Site. These features convey water away from treatment system equipment and reduce the potential exposure to remaining contamination from active cover system erosion in grass covered areas. In large portions of the Site predominately covered by buildings or pavements, large-scale erosion concerns are unlikely. Erosion at pipe outlets, along drainage paths, and along steep slopes will be inspected at least annually and after significant storm events.

The DPE and treatment system is currently connected to an independent electricity service drop separate from the former facility. To date, this power source has been reliable, and the system has always been operating except during planned O&M or groundwater monitoring events. If at some point in the future this power source, or any other that is utilized for an additional remedial system, becomes unreliable due to increased frequency and severity of storms in the area, a backup generator may be warranted.

6.2 GREEN REMEDIATION EVALUATION

NYSDEC's DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the Interim SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the Periodic Review Report (PRR).

During the course of site management, periodic evaluations will be performed to identify opportunities to reduce the overall environmental footprint of the ongoing remedial activities. Potential opportunities to evaluate include reducing the frequency of Site visits over time, utilizing telemetry to allow for remote monitoring or operating of remedial systems, staging wastes on-site (to the extent possible) until an entire load is available for disposal, using energy-efficient lighting and equipment where applicable, prioritizing the recycling of remediation waste and packaging materials, using reusable and durable equipment for groundwater recovery to limit waste generation, and continue to seek alternatives to reduce energy consumption and expedite Site closure. Proposed methods to reduce the environmental impact of Site remedial activities will be detailed in the PRR.

6.2.1 TIMING OF GREEN REMEDIATION EVALUATIONS

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the NYSDEC project manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 REMEDIAL SYSTEMS

Remedial systems will be operated properly considering the current site conditions to conserve materials and resources to the greatest extent possible. Consideration will be given to operating rates and use of reagents and consumables. Spent materials will be sent for recycling, as appropriate.

The frequency of Site visits to conduct groundwater recovery or LNAPL recovery O&M activities will be evaluated on an ongoing basis and modified, as appropriate. In addition, potential remedial alternatives will be evaluated periodically to expedite closure of the Site in a cost-effective manner.

6.2.3 BUILDING OPERATIONS

Structures including buildings and sheds will be operated and maintained to provide for the most efficient operation of the remedy, while minimizing energy, waste generation and water consumption.

6.2.4 FREQUENCY OF SYSTEM CHECKS, SAMPLING AND OTHER PERIODIC ACTIVITIES

Transportation to and from the Site, use of consumables in relation to visiting the Site in order to conduct system checks and/or collect samples, and shipping samples to a laboratory for analyses have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

Currently, site visits are performed only to conduct O&M on the groundwater DPE and treatment system and LNAPL recovery systems and perform semi-annual and annual groundwater monitoring. Past considerations for reducing Site visits and system checks, as well as remedial system downtime, included coordination of groundwater monitoring activities to be performed concurrently with system O&M. Additionally, telemetry is utilized for remote monitoring and operation to reduce emissions and energy consumption associated with on-site in-person visits when applicable. In the future, additional modifications will be made to the Site visit schedule and/or remedial system operation approach to further reduce energy consumption, if appropriate. The current Site visit schedule will not be modified without prior approval from NYSDEC.

6.2.5 METRICS AND REPORTING

As discussed in Section 7.0 and as shown in Appendix K – Site Management Forms, information on energy usage, solid waste generation, transportation and shipping, water usage and land use and ecosystems will be recorded to facilitate and document consistent implementation of green remediation during site management and to identify corresponding benefits. A set of metrics has been developed.

6.3 REMEDIAL SYSTEM OPTIMIZATION

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC project manager or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

An RSO will provide a critique of a site's conceptual model, give a summary of past performance, document current cleanup practices, summarize progress made toward the site's cleanup goals, gather additional performance or media specific data and information and provide recommendations for improvements to enhance the ability of the present system to reach RAOs or to provide a basis for changing the remedial strategy.

The RSO study will focus on overall site cleanup strategy, process optimization and management with the intent of identifying impediments to cleanup and improvements to site operations to increase efficiency, cost effectiveness and remedial time frames. Green remediation technology and principals are to be considered when performing the RSO.

7 REPORTING REQUIREMENTS

7.1 SITE MANAGEMENT REPORTS

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendices I, J, and K. These forms are subject to NYSDEC revision. All site management inspection, maintenance, and monitoring events will be conducted by a qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of Table 9 and summarized in the Periodic Review Report.

Table 9 – Schedule of Interim Monitoring/Inspection Report

Task/Report	Reporting Frequency*
DPE and Treatment System O&M and Monitoring Report	Annually
Inspection Report	Annually
Periodic Review and Site-wide Groundwater Monitoring Report	Annually
Remedial Site Optimization Report	TBD

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC project manager.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., groundwater, and if necessary, sub-slab vapor, indoor air, outdoor air);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;

- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html

7.2 PERIODIC REVIEW REPORT

A Periodic Review Report (PRR) for both OU-1 and OU-2 will be submitted to the NYSDEC project manager beginning eighteen (18) months after the AROD execution date, or March 2023. The PRR for OU-1 will be prepared and submitted by Emerson. The PRR for OU-2 will be prepared and submitted in accordance with the responsibilities set forth in the Environmental Easement in Appendix A. After submittal of the initial Periodic Review Report, the next PRR shall be submitted annually or every third or fifth year thereafter, as determined by the NYSDEC. In the event that OU-2 is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A - Environmental Easement. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
- Results of the required annual site inspections, fire inspections and severe condition inspections, if applicable.
- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- Identification of any wastes generated during the reporting period, along with waste characterization data, manifests, and disposal documentation.
- A summary of any discharge monitoring data and/or information generated during the reporting period, with comments and conclusions.
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These tables and figures will include a presentation of past data as part of an evaluation of contaminant concentration trends, including but not limited to:
  - Trend monitoring graphs that present groundwater contaminant levels from before the start of the remedy implementation to the most current sampling data;
  - Trend monitoring graphs depicting system influent analytical data on a per event and cumulative basis;
  - O&M data summary tables;
  - A current plume map for sites with remaining groundwater contamination; and
  - A groundwater elevation contour map for each gauging event.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuISTM database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the, AROD;
  - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
  - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored;
  - Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan;
  - An evaluation of trends in contaminant levels in the affected media to determine if the remedy continues to be effective in achieving remedial goals as specified by the AROD; and
  - The overall performance and effectiveness of the remedy.
- A performance summary for all treatment systems at the site during the calendar year, including information such as:
  - The number of days the system operated for the reporting period;
  - The average, high, and low flows per day;
  - The contaminant mass removed and the cost per pound of mass removed during the certification period and during the life of the treatment system;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - Alarm conditions;
  - Trends in equipment failure;
  - A summary of the performance, effluent and/or effectiveness monitoring; and
  - Comments, conclusions, and recommendations based on data evaluation. Recommendations must address how receptors would be impacted. Recommendations can include:
    - Proposals to address efficiency and costs such as: instituting remote operation, system changes to decrease maintenance costs and downtime, and system changes to decrease energy use; and
    - Proposals to modify or shut down a treatment system due to remediation completion, system performance or changed conditions. System shutdowns are addressed in Section 6.4 of DER-10.

7.2.1 CERTIFICATION OF INSTITUTIONAL AND ENGINEERING CONTROLS

Following the last inspection of the reporting period, a Professional Engineer licensed to practice and registered in New York State will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*

- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], WSP USA Inc., am certifying as Emerson's Designated Site Representative for the site."

"I certify that the New York State Education Department has granted a Certificate of Authorization to provide Professional Engineering services to the firm that prepared this Periodic Review Report."

7.3 CORRECTIVE MEASURES WORK PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control or failure to conduct site management activities, a Corrective Measures Work Plan will be submitted to the NYSDEC project manager for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it has been approved by the NYSDEC project manager.

7.4 REMEDIAL SITE OPTIMIZATION REPORT

If an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the NYSDEC project manager for approval. A general outline for the RSO report is provided in Appendix L. The RSO report will document the research/ investigation and data gathering that was conducted, evaluate the results and facts obtained, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken. A final engineering report and update to the Interim SMP may also be required.

The RSO report will be submitted, in electronic format, to the NYSDEC project manager and the NYSDOH project manager.

REFERENCES

6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.

NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".

NYSDEC, 2018a. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Phase II Supplemental Remedial Investigation Report, November 2017. January 12.

NYSDEC, 2018b. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Interim Remedial Measures (IRM) Work Plan. April 6.

NYSDEC, 2018c. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Interim Remedial Measures (IRM) Work Plan, July 2017, revised August 2018. August 22.

NYSDEC, 2018d. Division of Environmental Remediation, Bureau of Technical Support. October 5.

NYSDEC, 2010. Record of Decision, Morse Industrial Corporation Site, Operable Unit No. 3, State Superfund Project, City of Ithaca, Tompkins County, New York, Site Number 755010. October.

NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

NYSDEC, 1994. Record of Decision, Morse Industrial Corporation, Town of Ithaca, Tompkins County, New York, Site Number 755010. December 7.

NYSDEC, 1988. Order on Consent No. A7-0125-87-09 between the New York State Department of Environmental Conservation and Emerson Power Transmission Company and Emerson Electric Co. July 13.

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

NYSDOH, 2017. Soil Vapor/Indoor Air Matrices. May. Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October.

Radian Corporation, 1990. Final Report, Remedial Investigation Stages 1 and 2. Emerson Power Transmission (EPT), Ithaca, New York. February.

Radian International LLC, 1994. Feasibility Study Report, Emerson Power Transmission (EPT), Ithaca, New York. July.

USEPA, 1988. Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. Interim Final, OSWER Directive 9355.3-01. October 1.

WSP, 2020. Former Emerson Power Transmission (EPT), Ithaca, NY Site No. 755010 Quarterly Free Product Surveillance Report No. 023 – Fourth Quarter 2019 620 South Aurora Street, Ithaca, New York. January 21.

WSP, 2020a. Interim Remedial Measures Construction Completion Report (OU-2) Former Emerson Power Transmission Facility Ithaca, New York Site No. 755010. March 26, 2020.

WSP, 2020b. Feasibility Study (OU-2) Former Emerson Power Transmission Facility Ithaca, New York Site No. 755010. August 12, 2020.

WSP, 2018a. Phase I IRM Completion Report – Sanitary Sewers, Former Emerson Power Transmission, Ithaca, New York Letter. January 30.

WSP, 2018b. Interim Remedial Measure Work Plan, OU-2, Former Emerson Power Transmission Facility, Ithaca, New York. Site No. 755010. August 8.

WSP, 2017. Phase II Supplemental Remedial Investigation Report, Former Emerson Power Transmission Facility, Ithaca, New York. Site No. 7-55-010. November 14.

WSP, 2016. Revised AOC 1 Characterization Report. Emerson Power Transmission Facility, Ithaca, New York. Site No. 7-55-10. August 5.

WSP, 2014. Self-Implementing PCB Remediation Work Plan. Emerson Power Transmission Site, Ithaca, New York, Site No. 7-55-010. October 28.

WSP, 2009. WSP Engineering of New York. 2009. Operation, Maintenance, and Monitoring Plan, Interim Remedial Measure, Emerson Power Transmission, Ithaca, New York. March 31.

WSP, 2007. Supplemental Remedial Investigation Report. Emerson Power Transmission Facility, 620 South Aurora Street, Ithaca, New York. Site No. 7-55-010. December 7.

TABLES

Table 1

Notifications
See Section 1.3 - Notifications
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York

Table 2

Groundwater Elevation Measurements
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Date	1/12/09	1/14/09 (b)	2/7/09	6/8/09	9/21/09	9/25/09 (b)	12/16/09 (b)	12/21/09	4/5/10	6/28/10	9/27/10	9/29/10 (b)	10/5/10	12/27/10	3/21/11	6/21/11	10/3/11	10/6/11 (b)	12/12/11	3/26/12	6/26/12	6/29/12 (b)	10/1/12 (b)	10/4/12	12/3/12	12/5/12 (b)	4/1/13
EW-11-43C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-12-45C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-1-62C	-	-	-	-	507.3	525.38	528.11	507.5	507.98	-	-	525.4	-	-	-	-	507.02	-	-	-	524.63	523.54	-	-	524.6	524.1	517.04
EW-1B	-	-	-	-	552.54	554.72	-	-	554	-	552.51	554.81	-	553.72	546.5	-	553.88	555.03	-	-	552.34	552.49	553.69	-	553.98	555.09	553.37
EW-2-62C	-	-	-	-	505.88	525.14	527.66	505.83	505.97	-	-	525.4	-	-	-	-	505.03	-	-	-	525.48	523.13	523.43	524.78	524.54	525.03	506.13
EW-3-60C	-	-	-	-	505.72	506.44	511.21	505.65	505.73	-	-	507.01	-	-	-	-	505.89	-	-	-	506.37	510.46	533.36	537.76	543.22	541.78	543.02
EW-4-25B	-	-	-	-	542.16	549.8	-	-	542.06	-	-	546.82	-	-	-	-	542.2	-	-	-	542.68	553.2	-	542.82	543.6	545.75	542.12
EW-5-25B	-	-	-	-	542.52	555.99	-	-	542.45	-	549.24	-	-	-	-	-	542.56	-	-	-	542.88	551.1	555.23	553.62	557.12	556.03	556.02
EW-6-60C	-	-	-	-	509.56	527.3	528.92	509.59	517.71	-	517.61	-	-	-	-	-	509.73	-	-	-	526.34	524.49	525.16	525.91	525.94	525.37	520.21
EW-7-25B	-	-	-	-	540.85	553.5	-	-	541.16	-	544.06	552.96	-	-	-	-	558.04	-	-	-	541.21	553.27	552.94	543.11	546.85	553.37	541.21
EW-8-62C	-	-	-	-	503.97	527.33	529.41	503.87	504.82	-	506.21	527.47	-	-	-	-	501.89	-	-	-	551.92	540.98	540.19	542.77	504.38	527.48	504.42
EW-9R-72C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXB-1	-	-	-	515.46	513.45	516.02	516.55	515.35	515.49	515.34	515.25	515.7	-	515.24	515.95	515.05	515.24	515.75	515.13	515.12	515.27	515.41	515.77	515.43	514.31	515.36	515.22
EXB-10	531.84	-	-	520.06	517.48	525.73	529.68	519.77	522.56	519.5	518.7	527.01	-	520.15	523.65	518.05	518.56	526.17	521.05	522.62	525.36	-	525.68	526.11	524.14	524.67	522.68
EXB-11	-	-	-	-	469.47	-	-	-	-	-	470.82	-	-	465.78	468.62	-	470.17	-	-	-	480.38	-	-	-	-	-	-
EXB-2	521.82	-	-	519.76	518.98	516.17	518.62	516.79	519.57	519.12	515.71	515.92	-	515.72	516.16	-	516.54	515.14	516.97	517.05	516.92	-	517.31	515.25	517.41	516.13	517.9
EXB-7	524.53	-	-	520.68	-	-	524.04	521.05	522.26	520.56	520.01	-	-	521.42	522.16	520.24	521.4	-	521.13	521.06	522.49	-	522.81	523.12	522.56	522.97	521.67
EXB-9	-	-	-	524.37	514.35	515.94	526.65	523.12	525.09	520.66	515.69	519.13	-	523.01	522.77	519.89	522.05	-	516.44	522.14	525.74	522.19	527.24	528.07	527.47	526.34	524.64
MW-1	-	-	-	-	544.19	546.76	547.2	547.44	547.6	544.6	545.47	546.85	-	547.53	547.1	-	546.49	-	-	-	545.5	543.84	-	-	545.77	546.82	547.24
MW-12B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-12C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-13C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-15C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-16-100	-	-	461.02	-	461.02	-	-	-	460.52	-	458.72	-	458.49	459.05	458.46	-	461.09	-	-	460.58	-	-	461.47	-	461.62	461.82	459.87
MW-17-40	-	-	-	-	391.3	-	-	-	391.52	-	391.2	-	391.5	-	391.66	-	391.93	-	-	391.41	-	-	391.21	-	-	-	391.48
MW-18A	-	-	386.69	-	386.49	-	-	-	386.5	-	386.36	-	387.31	-	386.72	-	386.61	-	-	386.61	-	-	386.61	-	-	-	386.71
MW-19A	-	-	389.67	-	388.59	-	-	-	389.56	-	387.46	-	389.79	-	390.03	-	392.12	-	-	389.28	-	-	388.54	-	-	-	389.36
MW-1B	-	-	559.01	554.14	552.17	556.02	-	-	557.28	-	554.73	555.91	-	557.13	557.2	555.42	557.55	556.79	556.35	555.75	552.54	550.96	555.89	552.99	554.38	554.64	556.9
MW-20B	-	-	505.17	504.08	504.04	-	504.88	503.34	504.48	503.8	504.38	504.09	504.03	-	505.43	-	504.24	499.98	504.67	504.51	504.49	-	502	503.32	504.33	502.9	505.39
MW-21B	-	-	479.36	-	478.91	-	-	-	479.08	-	478.11	-	479.67	-	480.34	-	481.03	-	-	479.11	-	-	478.97	-	-	-	481.77
MW-22B	-	-	475.9	-	475.21	-	-	-	475.09	-	475.49	-	475.8	-	476.38	-	475.17	-	-	475.85	-	-	474.74	-	-	-	475.8
MW-23B	443.73	-	443.88	443.21	443.1	-	443.7	-	443.63	443.22	443.11	-	443.49	443.55	444.96	443.16	443.78	-	443.5	443.42	443.01	443.1	443.21	-	443.39	444.64	443.71
MW-24B	-	-	410.6	-	409.48	-	-	-	409.79	-	410.05	-	410.07	-	410.9	-	409.45	-	-	410.46	-	-	409.71	-	-	-	410.18
MW-25A	-	-	386.21	-	385.42	-	-	-	386.3	-	382.21	-	386.48	-	386.49	-	386.29	-	-	385.2	-	-	385.32	-	-	-	385.56
MW-26A	-	-	-	-	389.66	-	-	-	389.95	-	389.83	-	390.03	-	389.98	-	390	-	-	389.77	-	-	389.73	-	-	-	389.86
MW-2B	-	553.99	554.55	-	552.29	554.3	555.49	554.53	553.8	-	552.84	554.57	-	553.61	554.44	-	553.5	553.51	-	552.08	552.35	552.38	553.51	552.9	552.3	553.95	554.18
MW-30B	-	-	-	516.41	515.36	-	517.57	517.06	518.32	515.78	515.26	516.05	-	516.49	518.31	-	518.84	518.16	517.78	516.83	515.1	515.03	515.17	515.08	515.28	515.38	516.45
MW-3-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3-13	-	-	-	-	-	559.47	558	-	557.14	-	557.39	559.45	-	557.43	557.88	-	558.78	559.2	-	558.45	558.65	558.79	558.05	557.9	557.1	559.37	558.21
MW-3-150	-	-	-	-	466.69	467.34	466.56	464.19	465.42	463.39	463.72	-	-	-	-	-	-	-	-	-	468.87	468.71	471.83	-	484.74	487.01	466.36
MW-31B	-	-	-	-	512.77	-	-	-	-	-	513.33	513.85	-	513.92	514.32	-	-	-	-	-	513.69	513.69	515.74	513.82	513.66	513.76	514.43
MW-32B	508.04	-	508.06	507.92	507.86	-	508.16	508.07	508.09	508.18	508.19	-	508.25	507.92	508.22	508.18	508.25	-	508.23	508.13	508.14	508.19	508.17	508.63	508.13	508.26	508.28
MW-36B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3B	-	555.68	552.95	-	548.9	-	555.74	549.94	554.64	-	550.7	555.84	551.29	551.85	552.75	-	550.93	554.79	-	550.68	554.09	553.77	555.05	554.24	554.59	555.09	556.99
MW-44T	-	-	-	533.36	532.08	-	533.17	532.52	533.29	532.7	531.92	532.42	-	532.41	533.5	-	532.24	532.88	541.72	-	533.33	533.22	533.17	533.02	532.67	532.62	533.72
MW-46-43C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-46-72C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4B	-	-	544.42	543.16	544.01	544.05	544.84	544.44	545.48	-	544.55	542.73	-	544.45	545.28	543.84	544.25	544.28	544.53	545.41	544.92	544.33	545.1	545.65	544.5	543.49	544.9
MW-5-100	-	-	493.32	-	492.11	489.29	491.91	492	492.54	492.29	491.96	-	492	492.06	491.96	-	-	-	-	-	492.39	-	492.46	-	492.21	492.16	492.11
MW-5-25	-	-	576.67	-	575.86	-	575.91	575.82	576.07	-	576.13	576.22	-	575.82	577.39	-	576.68	-	-	576.35	576.29	-	576.55	-	576.47	576.69	576.45
MW-5-40	-	-	558.95	-	554.13	555.87	556.9	556.23	557.64	556.51	555.72	557.18	556.43	557.35	557.92	-	557.05	553.61	-	557.09	556.76	-	557.31	551.65	551.76	554.78	562.08
MW-5B	548.93	549.16	549.54	546.21	546.41	552.62	552.36	549.2	549.33	-	546.89	553.17	-	548.88	546.49	546.84	551.94	552.68	550.67	551.31	550.68	553.61	553.81	550.36	549.24	553.75	548.66
MW-6B	-	-	551.84	-	550.82	550.65	541.85	-	551.76	551.4	550.86	550.82	-	551.33	551.88	-	-	-	-	-	549.47	543.66	550.74	-	-	551.15	550.62
MW-7-40	-	-	516.92	-	514.68	-	-	-	516.43	-	514.94	-	515.21	515.27	515.61	-	515.24	-	-	515.4	-	-	515.78	-	515.7	515.75	515.42
MW-7B	-	-	-	571.36	570.93	-	571.24	571.36	-	-	-	-	-	-	-	570.07	-	-	-	-	-	-	-	-	-	-	-
MW-8-40	-	-	489.34	-	482.23	-	-	-	486.71	-	484.99	-	485.32	-	484.76	-	486.23	-	-	484.63	481.18	-	484.96	-	-	-	486.03
MW-8B	571.14	-	-	571.77	573.33	-	575.04	575.04	-	-	-	-	-	-	-	573.03	-	-	-	-	-	-	-	-	-	-	-
MW-9-100	-	-	435.82	-	416.38	-	-	-	416.48	-	416.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-1	-	-	-	-	552.24	-	555.41	555.34	554.64	552.67	552.06	554.94	-	554.04	554.7	-	554.36	-	-	-	551.27	551.06	553.29	-	551.52	553.04	553.97
P-2	-	-	-	-	-	-	556.16	555.55	555.06	553.39	553.44	555.89	-	555.04	555.73	-	555.27	-	-	-	552.68	553.04	554.87	-	552.54	553.54	553.84
RW-24B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2

Groundwater Elevation Measurements
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Date	6/3/13	10/15/13	10/18/13 (b)	12/3/13	3/24/14	6/18/14	8/18/14	8/22/14 (b)	12/2/14	12/5/14 (b)	3/10/15	3/13/15	5/26/15	8/24/15	8/27/15 (b)	12/13/15	12/15/15	4/12/16	7/5/16	9/26/16	10/5/16 (b)	11/14/16	3/27/17	6/13/17	7/18/17	8/17/17	9/25/17	10/2/17
EW-11-43C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	546.52	562.57	-	-	-	-	-	547.06	547.49
EW-12-45C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-1-62C	-	507.79	523.33	-	-	-	507.57	523.37	507.41	523.24	-	-	-	528.24	524.71	-	-	524.75	510.99	511.56	524.33	-	-	-	-	-	-	524.08
EW-1B	-	552.09	553.63	-	-	-	552.87	552.89	-	-	-	-	-	543.61	-	-	-	-	-	551.51	552.68	-	-	-	-	-	552.03	552.04
EW-2-62C	-	507.17	522.88	-	-	-	507.08	522.98	507.1	522.9	-	-	-	507.36	524.16	-	-	513.91	507.53	507.48	523.75	-	-	-	-	-	509.34	523.66
EW-3-60C	-	505.7	508.65	-	-	-	505.82	506	506.38	510.23	-	-	-	517.98	520.46	-	-	511.31	512.83	506.58	517.32	-	-	-	-	-	-	509.05
EW-4-25B	-	542.23	547.59	-	-	-	542.15	544.03	542.27	548.62	-	-	-	541.76	544.19	-	-	542	542.06	542.22	546.39	-	-	-	-	-	542.2	543.22
EW-5-25B	-	543.17	553.66	-	-	-	543.29	552.82	543.12	553.79	-	-	-	546.74	550.75	-	-	543.35	545.1	548.69	552.67	-	-	-	-	-	544.57	551.72
EW-6-60C	-	518.64	523.99	-	-	-	522.33	524.34	525.04	524.23	-	-	-	530.33	524.65	-	-	526.31	516.14	519.24	525.24	-	-	-	-	-	525.49	527.63
EW-7-25B	-	541.26	547.51	-	-	-	548	552.86	548.25	552.91	-	-	-	545.17	553.08	-	-	541.97	541.38	547.42	552.96	-	-	-	-	-	541.86	552.51
EW-8-62C	-	504.46	522.52	-	-	-	537.46	536.32	516.4	537.67	-	-	-	536.41	526.69	-	-	534.65	519	524.09	529.82	-	-	-	-	-	538.55	540.34
EW-9R-72C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	511.21	514.45
EXB-1	514.93	515.4	515.74	515.18	515.03	515.23	515.03	-	515.13	515.54	515.15	-	515	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXB-10	523.96	517.65	524.76	518.21	520.48	517.93	517.82	523.17	517.97	524.66	523.99	-	518.81	519.29	521.77	526.01	-	521.98	517.44	520.44	526.25	517.62	519.89	528.66	-	-	517.72	526.17
EXB-11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	473.86	-	-	-	-	493.88	483.33	-	-	-	-	-	483.69	484.01
EXB-2	515.7	517	515.92	517.09	517.12	517.27	517.35	-	517.73	516.52	517.92	-	518.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EXB-7	521.46	520.16	522.35	520.95	522.37	521.19	520.64	-	520.72	522.84	522.44	-	519.52	523.74	521.38	522.92	-	522.15	519.97	520.91	-	520.82	521.81	524.55	-	-	520.55	522.82
EXB-9	522.29	520.58	521.19	519.17	524.3	522.81	521.21	517.58	521.45	521.88	521.19	-	520.13	522.8	522.87	524.17	-	524.68	519.67	519.67	524.63	521.65	518.96	529.73	-	-	518.52	522.99
MW-1	-	546.06	-	-	-	-	546.7	546.57	-	-	-	-	-	546.16	546.34	-	-	-	-	546.62	547.29	-	-	-	-	-	-	-
MW-12B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	552.37	552.3	-	-	-	-	-	-	-
MW-12C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	562.83	562.85	-	-	562.76	-	-	561.87	562.03
MW-13C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	561.49	-	-	558.88	558.12
MW-15C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	554.79	-	-	545.26	542.62
MW-16-100	-	458.84	-	-	460.2	-	462.67	-	-	-	458.78	-	-	458.96	-	-	-	457.24	-	457.09	-	-	459.22	-	-	-	457.57	-
MW-17-40	-	392.46	-	-	392.07	-	393.24	-	-	-	393.41	-	-	393.83	-	-	-	391.89	-	392.46	-	-	394.03	-	-	-	393.61	-
MW-18A	-	386.72	-	-	387.21	-	390.01	-	-	-	386.54	-	-	389.24	-	-	-	390.49	-	387.13	392.06	-	390.87	-	-	-	389.86	-
MW-19A	-	389.35	-	-	389.58	-	389.28	-	-	-	389.5	-	-	388.42	-	-	-	389.84	-	387.25	-	-	390.43	-	-	-	388.42	-
MW-1B	550.97	554.86	555.24	554.04	554.45	556.83	556.79	552.32	557.43	555.64	556.82	-	554.07	550.57	550.75	551.05	-	557.1	549.91	549.92	550.19	550.49	556.55	550.63	-	-	550.39	550.94
MW-20B	503.79	504.44	508.99	505	505.49	504.52	504.26	-	504.66	504.78	505.68	-	501.4	502.22	-	502.75	-	505.25	504.5	501.67	-	504.03	505.26	503.6	-	-	504.02	499.14
MW-21B	-	480.26	-	-	482.01	-	480.12	-	-	-	481.88	-	-	479.5	-	-	-	481.28	-	479.08	-	-	481.95	-	-	-	479.25	-
MW-22B	-	475.96	-	-	475.36	-	474.81	-	-	-	476.92	-	-	476.46	-	-	-	477.98	-	477.9	-	-	480.89	-	-	-	478.16	-
MW-23B	443.11	443.24	-	443.42	444.01	443.35	443.22	-	443.41	443.41	444.44	-	443.29	443.12	-	443.3	-	443.58	442.96	442.77	-	443.11	443.95	443.16	-	-	-	-
MW-24B	-	407.78	-	-	411.44	-	411.65	-	-	-	-	-	-	409.2	-	-	-	409.35	-	-	-	-	-	-	-	-	-	-
MW-25A	-	386	-	-	386.01	-	386.13	-	-	-	385.92	-	-	385.45	-	-	-	383.49	-	385.67	-	-	386.58	-	-	-	385.49	-
MW-26A	-	390.12	-	-	390.13	-	390.08	-	-	-	390.4	-	-	389.9	-	-	-	390.18	-	389.36	-	-	390.3	-	-	-	389.37	-
MW-2B	-	551.94	554.14	-	553.62	-	552.29	552.9	-	-	-	554.71	-	552.15	552.69	-	-	554.93	-	551.7	552.75	-	553.61	-	-	-	551.99	552.1
MW-30B	515.28	516.4	517.18	517.42	517.6	517.78	516.305	516.2	516.68	516.67	515.67	-	517.09	515.29	515.08	516.07	-	517.44	514.66	-	-	516.8	519.05	516.12	-	-	514.63	514.53
MW-3-100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	479.25	481.85	-	-	-	-	-	-	-
MW-3-13	-	-	559.17	-	560.29	-	557.34	558.43	-	-	-	-	-	-	558.82	-	-	560.17	-	556.75	558.91	-	558.27	-	-	-	556.97	557.73
MW-3-150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-31B	-	513.93	514.38	-	-	-	513.8	513.92	-	-	-	-	-	513.69	513.72	-	-	-	-	513.47	513.61	-	-	-	-	-	513.74	513.65
MW-32B	508.18	508.21	508.04	508.24	508.33	508.18	508.23	-	508.21	508.37	508.3	-	508.17	508.35	-	-	508.16	508.28	508	508.19	508.12	508.31	508.39	508.24	-	-	508.17	508.31
MW-36B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	568.86	-	-	-	569.77	-	-	-	-
MW-3B	-	549.28	553.84	-	552.2	-	549.53	553.03	-	-	553.04	-	-	549.75	552.92	-	-	554.2	-	550.59	552.64	-	555.62	-	-	-	551.02	551.15
MW-44T	533.72	532.89	533.86	533.17	534.87	534.63	533.71	534.16	533.27	533.67	-	-	533.82	533.28	534.1	534.38	-	534.76	533.15	533.84	534.4	532.73	534.33	535.29	-	-	532.65	533.72
MW-46-43C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	550.25	548.06	549.42
MW-46-72C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	518.01	513.03	512.51	515.19
MW-4B	544.64	544.78	545.03	544.87	545.32	544.43	544.81	544.96	544.77	544.72	545.36	-	544.04	544.71	544.76	544.89	-	544.616	544.16	544.28	544.88	544.33	545.28	545.33	-	-	544.27	544.66
MW-5-100	-	491.92	-	-	487.82	-	490.23	-	-	-	490.86	-	-	491.92	491.96	-	-	492.47	-	492.13	491.86	-	493.62	-	-	-	491.81	490.74
MW-5-25	-	576.4	-	-	-	-	577.18	-	-	-	576.72	-	-	576.22	575.42	-	-	-	-	576.13	576.11	-	575.7	576.14	-	-	576.2	575.67
MW-5-40	-	554.55	553.29	-	558.19	-	555.02	-	-	-	555.49	-	-	554.42	554.44	-	-	557.55	-	553.13	553.83	-	556.56	555.62	-	-	553.28	552.73
MW-5B	551.94	549.6	554.82	550.35	550.07	551.76	549.23	554.59	549.63	554.51	550.52	-	550.1	549.53	551.52	554.63	-	552.21	550.48	551.32	554.52	552.32	552.39	553.96	-	-	549.77	552.66
MW-6B	-	551.31	-	-	-	-	551.52	551.42	-	-	-	-	-	548.89	548.86	-	-	-	-	548.08	548.17	-	-	-	-	-	-	-
MW-7-40	-	515.41	-	-	515.93	-	514.5	-	-	-	514.38	-	-	515.14	-	-	-	515.59	-	514.29	-	-	514.86	-	-	-	514.81	-
MW-7B	-	-	-	-	570.87	570.72	570.95	-	570.58	570.62	569.71	-	569.96	-	-	572.04	-	572.29	-	-	-	-	573.49	570.23	-	-	568.61	568.69
MW-8-40	-	486.07	-	-	484.01	-	484.83	-	-	-	485.09	-	-	484.57	-	-	-	483.04	-	483.48	-	-	484.57	-	-	-	474.38	475.16
MW-8B	-	-	-	-	573.3	573.42	573.43	-	-	-	574.36	-	573.99	-	-	574.29	-	575.59	575.76	-	-	575.38	576.02	575.63	-	-	575.81	575.4
MW-9-100	-	417.09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P-1	-	552.46	-	-	-	-	552.52	552.39	-	-	-	-	-	551.93	552.32	-	-	-	-	550.92	552.34	-	-	-	-	-	-	-
P-2	-	-	-	-	-	-	553.28	553.13	-	-	-	-	-	553.05	553.07	-	-	-	-	552.54	552.64	-	-	-	-	-	-	-
RW-24B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	576.23	576.26	-	-	-	-	-	-	-

Table 2

Groundwater Elevation Measurements
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Date	(b)	12/17/17	3/19/18	5/7/18	5/14/18 (b)	8/27/18	9/5/18 (b)	12/10/18	3/4/19	6/17/19	9/6/19	9/16/19 (b)	9/20/19 (b)	12/9/19
EW-11-43C		-	-	542	563.46	543.09	562.28	-	-	-	543.23	-	561.88	-
EW-12-45C		-	-	542	544.92	-	543.25	-	-	-	552.32	-	553.82	-
EW-1-62C		-	-	512.41	526.81	-	529.32	-	-	-	513.03	-	525.04	-
EW-1B		-	555.48	553.61	554.59	553.17	552.86	-	-	553.28	-	552.45	-	553.28
EW-2-62C		-	-	511.78	528.64	507.45	528.63	-	-	-	507.39	-	524.21	-
EW-3-60C		-	-	506.58	523.26	506.46	522.98	-	-	-	506.5	-	521.54	-
EW-4-25B		-	-	542.2	544.5	542.17	544.79	-	-	-	542.11	-	551.49	-
EW-5-25B		-	-	543.42	554.26	548.61	553.38	-	-	-	545.37	-	550.65	-
EW-6-60C		-	-	520.92	529.18	519.58	530.62	-	-	-	516.25	-	525.61	-
EW-7-25B		-	-	551.7	551.91	-	-	-	-	-	547.46	-	552.08	-
EW-8-62C		-	-	538.41	540.77	-	533.92	-	-	-	511.41	-	537.45	-
EW-9R-72C		-	-	512.61	527.95	518.28	527.26	-	-	-	510.22	-	524.07	-
EXB-1		-	-	-	-	-	-	-	-	-	-	-	-	-
EXB-10		518.39	519.89	523.04	531.28	520.14	529.34	517.02	518.05	516.24	516.91	526.17	-	515.66
EXB-11		-	484.96	482.73	481.43	489.75	-	-	-	-	-	-	-	-
EXB-2		-	-	-	-	-	-	-	-	-	-	-	-	-
EXB-7		521.25	522.66	522.36	525.373	520.95	-	523.51	521.79	521.3	520.76	523.54	-	521.16
EXB-9		522.77	523.16	524.59	528.95	523.11	526.96	518.64	516.42	520.07	513.81	520.73	-	514.45
MW-1		-	548.67	548.57	549.37	546.6	545.82	-	-	-	-	-	-	-
MW-12B		-	-	552.92	-	-	-	-	-	-	552.91	552.87	-	-
MW-12C		562.11	561.38	557.59	557.88	558.29	557.63	558.01	557.99	558.17	558.27	558.26	-	557.88
MW-13C		557.98	557.8	557.69	557.4	557.67	562.54	557.58	557.57	557.52	-	-	-	557.62
MW-15C		544.68	545.45	544.34	542.53	544.94	542.54	544.31	543.94	584.02	543.64	543.82	-	543.41
MW-16-100		-	458.48	-	-	461.02	-	-	457.58	-	-	457.61	-	-
MW-17-40		-	393.96	-	-	394.21	-	-	394.19	-	-	394.21	-	-
MW-18A		-	390.66	-	-	390.43	-	-	390.71	-	-	390.57	-	-
MW-19A		-	389.43	-	-	-	-	-	-	-	-	-	-	-
MW-1B		550.79	557.28	556.81	556.97	557.13	550.25	551.44	552.45	-	554.71	552.86	-	554.06
MW-20B		504.06	505.03	501.79	503.59	503.9	499.31	504.59	505.08	504.72	-	504.64	-	505.24
MW-21B		-	482.03	-	-	480.33	-	-	-	-	-	-	-	-
MW-22B		-	477.56	-	-	477.16	-	-	-	-	-	479.84	-	-
MW-23B		-	-	-	-	-	-	-	-	-	-	-	-	-
MW-24B		-	-	-	-	-	-	-	-	-	-	-	-	-
MW-25A		-	385.97	-	-	386.17	-	-	385.96	-	-	385.89	-	-
MW-26A		-	391.04	-	-	389.92	-	-	390.33	-	-	390.07	-	-
MW-2B		-	554.96	553.66	553.9	553.16	552.87	-	554.09	-	-	551.85	-	553.15
MW-30B		516.29	517.29	516.76	516.82	515.91	515.16	517.59	516.91	517.77	516.35	515.7	-	517.25
MW-3-100		-	-	480.56	481.51	-	-	-	-	-	-	-	-	-
MW-3-13		-	558.45	560.14	559.99	558.71	558.77	-	-	-	-	-	-	-
MW-3-150		-	-	-	-	-	-	-	-	-	-	-	-	-
MW-31B		-	514.24	-	-	-	-	-	-	-	514.03	513.77	-	-
MW-32B		507.93	508.23	508.23	508.29	508.18	508.12	508.23	508.33	508.28	508.27	508.24	-	-
MW-36B		-	570.69	570.65	570.53	569.08	-	-	-	568.75	568.9	568.93	-	571.04
MW-3B		551.18	555.26	553.5	554.14	551.44	553.29	-	553.69	552.16	549.34	552.01	-	550.75
MW-44T		533.95	534.57	535.1	536.16	533.06	534.62	531.27	-	533.37	533.02	534.27	-	532.18
MW-46-43C		550.97	548.95	551.09	552.4	551.63	550.68	551.63	551.34	552.32	551.79	551.9	-	551.56
MW-46-72C		513.51	514.7	514.97	515.18	515.22	515.33	508.09	511.85	514.27	512.79	515.21	-	513.67
MW-4B		543.88	544.69	544.49	545.22	544.28	545.15	544.25	545.13	543.63	544.18	544.48	-	543.81
MW-5-100		-	491.88	492.2	492.2	493.95	490.2	-	491.83	-	492.38	492.07	-	492.67
MW-5-25		576.08	576.11	576.18	576.12	576.21	576.23	577.38	580.5	578.55	576.86	576.12	-	576.62
MW-5-40		553.43	555.5	555.3	555.05	554.27	553.46	554.39	554.78	556.11	555.67	555.8	-	555.52
MW-5B		550.87	554.93	554.3	554.52	553.6	554.12	551.93	551.85	551.42	-	552.67	-	550.92
MW-6B		-	-	547.87	548.12	548.58	548.07	-	-	-	-	-	-	-
MW-7-40		-	515.57	-	-	515.64	516.99	-	514.79	-	-	514.81	-	-
MW-7B		570.51	572.91	572.77	573.02	572.21	568.95	574.96	573.81	572.88	571.07	571.07	-	574.28
MW-8-40		-	483.64	478.63	479.1	484.43	475.38	-	484.76	-	-	485.33	-	480.67
MW-8B		575.78	575.77	574.86	575.14	575.89	575.73	577.18	577.26	578.24	576.78	576.74	-	576.24
MW-9-100		-	-	-	-	-	-	-	-	-	-	-	-	-
P-1		-	-	554.07	553.94	553.44	552.59	-	-	-	-	-	-	-
P-2		-	-	553.97	552.54	553.12	552.39	-	-	-	-	-	-	-
RW-24B		-	-	575.91	575.93	576.31	576.22	-	-	-	-	-	-	-

a/ All elevations in feet above mean sea level.
b/ Dual phase extraction and treatment system not operational.

Table 3

Areas of Concern and Soil Cleanup Objectives
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	Exceeded Soil Cleanup Objective Driving Interim Remedial Measure			
	Direct Contact			
Area of Concern	**Restricted Residential**	**Commercial**	**Industrial**	**Protection of Groundwater**
AOC 1 - Former Department 507 Degreaser	-	-	-	X
AOC 26 - Building 24 Area	-	-	-	X
AOC 27 - Former Salt Baths Area	X	-	-	X
AOC 28 - Building 30/Oil Shed Area	-	X	-	X
AOC 29 - Former Propane Storage Area	-	X	-	-
AOC 30 - Rice Paddy	-	-	X	-
AOC 31 - Upper Parking Lot 6 Area	X	-	-	-
AOC 32 - Former Spray Pond Area	X	-	-	-
AOC 34 - Area East of Buildings 13A and 14	X	-	-	X
AOC 35A - East of Building 24	X	-	-	-
AOC 35C - Building 11A	X	-	-	X
AOC 35D - Near Parking Lot 4	X	-	-	-
AOC 35G - South of Parking Lot 3	X	-	-	-
AOC 35H - Parking Lot 3	X	-	-	-
AOC 35K - Former Railway Right-of-Way	X	-	-	-
AOC 35L - Former Railway Right-of-Way	X	-	-	-

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 1															
	Sample Location:	**SB-1a**	**SB-1b**	**SB-1c**	**SB-1d**	**SB-15a**		**SB-AOC1-3**			**SB-AOC1-4**	**SB-AOC1-5**	**SB-AOC1-8**	**SB-AOC1-16**	**SB-101112-1**	**SB-101112-2**	**DS-2-BT**
	Depth (ft-bgs):	**8-10**	**12-13.3**	**8-9**	**11-12**	**10-12**	**22-22.4**	**12-14**	**14-16**	**14-16**	**16-18**	**14-16**	**18-20**	**0-2**	**13.75-15.5**	**2.25-3**	**2.75**
	Sample Date:	**08/21/07**	**08/21/07**	**08/21/07**	**08/21/07**	**06/03/08**	**06/04/08**	**06/02/15**	**6/2/2015 (c)**	**6/2/2015 (c)**	**06/02/15**	**06/03/15**	**06/04/15**	**06/02/15**	**10/11/12**	**10/11/12**	**10/18/18**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	0.03 U(d)	0.025 U	0.011 J	0.71 U	0.052	0.079	0.59 U	0.64 U	0.065	0.51 U	0.52 U	0.013 J	0.5 U	0.0294	0.074	-
Benzene	0.06	-	-	-	-	-	-	0.12 U	0.13 U	0.0056 U	0.1 U	0.1 U	0.0046 U	0.099 U	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	0.12 U	0.13 U	0.0056 U	0.1 U	0.1 U	0.0046 U	0.099 U	5.87	0.0072	0.0011 U
1,1-Dichloroethene	0.33	-	-	-	-	-	-	0.12 U	0.13 U	0.0056 U	0.1 U	0.1 U	0.0046 U	0.099 U	0.0167	-	0.0011 U
cis-1,2-Dichloroethene	0.25	0.006 U	0.002 J	0.005 U	0.13 J	0.0058 U	0.042	3.3	0.13 U	0.0056 U	0.1 U	0.1 U	0.17	0.099 U	-	-	0.0027
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	0.23	0.13 U	0.0056 U	0.1 U	0.1 U	0.0018 J	0.099 U	-	-	0.0011 U
Methylene chloride	0.05	0.027	0.023	0.011	0.17	0.0088 U	0.01 U	0.12 U	0.13 U	0.0056 U	0.1 U	0.1 U	0.0046 U	0.099 U	-	-	-
Tetrachloroethene	1.3	0.001 J	0.002 J	0.002 J	0.14 U	0.0058 U	0.01 U	0.1 J	0.13 U	0.0056 U	0.095 J	0.1 U	0.0046 U	0.21	-	-	0.0016 J
Trichloroethene	0.47	0.012	0.028	0.006	0.073 J	0.0082	0.013	0.63	0.13 U	0.0056 U	0.66	0.1 U	0.0029 J	4.3	-	-	58.2
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	0.2	0.5	0.029	0.1 U	4.9	0.0046 U	0.099 U	-	-	-
Vinyl chloride	0.02	0.012 U	0.01 U	0.01 U	0.29	0.012 U	0.021	1.1	0.13 U	0.0056 U	0.1 U	0.1 U	0.022	0.099 U	9.4	0.206	0.0021 U
Xylene (total)	0.26	-	-	-	-	-	-	0.24 U	0.25 U	0.0034 J	0.2 U	0.16 J	0.0092 U	0.2 U	0.202	0.161	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	13	24	10	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	350	108	109	131	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	30	90.1	26.9	17.9	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	30.4	21.4	20.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	50	28.4	18.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.18	0.206	0.021	0.153	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	30	56.3	47.2	30.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109	69	58.2	50.3	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

		AOC:	**AOC 1**	**AOC 26**				**AOC 27**										
		Sample Location:	**DS-4-BT**	**26-15**	**PIPE1**	**DITCH**	**PIPE2**	**LBA-SB-248**				**LBA-SB-512**	**LBA-SB-513**		**LBA-SB-515**		**LBA-MW-04**	
		Depth (ft-bgs):	**3**	**0-0.2**	**-**	**-**	**-**	**7.5**	**7.5**	**15**	**15**	**0.5**	**6**	**6.5-7.5**	**0-1.7**	**1**	**6**	**6**
		Sample Date:	**10/26/18**	**03/01/16**	**05/30/19**	**06/05/19**	**06/06/19**	**08/02/13 (c)**	**08/02/13 (c)**	**08/02/13 (c)**	**08/02/13 (c)**	**12/5/13 (c)**	**12/5/13 (c)**	**12/5/13 (c)**	**12/5/13 (c)**	**12/5/13 (c)**	**08/15/13 (c)**	**08/15/13 (c)**
Parameters	**Unrestricted Use SCO (b)**																	
VOCs (mg/kg)																		
Acetone	0.05		-	1.2 U	-	-	-	0.0056 U	0.21	0.0065 U	-	-	-	-	-	-	-	-
Benzene	0.06		-	0.0606 J	-	-	-	0.0056 U	0.0006 U	0.0065 U	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02		0.0012 U	0.24 U	0.01 U	0.0051 U	0.006 U	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33		0.0012 U	0.24 U	0.01 U	0.0051 U	0.006 U	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25		0.0011 J	0.24 U	0.015	0.0051 U	0.006 U	0.0029 J	0.0298	0.0065 U	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19		0.0012 U	0.24 U	0.01 U	0.0051 U	0.006 U	0.0056 U	0.0016 J	0.0065 U	-	-	-	-	-	-	-	-
Methylene chloride	0.05		-	0.24 U	-	-	-	0.0025 BJ	0.0308	0.0043 BJ	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3		0.0068	0.24 U	0.01 U	0.0051 U	0.006 U	0.0056 U	0.0173	0.0065 U	-	-	-	-	-	-	-	-
Trichloroethene	0.47		20.5	0.24 U	0.041	0.0051 U	0.006 U	0.002 J	0.0352	0.01	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6		-	0.61 U	-	-	-	0.0056 U	-	0.0065 U	-	-	-	-	-	-	-	-
Vinyl chloride	0.02		0.0023 U	0.24 U	0.01 U	0.0051 U	0.006 U	0.0056 U	0.0024 U	0.0065 U	-	-	-	-	-	-	-	-
Xylene (total)	0.26		-	0.124 J	-	-	-	0.0056 U	0.0012 J	0.0065 U	-	-	-	-	-	-	-	-
PAHs (mg/kg)																		
Benzo(a)anthracene	1		-	-	-	3	0.15	0.16 J	0.454 J	0.42 U	-	-	-	-	-	-	0.64	0.873
Benzo(a)pyrene	1		-	-	-	3	0.11	0.37 U	0.338 J	0.42 U	-	-	-	-	-	-	0.56	0.801
Benzo(b)fluoranthene	1		-	-	-	4.3	0.24	0.37 U	0.347 J	0.42 U	-	-	-	-	-	-	0.87	0.957
Benzo(k)fluoranthene	0.8		-	-	-	1.7	0.21	0.37 U	0.257 J	0.42 U	-	-	-	-	-	-	0.32 J	0.706
Chrysene	1		-	-	-	2.5	0.24	0.17 J	0.477 J	0.42 U	-	-	-	-	-	-	0.81	0.999
Dibenzo(a,h)anthracene	0.33		-	-	-	0.33	0.011	0.37 U	0.084 J	0.42 U	-	-	-	-	-	-	0.12 J	0.228
Fluoranthene	100		-	-	-	5.6	0.27	0.33 J	0.907	0.16 J	-	-	-	-	-	-	1	1.61
Indeno(1,2,3-cd)pyrene	0.5		-	-	-	0.87	0.038	0.23 J	0.221 J	0.09 J	-	-	-	-	-	-	0.49	0.674
Phenanthrene	100		-	-	-	1.1	0.054	0.2 J	0.516 J	0.099 J	-	-	-	-	-	-	0.7	1.21
Pyrene	100		-	-	-	4.6	0.29	0.31 J	0.556 J	0.2 J	-	-	-	-	-	-	1.2	1.4
Metals (mg/kg)																		
Arsenic	13		-	-	-	-	-	15	15.5	16	14.2	6	10.5	8.9	23.8	19.7	17	11.8
Barium	350		-	-	-	-	-	180	166	150	108	288	322	3,020	92	148	81.0 J	93.1
Cadmium	2.5		-	-	-	-	-	0.95	1.7	0.3	0.39 J	0.23 J	0.37	0.77	0.71	0.53	0.68	0.38
Chromium	30		-	-	-	-	-	16.3	21.7	28 J	20.8	40.1	21.5	28.9	10.3	12.6	68 J	112
Copper	50		-	-	-	-	-	-	-	-	-	-	10.5	-	-	-	-	-
Lead	63		-	-	-	-	-	190	187	90	175	92.4	95.9 ^	403	221	264	80 J	74.5
Mercury	0.18		-	-	-	-	-	0.2	0.097	0.07	0.067	0.14	0.041	0.078	0.34	0.74	0.11	0.076
Nickel	30		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9		-	-	-	-	-	1.5 U	0.62 J	0.92 J	0.54 J	0.93 U	0.67 J	0.5	2.3 J	1.2	-	0.51 J
Silver	2		-	-	-	-	-	1.5 U	0.49 U	1.5 U	0.52 U	0.47 U	0.64 U^	0.46	0.57 U	0.48 U	0.26 J	0.46 U
Zinc	109		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27		-	-	-	-	-	-	0.45	-	-	14.3	20.3	10.4	1 J	2.1	-	0.23
Total PCBs (mg/kg)	0.1		-	-	6.4	1.9	0.6	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																		
4,4'-DDD	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 27															
	Sample Location:	LBA-MW-17	LBA-MW-18		LBA-MW-19		27-01	27-02	Concrete-1	Concrete-3	Concrete-4	Concrete-5	Concrete-6	Concrete-7	Concrete-8	Concrete-9	Concrete-10
	Depth (ft-bgs):	2	0-1	1.9	0-1.9	0-1.9	0-2	0-2									
	Sample Date:	08/26/13	08/26/13 (c)	08/26/13 (c)	08/27/13 (c)	08/27/13 (c)	12/02/15	12/02/15	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	0.0056 U	0.013 U	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	0.0056 U	0.0011	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	0.0056 U	0.00067 J	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	0.0056 U	0.0026 U	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	0.0056 U	0.008	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	0.0056 U	0.0013 J	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	0.0056 U	0.0019 J	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	0.0056 U	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	0.0056 U	0.0026 U	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	0.0056 U	0.0028	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	13	19	5.5	10.2	26	26.2	6.5	6.2	-	-	-	-	-	-	-	-	-
Barium	350	540 J	380 J	278	110 J	927	115	245	1,830	5,650	6,330	10,700	4,790	4,180	2,770	558	6,450
Cadmium	2.5	0.83	0.2	0.12 J	2.00	0.46	0.4 U	0.39 U	-	-	-	-	-	-	-	-	-
Chromium	30	30 J	11 J	18.4	28 J	16.4	20.3	18.9	-	-	-	-	-	-	-	-	-
Copper	50	270	11	9.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	280	6.5	14	51	88.5	7.4	12.4	-	-	-	-	-	-	-	-	-
Mercury	0.18	0.16	0.021 J	0.015 J	0.094	0.1	0.034 U	0.01 B	-	-	-	-	-	-	-	-	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	1.2	0.76 J	0.51 J	1 U	1 U	0.9 U	0.97 U	-	-	-	-	-	-	-	-	-
Silver	2	1	0.25 J	0.48 U	0.88 J	0.22 J	3	4.1	-	-	-	-	-	-	-	-	-
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	0.86	1.9	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 27		AOC 28												
	Sample Location:	Concrete-11	Concrete-12	LBA-TP-12	SB-126	28-01					28-3		28-09		28-13	
	Depth (ft-bgs):			6.5	3-3.8	0-0.17	1.3	2.9	5.8	14.5	0-0.2	2.8	0.17-2	0.17-2	0-0.17	0.17-1.9
	Sample Date:	04/03/19	04/03/19	08/09/13	11/14/12	11/18/15	11/18/15	11/18/15	11/18/15	11/18/15	11/18/15	11/18/15	11/19/15 (c)	11/19/15 (c)	11/19/15	11/19/15
Parameters	**Unrestricted Use SCO (b)**															
VOCs (mg/kg)																
Acetone	0.05	-	-	-	0.186 J	0.476 E	0.267	0.051	3.1 U	0.246	1.2 U	0.11 J	-	-	-	-
Benzene	0.06	-	-	-	0.0058 U	0.0034	0.0165	0.0018	0.16 U	0.0103	0.06 U	0.00078 U	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	0.0024 U	0.0024 U	0.0021 U	0.63 U	0.0021 U	0.24 U	0.0031 U	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	0.0024 U	0.0024 U	0.0021 U	0.63 U	0.0021 U	0.24 U	0.0031 U	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	0.0024 U	0.0024 U	0.0021 U	0.63 U	0.0021 U	0.24 U	0.0045	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	0.0024 U	0.0024 U	0.0021 U	0.63 U	0.0021 U	0.24 U	0.0031 U	-	-	-	-
Methylene chloride	0.05	-	-	-	-	0.003 B	0.0024 B	0.0018 JB	0.63 U	0.0021 U	0.24 U	0.0032 U	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	0.0022 J	0.0034	0.0032	1.36	0.0053	0.13 J	0.0215	-	-	-	-
Trichloroethene	0.47	-	-	-	0.0058 U	0.0146	0.0605	0.0158	2.98	0.0329	0.435	0.0587	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	0.0058 U	0.0021 J	0.006 U	0.0051 U	1.6 U	0.0015 J	0.192 J	0.00099 J	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	0.0024 U	0.0024 U	0.0021 U	0.63 U	0.0021 U	0.24 U	0.0031 U	-	-	-	-
Xylene (total)	0.26	-	-	-	-	0.0029	0.00045 J	0.0021 U	0.63 U	0.002 J	0.709	0.0025 U	-	-	-	-
PAHs (mg/kg)																
Benzo(a)anthracene	1	-	-	0.23 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	0.23 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	-	-	0.41 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	-	-	0.13 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	-	-	0.34 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	0.46 U	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	-	-	0.28 J	0.386 U	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	0.23 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	-	-	0.13 J	0.386 U	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	-	-	0.27 J	0.386 UR	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																
Arsenic	13	-	-	21	5.2 U	-	-	-	-	-	-	-	29	37.5	10.4	19.7
Barium	350	1,950	9,490	2,100	105	-	-	-	-	-	-	-	391	342	326	334
Cadmium	2.5	-	-	1.2	0.33 U	-	-	-	-	-	-	-	3.6	3.1	1.2	1.20
Chromium	30	-	-	610	18.8 U	-	-	-	-	-	-	-	253 J	310	43.6	749.0 J
Copper	50	-	-	1,200	28.5	-	-	-	-	-	-	-	-	-	-	-
Lead	63	-	-	39	1,450	-	-	-	-	-	-	-	125 J	148 J	66.6	147 J
Mercury	0.18	-	-	0.2	0.22	-	-	-	-	-	-	-	0.51 J	0.46	0.11	0.62
Nickel	30	-	-	-	32.7	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	8.9	0.87 U	-	-	-	-	-	-	-	5 U	5.3 U	1.2 U	1.9 U
Silver	2	-	-	2 U	0.65 U	-	-	-	-	-	-	-	1 U	0.8 B	0.6 U	0.49 B
Zinc	109	-	-	-	179	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	3.5	-	-	-	-	-	-	-	0.15 U	-	-	2.80
Total PCBs (mg/kg)	0.1	-	-	-	0.0956 UJ	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

		AOC:	AOC 28															
											AOC 29							
		Sample Location:	S-3-WW	S-9-EW	LBA-SB-517			SB-123	LBA-SB-200	LBA-SB-203			29-12	29-13		DS-1-EW	DS-2-EW	DS-5-NW
		Depth (ft-bgs):	3-5	4-6	1-1.5	4-6	4-6	17-18	8.5-9	13	14	23	0.2-2	0-0.2	0.2-2	0 - 2	0 - 2	0 - 2
		Sample Date:	11/06/18	11/06/18	12/06/13	12/06/13 (c)	12/06/13 (c)	11/14/12	07/30/13	07/30/13	07/30/13	07/30/13	03/02/16	03/02/16	03/02/16	11/02/18	11/02/18	11/02/18
Parameters	**Unrestricted Use SCO (b)**																	
VOCs (mg/kg)																		
Acetone	0.05		-	-	0.51 U	-	-	0.0625 UJ	-	-	-	-	-	-	-	-	-	-
Benzene	0.06		-	-	0.026 U	-	-	0.0061 U	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25		-	-	0.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19		-	-	0.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05		-	-	0.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3		-	-	0.0713 J	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47		-	-	2.69	-	-	0.173 J	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6		-	-	-	-	-	0.0061 U	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02		-	-	0.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26		-	-	0.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																		
Benzo(a)anthracene	1		-	-	-	-	-	1.63 J	-	-	-	-	1.5	1.01	1.05	3.7	32.6	1.3
Benzo(a)pyrene	1		-	-	-	-	-	1.28 J	-	-	-	-	1.21	0.892	0.942	3.2	28.1	1.4
Benzo(b)fluoranthene	1		-	-	-	-	-	1.62 J	-	-	-	-	0.969	0.888	0.862	4.5	41.8	1.9
Benzo(k)fluoranthene	0.8		-	-	-	-	-	0.722 J	-	-	-	-	0.904	0.772	0.817	1.9	13.7	0.84
Chrysene	1		-	-	-	-	-	1.98 J	-	-	-	-	1.42	0.995	1.02	3.4	30.2	1.2
Dibenzo(a,h)anthracene	0.33		-	-	-	-	-	-	-	-	-	-	0.184	0.196	0.188	0.61	6.3	0.3
Fluoranthene	100		-	-	-	-	-	1.54	-	-	-	-	3.27	2.06	1.9	6.9	65.1	3
Indeno(1,2,3-cd)pyrene	0.5		-	-	-	-	-	1.1 J	-	-	-	-	0.493	0.415	0.453	1.4	13.9	0.7
Phenanthrene	100		-	-	-	-	-	2.05	-	-	-	-	4.36	1.3	1.17	5.5	57	2
Pyrene	100		-	-	-	-	-	5.38 J	-	-	-	-	3.23	1.75	1.88	5.7	53	2.5
Metals (mg/kg)																		
Arsenic	13		55.8	14.9	-	19.2	10.4	13.2 U	17.6	17	41.6	65	-	-	-	14.6	14.7	7.2
Barium	350		810	942	-	1,100	196	663	118	160 J	120	250 J	-	-	-	-	-	-
Cadmium	2.5		-	-	-	2.5	1	0.72	0.63	1.2	0.85	6.2	-	-	-	-	-	-
Chromium	30		-	-	-	116	33.5	50.1	92.7	320 J	389	310 J	-	-	-	-	-	-
Copper	50		-	-	-	8,240 ^	-	251.0	-	2,900	1,870	650	-	-	-	-	-	-
Lead	63		-	-	-	880	181	234.0	136.0	35 J	73.9	2,000 J	-	-	-	-	-	-
Mercury	0.18		-	-	-	0.12	0.072	0.50 U	0.09	0.17	0.16	0.025 J	-	-	-	-	-	-
Nickel	30		-	-	-	397	-	162.0	-	-	-	-	-	-	-	-	-	-
Selenium	3.9		-	-	-	1.1 J	0.95 U	1.1 U	0.9 U	1.5 U	2 U	4.7 U	-	-	-	-	-	-
Silver	2		-	-	-	0.61 J^	0.48 U	0.56 U	0.44 U	0.21 J	0.5 U	4.7 U	-	-	-	-	-	-
Zinc	109		-	-	-	634 J	-	323.0	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27		3.6	3.1	-	10 U	-	1.10	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1		-	-	-	-	-	0.123	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																		
4,4'-DDD	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 29															
	Sample Location:	**DS-7-NW**	**DS-11-SW**	**DS-12-SW**	**DS-13-SW**	**DS-14-SW**	**DS-15-SW**	**DS-17-BT**	**CS-1-SW**	**DS-18-WW**	**DS-19-WW**	**DS-20-WW**	**DS-21-WW**	**CS-8-BT**	**DS-22-SW**	**DS-23-SW**	**DS-24-SW**
	Depth (ft-bgs):	**0 - 2**	**0.5 - 1**	**0.5 - 1**	**0.5 - 1**	**0.5 - 1**	**0.5 - 1**	**2**	**0 - 2**	**0.5 - 1.5**	**0.5 - 1.5**	**1 - 2**	**1 - 2**	**2.5**	**0 - 0.75**	**0 - 0.75**	**0 - 1**
	Sample Date:	**11/02/18**	**11/02/18**	**11/02/18**	**11/02/18**	**11/02/18**	**11/05/18**	**11/05/18**	**11/05/18**	**11/10/18**	**11/10/18**	**11/10/18**	**11/10/18**	**11/15/18**	**11/15/18**	**11/15/18**	**11/15/18**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	0.92	0.83	15.9	3.9	2.5	0.34	0.71 U	0.93	1.9	1.3	2.7	0.78	5.2	4.7	12.5	11.8
Benzo(a)pyrene	1	0.91	0.67	13.6	3.1	2	0.31	0.71 U	0.86	1.8	1.2	2.6	0.73	4.5	3.9	11.5	9.8
Benzo(b)fluoranthene	1	1.4	1.1	23.3	4.6	3	0.69	0.71 U	1.4	2.5	2.6	4.1	1.5	5.9	5.3	27.6	13.2
Benzo(k)fluoranthene	0.8	0.57	0.38	8	1.5	0.87	0.2	0.71 U	0.57	1	2.2	1.5	1.3	2.4	2.3	7.8	4.8
Chrysene	1	0.82	0.78	14.4	3.1	2.1	0.36	2.1	0.89	1.8	1.2	2.6	0.71	5	4.3	11.4	10.8
Dibenzo(a,h)anthracene	0.33	0.16	0.15	1.1	0.61	0.39	0.048	0.71 U	0.19	0.29	0.16	0.38	0.094	0.6	0.68	2.1	1.6
Fluoranthene	100	1.4	1.5	33.3	7.4	4.7	0.44	0.71 U	1.9	3.2	2.5	4.3	1.3	9.3	9.3	45	48
Indeno(1,2,3-cd)pyrene	0.5	0.37	0.31	5.5	1.6	1	0.12	0.71 U	0.48	0.75	0.43	0.89	0.25	1.4	1.7	4.2	3.3
Phenanthrene	100	1.1	2	29.3	5.4	3.4	0.35	0.71 U	1.3	2.3	1.4	2.2	0.66	7.8	8.3	36.2	43.6
Pyrene	100	1.1	1.1	27.9	5.8	3.9	0.36	1	1.3	2.5	2	3.9	1.2	9	7.5	36.4	44.2
Metals (mg/kg)																	
Arsenic	13	13.3	15.3	13.4	7.4	8.1	18.1	3.5	14	14.1	8.3	7.3	6.3	22.9	13.6	30.9	7.1
Barium	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 30															
	Sample Location:	SB-125		WSP-SB-614		WSP-SB-615	WSP-SB-616		WSP-SB-617		LBA-TP-08		LBA-SB-209	LBA-SB-210			
	Depth (ft-bgs):	0.5-2.5	18.5-20	2-2.8	5-6	2-2.8	2-2.7	8-8.5	2-3.5	8-8.6	5	-	27	12	12	0.2-2	8-10
	Sample Date:	11/14/12	11/14/12	04/30/14	04/30/14	05/01/14	05/01/14	05/01/14	05/01/14	05/01/14	08/08/13	08/08/13	07/31/13	7/31/13 (c)	7/31/13 (c)	11/17/15	11/17/15
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	0.0102 U	0.0737 UJ	-	-	-	-	-	-	-	-	-	-	-	-	0.0594 J	-
Benzene	0.06	0.0048 U	0.005 U	-	-	-	-	-	-	-	-	-	-	-	-	0.00084	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.003 U	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0021 J	-
Trichloroethene	0.47	0.0113	0.005 U	-	-	-	-	-	-	-	-	-	-	-	-	0.008	-
1,2,4-Trimethylbenzene	3.6	0.0048 U	0.005 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0027 J	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	1.38	1.88	-	-	-	-	-	-	-	-	-	-	-	-	4.17	-
Benzo(a)pyrene	1	1.25 J	1.79 J	-	-	-	-	-	-	-	-	-	-	-	-	4.09	-
Benzo(b)fluoranthene	1	1.89 J	2.61 J	-	-	-	-	-	-	-	-	-	-	-	-	3.95	-
Benzo(k)fluoranthene	0.8	0.639 J	1.16 J	-	-	-	-	-	-	-	-	-	-	-	-	2.94	-
Chrysene	1	1.35	1.95	-	-	-	-	-	-	-	-	-	-	-	-	3.87	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.866	-
Fluoranthene	100	2.14 U	3.92	-	-	-	-	-	-	-	-	-	-	-	-	7.73	-
Indeno(1,2,3-cd)pyrene	0.5	0.677 J	0.567 J	-	-	-	-	-	-	-	-	-	-	-	-	2.11	-
Phenanthrene	100	1.79	4.04	-	-	-	-	-	-	-	-	-	-	-	-	3.36	-
Pyrene	100	2.06	3.3 J	-	-	-	-	-	-	-	-	-	-	-	-	6.09	-
Metals (mg/kg)																	
Arsenic	13	13 U	17.2 U	-	-	-	-	-	-	-	15	11.2	18.2	-	13.7	9.2	-
Barium	350	1,330	491	358	5,370	346	1,370	2,880	338	224	3,000	2,740	2,070	-	2,800	306 J	-
Cadmium	2.5	0.28 U	0.24 U	-	-	-	-	-	-	-	1.5	0.83	0.34 J	-	0.91	0.26 B	-
Chromium	30	114	57.2	-	-	-	-	-	-	-	480 J	168	33.2	-	63.7	39	-
Copper	50	121	85.4	-	-	-	-	-	-	-	3,400	-	-	-	-	-	-
Lead	63	50.4	38.4	-	-	-	-	-	-	-	70	96.9	28.4	-	237	40.7 J	-
Mercury	0.18	0.22	0.1 U	-	-	-	-	-	-	-	0.25	0.15	0.078	-	0.33	0.038	-
Nickel	30	157	341	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	1.2 U	1 U	-	-	-	-	-	-	-	3.9	2 U	0.9 U	-	0.93 U	0.86 UJ	-
Silver	2	0.57 U	0.49 U	-	-	-	-	-	-	-	1.2 U	0.21 J	0.45 U	-	0.12 J	0.43 U	-
Zinc	109	179	67.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	2.1	1.2	-	-	-	-	-	-	-	1.7	0.14 U	-	1.3	-	-	-
Total PCBs (mg/kg)	0.1	1.68	0.0867 UJ	0.0887	4.107	9.64	1.989	0.4044	4.879	32.789	20	18.9	-	-	-	1.8324	3.8
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	1.5 P	0.006 U	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	0.39 P	0.006 U	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	2.6	0.006 U	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	0.14 J	0.006 U	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	0.73	0.006 U	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

AOC:		AOC 30														
Sample Location:		**30-1**					**30-2**		**30-3**		**30-3**		**30-4**			
Depth (ft-bgs):		**10-12**	**14-15**	**18-19.5**	**22-23.5**	**22-23.5**	**0-0.2**	**0.2-2**	**8-10**	**10-12**	**16-18**	**20-22**	**0.2-2**	**8-10**	**12-14**	**20-22**
Sample Date:		**11/17/15**	**11/17/15**	**11/17/15**	**11/17/15 (c)**	**11/17/15 (c)**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**	**11/18/15**
Parameters	**Unrestricted Use SCO (b)**															
VOCs (mg/kg)																
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																
Arsenic	13	-	-	-	-	-	7.9	10.9	-	-	-	-	11.1	-	-	-
Barium	350	-	-	-	-	-	139	1,180	-	-	-	-	1,490	-	-	-
Cadmium	2.5	-	-	-	-	-	0.67	0.37	-	-	-	-	0.49	-	-	-
Chromium	30	-	-	-	-	-	74.3	26.3	-	-	-	-	54.9	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	-	-	-	-	-	63.1	322	-	-	-	-	48	-	-	-
Mercury	0.18	-	-	-	-	-	0.037	0.084	-	-	-	-	0.069	-	-	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	0.96 U	0.88 U	-	-	-	-	0.9 U	-	-	-
Silver	2	-	-	-	-	-	0.48 U	0.44 U	-	-	-	-	0.45 U	-	-	-
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	0.46	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	1.15	0.4285	0.554	0.037 U	1.27	0.0442	0.611	1.3	0.264	0.306	0.3391	1.378	0.4252	0.6665	0.166
Pesticides (mg/kg)																
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 30										AOC 31					
	Sample Location:	**30-5**	**30-6**	**30-7**	**CS-1-BT**	**CS-5-NW**	**CS-9-SW**	**DS-2-NW**	**DS-4-BT**	**DS-5-BT**	**CS-13-EW**	**WSP-SB-618**	**WSP-SB-619**		**WSP-SB-620**	**LBA-TP-16**	
	Depth (ft-bgs):	**0.2-2**	**0.2-2**	**0.2-2**	**1 - 1.5**	**0 - 1**	**0 - 1**	**0 - 1**	**0 - 1**	**1**	**0.75 - 1**	**2-3**	**0-2**	**2-3**	**0-2**	2.5	-
	Sample Date:	**11/18/15**	**11/18/15**	**11/18/15**	**10/26/18**	**10/31/18**	**10/31/18**	**10/31/18**	**10/31/18**	**10/31/18**	**11/07/18**	**04/30/14**	**04/30/14**	**04/30/14**	**04/30/14**	**08/09/13**	**8/9/2013 (c)**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0153
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0006 U
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0024 U
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0024 U
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0187
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0024 U
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0229
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00072 J
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0024 U
PAHs (mg/kg)																	
Benzo(a)anthracene	1	0.342	2.44	2.16	7.38	1.3	1.2	18.6	37.5	0.025	2.9	-	-	-	-	-	-
Benzo(a)pyrene	1	0.346	2.32	1.99	8.03	0.47	0.99	12.9	33.2	0.021	2.5	-	-	-	-	-	-
Benzo(b)fluoranthene	1	0.373	2.17	1.77	11.3	0.68	1.5	18.7	46.5	0.036	3.4	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	0.353	2.05	1.95	4.11	0.3	0.66	8.5	19	0.015	1.7	-	-	-	-	-	-
Chrysene	1	0.36	2.22	1.98	8.12	1.1	1.1	17	35.7	0.024	2.7	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	0.137	0.664	0.521	1.41	0.1	0.23	2.7	8.6	0.0071 U	0.55	-	-	-	-	-	-
Fluoranthene	100	0.577	5.8	6.22	13.8	0.94	1.8	46.2	67.6	0.049	4.8	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	0.346	1.63	1.26	7.39	0.28	0.59	6.3	19.8	0.009	1.2	-	-	-	-	-	-
Phenanthrene	100	0.427	2.86	2.86	5.94	1.5	1.1	40.7	56.2	0.051	2.9	-	-	-	-	-	-
Pyrene	100	0.452	3.54	3.52	12.8	0.77	1.6	34.3	55.3	0.041	4	-	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	13	8.3	15.2	20.9	-	9.2	15.2	6.3	11.9	71.7	5.8	-	22.9	29	-	24	15.4
Barium	350	209	5,410	149	-	-	-	-	-	-	-	879	2,750	3,750	1,070	1,200	1,840
Cadmium	2.5	0.18 B	3.5	0.35 B	-	-	-	-	-	-	-	1.4	3.9	3.2	2.1	4.2	1.9
Chromium	30	27	355	332	-	-	-	-	-	-	-	87.6	382	381	107	450 J	106
Copper	50	-	-	-	-	-	-	-	-	-	-	350	1,270	987	794	1,500	-
Lead	63	39.5	52.4	33.2	-	-	-	-	-	-	-	123	159	181	128	160	252
Mercury	0.18	0.11	0.034 B	0.026 B	-	-	-	-	-	-	-	-	-	-	-	0.48	0.64
Nickel	30	-	-	-	-	-	-	-	-	-	-	144	567	471	166	-	-
Selenium	3.9	0.88 U	1.8 U	4.5 U	-	-	-	-	-	-	-	-	-	-	-	2.8	5 U
Silver	2	0.44 U	0.92 U	2.2 U	-	-	-	-	-	-	-	-	-	-	-	1.5 U	0.5 U
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8
Total PCBs (mg/kg)	0.1	2.268	11.7	0.182	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 31															
	Sample Location:	SB-124	31-02	31-03		31-04		31-05		31-06		DS-1-BT	DS-2-WW	DS-3-NW	CS-4-EW	CS-400-EW	CS-5-EW
	Depth (ft-bgs):	0.5-2.5	2-2.5	0-0.2	0.2-2	0-0.2	0.2-2	0-0.2	0.2-2	0-0.2	0.2-2	2	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0 - 2
	Sample Date:	11/13/12	11/17/15	11/16/15	11/16/15	11/16/15	11/17/15	11/16/15	11/15/15	03/01/16	03/01/16	11/07/18	11/07/18	11/07/18	11/10/18	11/10/2018 (c)	11/27/18
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	0.0654 J	-	0.0366	-	0.106 J	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	0.0016	-	0.00069 U	-	0.0083 J	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	0.0042 U	-	0.0028 U	-	0.0028 U	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	0.0042 U	-	0.0028 U	-	0.0028 U	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	0.0042 U	-	0.0028 U	-	0.0028 U	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	0.0042 U	-	0.0028 U	-	0.0028 U	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	0.0042 U	-	0.0026 JB	-	0.0036 UJ	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	0.0042 U	-	0.0028 U	-	0.00091 J	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	0.0683	-	0.0394	-	0.109 J	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	0.0023 J	-	0.0069 U	-	0.0028 J	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	0.0042 U	-	0.0028 U	-	0.0028 UJ	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	0.004 J	-	0.0028 U	-	0.0049 J	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	1.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	0.936 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	1.33 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	0.632 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	1.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	1.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	0.482 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	1.34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	1.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	13	23.9 U	15.6	7.3 J	9.3	11.2	10.5	23.1	14.7	8	22.7	24.8	6.5	19.3	11.1	12.5	17.7
Barium	350	216	73.4	116	99.1	84	80.7	300	975	81.7	216	667	94.5	1,750	269	267	412
Cadmium	2.5	0.35 U	0.042 B	0.19 B	0.3 B	0.1 B	0.061 B	2.3	0.97	0.45	0.65 B	0.65	0.31 U	2.5	0.32 U	0.42	0.94
Chromium	30	55.7	17.4	17.4	36.8	24.1	21.3	63.1	113	35.8	32.7	70.2	67.3	438	50.3	56.5	95.9
Copper	50	77.6	14.5	45.8	71.9	39.7 J	30.7	218	312	98.6	157	447	281	2,560	159	162	249
Lead	63	40 U	23.7	19.6	31.6	20.8	20.1	137	97.2	60	114	-	-	-	-	-	-
Mercury	0.18	0.11 U	0.039	0.028 B	0.017 B	0.037	0.035	0.2	0.54	0.03 B	0.15	-	-	-	-	-	-
Nickel	30	165	29	30.3	44.6	41.7	32.2	136	139	-	-	180	165	340	80.9	104	146
Selenium	3.9	1 U	0.83 U	1.7 U	1.7 U	0.83 U	0.88 U	4.3 U	1.8 U	0.84 U	1.3 B	-	-	-	-	-	-
Silver	2	0.71 U	0.42 U	0.43 U	0.84 U	0.42 U	0.57	0.86 U	0.9 U	0.42 U	0.87 U	-	-	-	-	-	-
Zinc	109	78.7 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	4.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 32															
	Sample Location:	**DS-1-NW**	**DS-2-NW**	**DS-3-NW**	**DS-4-NW**	**DS-5-WW**	**DS-6-SW**	**DS-7-SW**	**DS-8-SW**	**DS-9-SW**	**SB-1**	**TP-3 (e)**	**TP-4 (e)**	**DS-10-SW**	**DS-11-NW**	**DS-12-SW**	**DS-13-NW**
	Depth (ft-bgs):	**1 - 2**	**1 - 2**	**0.75 - 1.5**	**1.5 - 2**	**0.5 - 1.5**	**1.5 - 2**	**1 - 2**	**1.5 - 2**	**1 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**
	Sample Date:	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**11/13/18**	**12/03/18**	**12/18/18**	**12/18/18**	**12/19/18**	**12/19/18**	**12/19/18**	**12/19/18**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	22.6	27.4	6.3	0.5	4.7	1.4	5.5	2.1	9.7	1.1	0.28	0.21	8.9	3.5	8.1	13.5
Benzo(a)pyrene	1	22.3	25.8	5.8	0.39	4.7	1.3	5.3	2.1	10.5	1.1	0.26	0.19	8.3	3.4	7	13.9
Benzo(b)fluoranthene	1	43.7	50	8.8	0.87	7.1	2	8.3	3.2	16.6	2.6	0.57	0.42	17.5	7.9	10.9	27.9
Benzo(k)fluoranthene	0.8	29.1	33.9	3.5	0.75	2.8	0.8	2.9	1.3	5.3	0.59	0.38	0.28	11.5	5.3	3.3	7.4
Chrysene	1	18.1	15.5	5.7	0.58	4.3	1.3	4.9	2	8.5	1.1	0.24	0.19	7.1	3.2	6.4	10.8
Dibenzo(a,h)anthracene	0.33	3.4	2.6	0.74	0.086 U	0.64	0.17	0.62	0.28	1.3	0.23	0.076 U	0.082 U	1.3	0.57	1	1.5
Fluoranthene	100	43.5	49.4	12.7	1.1	9.5	3	10.7	4	23.1	2.6	0.43	0.32	16.1	6	15.4	38.8
Indeno(1,2,3-cd)pyrene	0.5	8.3	6.2	1.8	0.14	1.7	0.47	1.6	0.8	3.3	0.49	0.14	0.099	3.2	1.4	2.4	3.9
Phenanthrene	100	23	25.6	6.8	0.75	5	1.6	4.7	1.9	7.5	1.2	0.18	0.21	9.3	2.9	14	11.2
Pyrene	100	35.9	40.9	10.7	0.88	7.7	2.4	8.9	3.3	15.7	2.4	0.35	0.26	13.1	5.1	11.8	31.7
Metals (mg/kg)																	
Arsenic	13	11.9	13.8	52.7	86.5	11.2	22.7	9.1	16.9	11.7	11.1	7.5	12.2	13.3	31.7	14.3	25.3
Barium	350	145	113	237	142	97.3	133	88.6	84.7	74.8	65	73.1	110	96.5	113	98.9	157
Cadmium	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	230	236	202	45.1	112	93.4	62.8	59	90.6	376	52.6	106	115	71.7	95.1	164
Mercury	0.18	0.16	0.21	0.14	0.13 U	0.11 U	0.17	0.13 U	0.13 U	0.15	0.12	0.2	0.12 U	0.14	0.13 U	0.12 U	0.12 U
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109																
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	2	2.5	1.9	0.076	0.94	0.31	0.66	0.22	0.55	-	0.58	0.2 U	2	0.7	1.5	1.9
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 32															
	Sample Location:	**DS-14-SW**	**DS-15-NW**	**DS-16-SW**	**DS-1600-SW**	**DS-17-NW**	**DS-18-BT**	**P9**	**DS-19-WW**	**DS-20-WW**	**DS-21-BT**	**DS-22-NW**	**DS-23-NW**	**DS-24-BT**	**DS-100-BT**	**DS-25-BT**	**DS-26-NW**
	Depth (ft-bgs):	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**0 - 2**	**2**	**0-2.0**	**1.5**	**1.75**	**2**	**1.75**	**1**	**2**	**2**	**2**	**1.5**
	Sample Date:	**12/19/18**	**12/19/18**	**12/19/18**	**12/19/2018 (c)**	**12/19/18**	**12/19/18**	**04/01/19**	**06/26/19**	**06/26/19**	**06/26/19**	**06/26/19**	**06/26/19**	**06/26/19**	**06/26/19 (c)**	**06/26/19**	**06/26/19**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	3.4	11.1	2.8	3.7	12.5	2.1	1.78	4.3	4.5	4.9	6.8	0.23	0.57	0.4	2	1.1
Benzo(a)pyrene	1	3.8	11.1	3	3.9	12.3	2.1	1.44	3.8	3.3	5.8	6.1	0.17	0.55	0.39	2.1	1
Benzo(b)fluoranthene	1	6.7	22.6	7.3	10.1	21.9	5.2	1.83	11.4	9.7	13.1	12.8	0.76	2	1.3	8.6	4.4
Benzo(k)fluoranthene	0.8	1.8	5.2	4.9	6.8	5.1	3.5	0.565	9	7.7	11.9	11.6	0.6	1.2	1	6.8	3.5
Chrysene	1	3.1	8.8	2.4	3.2	10.5	1.8	1.39	3.8	4	4.4	5.1	0.19	0.48	0.35	1.8	0.96
Dibenzo(a,h)anthracene	0.33	0.42	1.2	0.31	0.37	1.2	0.21	0.263	0.18	0.18	0.3	0.32	0.012	0.039	0.021	0.12	0.066
Fluoranthene	100	6.7	25	5.5	7.3	24.1	4.3	3.5	8.4	7.8	8.5	11.5	0.41	1	0.69	3.2	2.4
Indeno(1,2,3-cd)pyrene	0.5	1.1	3	0.83	0.99	3	0.55	0.777	0.42	0.4	0.69	0.68	0.03	0.11	0.054	0.28	0.18
Phenanthrene	100	2.8	9.8	2.3	3.1	11.5	2.4	2.38	5.9	3.6	4.7	9	0.27	0.61	0.35	1.2	1.1
Pyrene	100	5.4	20.5	4.4	5.8	20	3.4	2.81	6.6	6.1	7.3	8.8	0.32	0.83	0.58	2.7	1.8
Metals (mg/kg)																	
Arsenic	13	15.4	28.5	23.3	10	13.3	38.7	13.1	38	16.2	10.2	20.8	4.8	9.6	10.3	4.2	13.3
Barium	350	116	115	115	78.9	292	81.7	112	129	68.3	67.4	125	133	61.6	67.2	45.3	98.3
Cadmium	2.5	-	-	-	-	-	-	0.285 J	-	-	-	-	-	-	-	-	-
Chromium	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	112	123	141	119	261	74.3	36.4	133	73.2	84.5	126	112	182	883	35.1	229
Mercury	0.18	0.14	0.12 U	0.11 U	0.11 U	0.27	0.12 U	0.125	0.16	0.11 U	0.14	0.12	0.1 U	0.13	0.11 U	0.11 U	0.1
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109																
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	0.92	2.4	0.57	0.81	4.2	0.77	0.165	0.53	-	0.21	0.34	-	-	-	0.15	0.23
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 32															
	Sample Location:	**DS-27-BT**	**DS-29-NW**	**DS-30-NW**	**DS-31-BT**	**DS-32-NW**	**DS-33-NW**	**TP-1**	**TP-2**	**DS-34-SW**	**DS-35-SW**	**DS-36-SW**	**DS-200-SW**	**DS-38-SW**	**DS-39-SW**	**DS-40-SW**	**DS-42-SW**
	Depth (ft-bgs):	**2**	**0.5**	**1**	**2**	**1.75**	**0.5**	**1**	**1.5**	**1.5**	**1.25**	**1.75**	**1.75**	**1.5**	**1.25**	**1**	**1.5**
	Sample Date:	**06/26/19**	**06/27/19**	**06/27/19**	**06/27/19**	**06/28/19**	**06/28/19**	**07/11/19**	**07/11/19**	**07/16/19**	**07/16/19**	**07/16/19**	**7/16/2019 (c)**	**07/17/19**	**07/17/19**	**07/17/19**	**07/17/19**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	0.4	1.6	0.78	22.4	0.44	0.76	2.2	2.3	0.45	4.4	1.1 U	0.4	2.2	1.5	0.16	2.6
Benzo(a)pyrene	1	0.33	1.2	0.67	15.5	0.46	0.78	1.9	2.3	0.65	4.7	1.1 U	0.13	1.8	1	0.13	2
Benzo(b)fluoranthene	1	1.3	3.5	2.5	35.5	1.6	2.5	2.9	4.9	1.2	7.4	1.1 U	0.25	3.8	2.2	0.29	4.5
Benzo(k)fluoranthene	0.8	0.99	3.2	2.3	32.2	1.4	2.3	1.1	4	0.47	2.9	1.1 U	0.21	3.3	1.9	0.25	3.9
Chrysene	1	0.35	1.3	0.8	14.9	0.49	0.69	2.1	2	0.7	4.5	1.7	0.78	2.1	1.3	0.18	2.4
Dibenzo(a,h)anthracene	0.33	0.027	0.071	0.032	0.81	0.026	0.039	0.34	0.14	0.16	0.79	1.1 U	0.082 U	0.32	0.16	0.083 U	0.31
Fluoranthene	100	0.7	2.9	1.3	48	0.66	1.2	4.1	4.4	0.76	6.4	1.1 U	0.28	4.8	3.3	0.38	5.4
Indeno(1,2,3-cd)pyrene	0.5	0.06	0.15	0.078	1.9	0.063	0.095	0.85	0.19	0.43	2	1.1 U	0.082 U	0.9	0.4	0.083 U	0.78
Phenanthrene	100	0.39	1.9	0.83	26.2	0.36	0.76	1.8	2.2	0.37	2.8	1.1 U	0.11	3.3	2.9	0.27	4
Pyrene	100	0.57	2.3	1.1	38.6	0.56	0.98	3.6	4	0.68	5.6	1.1 U	0.43	3.9	2.5	0.3	4.2
Metals (mg/kg)																	
Arsenic	13	45.7	10.6	18.6	19.8	7.5	4.9	11.2	16.4	19.6	35.6	12.7	9.8	23.7	16.9	10.2	13.7
Barium	350	126	95.4	93.3	169	70.4	68.9	117	149	171	203	112	65.2	133	83.3	84.9	127
Cadmium	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	35.8	46.4	125	186	77.5	73	53.6	67.1	313	209	102	57	161	93.9	180	245
Mercury	0.18	0.11 U	0.11 U	0.11 U	0.17	0.11 U	0.11 U	0.18	0.12 U	0.99	1.4	1.5	1.6	0.56	1.5	0.2	0.3
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109																
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	4	-	8	-	-	-
Total PCBs (mg/kg)	0.1	0.056	-	-	3.3	-	-	0.61	0.17	-	-	-	-	0.36	3.5	0.34	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 32															
	Sample Location:	**DS-43-SW**	**DS-44-SW**	**DS-37A-SW**	**DS-37B-SW**	**DS-28A-NW**	**DS-28B-NW**	**DS-46-SW**	**DS-49-SW**	**DS-51-NW**	**DS-52-NW**	**DS-53-SW**	**DS-54-NW**	**DS-56-EW**	**DS-57-WW**	**DS-58-SW**	**DS-300-NW**
	Depth (ft-bgs):	**1.75**	**1.5**	**1.75**	**1.75**	**1.5**	**1.5**	**2**	**0.75**	**0.75**	**1.25**	**1**	**1**	**1.5**	**1.5**	**1**	**1**
	Sample Date:	**07/18/19**	**07/18/19**	**07/25/19**	**07/25/19**	**07/29/19**	**07/29/19**	**08/02/19**	**08/02/19**	**08/07/19**	**08/07/19**	**08/07/19**	**08/07/19**	**08/07/19**	**08/07/19**	**08/07/19**	**8/7/2019 (c)**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	1.3	3.2	-	-	4.1	8.6	0.091	0.074	8.3	6	0.59	7.2	2.7	7.9	0.13	0.053
Benzo(a)pyrene	1	1.1	2.8	-	-	3.6	9	0.089 U	0.057	7.6	5	0.47	5.7	2.4	6.7	0.082	0.028
Benzo(b)fluoranthene	1	2.4	5.9	-	-	7.6	14.9	0.11	0.11	17.8	8.6	1.3	13.7	7.2	10.2	0.22	0.093
Benzo(k)fluoranthene	0.8	1.9	4.7	-	-	2.5	4.4	0.099	0.1	15.7	2.8	1.2	12.8	6.5	2.9	0.19	0.082
Chrysene	1	1.1	2.7	-	-	4.9	8.6	0.17	0.071	7.1	4.6	0.61	5.4	2.6	7	0.2	0.12
Dibenzo(a,h)anthracene	0.33	0.14	0.22	-	-	0.65	1.7	0.089 U	0.021 U	0.68	0.41	0.027	0.4	0.2	0.19	0.0081 U	0.0095
Fluoranthene	100	2.5	5.6	-	-	7.7	26.4	0.2	0.18	20.4	12.7	1.3	16.8	5.7	18.3	0.21	0.11
Indeno(1,2,3-cd)pyrene	0.5	0.25	0.4	-	-	1.5	4.4	0.089 U	0.021 U	1.8	1.1	0.068	1	0.54	0.53	0.0081 U	0.013
Phenanthrene	100	1.4	2.3	-	-	4.2	13.6	0.089 U	0.12	8.8	7.3	1.3	12.5	2.7	10	0.37	0.064
Pyrene	100	2.1	4.7	-	-	6.5	16	0.45	0.15	15.7	10.1	1	13.8	4.6	14.6	0.18	0.1
Metals (mg/kg)																	
Arsenic	13	14.1	23.8	-	-	-	-	11.7	90.3	28.2	70.3	89.5	13.4	55.5	209	21.8	32.8
Barium	350	190	100	-	-	-	-	365	205	139	210	196	66.8	138	123	101	50.9
Cadmium	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	493	97.3	-	-	-	-	145	173	138	94.2	136	46.5	440	102	74.2	17.7
Mercury	0.18	0.19	0.15	-	-	-	-	0.12 U	0.52	5.6	0.48	0.78	0.35	0.32	0.37	0.13	0.11 U
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109																
Cyanide (mg/kg)	27	-	-	27.3	34.9	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	0.091	2	0.49	-	0.72	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 32				AOC 33										AOC 34	
	Sample Location:	**DS-59-SW**	**DS-61-SW**	**DS-62-NW**	**DS-63-NW**	**LBA-SB-425**		**LBA-SB-425**	**33-01**		**33-02**		**33-03**			**LBA-SB-303**	**DS-1-SW**
	Depth (ft-bgs):	**1**	**0.75**	**1.25**	**1.5**	**4**	**4**	**10**	**0.2-2**	**4-5**	**4-6**	**8-10**	**2-2.9**	**4-6**	**6-6.5**	**5**	**0.5-1.5**
	Sample Date:	**08/09/19**	**08/19/19**	**08/28/19**	**08/28/19**	**09/26/13 (c)**	**09/26/13 (c)**	**09/26/13**	**11/19/15**	**11/19/15**	**11/19/15**	**11/19/15**	**11/19/15**	**11/19/15**	**11/19/15**	**08/26/13**	**11/14/18**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	0.297	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	0.00068	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	0.0022 J	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	0.0025 U	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	0.19	0.22	2.1	1.3	-	-	-	-	-	-	-	-	-	-	-	7.9
Benzo(a)pyrene	1	0.12	0.18	1.6	1	-	-	-	-	-	-	-	-	-	-	-	6.1
Benzo(b)fluoranthene	1	0.3	0.39	2.8	2.4	-	-	-	-	-	-	-	-	-	-	-	11.8
Benzo(k)fluoranthene	0.8	0.27	0.32	0.96	0.66	-	-	-	-	-	-	-	-	-	-	-	3.9
Chrysene	1	0.15	0.2	1.9	1.7	-	-	-	-	-	-	-	-	-	-	-	7.3
Dibenzo(a,h)anthracene	0.33	0.015	0.029	0.24	0.18	-	-	-	-	-	-	-	-	-	-	-	0.96
Fluoranthene	100	0.35	0.41	4.2	2.4	-	-	-	-	-	-	-	-	-	-	-	31.6
Indeno(1,2,3-cd)pyrene	0.5	0.033	0.075	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	2.6
Phenanthrene	100	0.19	0.28	3.3	2	-	-	-	-	-	-	-	-	-	-	-	7.7
Pyrene	100	0.27	0.37	3.4	1.6	-	-	-	-	-	-	-	-	-	-	-	10.6
Metals (mg/kg)																	
Arsenic	13	153	198	7	21.4	15.7	20.5	-	11.5	16.1	23	38.8	14.9	16.2	16.3	7.4	-
Barium	350	345	335	78	109	543	969	-	101	253	112	343	126.0	245.0	205.0	300.0 J	-
Cadmium	2.5	-	-	-	-	0.9	3	-	0.29 B	0.52 B	0.14 B	0.28 B	0.11 B	0.15 B	0.39 U	0.39	-
Chromium	30	-	-	-	-	45.9	120	-	36.9	47.3	66	61.2	41.6	18.5	13.0	28.0 J	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460.0	-
Lead	63	89.3	50.3	36.1	168	161	208	-	62	96.7	45	181	70.7	49.5	12.6	37.0	-
Mercury	0.18	0.25	0.54	0.1 U	0.12	0.28	0.41	-	0.049	0.072	0.16	0.075	0.05	0.07	0.04 B	0.24	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	-	-	-	-	0.62 J	0.82 B	-	0.86 U	1.8 U	0.38 B	1	0.88 U	0.93 U	0.5 B	1.4 U	-
Silver	2	-	-	-	-	0.65 U	0.65 U	-	0.43 U	2.3 U	0.46 U	0.49 U	0.07 B	0.47 U	0.49 U	0.36	-
Zinc	109					-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 34				AOC 35A											
	Sample Location:	**DS-4-BT**	**P1**	**DS-5-SW**	**DS-8-BT**	**SB-101**	**SB-102**	**CS-1-WW**	**CS-2-EW**	**DS-1-BT**	**TPP-2**	**TPP-4**	**TPP-5**	**SB-106**	**SB-107**	**SB-108**	**SB-109**
	Depth (ft-bgs):	**2**	**0-2.0 (0.75)**	**0 - 2.0**	**2**	**0.5-2.5**	**0.5-2.5**	**1.5 - 2**	**1.5 - 2**	**3**	**1.5 - 2**	**0.25-2**	**1-2**	**0.5-2.5**	**0.5-2.5**	**0.5-2.5**	**2.5-4**
	Sample Date:	**11/29/18**	**04/02/19**	**05/15/19**	**05/15/19**	**11/13/12**	**11/13/12**	**11/07/18**	**11/07/18**	**11/07/18**	**06/24/19**	**06/24/19**	**06/24/19**	**11/13/12**	**11/13/12**	**11/13/12**	**11/13/12**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	0.0167 U	0.0637 U	-	-	-	-	-	-	0.0352 U	0.0549 U	0.0113 U	0.0217 U
Benzene	0.06	-	-	-	-	0.0046 U	0.0056 U	-	-	-	-	-	-	0.0062 U	0.0057 U	0.0028 U	0.005 U
1,2-Dichloroethane	0.02	-	0.00279 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	0.00279 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	0.00279 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	0.00558 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	0.00279 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	0.00112 U	-	-	0.0046 U	0.0056 U	-	-	-	-	-	-	0.0062 U	0.0057 U	0.0028 U	0.005 U
1,2,4-Trimethylbenzene	3.6	-	-	-	-	0.0046 U	0.0056 U	-	-	-	-	-	-	0.0062 U	0.0057 U	0.0028 U	0.005 U
Vinyl chloride	0.02	-	0.00279 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	2.4	0.93	12.4	0.97	0.364 U	0.389 UJ	-	-	-	-	-	-	1.45	0.349 U	14 J	1.57
Benzo(a)pyrene	1	2.2	0.843	11.2	0.74	0.364 U	0.389 UR	-	-	-	-	-	-	1.88 J	0.349 U	14.7 J	1.35 J
Benzo(b)fluoranthene	1	2.7	1.11	14.5	1.5	0.364 U	0.389 UR	-	-	-	-	-	-	3.35 J	0.538	22.3 J	1.95 J
Benzo(k)fluoranthene	0.8	1.7	0.317	5.1	1.3	0.364 U	0.389 UR	-	-	-	-	-	-	1.24 J	0.349 U	8.22 J	1.01 J
Chrysene	1	2.5	0.71	9.4	0.73	0.364 U	0.389 UJ	-	-	-	-	-	-	1.81	0.368	15 J	1.67
Dibenzo(a,h)anthracene	0.33	0.45	0.168	1.6	0.1	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	5.1	1.57	19.5	1.8	0.364 U	0.389 U	-	-	-	-	-	-	2.87	0.721	25.9	2.47
Indeno(1,2,3-cd)pyrene	0.5	1.1	0.484	4	0.25	0.364 U	0.389 UR	-	-	-	-	-	-	0.805 J	0.349 U	5.61	0.388 UJ
Phenanthrene	100	3.3	0.767	10.3	1.6	0.364 U	0.389 U	-	-	-	-	-	-	0.643	0.723	7.08	1.63
Pyrene	100	4.4	1.3	15.7	1.4	0.364 UJ	0.389 UJ	-	-	-	-	-	-	3.96 J	0.814 J	30.6 J	3.42 J
Metals (mg/kg)																	
Arsenic	13	-	-	-	-	34.6	24.6	393	167	347	27.4	45.5	61.3	7.2	16.0	8.9	4.7
Barium	350	-	-	-	-	53.0	150.0	173	94.1	166	-			62.5	67.9	71.4	46.2
Cadmium	2.5	-	-	-	-	0.21 U	0.29 U	0.33 U	0.34 U	0.38 U	-			0.27 U	0.25 U	0.23 U	0.3 U
Chromium	30	-	-	-	-	21.4	5.2 U	20.1	10.6	17.1	-			17.2	15.4	15.9	14.9
Copper	50	-	-	-	-	8.9 U	20.5 U	-	-	-	-	-	-	15.0 U	20.1 U	153	22.4 U
Lead	63	-	-	-	-	13.8	10.0 U	35	19	47.3	-			14.0 U	68.0	86.7	23.9 U
Mercury	0.18	-	-	-	-	0.11 U	0.11 U	0.5	0.11 U	0.43	-			0.10 U	0.10 U	0.12 U	0.12
Nickel	30	-	-	-	-	22.1 U	21.7 U	-	-	-	-	-	-	26.2 U	27.5 U	79.5	24.6 U
Selenium	3.9	-	-	-	-	2.0 U	1.8 U	8.3	3.8	6.1	-			0.70 U	1.4 U	1.4 U	0.81 U
Silver	2	-	-	-	-	0.42 U	0.59 U	0.67 U	0.68 U	0.76 U	-			0.53 U	0.50 U	0.47 U	0.6 U
Zinc	109	-	-	-	-	42.3	33.9 U							53.6	63.1	101	46.5
Cyanide (mg/kg)	27	-	-	-	-	2.10 U	0.67 U	-	-	-	-	-	-	0.56 U	0.61 U	0.78 U	0.68 U
Total PCBs (mg/kg)	0.1	-	-	-	-	0.0183 UJ	0.0195 UJ	-	-	-	-	-	-	0.0183 UJ	0.0176 UJ	0.0212 UJ	0.0195 UJ
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 35C						AOC 35D					AOC 35F				
	Sample Location:	CS-1-SW	CS-2-SW	CS-3-EW	CS-4-EW	CS-400-EW	DS-1- NW	SB-113	SB-114	SB-116	SB-117	SB-118	LBA-SB-205	35-01		35-02	
	Depth (ft-bgs):	1.75 - 2.25 (2)	0.5-1 (0.75)	0.5-1.5 (1)	1.25-2.25 (1.75)	1.25-2.25 (1.75)	4-5 (4.5)	0.5-2.5	0.5-2.5	0.5-2.5	0.5-2.5	7-7.5	3	0-0.2	0.2-2	0-0.2	0.2-2
	Sample Date:	11/27/18	11/27/18	11/29/18	11/29/18	11/29/2018 (c)	11/30/18	11/13/12	11/13/12	11/13/12	11/13/12	11/13/12	07/30/13	11/16/15	11/16/15	11/16/15	11/16/15
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	0.0191 U	0.0233 U	0.025 U	0.0461 U	0.0647 U	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	0.0063 U	0.0052 U	0.0043 U	0.0461 U	0.0058 U	-	-	-	-	-
1,2-Dichloroethane	0.02	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.02	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	0.0077 U	0.0048 U	0.0048 U	0.012	0.0042 U	0.0081	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.061	0.0063 U	0.0052 U	0.0043 U	0.0054 U	0.0058 U	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	0.0063 U	0.0052 U	0.0043 U	0.0054 U	0.0058 U	-	-	-	-	-
Vinyl chloride	0.02	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	3.9	2.8	9.4	4.8	3	39.4	0.364 U	0.345 U	0.371 U	0.359 UJ	0.388 UJ	-	-	-	-	-
Benzo(a)pyrene	1	3.2	2.2	8.2	3.7	2.7	33	0.364 U	0.345 UJ	0.371 U	0.359 UJ	0.388 UR	-	-	-	-	-
Benzo(b)fluoranthene	1	4.4	3.5	11.6	5.5	3.9	51.5	0.364 U	0.345 UJ	0.371 U	0.359 UJ	0.388 UR	-	-	-	-	-
Benzo(k)fluoranthene	0.8	2.2	1.4	5.5	2.8	2.2	21.3	0.364 U	0.345 UJ	0.371 U	0.359 UJ	0.388 UR	-	-	-	-	-
Chrysene	1	3.5	2.4	11.1	5	3	38	0.364 U	0.345 U	0.371 U	0.359 UJ	0.388 UJ	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	0.54	0.26	1.3	0.6	0.36	2.6	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	7.1	5.7	36	9.1	7.4	92.9	0.364 U	0.345 U	0.371 U	0.359 U	0.966	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	1.1	0.54	3	1.5	0.97	6.2	0.364 U	0.345 UJ	0.371 U	0.359 UJ	0.388 UR	-	-	-	-	-
Phenanthrene	100	5.7	5.1	31.8	7.4	4.4	89.4	0.364 U	0.345 U	0.371 U	0.359 U	0.669	-	-	-	-	-
Pyrene	100	6.1	4.7	28.7	7.3	6.1	77.8	0.364 U	0.345 UJ	0.371 U	0.359 UJ	1.21 J	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	13	41.3	31.8	163.8	52.9	37.3	494.8	10.3	5.2	4.4 U	9.8	7.9 U	12.5	5.1 J	13.8	10.1	12.9
Barium	350	-	-	-	-	-	-	89.1	140.0	59.8	85.1	106 U	464	110	279	154	179
Cadmium	2.5	-	-	-	-	-	-	0.31 U	0.20 U	0.34 U	0.25 U	0.26 U	0.54	0.3 B	0.61 B	0.66	0.9
Chromium	30	-	-	-	-	-	-	18.9	10.4	12.4	25.9	19.3 U	78.1	21	60.6	29.8	43.5
Copper	50	-	-	-	-	-	-	11.8 U	41.0 U	9.4 U	14.0 U	32.5 U	-	-	-	-	-
Lead	63	-	-	-	-	-	-	75.2	17 U	70.4	14.3 U	174.0	61.3	102	106	64	272
Mercury	0.18	-	-	-	-	-	-	0.11 U	0.10 U	0.11 U	0.10 U	0.31	0.12	0 B	0.08	0.08	0.11
Nickel	30	-	-	-	-	-	-	25.3 U	37.7	14.7 U	39.9	24.5 U	-	-	-	-	-
Selenium	3.9	-	-	-	-	-	-	1.1 U	0.93 U	0.92 U	1.1 U	0.7 UR	1.9 U	0.2 B	1.7 U	1 U	1.8 U
Silver	2	-	-	-	-	-	-	0.63 U	0.40 U	0.69 U	0.49 U	0.53 U	0.47 U	0.5 U	0.28 B	0.52 U	0.9 U
Zinc	109	-	-	-	-	-	-	75.5	100.0	56.4	62.8	108.0	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	0.61 U	0.57 U	0.66 U	0.59 U	0.71 U	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	0.0184 UJ	0.0173 UJ	0.019 UJ	0.018 UJ	0.0197 UJ	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 35G											AOC 35H				
	Sample Location:	**35-30**		**35-36**		**CS-1-SW**	**CS-3-EW**	**DS-1-BT**	**CS-5-WW**	**CS-6-WW**	**DS-2-WW**	**DS-3-BT**	**LBA-TP-03**	**35-09**		**35-33**	**DS-1-BT**
	Depth (ft-bgs):	**0-0.2**	**0.2-2**	**0-0.2**	**0.2-2**	**0.75 - 1.75**	**0.75 - 1.5**	**2**	**0.5 - 1.5**	**0.25 - 1.25**	**1 - 2**	**4.5**	**2**	**0-0.2**	**0.2-1.9**	**0.2-2**	**2**
	Sample Date:	**12/04/15**	**12/04/15**	**03/02/16**	**03/02/16**	**11/19/18**	**11/19/18**	**11/19/18**	**11/20/18**	**11/20/18**	**11/20/18**	**07/17/19**	**08/08/13**	**12/01/15**	**12/01/15**	**03/01/16**	**11/09/18**
Parameters	**Unrestricted Use SCO (b)**																
VOCs (mg/kg)																	
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	0.012	23	1.81	73.9	13.3	5
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	0.0081 U	17	1.69	65.6	11.4	4.6
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	0.02	24	1.47	57	10.7	6.6
Benzo(k)fluoranthene	0.8	-	-	-	-	-	-	-	-	-	-	0.017	9.4	1.61	57	9.44	2.1
Chrysene	1	-	-	-	-	-	-	-	-	-	-	0.053	21	1.83	70.9	12.5	4.6
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	0.0081 U	2.9 J	0.346 J	12.6	2.18	0.59
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	0.015	41	3.57	147	29.6	9.5
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	0.0081 U	12	0.903	31.6	5.25	1.5
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	0.14	33	2.55	115	16.1	5.4
Pyrene	100	-	-	-	-	-	-	-	-	-	-	0.022	34	3.28	125	23.9	8.7
Metals (mg/kg)																	
Arsenic	13	9.9	15	7.4	8.5	4.8	10.3	7	12.2	9.1	8.3	3.2	-	-	-	-	-
Barium	350	156	125	91	101	308	82.4	268	54.2	224	228	87.2	-	-	-	-	-
Cadmium	2.5	3.4	2.9	3.2	1.8 B	0.33 U	0.97	1.2	1.1	0.52	0.38	-	-	-	-	-	-
Chromium	30	51	42	22	11	-	-	-	-	-	-	-	-	-	-	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	249	209	187	83	65.8	90.4	267	107	151	77.8	11.5	-	-	-	-	-
Mercury	0.18	0.2	0.4	0.1	0.1	-	-	-	-	-	-	0.12 U	-	-	-	-	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	1.1 U	0.9 U	0.9 U	0.4 B	-	-	-	-	-	-	-	-	-	-	-	-
Silver	2	0.4 B	1	0.1 B	0.1 B	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	0.68	-	-	-	-	-
Pesticides (mg/kg)																	
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 35H							AOC 35I							AOC 35J
	Sample Location:	DS-2-SW	DS-3-SW	P1	S1	S3	DS-4-BT	DS-5-BT	35-17		35-18		35-19		SB-103	LBA-SB-246
	Depth (ft-bgs):	1.5 - 2	0.5 - 1.5	0 - 2	0 - 2	0 - 2	0.2	0.3	0-0.2	0.2-2	0-0.2	0.2-2	0-0.2	0.2-2	0.5-2.5	10-12
	Sample Date:	11/09/18	11/09/18	04/01/19	04/01/19	04/01/19	06/26/19	06/26/19	12/03/15	12/03/15	12/03/15	12/03/15	12/03/15	12/03/15	11/13/12	08/02/13
Parameters	**Unrestricted Use SCO (b)**															
VOCs (mg/kg)																
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0363 U	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0089 U	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0089 U	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0089 U	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																
Benzo(a)anthracene	1	1.5	4.7	4.1	5.01	20.5	1	0.62	0.38	0.0681 J	0.251	0.0951 J	2.92 J	0.139	0.425 U	0.11 U
Benzo(a)pyrene	1	1.5	4.6	3.8	3.92	16.3	0.87	0.63	0.332	0.0644 J	0.227	0.0636 J	2.73 J	0.129	0.425 U	0.11 U
Benzo(b)fluoranthene	1	2.1	7.4	4.53	5.56	21.2	2.3	2.3	0.333	0.0755 J	0.234	0.0723 J	2.72	0.127	0.425 U	0.11 U
Benzo(k)fluoranthene	0.8	0.92	2.4	1.9	1.72	7.1	1.9	1.6	0.334	0.0617 J	0.203	0.0741 J	2.52 J	0.12	0.425 U	0.11 U
Chrysene	1	1.3	4.3	3.44	4.5	18.2	0.85	0.58	0.417	0.09 J	0.302	0.109 J	3.08 J	0.205	0.425 U	0.11 U
Dibenzo(a,h)anthracene	0.33	0.16	0.51	0.754	0.613	3.08	0.11	0.036	0.077 J	0.0206 J	0.0475 J	0.0142 J	0.596	0.0346 J	-	0.11 U
Fluoranthene	100	2.8	9.3	10.7	9.39	42.6	2.3	1.2	0.704	0.123 J	0.394	0.163	4.4 J	0.18	0.425 U	0.0244 J
Indeno(1,2,3-cd)pyrene	0.5	0.42	1.4	2.1	1.71	8.56	0.27	0.09	0.184	0.0401 J	0.116 J	0.0449 J	1.38	0.074 J	0.425 U	0.11 U
Phenanthrene	100	1.4	5.4	8.61	8.28	37.8	1	0.71	0.408	0.0786 J	0.307	0.172	2.14 J	0.402	0.425 U	0.0222 J
Pyrene	100	2.3	8	6.54	7.54	31.4	1.8	0.94	0.608	0.108 J	0.395	0.15	4.48 J	0.178	0.425 UJ	0.023 J
Metals (mg/kg)																
Arsenic	13	-	-	-	-	-	-	-	22	15.4	21.5	30.7	7	19.9	270	16.4
Barium	350	-	-	-	-	-	-	-	484	79.8	145	1,920	93.1	51.7	98.3	105
Cadmium	2.5	-	-	-	-	-	-	-	1.1	0.2 B	0.63	6.2	0.53	0.07 B	0.27 U	0.95
Chromium	30	-	-	-	-	-	-	-	69	8.3	41.7	382	10.8	7.1	19.7	16.3
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	32.3	-
Lead	63	-	-	-	-	-	-	-	157	21	91.7	574	76.2	10.5	21.2 U	15
Mercury	0.18	-	-	-	-	-	-	-	0.1	0.03 B	0.05	0.058	0.06	0.05	0.65 J	0.036 U
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	14.2 U	-
Selenium	3.9	-	-	-	-	-	-	-	5.9 U	0.25 B	0.94 U	5.5 U	1.0 U	0.91 U	5.4 U	0.71 J
Silver	2	-	-	-	-	-	-	-	2.9 U	0.51 U	0.47 U	0.55 U	0.50 U	0.45 U	0.54 U	0.48 U
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	13.2 U	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	0.77 U	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0214	-
Pesticides (mg/kg)																
4,4'-DDD	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	AOC 35J														
	Sample Location:	**35-26**			**35-27**			**35-28**	**35-28**		**35-29**		**SED-01**	**SED-03**	**SED-04**	**SED-05**
	Depth (ft-bgs):	**0-0.2**	**0.2-2**	**0.2-2**	**0-0.2**	**0.2-2**	**0.2-2**	**0-0.2**	**0-0.2**	**0.2-2**	**0-0.2**	**0.2-2**	**0-0.5**	**0-0.2**	**0-0.1**	**0-0.1**
	Sample Date:	**12/04/15**	**12/04/15 (c)**	**12/04/15(c)**	**12/04/15**	**12/04/15 (c)**	**12/04/15(c)**	**12/4/2015 (c)**	**12/04/15 (c)**	**12/04/15**	**12/04/15**	**12/04/15**	**12/10/15**	**12/10/15**	**03/03/16**	**03/03/16**
Parameters	**Unrestricted Use SCO (b)**															
VOCs (mg/kg)																
Acetone	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																
Arsenic	13	7.7	13.1	14	10.6	14.6	14.5	7.1	6.5	8.3	10.5	8.4	4.8	5.6	-	-
Barium	350	110	107	113	137	123	120	99.8	105	92.1	122	85	50.3	63.2	-	-
Cadmium	2.5	1.5	0.71	0.77	0.46	0.33 B	0.32 B	2.2 J	0.37 B	2.3	5.8	5.4	1.6	0.69	-	-
Chromium	30	22	23.3	47.3	24	22	22	23.7	20.8	29.9	18.2	19.4	18	37.6	-	-
Copper	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	63	103	97.1	97.7	68.8	66.5	66.1	99.5	99.4	90.3	80.8	29.8	72.2	34.8	-	-
Mercury	0.18	0.13	0.11	0.12	0.1	0.15	0.15	0.13	0.09	0.084	0.18	0.068	0.15	0.024 B	-	-
Nickel	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	3.9	1.1 U	1.8 U	0.97 U	1 U	0.44 B	0.27 B	1.3 U	0.54 B	0.95 U	1 U	0.95 U	1.3 B	0.97 U	-	-
Silver	2	0.53 U	0.9 U	0.97 U	0.52 U	0.52 U	0.51 U	0.66 U	0.076 B	0.47 U	0.51 U	0.47 U	0.81 U	0.048 U	-	-
Zinc	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	0.074	0.077	0.057	0.034 U	0.033 U	0.032 U	0.093	-	0.073	0.022	0.03 U	0.089	0.034 U	0.504	0.228
Pesticides (mg/kg)																
4,4'-DDD	0.0033	0.007 U	0.006 U	0.006 U	0.007 U	0.007 U	0.006 U	0.009 U	-	0.006 U	0.006 U	0.006 U	0.012 U	0.007 U	-	-
4,4'-DDE	0.0033	0.007 U	0.006 U	0.006 U	0.007 U	0.007 U	0.006 U	0.009 U	-	0.006 U	0.006 U	0.006 U	0.012 U	0.007 U	-	-
4,4'-DDT	0.0033	0.007 U	0.006 U	0.006 U	0.007 U	0.007 U	0.002 J	0.009 U	-	0.006 U	0.005 J	0.006 U	0.012 U	0.007 U	-	-
Endrin	0.014	0.007 U	0.006 U	0.006 U	0.007 U	0.007 U	0.006 U	0.009 U	-	0.006 U	0.006 U	0.006 U	0.012 U	0.007 U	-	-
Dieldrin	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than Unrestricted Use SCO

Table 4

Remaining Soil Sample Exceedances - Unrestricted Use
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	AOC:	**AOC 35K**			**AOC35L**		
	Sample Location:	**35-23**	**35-23**	**35-25**	**CS-1-WW**	**CS-2-EW**	**CS-100-EW**
	Depth (ft-bgs):	**0.2-2**	**0.2-2**	**0.2-2**	**0 - 2.0**	**0 - 2.0**	**0 - 2.0**
	Sample Date:	**12/04/15 (c)**	**12/04/15 (c)**	**12/04/15**	**05/22/19**	**05/23/19**	**05/23/19**
Parameters	**Unrestricted Use SCO (b)**						
VOCs (mg/kg)							
Acetone	0.05	-	-	-	-	-	-
Benzene	0.06	-	-	-	-	-	-
1,2-Dichloroethane	0.02	-	-	-	-	-	-
1,1-Dichloroethene	0.33	-	-	-	-	-	-
cis-1,2-Dichloroethene	0.25	-	-	-	-	-	-
trans-1,2-Dichloroethene	0.19	-	-	-	-	-	-
Methylene chloride	0.05	-	-	-	-	-	-
Tetrachloroethene	1.3	-	-	-	-	-	-
Trichloroethene	0.47	-	-	-	-	-	-
1,2,4-Trimethylbenzene	3.6	-	-	-	-	-	-
Vinyl chloride	0.02	-	-	-	-	-	-
Xylene (total)	0.26	-	-	-	-	-	-
PAHs (mg/kg)							
Benzo(a)anthracene	1	-	-	-	0.99	0.4	0.45
Benzo(a)pyrene	1	-	-	-	0.69	0.3	0.36
Benzo(b)fluoranthene	1	-	-	-	2.2	1.6	2
Benzo(k)fluoranthene	0.8	-	-	-	1.9	1.4	1.7
Chrysene	1	-	-	-	1.8	0.79	0.85
Dibenzo(a,h)anthracene	0.33	-	-	-	0.077	0.013	0.023
Fluoranthene	100	-	-	-	3.6	0.96	1.2
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	0.2	0.042	0.049
Phenanthrene	100	-	-	-	0.76	0.59	0.67
Pyrene	100	-	-	-	3.4	0.86	1
Metals (mg/kg)							
Arsenic	13	6.1	6.5	7.8	-	-	-
Barium	350	101	105	77.4	-	-	-
Cadmium	2.5	0.25 B	0.37 J	2.2	-	-	-
Chromium	30	15.5	20.8	21.4	-	-	-
Copper	50	-	-	-	-	-	-
Lead	63	56.9	99.4	69.4	-	-	-
Mercury	0.18	0.076	0.09	0.073	-	-	-
Nickel	30	-	-	-	-	-	-
Selenium	3.9	0.37 B	0.54 B	1 U	-	-	-
Silver	2	0.53 U	0.54 U	0.51 U	-	-	-
Zinc	109	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-
Total PCBs (mg/kg)	0.1	-	-	-	-	-	-
Pesticides (mg/kg)							
4,4'-DDD	0.0033	-	-	-	-	-	-
4,4'-DDE	0.0033	-	-	-	-	-	-
4,4'-DDT	0.0033	-	-	-	-	-	-
Endrin	0.014	-	-	-	-	-	-
Dieldrin	0.005	-	-	-	-	-	-

a/ ft-bgs = feet below ground surface; mg/kg = milligrams per kilogram; VOCs = volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; PCBs = polychlorinated biphenyls; SCO = Soil Cleanup Objective; "-" = not analyzed, not applicable or non-detect.
b/ 6 NYCRR Part 375 Table 375-6.8(A): Unrestricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ Duplicate or split samples.
d/ Data Qualifiers:
U = not detected
J = estimated concentration
B = also detected in an associated blank
R = result rejected
P = percent difference between the original and confirmation analysis is greater than 40%
L = result biased low
^ = instrument-related quality control exceeds the control limits

Boxed values greater than Unrestricted Use SCO

Table 5-A

AOC 1 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:			SB-AOC1-21	SB-AOC1-24	SB-AOC1-27	CS-1-WW	CS-2-EW	CS-3-NW	CS-4-SW	CS-5-BT	CS-6-EW	CS-7-WW (e)	CS-8-SW	CS-9-BT	DS-1-BT	CS-10-SW	CS-11-NW	CS-12-BT	CS-13-WW	DS-2-BT	CS-14-WW
Sample Depth (ft-bgs):			2-2.17	1-1.17	0.67-0.84	2.5	2.5	2	2	3	1.5	1	2.5	3	7	2.5	2.5	3	2.5	2.75	2
PID (ppm):			-	-	-	0.1	0.7	0.8	0.4	0.3	0.8	7.8	0	-	-	1.5	1.5	6.7	1.9	87.7	1.5
Sample Date:			08/06/15	08/05/15	08/06/15	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/17/18	10/18/18	10/18/18	10/18/18	10/18/18	10/18/18	10/23/18
	SCOs (b)																				
	RR	PoG																			
CVOCs (mg/kg)																					
1,1,1-Trichloroethane	100	0.68	0.005 U(d)	0.0062 UJ	0.006 U	0.003 U	0.0027 U	0.0022 U	0.0026 U	0.0017 U	0.0017 J	0.0031 U	0.0021 U	0.0017 U	0.0024 U	0.0022 U	0.002 U	0.0022 U	0.132 J	0.0021 U	0.00094 J
1,1-Dichloroethene	100	0.33	0.005 U	0.0062 UJ	0.006 U	0.0015 U	0.0014 U	0.0011 U	0.0013 U	0.00083 U	0.0011 U	0.0015 U	0.001 U	0.00087 U	0.0012 U	0.0011 U	0.001 U	0.0011 U	0.07 U	0.0011 U	0.0012 U
1,2-Dichloroethane	3.1	0.02	0.005 U	0.0062 UJ	0.006 U	0.0015 U	0.0014 U	0.0011 U	0.0013 U	0.00083 U	0.0011 U	0.0015 U	0.001 U	0.00087 U	0.0012 U	0.0011 U	0.001 U	0.0011 U	0.07 U	0.0011 U	0.0012 U
cis-1,2-Dichloroethene	100	0.25	0.005 U	0.0062 UJ	0.006 U	0.0086	0.0014 U	0.0038	0.0013 U	0.00083 U	0.0029	0.0015 U	0.0013	0.00087 U	0.0012 U	0.0019	0.001 U	0.0017	0.163	0.0027	0.0017
Tetrachloroethene	19	1.3	0.005 U	0.0023 J	0.0027 J	0.0275	0.0027 U	0.0074	0.0024 J	0.0017 U	0.0228	0.0052	0.0052	0.00076 J	0.0013 J	0.0091	0.0036	0.0135	***6.67***	0.0016 J	0.0721
trans-1,2-Dichloroethene	100	0.19	0.005 U	0.0062 UJ	0.006 U	0.0015 U	0.0014 U	0.0011 U	0.0013 U	0.00083 U	0.0011 U	0.0015 U	0.001 U	0.00087 U	0.0012 U	0.0011 U	0.001 U	0.0011 U	0.07 U	0.0011 U	0.0012 U
Trichloroethene	21	0.47	0.005 U	0.013 J	0.0079	0.241	0.0043	0.108	0.0221	0.0044	***82.6***	0.0372	0.0874	0.0192	0.0031	0.0991	0.0327	0.132	***24.8***	***58.2***	0.188
Vinyl chloride	0.9	0.02	0.005 U	0.0062 UJ	0.006 U	0.003 U	0.0027 U	0.0022 U	0.0026 U	0.0017 U	0.0021 U	0.0031 U	0.0021 U	0.0017 U	0.0024 U	0.0022 U	0.002 U	0.0022 U	0.14 U	0.0021 U	0.0023 U

Sample Location:			CS-15-SW	DS-3-BT	DS-4-BT	CS-16-SW	CS-1600-SW (D)
Sample Depth (ft-bgs):			1	3	3	1.5	1.5
PID (ppm):			0.6	2.4	2.4	0	0
Sample Date:			10/26/18	10/26/18	10/26/18	10/29/18	10/29/18
	SCOs (b)						
	RR	PoG					
CVOCs (mg/kg)							
1,1,1-Trichloroethane	100	0.68	0.0017 U	0.0019 U	0.0023 U	0.002 U	0.0019 U
1,1-Dichloroethene	100	0.33	0.00086 U	0.00096 U	0.0012 U	0.001 U	0.00096 U
1,2-Dichloroethane	3.1	0.02	0.00086 U	0.00096 U	0.0012 U	0.001 U	0.00096 U
cis-1,2-Dichloroethene	100	0.25	0.0013	0.0015	0.0011 J	0.001 U	0.00096 U
Tetrachloroethene	19	1.3	0.0015 J	0.00076 J	0.0068	0.002 U	0.00052 J
trans-1,2-Dichloroethene	100	0.19	0.00086 U	0.00096 U	0.0012 U	0.001 U	0.00096 U
Trichloroethene	21	0.47	0.0304	0.0975	***20.5***	0.0044	0.0051
Vinyl chloride	0.9	0.02	0.0017 U	0.0019 U	0.0023 U	0.002 U	0.0019 U

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; RR = restricted residential; PoG = protection of groundwater; CVOCs = chlorinated volatile organic compounds; mg/kg = milligrams per kilogram; D = duplicate of previous sample; "-" = not analyzed, not applicable or not available.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ Sample collected from north wall.
d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-B

AOC 26 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:			26-01 (d)	26-02 (d)	CS-1-EW (d)	CS-1-EW	CS-2-NW	CS-3-NW	CS-4-NW	DS-1-BT	PIPE1	CS-5-BT	CS-6-BT	CS-100-BT	CS-7-BT	CS-8-BT	CS-9-BT	CS-10-WW	DS-2-NW	DS-3-NW	DS-4-NW	DITCH	PIPE2	CS-11-EW	CS-12-WW
Sample Depth (ft-bgs):			0 - 2	0 - 2	1.25	1	0.75	2.5	1.5	3	-	3.25	4	4	3	3	3.5	0.75	1.5	2	1	-	-	3	0.5
PID (ppm):			-	-	0.3	0	0	0	0	-	48	0	0	0	0	0	0	0	0	0	0.5	475	220	-	-
Sample Date:			12/03/15	12/03/15	12/06/18	05/30/19	05/30/19	05/30/19	05/30/19	05/30/19	05/30/19	05/31/19	05/31/19	05/31/19	05/31/19	05/31/19	06/03/19	06/03/19	06/03/19	06/03/19	06/03/19	06/05/19	06/06/19	06/06/19	06/07/19
	SCOs (b)																								
	RR	PoG																							
CVOCs (mg/kg)																									
1,1,1-Trichloroethane	100	0.68	0.0017 U(e)	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
1,1-Dichloroethene	100	0.33	0.0017 U	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
1,2-Dichloroethane	3.1	0.02	0.0017 U	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
cis-1,2-Dichloroethene	100	0.25	0.00081 J	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.014	0.015	0.0047 U	0.0077	0.012	0.0059 U	0.0046	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0065
Tetrachloroethene	19	1.3	0.0017 U	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
trans-1,2-Dichloroethene	100	0.19	0.0017 U	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
Trichloroethene	21	0.47	0.0114	0.0029	0.0049 U	0.0055 U	0.0048 U	0.012	0.034	0.024	0.041	0.025	0.027	0.039	0.058	0.083	0.0048 U	0.0056 U	0.015	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.043	0.031
Vinyl chloride	0.9	0.02	0.0017 U	0.0016 U	0.0049 U	0.0055 U	0.0048 U	0.005 U	0.0057 U	0.0054 U	0.01 U	0.0047 U	0.0052 U	0.0059 U	0.0059 U	0.0042 U	0.0048 U	0.0056 U	0.0048 U	0.0049 U	0.0056 U	0.0051 U	0.006 U	0.0058 U	0.0048 U
PCBs (mg/kg)																									
Aroclor 1016	-	-	-	-	-	-	-	-	-	0.02 U	0.76 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.11 U	-	-
Aroclor 1221	-	-	-	-	-	-	-	-	-	0.02 U	0.76 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.11 U	-	-
Aroclor 1232	-	-	-	-	-	-	-	-	-	0.02 U	0.76 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.11 U	-	-
Aroclor 1242	-	-	-	-	-	-	-	-	-	0.02 U	0.76 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.11 U	-	-
Aroclor 1248	-	-	-	-	-	-	-	-	-	0.02 U	0.76 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.11 U	-	-
Aroclor 1254	-	-	-	-	-	-	-	-	-	0.02 U	6.4	-	-	-	-	-	-	-	-	-	-	1.9	0.6	-	-
Aroclor 1260	-	-	-	-	-	-	-	-	-	0.0 U	0.8 U	-	-	-	-	-	-	-	-	-	-	1.8 U	0.1 U	-	-
Total PCBs	1	-	-	-	-	-	-	-	-	0.02 U	6.4	-	-	-	-	-	-	-	-	-	-	1.9	0.6	-	-
PAHs (mg/kg)																									
Acenaphthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	0.057	-	-
Acenaphthylene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.33	0.032	-	-
Anthracene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.72	0.092	-	-
Benzo(a)anthracene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.15	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.11	-	-
Benzo(b)fluoranthene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	0.24	-	-
Benzo(g,h,i)perylene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.81	0.038	-	-
Benzo(k)fluoranthene	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.21	-	-
Chrysene	3.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.24	-	-
Dibenzo(a,h)anthracene	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.33	0.011	-	-
Fluoranthene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	0.27	-	-
Fluorene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.39	0.023	-	-
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.87	0.038	-	-
Naphthalene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	0.035	-	-
Phenanthrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	0.054	-	-
Pyrene	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	0.29	-	-
Total PAHs	500 (e)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29.63	1.674	-	-

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; RR = restricted residential; PoG = protection of groundwater;
mg/kg = milligrams per kilogram; CVOCs = chlorinated volatile organic compounds; PCBs = polychlorinated biphenyls; PAHs = polycyclic aromatic hydrocarbons; "-" = not analyzed, not applicable or not available.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010.
The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Sample collected inside building.
e/ Data Qualifiers:
U = not detected

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-C

AOC 27 - IRM Weathered Bedrock and Concrete Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:			DS-1	DS-2	Concrete-1	Concrete-2	Concrete-3	Concrete-4	Concrete-5	Concrete-6	Concrete-7	Concrete-8
Sample Date:			01/18/19	01/18/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19	04/03/19
	SCOs (b)											
	RR	PoG										
Barium (mg/kg)	400	820	***42,800***	***5,100***	***1,830***	278	***5,650***	***6,330***	***10,700***	***4,790***	***4,180***	***2,770***
Cyanide (mg/kg)	27	40	1.1 U(c)	0.95 U	-	-	-	-	-	-	-	-
XRF (mg/kg)												
Barium			-	-	8,025± 262	2,316 ± 147	100,000	1,954 ± 196	100,000	10,600 ± 1,000	36,000 ± 500	21,500 ± 1,000

Sample Location:			Concrete-9	Concrete-10	Concrete-11	Concrete-12
Sample Date:			04/03/19	04/03/19	04/03/19	04/03/19
	SCOs (b)					
	RR	PoG				
Barium (mg/kg)	400	820	558	***6,450***	***1,950***	***9,490***
Cyanide (mg/kg)			-	-	-	-
XRF (mg/kg)						
Barium			3,159 ± 185	1,370 ± 142	27,300 ± 1,000	80,300 ± 1,100

a/ SCOs = soil cleanup objectives; RR = restricted residential; PoG = protection of groundwater; mg/kg = milligrams per kilogram; XRF = X-ray fluorescence.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ Data Qualifiers:
U = not detected

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-D

AOC 28 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:			**28-03**			**CS-1-NW**	**CS-2-EW**	**CS-200-EW (D**	**CS-3-SW**	**CS-4-BT**	**CS-5-SW**	**CS-6-SW**	**CS-7-EW**	**CS-8-BT**	**CS-10-BT**	**CS-11-BT**	**DS-1-WW**	**DS-2-WW**	**CS-9-BT**	**CS-12-BT**	**CS-13-EW**	**CS-14-WW**	**CS-15-NW**
Sample Depth (ft-bgs or ft-msl):			**0-0.17**	**1.4**	**2.8**	**0.25**	**0.25**	**0.25**	**0.25**	**0.75**	**613.25**	**613.25**	**608**	**605**	**604**	**605**	**609**	**610**	**605**	**601**	**602**	**605**	**603**
PID (ppm):			**-**	**-**	**-**	**5.3**	**0.8**	**0.8**	**0**	**0**	**0.2**	**0.2**	**0.2**	**0.6**	**1.6**	**1.5**	**0.2**	**0.1**	**0**	**0.3**	**0.1**	**0.2**	**0.2**
Sample Date:			**11/18/15**	**11/18/15**	**11/18/15**	**10/24/18**	**10/24/18**	**10/24/18**	**10/24/18**	**10/24/18**	**10/24/18**	**10/24/18**	**10/25/18**	**10/25/18**	**10/25/18**	**10/25/18**	**10/25/18**	**10/25/18**	**10/26/18**	**10/26/18**	**10/26/18**	**10/26/18**	**10/26/18**
	SCOs (b)																						
	Comm	**PoG**																					
CVOCs (mg/kg)																							
1,1,1-Trichloroethane	500	0.68	0.112 J(d)	0.0019 U	0.0031 U	0.0016 U	0.0017 U	0.0017 U	0.002 U	0.0017 U	0.0025 U	0.0026 U	0.0026 U	0.0027 U	0.0027 U	0.0018 U	0.0025 U	0.0029 U	0.0018 U	0.0025 U	0.0025 U	0.0025 U	0.0024 U
1,1-Dichloroethene	500	0.33	0.24 U	0.0019 U	0.0031 U	0.0008 U	0.00084 U	0.00084 U	0.001 U	0.00086 U	0.0012 U	0.0013 U	0.0013 U	0.0014 U	0.0014 U	0.0009 U	0.0012 U	0.0014 U	0.0009 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
1,2-Dichloroethane	30	0.02	0.24 U	0.0019 U	0.0031 U	0.0008 U	0.00084 U	0.00084 U	0.001 U	0.00086 U	0.0012 U	0.0013 U	0.0013 U	0.0014 U	0.0014 U	0.0009 U	0.0012 U	0.0014 U	0.0009 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
cis-1,2-Dichloroethene	500	0.25	0.24 U	0.0019 U	0.0045	0.0008 U	0.00084 U	0.00084 U	0.001 U	0.00086 U	0.0012 U	0.0013 U	0.0013 U	0.0014 U	0.0014 U	0.0009 U	0.0012 U	0.0014 U	0.0009 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
Tetrachloroethene	150	1.3	0.13 J	0.0028	0.0215	0.0339	0.0033	0.0026	0.002 U	0.0016 J	0.0025 U	0.0026 U	0.0023 J	0.0027 U	0.0014 J	0.0018 U	0.0025	0.0061	0.0018 U	0.0017 J	0.0014 J	0.0012 J	0.0022 J
trans-1,2-Dichloroethene	500	0.19	0.24 U	0.0019 U	0.0031 U	0.0008 U	0.00084 U	0.00084 U	0.001 U	0.00086 U	0.0012 U	0.0013 U	0.0013 U	0.0014 U	0.0014 U	0.0009 U	0.0012 U	0.0014 U	0.0009 U	0.0012 U	0.0012 U	0.0012 U	0.0012 U
Trichloroethene	200	0.47	0.435	0.0059	0.0587	0.0018	0.00078 J	0.00084 U	0.001 U	0.00086 U	0.0012 U	0.0013 U	0.013	0.0014 U	0.0065	0.00075 J	0.0079	0.0014 U	0.0009 U	0.006	0.008	0.0058	0.0083
Vinyl chloride	13	0.02	0.24 U	0.0019 U	0.0031 U	0.0016 U	0.0017 U	0.0017 U	0.002 U	0.0017 U	0.0025 U	0.0026 U	0.0026 U	0.0027 U	0.0027 U	0.0018 U	0.0025 U	0.0029 U	0.0018 U	0.0025 U	0.0025 U	0.0025 U	0.0024 U
PAHs (mg/kg)																							
Anthracene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PAHs	500 (e)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs (mg/kg)																							
Aroclor 1260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1232	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1248	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1262	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1242	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																							
Arsenic	16	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	400	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	9.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	1,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds Comm
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-D

AOC 28 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:			**M1-102918**	**M2-102918**	**M3-102918**	**M4-102918**	**S-1-EW**	**S-2-BT**	**S-3-WW**	**S-4-BT**	**S-5-WW**	**S-6-WW**	**S-7-BT**	**S-8-NW**	**S-9-EW**	**S-10-BT**	**CS-16-BT**
Sample Depth (ft-bgs or ft-msl):			**- (e)**	**- (e)**	**- (e)**	**- (e)**	**607 - 609**	**605**	**606 - 608**	**605**	**602 - 604**	**604 - 606**	**601**	**602 - 604**	**601 - 603**	**601**	**600**
PID (ppm):			**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Sample Date:			**10/29/18**	**10/29/18**	**10/29/18**	**10/29/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/06/18**	**11/14/18**
	SCOs (b)																
	Comm	**PoG**															
CVOCs (mg/kg)																	
1,1,1-Trichloroethane	500	0.68	0.0021 U	0.0031 U	0.0022 U	0.002 U	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	500	0.33	0.001 U	0.0016 U	0.0011 U	0.00099 U	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	30	0.02	0.001 U	0.0016 U	0.0011 U	0.00099 U	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	500	0.25	0.001 U	0.0016 U	0.0011 U	0.00099 U	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	150	1.3	0.0021 U	0.0031 U	0.0022 U	0.0032	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	500	0.19	0.001 U	0.0016 U	0.0011 U	0.00099 U	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	200	0.47	0.001 U	0.0016 U	0.0011 U	0.0119	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	13	0.02	0.0021 U	0.0031 U	0.0022 U	0.002 U	-	-	-	-	-	-	-	-	-	-	-
PAHs (mg/kg)																	
Anthracene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Pyrene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	5.6	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	5.6	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	56	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Chrysene	56	-	0.038 U	0.041 U	0.039 U	0.0147 J	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	1	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	0.56	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	5.6	-	0.038 U	0.041 U	0.039 U	0.034 J	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	500	-	0.038 U	0.041 U	0.039 U	0.0167 J	-	-	-	-	-	-	-	-	-	-	-
Fluorene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	500	-	0.038 U	0.041 U	0.039 U	0.038 U	-	-	-	-	-	-	-	-	-	-	-
Total PAHs	500 (e)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs (mg/kg)																	
Aroclor 1260	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1268	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1221	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1232	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1248	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1016	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1262	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1242	-	-	0.039 U	0.042 U	0.037 U	0.035 U	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals (mg/kg)																	
Arsenic	16	16	***29.4***	11.3	***17.1***	15.1	1.9	3.6	***55.8***	***79.4***	***117***	4.8	2	12.2	14.9	11.2	-
Barium	400	820	***1,900***	317	249	235	73.7	90.7	810	428	242	34.1	28.6	147	***942***	230	-
Cadmium	9.3	-	0.61 U	0.62 U	0.59 U	0.56 U	-	-	-	-	-	-	-	-	-	-	-
Chromium	1,500	-	37.3	30.8	130	61.8	-	-	-	-	-	-	-	-	-	-	-
Lead	1,000	-	338	69.3	148	17.6	-	-	-	-	-	-	-	-	-	-	-
Mercury	2.8	-	0.03 U	0.04 U	0.03 U	0.03 U	-	-	-	-	-	-	-	-	-	-	-
Selenium	1,500	-	7.4 U	7.4 U	12 U	11 U	-	-	-	-	-	-	-	-	-	-	-
Silver	1,500	-	1.8 U	1.8 U	3 U	2.8 U	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	40	5.2	0.16 U	0.22 U	***62.5***	0.98 U	0.96 U	3.6	6.3	24	1 U	1.2	1.3 U	3.1	1.7	2.6

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; Comm = commercial; PoG = protection of groundwater; mg/kg = milligrams per kilogram; CVOCs = chlorinated volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; PCBs = polychlorinated biphenyls; "-" = not analyzed, not applicable or not available.

b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.

c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.

d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit

e/ Samples M1, M2, M3, and M4 were collected for material characterization purposes only. Sample depths are not applicable.

Boxed value exceeds Comm
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-E

AOC 29 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-1-EW	DS-2-EW	DS-3-EW	DS-4-NW	DS-5-NW	DS-6-NW	DS-7-NW	DS-8-NW	DS-9-BT	DS-900-BT (D)	DS-10-BT	DS-11-SW	DS-12-SW	DS-13-SW	DS-14-SW	DS-15-SW	DS-16-SW	DS-17-BT	CS-1-SW	CS-2-WW	CS-3-SW
Sample Depth (ft-bgs):		0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	2	2	2	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	2	0 - 2	0 - 2	1.5 - 2
Sample Date:		11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/02/18	11/05/18	11/05/18	11/05/18	11/05/18	11/05/18	11/06/18
	SCOs (b) Comm																					
PAHs (mg/kg)																						
Acenaphthene	500	0.65	8.6	0.021	0.0077 U	0.22	0.054	0.13	0.0074 U	0.0079 U	0.019	0.0071 U	0.25	3.4	0.5	0.29	0.019	0.022	0.71 U	0.15	11.4	0.16
Acenaphthylene	500	0.034	0.12	0.0072 U(d)	0.0077 U	0.022	0.0076 U	0.011	0.0074 U	0.0079 U	0.0077 U	0.0071 U	0.038	0.1	0.14	0.11	0.017	0.024	0.71 U	0.038	0.75 U	0.075 U
Anthracene	500	1.1	13	0.048	0.0077 U	0.42	0.1	0.29	0.0074 U	0.0079 U	0.028	0.0071 U	0.48	8.7	1.4	0.77	0.078	0.082	0.71 U	0.34	33.2	0.49
Benzo(a)anthracene	5.6	3.7	32.6	0.15	0.016	1.3	0.24	0.92	0.0074 U	0.0088	0.098	0.02	0.83	15.9	3.9	2.5	0.34	0.23	0.71 U	0.93	55.2	1.5
Benzo(a)pyrene	1	3.2	28.1	0.14	0.015	1.4	0.21	0.91	0.0074 U	0.0079 U	0.087	0.017	0.67	13.6	3.1	2	0.31	0.2	0.71 U	0.86	41.9	1.2
Benzo(b)fluoranthene	5.6	4.5	41.8	0.25	0.035	1.9	0.33	1.4	0.0074 U	0.014	0.12	0.026	1.1	23.3	4.6	3	0.69	0.38	0.71 U	1.4	61.4	2
Benzo(g,h,i)perylene	500	1.4	13.4	0.048	0.0077 U	0.68	0.071	0.3	0.0074 U	0.0079 U	0.052	0.01	0.27	5.1	1.7	1.1	0.1	0.068	0.71 U	0.49	23.6	0.6
Benzo(k)fluoranthene	56	1.9	13.7	0.084	0.031	0.84	0.12	0.57	0.0074 U	0.0079 U	0.055	0.012	0.38	8	1.5	0.87	0.2	0.16	0.71 U	0.57	22	0.74
Chrysene	56	3.4	30.2	0.15	0.022	1.2	0.21	0.82	0.0074 U	0.013	0.098	0.019	0.78	14.4	3.1	2.1	0.36	0.24	2.1	0.89	45	1.3
Dibenzo(a,h)anthracene	0.56	0.61	6.3	0.024	0.0077 U	0.3	0.035	0.16	0.0074 U	0.0079 U	0.024	0.0071 U	0.15	1.1	0.61	0.39	0.048	0.03	0.71 U	0.19	9.2	0.24
Fluoranthene	500	6.9	65.1	0.25	0.028	3	0.43	1.4	0.0074 U	0.018	0.19	0.038	1.5	33.3	7.4	4.7	0.44	0.42	0.71 U	1.9	117	2.5
Fluorene	500	0.57	6.3	0.016	0.0077 U	0.19	0.038	0.12	0.0074 U	0.0079 U	0.014	0.0071 U	0.25	1.4	0.5	0.28	0.015	0.023	0.71 U	0.13	13.2	0.15
Indeno(1,2,3-cd)pyrene	5.6	1.4	13.9	0.059	0.0077 U	0.7	0.086	0.37	0.0074 U	0.0079 U	0.053	0.011	0.31	5.5	1.6	1	0.12	0.078	0.71 U	0.48	21.3	0.57
Naphthalene	500	0.27	1.4	0.0072 U	0.011	0.058	0.0076 U	0.043	0.0074 U	0.0079 U	0.0094	0.0071 U	0.2	0.97	0.17	0.11	0.021	0.036	0.71 U	0.098	6.2	0.075 U
Phenanthrene	500	5.5	57	0.18	0.031	2	0.37	1.1	0.0074 U	0.016	0.15	0.023	2	29.3	5.4	3.4	0.35	0.32	0.71 U	1.3	110	1.7
Pyrene	500	5.7	53	0.2	0.023	2.5	0.32	1.1	0.0074 U	0.015	0.14	0.032	1.1	27.9	5.8	3.9	0.36	0.29	1	1.3	90.1	1.9
Total PAHs	500 (e)	40.8	384.5	1.6	0.2	16.7	2.6	9.6	-	0.1	1.1	0.2	10.3	192.0	41.4	26.5	3.5	2.6	3.1	11.1	660.7	15.1
Metals (mg/kg)																						
Arsenic	16	14.6	14.7	5.1	7	7.2	6.7	13.3	7.9	5.1	6.3	4.2	15.3	13.4	7.4	8.1	18.1	7.6	3.5	14	14.9	19.4

Sample Location:		CS-4-SW	CS-5-WW	CS-500-WW(D)	CS-6-WW	CS-7-WW	DS-18-WW	DS-19-WW	DS-20-WW	DS-21-WW	CS-8-BT	DS-22-SW	DS-23-SW	DS-24-SW
Sample Depth (ft-bgs):		1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	0.5 - 1.5	0.5 - 1.5	1 - 2	1 - 2	2.5	0 - 0.75	0 - 0.75	0 - 1
Sample Date:		43,410	43,410	43,410	43,410	43,410	43,414	43,414	43,414	43,414	43,419	43,419	43,419	43,419
	SCOs (b) Comm													
PAHs (mg/kg)														
Acenaphthene	500	1.3	104	37.8	1.1	69.2	0.19	0.11	0.19	0.072 U	0.86	0.88	3	2.8
Acenaphthylene	500	0.099	1.9	1.1	0.081	1.1	0.073 U	0.073 U	0.073 U	0.072 U	0.19	0.17	0.16	0.19
Anthracene	500	4.5	148	65.5	2.4	97.6	0.75	0.48	0.75	0.22	2.6	2.3	4.6	6.2
Benzo(a)anthracene	5.6	6.9	802	324	5	569	1.9	1.3	2.7	0.78	5.2	4.7	12.5	11.8
Benzo(a)pyrene	1	5.1	643	267	3.7	466	1.8	1.2	2.6	0.73	4.5	3.9	11.5	9.8
Benzo(b)fluoranthene	5.6	8.3	819	337	5.9	644	2.5	2.6	4.1	1.5	5.9	5.3	27.6	13.2
Benzo(g,h,i)perylene	500	2	121	72.9	1.4	106	0.75	0.45	0.91	0.25	1.5	1.7	4.1	3.4
Benzo(k)fluoranthene	56	2.7	146	78.7	2.5	129	1	2.2	1.5	1.3	2.4	2.3	7.8	4.8
Chrysene	56	5.2	721	298	4.1	526	1.8	1.2	2.6	0.71	5	4.3	11.4	10.8
Dibenzo(a,h)anthracene	0.56	0.88	77.4	43.1	0.61	68.6	0.29	0.16	0.38	0.094	0.6	0.68	2.1	1.6
Fluoranthene	500	12.9	1,520	625	8.8	1,090	3.2	2.5	4.3	1.3	9.3	9.3	45	48
Fluorene	500	2	90.1	32.1	1.1	50.3	0.21	0.11	0.14	0.072 U	1.1	0.91	2.6	2.7
Indeno(1,2,3-cd)pyrene	5.6	2.1	142	75.8	1.5	120	0.75	0.43	0.89	0.25	1.4	1.7	4.2	3.3
Naphthalene	500	1.2	56.5	8.9	0.71	14.7	0.15	0.073 U	0.076	0.072 U	0.44	0.56	1.4	1.3
Phenanthrene	500	12.9	1,390	507	8.9	872	2.3	1.4	2.2	0.66	7.8	8.3	36.2	43.6
Pyrene	500	9.8	1,260	508	6.8	899	2.5	2	3.9	1.2	9	7.5	36.4	44.2
Total PAHs	500 (e)	77.9	8,042	3,282	54.6	5,723	20.1	16.1	27.2	9.0	57.8	54.5	210.6	207.7
Metals (mg/kg)														
Arsenic	16	9.8	17	20.7	18.1	8.8	14.1	8.3	7.3	6.3	22.9	13.6	30.9	7.1

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; Comm = commercial; mg/kg = milligrams per kilogram; PAHs = polycyclic aromatic hydrocarbons; D = duplicate of previous sample; "-" = not analyzed, not applicable or not available.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Data Qualifiers:
U = not detected

Boxed value exceeds Comm
Gray shading indicates soil was removed

Table 5-F

AOC 30 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		30-02		30-05		LBA-SB-212	WSP-SB-614	WSP-SB-615	CS-1-BT	CS-2-BT	CS-3-BT	CS-4-NW	CS-5-NW	CS-6-WW	CS-7-SW	CS-8-SW	CS-9-SW	CS-10-SW	CS-11-EW	CS-12-EW	DS-1-NW
Sample Depth (ft-bgs):		0-0.17	0.17-2	0-0.17	0.17-2	2	2-2.8	2-2.8	1 - 1.5	1 - 1.5	1 - 1.5	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1
Sample Date:		11/18/15	11/18/15	11/18/15	11/18/15	07/31/13	04/30/14	05/01/14	10/26/18	10/26/18	10/26/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	10/31/18
	SCOs (b) Ind																				
PAHs (mg/kg)																					
Acenaphthene	1,000	-	-	0.058 J	0.0409 J	0.35 U	-	-	0.355 J (d)	0.077 U	0.071 U	0.049	0.12	0.1	0.22	0.0098	0.1	0.17	0.019	0.28	0.014
Acenaphthylene	1,000	-	-	0.0382 J	0.0386 J	0.35 U	-	-	0.569	0.077 U	0.071 U	0.024	0.085	0.027	0.032	0.011	0.034	0.058	0.012	0.18	0.0078 U
Anthracene	1,000	-	-	0.155	0.114	0.35 U	-	-	1.6	0.124	0.071 U	0.16	0.42	0.26	0.63	0.046	0.31	0.88	0.069	0.92	0.047
Benzo(a)anthracene	11	-	-	0.582	0.342	0.35 U	-	-	7.38	0.489	0.171	0.56	1.3	0.52	1.3	0.25	1.2	3.6	0.27	2.4	0.12
Benzo(a)pyrene	1.1	-	-	0.561	0.346	0.35 U	-	-	8.03	0.464	0.188	0.52	0.47	0.44	1.4	0.25	0.99	2.9	0.24	2	0.12
Benzo(b)fluoranthene	11	-	-	0.562	0.373	0.35 U	-	-	11.3	0.638	0.25	0.8	0.68	0.75	2.1	0.44	1.5	4.2	0.55	2.8	0.19
Benzo(g,h,i)perylene	1,000	-	-	0.583	0.404	0.35 U	-	-	7.2	0.333	0.156	0.25	0.27	0.18	0.7	0.11	0.61	1.5	0.12	1.2	0.045
Benzo(k)fluoranthene	110	-	-	0.609	0.353	0.35 U	-	-	4.11	0.196	0.0995	0.29	0.3	0.24	0.91	0.17	0.66	1.6	0.49	1.1	0.069
Chrysene	110	-	-	0.58	0.36	0.35 U	-	-	8.12	0.512	0.192	0.54	1.1	0.47	1.1	0.25	1.1	3.3	0.23	2.3	0.12
Dibenzo(a,h)anthracene	1.1	-	-	0.221	0.137	0.35 U	-	-	1.41	0.075 J	0.0347 J	0.11	0.1	0.089	0.3	0.049	0.23	0.72	0.053	0.48	0.02
Fluoranthene	1,000	-	-	1.1	0.577	0.35 U	-	-	13.8	0.832	0.293	0.96	0.94	0.88	3.2	0.37	1.8	6.3	0.39	4.7	0.2
Fluorene	1,000	-	-	0.0589 J	0.0442 J	0.35 U	-	-	0.414	0.077 U	0.071 U	0.049	0.14	0.12	0.27	0.0098	0.094	0.15	0.022	0.29	0.017
Indeno(1,2,3-cd)pyrene	11	-	-	0.575	0.346	0.35 U	-	-	7.39	0.348	0.142	0.26	0.28	0.2	0.71	0.13	0.59	1.6	0.12	1.2	0.051
Naphthalene	1,000	-	-	0.0466 J	0.168	0.35 U	-	-	0.336 J	0.077 U	0.071 U	0.021	0.074	0.088	0.13	0.0074 U	0.032	0.052	0.0084	0.14	0.0078 U
Phenanthrene	1,000	-	-	0.598	0.427	0.35 U	-	-	5.94	0.396	0.131	0.66	1.5	0.82	2.6	0.16	1.1	3.5	0.22	3.4	0.17
Pyrene	1,000	-	-	0.89	0.452	0.35 U	-	-	12.8	0.831	0.3	0.8	0.77	0.7	2.6	0.3	1.6	5.2	0.31	4.1	0.17
Total PAHs	500 (e)	-	-	7.2	4.5	0.35 U	-	-	90.8	5.2	2.0	6.1	8.5	5.9	18.2	2.6	12.0	35.7	3.1	27.5	1.4
Metals (mg/kg)																					
Arsenic	16	7.9	10.9	8.7	8.3	7.8	-	-	-	-	-	6.2	9.2	7.5	5.2	6.5	15.2	8.4	5.6	13	7.1
PCBs (mg/kg)																					
Aroclor 1248	-	0.039 U	0.036 U	0.043 U	0.037 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1254	-	0.0186 J	0.611	0.043 U	1.96	0.038	0.0887	9.64	-	-	-	-	-	-	-	-	-	-	-	-	-
Aroclor 1260	-	0.0256 J	0.138	0.043 U	0.308 J	0.035 U	0.014 U	0.013 U	-	-	-	-	-	-	-	-	-	-	-	-	-
Total PCBs	25	0.0442	0.611	0.043 U	2.268	0.038	0.0887	9.64	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds Ind
Gray shading indicates soil was removed

Table 5-F

AOC 30 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-2-NW	DS-3-NW	DS-4-BT	DS-5-BT	DS-6-BT	CS-13-EW	DS-7-SW
Sample Depth (ft-bgs):		0 - 1	0 - 1	0 - 1	1	1	0.75 - 1	0 - 1
Sample Date:		10/31/18	10/31/18	10/31/18	10/31/18	10/31/18	11/07/18	11/09/18
	SCOs (b) Ind							
PAHs (mg/kg)								
Acenaphthene	1,000	1.4	0.0084 U	8	0.0084	0.0085	0.23	0.15 U
Acenaphthylene	1,000	0.44	0.0084 U	0.27	0.0071 U	0.01	0.073 U	0.15 U
Anthracene	1,000	10	0.013	16.5	0.016	0.032	0.83	0.17
Benzo(a)anthracene	11	18.6	0.04	37.5	0.025	0.13	2.9	0.49
Benzo(a)pyrene	1.1	12.9	0.038	33.2	0.021	0.13	2.5	0.44
Benzo(b)fluoranthene	11	18.7	0.068	46.5	0.036	0.27	3.4	0.6
Benzo(g,h,i)perylene	1,000	5.6	0.016	19.5	0.008	0.048	1.4	0.15 U
Benzo(k)fluoranthene	110	8.5	0.022	19	0.015	0.24	1.7	0.29
Chrysene	110	17	0.036	35.7	0.024	0.12	2.7	0.43
Dibenzo(a,h)anthracene	1.1	2.7	0.0084 U	8.6	0.0071 U	0.023	0.55	0.15 U
Fluoranthene	1,000	46.2	0.066	67.6	0.049	0.23	4.8	0.89
Fluorene	1,000	5.5	0.0084 U	6.4	0.0071 U	0.0073 U	0.21	0.15 U
Indeno(1,2,3-cd)pyrene	11	6.3	0.017	19.8	0.009	0.059	1.2	0.15 U
Naphthalene	1,000	0.47	0.0084 U	3.4	0.0089	0.0073 U	0.073 U	0.15 U
Phenanthrene	1,000	40.7	0.04	56.2	0.051	0.11	2.9	0.56
Pyrene	1,000	34.3	0.052	55.3	0.041	0.2	4	0.76
Total PAHs	500 (e)	229.3	0.4	433.5	0.3	1.6	29.3	4.6
Metals (mg/kg)								
Arsenic	16	6.3	8.6	11.9	71.7	8.9	5.8	6.9
PCBs (mg/kg)								
Aroclor 1248	-	-	-	-	-	-	-	-
Aroclor 1254	-	-	-	-	-	-	-	-
Aroclor 1260	-	-	-	-	-	-	-	-
Total PCBs	25	-	-	-	-	-	-	-

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; Ind = industrial; PAHs = polycyclic aromatic hydrocarbons; mg/kg = milligrams per kilogram; "-" = not analyzed, not applicable or not available.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010.
The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit

Boxed value exceeds Ind
Gray shading indicates soil was removed

Table 5-G

AOC 31 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		CS-1-EW	CS-2-EW	DS-1-BT	DS-2-WW	DS-3-NW	CS-3-EW	CS-4-EW	CS-400-EW (D)	CS-5-EW
Sample Depth (ft-bgs):		0.5 - 1.5	0.5 - 1.5	2	0.5 - 1.5	0.5 - 1.5	0.75 - 1.75	0.5 - 1.5	0.5 - 1.5	0 - 2
Sample Date:		11/06/18	11/06/18	11/07/18	11/07/18	11/07/18	11/10/18	11/10/18	11/10/18	11/27/18
	SCOs (b) RR									
Metals (mg/kg)										
Arsenic	16	22.6	10.9	24.8	6.5	19.3	19.1	11.1	12.5	17.7
Barium	400	321	761	667	94.5	1,750	709	269	267	412
Cadmium	4.3	0.31	0.3 U	0.65	0.31 U	2.5	0.99	0.32 U	0.42	0.94
Chromium	180	43.3	52.1	70.2	67.3	438	89.1	50.3	56.5	95.9
Copper	270	204	147	447	281	2,560	348	159	162	249
Nickel	310	98.4	93.9	180	165	340	196	80.9	104	146
XRF (mg/kg)										
Arsenic	-	-	-	-	-	-	26 ± 4	18 ± 4	18 ± 4	15
Barium	-	-	-	-	-	-	-	-	-	712
Chromium	-	-	-	-	-	-	35 ± 6	220 ± 9	220 ± 9	168
Copper	-	-	-	-	-	-	-	-	-	141
Nickel	-	-	-	-	-	-	-	-	-	105

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; XRF = X-ray fluorescence; D = duplicate of previous sample.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		CS-1-EW	DS-1-NW	DS-2-NW	DS-3-NW	DS-4-NW	DS-5-WW	DS-6-SW	DS-7-SW	DS-8-SW	DS-9-SW	SB-1	SB-2	SB-3	SB-4	SB-5	TP-1 (e)	TP-2 (e)	TP-3 (e)	TP-4 (e)	TP-5 (e)
Sample Depth (ft-bgs):		0.5 - 1.5	1 - 2	1 - 2	0.75 - 1.5	1.5 - 2	0.5 - 1.5	1.5 - 2	1 - 2	1.5 - 2	1 - 2	0 - 2	0 - 2	0 - 1.8	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2
Sample Date:		11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	11/13/18	12/03/18	12/03/18	12/03/18	12/03/18	12/03/18	12/18/18	12/18/18	12/18/18	12/18/18	12/18/18
	SCOs (b) RR																				
PAHs (mg/kg)																					
Acenaphthene	100	0.64	2.1	1.7	0.54	0.086 U(d)	0.34	0.12	0.35	0.14	0.59	0.057	0.22	0.035	0.073	0.81	0.3	0.076 U	0.076 U	0.082 U	0.078 U
Acenaphthylene	100	0.6	0.87	0.79	0.32	0.086 U	0.28	0.088	0.24	0.11	0.54	0.18	0.2	0.041	0.031	0.11	0.29	0.15	0.076 U	0.082 U	0.078 U
Anthracene	100	4.6	7	5.5	2	0.2	1.5	0.52	1.6	0.67	2.5	0.27	0.91	0.17	0.21	1.6	1.1	0.16	0.076 U	0.082 U	0.078 U
Benzo(a)anthracene	1	21.2	22.6	27.4	6.3	0.5	4.7	1.4	5.5	2.1	9.7	1.1	5.3	0.6	0.55	4.3	3.2	0.45	0.28	0.21	0.11
Benzo(a)pyrene	1	30.4	22.3	25.8	5.8	0.39	4.7	1.3	5.3	2.1	10.5	1.1	5	0.56	0.5	3.6	2.9	0.41	0.26	0.19	0.099
Benzo(b)fluoranthene	1	60.5	43.7	50	8.8	0.87	7.1	2	8.3	3.2	16.6	2.6	7.6	0.87	0.76	5.2	4.6	1.1	0.57	0.42	0.19
Benzo(g,h,i)perylene	100	11.9	7.8	5.7	1.7	0.13	1.6	0.4	1.5	0.75	3.1	0.44	2.2	0.22	0.2	0.94	1.4	0.19	0.12	0.099	0.078 U
Benzo(k)fluoranthene	3.9	40.9	29.1	33.9	3.5	0.75	2.8	0.8	2.9	1.3	5.3	0.59	3.4	0.38	0.34	1.5	1.3	0.71	0.38	0.28	0.13
Chrysene	3.9	26	18.1	15.5	5.7	0.58	4.3	1.3	4.9	2	8.5	1.1	4.7	0.52	0.47	3.4	2.8	0.51	0.24	0.19	0.11
Dibenzo(a,h)anthracene	0.33	3.9	3.4	2.6	0.74	0.086 U	0.64	0.17	0.62	0.28	1.3	0.23	0.86	0.082	0.073	0.44	0.55	0.076 U	0.076 U	0.082 U	0.078 U
Fluoranthene	100	63.4	43.5	49.4	12.7	1.1	9.5	3	10.7	4	23.1	2.6	10	1.1	0.93	6.9	6.5	0.71	0.43	0.32	0.18
Fluorene	100	1	2.2	1.7	0.54	0.086 U	0.42	0.14	0.37	0.15	0.58	0.079	0.27	0.043	0.1	0.99	0.41	0.11	0.076 U	0.082 U	0.078 U
Indeno(1,2,3-cd)pyrene	0.5	11.4	8.3	6.2	1.8	0.14	1.7	0.47	1.6	0.8	3.3	0.49	2.2	0.22	0.2	0.96	1.5	0.2	0.14	0.099	0.078 U
Naphthalene	100	0.25	0.82	0.69	0.35	0.14	0.17	0.088	0.18	0.088 U	0.23	0.21	0.099	0.024	0.037	0.93	0.51	1	0.076 U	0.12	0.078 U
Phenanthrene	100	21.4	23	25.6	6.8	0.75	5	1.6	4.7	1.9	7.5	1.2	6.5	0.6	0.89	7.6	4	1	0.18	0.21	0.18
Pyrene	100	50.4	35.9	40.9	10.7	0.88	7.7	2.4	8.9	3.3	15.7	2.4	10.2	1.1	0.93	6.5	5	0.6	0.35	0.26	0.17
Total PAHs	500 (c)	348.5	270.7	293.4	68.3	6.4	52.5	15.8	57.7	22.8	109.0	14.6	59.7	6.6	6.3	45.8	36.4	7.3	3.0	2.4	1.2
PCBs (mg/kg)																					
Aroclor 1016	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Aroclor 1221	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.53	22.5	0.58	0.2 U	0.2 U
Aroclor 1232	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Aroclor 1242	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Aroclor 1248	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Aroclor 1254	-	0.83	2	2.5	1.9	0.076	0.94	0.31	0.66	0.22	0.55	0.099 U	0.71	0.49	0.25	0.45	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Aroclor 1260	-	0.13 U	0.23 U	0.21 U	0.23 U	0.021 U	0.2 U	0.1 U	0.22 U	0.11 U	0.11 U	0.099 U	0.1 U	0.11 U	0.1 U	0.12 U	0.23 U	1.9 U	0.19 U	0.2 U	0.2 U
Total PCBs	1	0.83	2	2.5	1.9	0.076	0.94	0.31	0.66	0.22	0.55	-	0.71	0.49	0.25	0.45	0.53	22.5	0.58	0	0
Metals (mg/kg)																					
Arsenic	16	11.4	11.9	13.8	52.7	86.5	11.2	22.7	9.1	16.9	11.7	11.1	8.4	19.8	36.1	20.4	18.8	12.7	7.5	12.2	11.1
Barium	400	142	145	113	237	142	97.3	133	88.6	84.7	74.8	65	129	176	69.6	89.4	266	156	73.1	110	96.1
Cadmium	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	627	230	236	202	45.1	112	93.4	62.8	59	90.6	376	290	282	52.2	151	555	136	52.6	106	46.4
Mercury	0.81	0.16 U	0.16	0.21	0.14	0.13 U	0.11 U	0.17	0.13 U	0.13 U	0.15	0.12	0.13 U	0.12 U	0.12 U	0.14 U	0.33	2.3	0.2	0.12 U	0.11 U
Selenium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XRF (mg/kg)																					
Arsenic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-10-SW	DS-11-NW	DS-12-SW	DS-13-NW	DS-14-SW	DS-15-NW	DS-16-SW	DS-1600-SW (D)	DS-17-NW	DS-18-BT	P2	P3	P4	P5	P6	P100 (D)	P7	P8	P9	P10	S1
Sample Depth (ft-bgs):		0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	2	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0
Sample Date:		12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	12/19/18	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/01/19
	SCOs (b) RR																					
PAHs (mg/kg)																						
Acenaphthene	100	0.89	0.22	1.3	0.89	0.2	0.88	0.16	0.2	1	0.19	0.101	0.382	0.675	0.0147	0.145	0.119	1.41	0.178	0.223	0.0687	1.27
Acenaphthylene	100	0.46	0.38	0.36	0.73	0.24	0.66	0.29	0.24	0.99	0.094	0.00679 U	0.00706 U	0.00682 U	0.00652 U	0.00668 U	0.00703 U	0.00667 U	0.00708 U	0.00677 U	0.00717 U	0.0554
Anthracene	100	2.7	0.91	4.4	3.2	0.75	2.9	0.64	0.83	3.9	0.62	0.548	1.24	1.65	0.0516	0.818	0.952	3.09	0.67	0.704	0.311	3.8
Benzo(a)anthracene	1	8.9	3.5	8.1	13.5	3.4	11.1	2.8	3.7	12.5	2.1	1.6	2.91	3.18	0.186	2.24	3.86	5.58	1.51	1.78	0.913	3.43
Benzo(a)pyrene	1	8.3	3.4	7	13.9	3.8	11.1	3	3.9	12.3	2.1	1.44	2.4	2.43	0.197	1.96	3.38	4.77	1.26	1.44	0.846	2.09
Benzo(b)fluoranthene	1	17.5	7.9	10.9	27.9	6.7	22.6	7.3	10.1	21.9	5.2	2	3.38	3.02	0.284	2.8	3.83	6.05	1.64	1.83	1.14	2.97
Benzo(g,h,i)perylene	100	2.7	1.1	1.8	2.8	0.87	2.2	0.61	0.72	2.1	0.4	1.02	1.44	1.44	0.136	1.27	1.84	4.2	0.782	0.845	0.491	1.03
Benzo(k)fluoranthene	3.9	11.5	5.3	3.3	7.4	1.8	5.2	4.9	6.8	5.1	3.5	0.693	0.938	1.13	0.107	0.988	1.21	2.11	0.625	0.565	0.319	1.08
Chrysene	3.9	7.1	3.2	6.4	10.8	3.1	8.8	2.4	3.2	10.5	1.8	1.46	2.93	2.9	0.137	2.19	3.56	3.99	1.15	1.39	0.855	3.52
Dibenzo(a,h)anthracene	0.33	1.3	0.57	1	1.5	0.42	1.2	0.31	0.37	1.2	0.21	0.328	0.439	0.423	0.0373	0.404	0.589	1.23	0.255	0.263	0.158	0.407
Fluoranthene	100	16.1	6	15.4	38.8	6.7	25	5.5	7.3	24.1	4.3	2.49	3.77	4.41	0.315	4.17	3.08	15.7	2.65	3.5	1.68	13.5
Fluorene	100	0.99	0.26	2.4	0.95	0.24	0.9	0.2	0.26	1.2	0.24	0.108	0.454	0.622	0.0177	0.202	0.187	1.66	0.223	0.261	0.0846	0.951
Indeno(1,2,3-cd)pyrene	0.5	3.2	1.4	2.4	3.9	1.1	3	0.83	0.99	3	0.55	0.96	1.34	1.34	0.125	1.19	1.78	4.21	0.725	0.777	0.454	1.04
Naphthalene	100	0.53	0.37	1.4	0.58	0.12	0.47	0.25	0.18	0.6	0.084 U	0.0731	0.724	0.373	0.0293	0.32	0.357	0.579	0.284	0.197	0.0914	0.245
Phenanthrene	100	9.3	2.9	14	11.2	2.8	9.8	2.3	3.1	11.5	2.4	1	3.71	3.55	0.148	1.82	1.43	9.99	1.88	2.38	0.719	2.98
Pyrene	100	13.1	5.1	11.8	31.7	5.4	20.5	4.4	5.8	20	3.4	2.26	2.37	2.59	0.276	3.39	5.13	9.84	2.46	2.81	1.41	9.38
Total PAHs	500 (c)	104.6	42.5	92.0	169.8	37.6	126.3	35.9	47.7	131.9	27.1	16.1	28.4	29.7	2.1	23.9	31.3	74.4	16.3	19.0	9.5	47.7
PCBs (mg/kg)																						
Aroclor 1016	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Aroclor 1221	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Aroclor 1232	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Aroclor 1242	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Aroclor 1248	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Aroclor 1254	-	2	0.7	1.5	1.9	0.92	2.4	0.57	0.81	4.2	0.77	0.089	0.318	0.0193 U	0.0538	0.0715	0.0939	0.0734	0.0737	0.165	0.0794	0.2
Aroclor 1260	-	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	2 U	0.21 U	0.0192 U	0.02 U	0.0193 U	0.0185 U	0.0189 U	0.0199 U	0.0189 U	0.02 U	0.0192 U	0.0203 U	0.0195 U
Total PCBs	1	2	0.7	1.5	1.9	0.92	2.4	0.57	0.81	4.2	0.77	0.089	0.318	-	0.0538	0.0715	0.0939	0.0734	0.0737	0.165	0.0794	0.2
Metals (mg/kg)																						
Arsenic	16	13.3	31.7	14.3	25.3	15.4	28.5	23.3	10	13.3	38.7	4.55 B	5.64 B	6.1	4.03 B	8.81	16.2	4.95 B	15.7	13.1	8	8.72
Barium	400	96.5	113	98.9	157	116	115	115	78.9	292	81.7	74.4	83.9	67.6	63.5	126	149	80.4	89.4	112	86.6	1,590
Cadmium	4.3	-	-	-	-	-	-	-	-	-	-	0.232 J	0.749 J	0.239 J	0.177 J	0.449 J	0.487 J	0.321 J	0.221 J	0.285 J	0.318 J	0.141 J
Chromium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	115	71.7	95.1	164	112	123	141	119	261	74.3	34.7	121	114	22.1	79.9	252	35.8	50.6	36.4	53.9	59.9
Mercury	0.81	0.14	0.13 U	0.12 U	0.12 U	0.14	0.12 U	0.11 U	0.11 U	0.27	0.12 U	0.0528	0.0926	0.0639	0.0532	0.203	0.232	0.0922	0.0758	0.125	0.0529	0.0514
Selenium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XRF (mg/kg)																						
Arsenic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8 ± 1.8	30 ± 4	30 ± 4	17.2 ± 1.8	6.5 ± 1.5	7.7 ± 1.5	11.5 ± 2	-
Barium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	353 ± 102	459 ± 114	459 ± 114	334 ± 80	ND	ND	ND	-
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	-
Lead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24 ± 2	189 ± 6	189 ± 6	46 ± 2	23 ± 2	28 ± 2	36 ± 3	-
Mercury	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	-
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		S2	S3	S4	S5	S6	P1	DS-19-WW	DS-20-WW	DS-21-BT	DS-22-NW	DS-23-NW	DS-24-BT	DS-100-BT (D)	DS-25-BT	DS-26-NW	DS-27-BT	CS-2-EW	DS-28-NW	DS-29-NW	DS-30-NW	DS-31-BT
Sample Depth (ft-bgs):		0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	1.5	1.75	2	1.75	1	2	2	2	1.5	2	1.75	1.5	0.5	1	2
Sample Date:		04/01/19	04/01/19	04/01/19	04/01/19	04/01/19	04/02/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/26/19	06/27/19	06/28/19	06/27/19	06/27/19	06/27/19
	SCOs (b) RR																					
PAHs (mg/kg)																						
Acenaphthene	100	0.282	0.431	0.43	0.271	0.066	0.0695	0.55	0.63	0.4	1.2	0.028	0.051	0.021	0.14	0.11	0.042	1	12.1	0.14	0.069	1.6
Acenaphthylene	100	0.0144	0.00662 U	0.00689 U	0.00665 U	0.0066 U	0.00693 U	0.44	0.75	0.98	0.33	0.01	0.024	0.028	0.36	0.08	0.051	1.7	0.89	0.096	0.15	1.4
Anthracene	100	0.991	1.09	1.02	0.532	0.37	0.213	1.5	1.4	2.1	3.2	0.064	0.15	0.088	0.63	0.32	0.15	4.6	25.7	0.56	0.23	6.1
Benzo(a)anthracene	1	3.69	7.29	2.08	1.19	0.771	0.576	4.3	4.5	4.9	6.8	0.23	0.57	0.4	2	1.1	0.4	12.6	41.8	1.6	0.78	22.4
Benzo(a)pyrene	1	3.3	6.98	1.46	0.839	0.551	0.496	3.8	3.3	5.8	6.1	0.17	0.55	0.39	2.1	1	0.33	11.8	29.8	1.2	0.67	15.5
Benzo(b)fluoranthene	1	4.35	9.11	1.83	1.13	0.987	0.635	11.4	9.7	13.1	12.8	0.76	2	1.3	8.6	4.4	1.3	27.8	56.4	3.5	2.5	35.5
Benzo(g,h,i)perylene	100	1.57	4.39	0.806	0.497	0.423	0.285	0.26	0.29	0.57	0.54	0.029	0.092	0.041	0.24	0.14	0.049	1.3	3.5	0.09	0.066	1.3
Benzo(k)fluoranthene	3.9	1.23	1.61	0.691	0.356	0.237	0.207	9	7.7	11.9	11.6	0.6	1.2	1	6.8	3.5	0.99	25.2	15.1	3.2	2.3	32.2
Chrysene	3.9	3.61	6.02	1.78	0.925	0.547	0.479	3.8	4	4.4	5.1	0.19	0.48	0.35	1.8	0.96	0.35	10.6	33.1	1.3	0.8	14.9
Dibenzo(a,h)anthracene	0.33	0.451	0.712	0.241	0.148	0.146	0.0903	0.18	0.18	0.3	0.32	0.012	0.039	0.021	0.12	0.066	0.027	0.85	2.2	0.071	0.032	0.81
Fluoranthene	100	6.91	13.9	5.25	2.34	1.29	1.03	8.4	7.8	8.5	11.5	0.41	1	0.69	3.2	2.4	0.7	29.6	106	2.9	1.3	48
Fluorene	100	0.305	0.451	0.396	0.254	0.0664	0.0811	0.76	0.85	0.46	1.2	0.029	0.048	0.029	0.17	0.13	0.038	1.1	11.5	0.2	0.083	2.6
Indeno(1,2,3-cd)pyrene	0.5	1.48	3.81	0.731	0.462	0.39	0.268	0.42	0.4	0.69	0.68	0.03	0.11	0.054	0.28	0.18	0.06	1.8	5.3	0.15	0.078	1.9
Naphthalene	100	0.215	0.504	0.155	0.107	0.0417	0.0353	0.89	0.56	0.37	0.92	0.018	0.026	0.025	0.24	0.074	0.048	0.82	1.9	0.098	0.21	1.3
Phenanthrene	100	2.78	3.93	3.86	2.05	0.654	0.634	5.9	3.6	4.7	9	0.27	0.61	0.35	1.2	1.1	0.39	8.9	94.2	1.9	0.83	26.2
Pyrene	100	4.1	13.4	3.37	1.91	1.14	0.869	6.6	6.1	7.3	8.8	0.32	0.83	0.58	2.7	1.8	0.57	26.4	80.9	2.3	1.1	38.6
Total PAHs	500 (c)	35.3	73.6	24.1	13.0	8.3	6.0	58.2	51.8	66.5	80.1	3.2	7.8	5.4	30.6	17.4	5.5	166.1	520.4	19.3	11.2	250.3
PCBs (mg/kg)																						
Aroclor 1016	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.098 U	0.21 U	0.093 U	0.2 U	0.21 U
Aroclor 1221	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.098 U	0.21 U	0.093 U	0.2 U	0.21 U
Aroclor 1232	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.098 U	0.21 U	0.093 U	0.2 U	0.21 U
Aroclor 1242	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.098 U	0.21 U	0.093 U	0.2 U	0.21 U
Aroclor 1248	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.098 U	0.21 U	0.093 U	0.2 U	0.21 U
Aroclor 1254	-	0.0947	0.107	0.065	0.0229	0.0187 U	0.0337	0.1 U	0.094 U	0.096 U	0.089 U	0.086 U	0.019 U	0.019 U	0.019 U	0.093 U	0.02 U	0.57	0.21 U	0.093 U	0.2 U	1.9
Aroclor 1260	-	0.1999 U	0.0188 U	0.0195 U	0.0188 U	0.0187 U	0.0196 U	0.53	0.094 U	0.21	0.34	0.086 U	0.019 U	0.019 U	0.15	0.23	0.056	0.098 U	0.21 U	0.093 U	0.2 U	1.4
Total PCBs	1	0.0947	0.107	0.065	0.0229	-	0.0337	0.53	-	0.21	0.34	-	-	-	0.15	0.23	0.056	0.57	-	-	-	3.3
Metals (mg/kg)																						
Arsenic	16	4.73	12.7	11.3	13.6	7.19	3.37 B	38	16.2	10.2	20.8	4.8	9.6	10.3	4.2	13.3	45.7	15.5	24.6	10.6	18.6	19.8
Barium	400	52.7	96.3	119	293	94.6	84.3	129	68.3	67.4	125	133	61.6	67.2	45.3	98.3	126	134	116	95.4	93.3	169
Cadmium	4.3	0.199 J	0.312	0.172 J	0.261 J	0.183	0.308 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	31.9	133	235	68.4	29.8	28.3	133	73.2	84.5	126	112	182	883	35.1	229	35.8	71.1	294	46.4	125	186
Mercury	0.81	0.0571	0.0849	0.105	0.0652	0.0257	0.0615	0.16	0.11 U	0.14	0.12	0.1 U	0.13	0.11 U	0.11 U	0.1	0.11 U	0.11 U	0.16	0.11 U	0.11 U	0.17
Selenium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XRF (mg/kg)																						
Arsenic	-	-	-	-	-	7.7 ± 1.8	-	43 ± 10	21 ± 8	20 ± 8	16 ± 7	16 ± 9	ND	ND	10 ± 6	ND	81 ± 8	9 ± 5	26 ± 9	13 ± 6	12 ± 10	31 ± 8
Barium	-	-	-	-	-	303 ± 95	-	281 ± 53	213 ± 45	ND	ND	242 ± 53	279 ± 54	279 ± 54	ND	ND	ND	-	-	-	-	-
Cadmium	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	-	-	-	-	-	24 ± 2	-	90 ± 12	75 ± 10	140 ± 11	98 ± 9	83 ± 12	247 ± 18	247 ± 18	40 ± 8	334 ± 16	52 ± 8	64 ± 7	246 ± 11	57 ± 7	185 ± 11	226 ± 10
Mercury	-	-	-	-	-	ND	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	8 ± 4	7 ± 6	ND	10 ± 7	ND	ND
Cyanide (mg/kg)	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-32-NW	DS-33-NW	TP-1	TP-2	TRENCH	DS-34-SW	DS-35-SW	DS-36-SW	DS-200-SW (D)	DS-37-SW	DS-38-SW	DS-39-SW	DS-40-SW	DS-41-BT	DS-42-SW	CS-3-EW	DS-43-SW	DS-44-SW	DS-37A-SW	DS-37B-SW	DS-28A-NW
Sample Depth (ft-bgs):		1.75	0.5	1	1.5	-	1.5	1.25	1.75	1.75	1.75	1.5	1.25	1	2	1.5	1.5	1.75	1.5	1.75	1.75	1.5
Sample Date:		06/28/19	06/28/19	07/11/19	07/11/19	07/16/19	07/16/19	07/16/19	07/16/19	07/16/19	07/16/19	07/17/19	07/17/19	07/17/19	07/17/19	07/17/19	07/18/19	07/18/19	07/18/19	07/25/19	07/25/19	07/29/19
	SCOs (b) RR																					
PAHs (mg/kg)																						
Acenaphthene	100	0.027	0.077	0.17	0.17	-	0.07 U	0.2	1.1 U	0.082 U	1 U	0.31	0.25	0.083 U	0.0079 U	0.28	0.75	0.12	0.18	-	-	0.3
Acenaphthylene	100	0.081	0.063	0.42	0.27	-	0.25	1.1	1.1 U	0.082 U	2.1	0.18	0.088 U	0.083 U	0.0079 U	0.31	2.6	0.25	0.57	-	-	0.67
Anthracene	100	0.1	0.19	0.63	0.58	-	0.17	0.91	1.1 U	0.082 U	1	0.85	0.78	0.083 U	0.0079 U	1.1	5.6	0.39	0.63	-	-	0.88
Benzo(a)anthracene	1	0.44	0.76	2.2	2.3	-	0.45	4.4	1.1 U	0.4	6.9	2.2	1.5	0.16	0.0079 U	2.6	12.3	1.3	3.2	-	-	4.1
Benzo(a)pyrene	1	0.46	0.78	1.9	2.3	-	0.65	4.7	1.1 U	0.13	7	1.8	1	0.13	0.0079 U	2	11.7	1.1	2.8	-	-	3.6
Benzo(b)fluoranthene	1	1.6	2.5	2.9	4.9	-	1.2	7.4	1.1 U	0.25	10.7	3.8	2.2	0.29	0.0087	4.5	25.1	2.4	5.9	-	-	7.6
Benzo(g,h,i)perylene	100	0.054	0.088	0.85	0.13	-	0.53	2.2	1.1 U	0.082 U	3.6	0.85	0.34	0.083 U	0.0079 U	0.68	1.3	0.18	0.23	-	-	1.5
Benzo(k)fluoranthene	3.9	1.4	2.3	1.1	4	-	0.47	2.9	1.1 U	0.21	3.9	3.3	1.9	0.25	0.0079 U	3.9	20.7	1.9	4.7	-	-	2.5
Chrysene	3.9	0.49	0.69	2.1	2	-	0.7	4.5	1.7	0.78	7.6	2.1	1.3	0.18	0.0079 U	2.4	10.6	1.1	2.7	-	-	4.9
Dibenzo(a,h)anthracene	0.33	0.026	0.039	0.34	0.14	-	0.16	0.79	1.1 U	0.082 U	1.3	0.32	0.16	0.083 U	0.0079 U	0.31	1.1	0.14	0.22	-	-	0.65
Fluoranthene	100	0.66	1.2	4.1	4.4	-	0.76	6.4	1.1 U	0.28	8.7	4.8	3.3	0.38	0.0079 U	5.4	21.6	2.5	5.6	-	-	7.7
Fluorene	100	0.028	0.078	0.17	0.2	-	0.07 U	0.24	1.1 U	0.082 U	1	0.43	0.44	0.083 U	0.0079 U	0.55	0.88	0.15	0.24	-	-	0.36
Indeno(1,2,3-cd)pyrene	0.5	0.063	0.095	0.85	0.19	-	0.43	2	1.1 U	0.082 U	3.3	0.9	0.4	0.083 U	0.0079 U	0.78	1.9	0.25	0.4	-	-	1.5
Naphthalene	100	0.062	0.041	0.59	0.24	-	0.32	1.6	1.1 U	0.082 U	2.3	0.76	0.56	0.083 U	0.0079 U	0.66	0.52	0.32	0.25	-	-	0.86
Phenanthrene	100	0.36	0.76	1.8	2.2	-	0.37	2.8	1.1 U	0.11	3.3	3.3	2.9	0.27	0.0079 U	4	7.7	1.4	2.3	-	-	4.2
Pyrene	100	0.56	0.98	3.6	4	-	0.68	5.6	1.1 U	0.43	9.9	3.9	2.5	0.3	0.0079 U	4.2	20	2.1	4.7	-	-	6.5
Total PAHs	500 (c)	6.4	10.6	23.7	24.0	-	7.1	47.7	1.7	2.6	72.6	29.8	19.5	2.0	0.0087	33.67	144.35	15.6	34.62	-	-	47.82
PCBs (mg/kg)																						
Aroclor 1016	-	0.094 U	0.18 U	0.19 U	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Aroclor 1221	-	0.094 U	0.18 U	0.19 U	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Aroclor 1232	-	0.094 U	0.18 U	0.19 U	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Aroclor 1242	-	0.094 U	0.18 U	0.19 U	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Aroclor 1248	-	0.094 U	0.18 U	0.19 U	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Aroclor 1254	-	0.094 U	0.18 U	0.35	0.17	-	0.18 U	0.16 U	0.026 U	0.02 U	0.91	0.36	3.5	0.34	0.02 U	0.21 U	1	0.1 U	0.2 U	-	-	-
Aroclor 1260	-	0.094 U	0.18 U	0.26	0.019 U	-	0.18 U	0.16 U	0.026 U	0.02 U	0.25 U	0.11 U	0.22 U	0.1 U	0.02 U	0.21 U	0.2 U	0.1 U	0.2 U	-	-	-
Total PCBs	1	-	-	0.61	0.17	-	-	-	-	-	0.91	0.36	3.5	0.34	-	-	1	-	-	-	-	-
Metals (mg/kg)																						
Arsenic	16	7.5	4.9	11.2	16.4	6.2	19.6	35.6	12.7	9.8	15.4	23.7	16.9	10.2	7	13.7	10	14.1	23.8	-	-	-
Barium	400	70.4	68.9	117	149	76.1	171	203	112	65.2	93.2	133	83.3	84.9	99.9	127	80.2	190	100	-	-	-
Cadmium	4.3	-	-	-	-	0.33 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	180	-	-	-	-	17.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	77.5	73	53.6	67.1	22.4	313	209	102	57	127	161	93.9	180	8.4	245	70.6	493	97.3	-	-	-
Mercury	0.81	0.11 U	0.11 U	0.18	0.12 U	0.11 U	0.99	1.4	1.5	1.6	1.3	0.56	1.5	0.2	0.12 U	0.3	0.21	0.19	0.15	-	-	-
Selenium	180	-	-	-	-	0.89 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	180	-	-	-	-	0.67 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XRF (mg/kg)																						
Arsenic	-	21 ± 8	9 ± 6	9 ± 5	ND	-	30 ± 16	ND	-	-	21 ± 6	30 ± 8	16 ± 7	ND	-	19 ± 6	42 ± 8	61 ± 17	21 ± 17	-	-	-
Barium	-	-	-	284 ± 44	638 ± 48	-	ND	ND	-	-	ND	ND	158 ± 11	ND	-	ND	68 ± 17	ND	ND	-	-	-
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	-	124 ± 9	94 ± 7	16 ± 7	16 ± 7	-	523 ± 21	ND	-	-	86 ± 8	140 ± 10	93 ± 10	190 ± 11	-	89 ± 8	89 ± 14	696 ± 22	62 ± 11	-	-	-
Mercury	-	ND	ND	ND	ND	-	ND	ND	-	-	ND	ND	ND	ND	-	ND	ND	ND	ND	-	-	-
Cyanide (mg/kg)	27	-	-	-	-	3.3	-	-	4	-	105	8	-	-	-	-	-	-	-	27.3	34.9	-

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-28B-NW	DS-37C-SW	DS-45-BT	DS-46-SW	DS-47-SW	DS-48-BT	DS-49-SW	BD-17-SB1	BD-17-SB1	BD-17-SB1	BD-17-SB2	DS-50-NW	DS-51-NW	DS-52-NW	DS-53-SW	DS-54-NW	DS-55-NW	DS-56-EW	DS-57-WW	DS-58-SW	DS-300-NW (D)
Sample Depth (ft-bgs):		1.5	1	3	2	1	2	0.75	(3-4)	(10-12)	(14-16)	(8-10)	1	0.75	1.25	1	1	1.25	1.5	1.5	1	1
Sample Date:		07/29/19	08/05/19	08/02/19	08/02/19	08/02/19	08/02/19	08/02/19	08/06/19	08/06/19	08/06/19	08/06/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19	08/07/19
	SCOs (b) RR																					
PAHs (mg/kg)																						
Acenaphthene	100	1.5	-	0.013	0.098	0.012	0.008 U	0.021 U	-	0.077 U (e	0.073 U	0.013	0.0072 U	0.68	0.52	0.061	0.85	13.8	0.19	0.8	0.011	0.0076 U
Acenaphthylene	100	1.3	-	0.008 U	0.097	0.0077 U	0.008 U	0.021 U	-	0.077 U	0.073 U	0.0075 U	0.028	1	0.42	0.13	0.55	3.2	0.85	1.3	0.12	0.038
Anthracene	100	3.6	-	0.008 U	0.089 U	0.0077 U	0.015	0.026	-	0.077 U	0.073 U	0.0081	0.014	2.9	1.6	0.21	2.9	44.2	1.1	3.5	0.043	0.016
Benzo(a)anthracene	1	8.6	-	0.021	0.091	0.026	0.04	0.074	-	0.077 U	0.1	0.036	0.032	8.3	6	0.59	7.2	88	2.7	7.9	0.13	0.053
Benzo(a)pyrene	1	9	-	0.0094	0.089 U	0.018	0.028	0.057	-	0.077 U	0.13	0.041	0.021	7.6	5	0.47	5.7	64.7	2.4	6.7	0.082	0.028
Benzo(b)fluoranthene	1	14.9	-	0.019	0.11	0.0077 U	0.056	0.11	-	0.077 U	0.074	0.013	0.09	17.8	8.6	1.3	13.7	82.8	7.2	10.2	0.22	0.093
Benzo(g,h,i)perylene	100	4.4	-	0.008 U	0.089 U	0.0077 U	0.012	0.025	-	0.077 U	0.073 U	0.0075 U	0.032	1.3	0.82	0.049	0.76	4.9	0.4	0.42	0.011	0.028
Benzo(k)fluoranthene	3.9	4.4	-	0.016	0.099	0.0077 U	0.049	0.1	-	0.077 U	0.073 U	0.011	0.079	15.7	2.8	1.2	12.8	28	6.5	2.9	0.19	0.082
Chrysene	3.9	8.6	-	0.022	0.17	0.021	0.037	0.071	-	0.078	0.26	0.056	0.061	7.1	4.6	0.61	5.4	63.9	2.6	7	0.2	0.12
Dibenzo(a,h)anthracene	0.33	1.7	-	0.008 U	0.089 U	0.0077 U	0.008 U	0.021 U	-	0.077 U	0.073 U	0.0075 U	0.0095	0.68	0.41	0.027	0.4	2.7	0.2	0.19	0.0081 U	0.0095
Fluoranthene	100	26.4	-	0.033	0.2	0.04	0.077	0.18	-	0.077 U	0.16	0.02	0.055	20.4	12.7	1.3	16.8	382	5.7	18.3	0.21	0.11
Fluorene	100	1.3	-	0.0096	0.089 U	0.013	0.008 U	0.021 U	-	0.077 U	0.073 U	0.0083	0.0072 U	0.75	0.53	0.1	1	16.3	0.25	0.94	0.034	0.0076 U
Indeno(1,2,3-cd)pyrene	0.5	4.4	-	0.008 U	0.089 U	0.0077 U	0.012	0.021 U	-	0.077 U	0.073 U	0.0075 U	0.024	1.8	1.1	0.068	1	7.1	0.54	0.53	0.0081 U	0.013
Naphthalene	100	0.72	-	0.008 U	0.089 U	0.0077 U	0.008 U	0.031	-	0.077 U	0.073 U	0.0075 U	0.045	0.65	0.5	0.48	0.74	5.7	0.65	0.8	0.31	0.063
Phenanthrene	100	13.6	-	0.008 U	0.089 U	0.0083	0.047	0.12	-	0.078	0.93	0.0095	0.051	8.8	7.3	1.3	12.5	276	2.7	10	0.37	0.064
Pyrene	100	16	-	0.038	0.45	0.079	0.07	0.15	-	0.077 U	0.66	0.16	0.052	15.7	10.1	1	13.8	318	4.6	14.6	0.18	0.1
Total PAHs	500 (c)	120.42	-	0.181	1.315	0.2173	0.443	0.944	-	0.156	2.314	0.3759	0.5935	111.16	63	8.895	96.1	1,401	38.58	86.08	2.111	0.8175
PCBs (mg/kg)																						
Aroclor 1016	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	0.2 U	0.21 U	0.11 U	0.2 U	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1221	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	0.2 U	0.21 U	0.11 U	0.2 U	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1232	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	0.2 U	0.21 U	0.11 U	0.2 U	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1242	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	0.2 U	0.21 U	0.11 U	0.2 U	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1248	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	0.2 U	0.21 U	0.11 U	0.2 U	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1254	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.053 U	-	0.099 U	0.091 U	0.095 U	0.018 U	1.1	0.28	0.11 U	0.42	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Aroclor 1260	-	-	-	0.02 U	0.022 U	0.019 U	0.019 U	0.091	-	0.099 U	0.091 U	0.095 U	0.018 U	0.9	0.21	0.11 U	0.3	0.37 U	0.19 U	0.39 U	0.1 U	0.019 U
Total PCBs	1	-	-	-	-	-	-	0.091	-	-	-	-	-	2	0.49	-	0.72	-	-	-	-	-
Metals (mg/kg)																						
Arsenic	16	-	-	3.1	11.7	9.8	5.7	90.3	-	-	-	-	4.2	28.2	70.3	89.5	13.4	42.7	55.5	209	21.8	32.8
Barium	400	-	-	58.3	365	67.7	47.2	205	-	-	-	-	44.4	139	210	196	66.8	146	138	123	101	50.9
Cadmium	4.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	400	-	-	7.9	145	13.8	14.3	173	-	-	-	-	18.4	138	94.2	136	46.5	142	440	102	74.2	17.7
Mercury	0.81	-	-	0.12 U	0.12 U	0.12 U	0.12 U	0.52	-	-	-	-	0.11 U	5.6	0.48	0.78	0.35	0.24	0.32	0.37	0.13	0.11 U
Selenium	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
XRF (mg/kg)																						
Arsenic	-	-	-	-	ND	ND	-	-	-	-	-	-	19 ± 6	40 ± 8	67 ± 7	36 ± 8	24 ± 7	ND	20 ± 11	-	-	19 ± 6
Barium	-	-	-	-	309 ± 41	ND	-	-	-	-	-	-	ND	ND	ND	ND	ND	167 ± 45	ND	-	-	ND
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	-	-	-	-	137 ± 11	41 ± 7	-	-	-	-	-	-	35 ± 7	84 ± 10	52 ± 8	30 ± 9	67 ± 9	35 ± 8	310 ± 14	-	-	35 ± 7
Mercury	-	-	-	-	ND	ND	-	-	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	-	-	ND
Cyanide (mg/kg)	27	-	4.8	-	-	-	-	-	24.5	10.9	5.7	19.8 U	-	-	-	-	-	-	-	-	-	-

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-H

AOC 32 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		DS-59-SW	DS-60-NW	DS-61-SW	DS-62-NW	DS-63-NW
Sample Depth (ft-bgs):		1	2	0.75	1.25	1.5
Sample Date:		08/09/19	08/19/19	08/19/19	08/28/19	08/28/19
	SCOs (b) RR					
PAHs (mg/kg)						
Acenaphthene	100	0.015	0.04	0.026 U	0.26	0.15
Acenaphthylene	100	0.062	0.08	0.5	0.093	0.31
Anthracene	100	0.059	0.1	0.082	0.66	0.47
Benzo(a)anthracene	1	0.19	0.062	0.22	2.1	1.3
Benzo(a)pyrene	1	0.12	0.059	0.18	1.6	1
Benzo(b)fluoranthene	1	0.3	0.12	0.39	2.8	2.4
Benzo(g,h,i)perylene	100	0.023	0.042	0.077	0.56	0.35
Benzo(k)fluoranthene	3.9	0.27	0.032	0.32	0.96	0.66
Chrysene	3.9	0.15	0.081	0.2	1.9	1.7
Dibenzo(a,h)anthracene	0.33	0.015	0.018	0.029	0.24	0.18
Fluoranthene	100	0.35	0.13	0.41	4.2	2.4
Fluorene	100	0.022	0.064	0.063	0.25	0.2
Indeno(1,2,3-cd)pyrene	0.5	0.033	0.041	0.075	0.61	0.4
Naphthalene	100	0.095	0.19	0.88	0.14	0.4
Phenanthrene	100	0.19	0.11	0.28	3.3	2
Pyrene	100	0.27	0.14	0.37	3.4	1.6
Total PAHs	500 (c)	2.164	1.309	4.076	23.073	15.52
PCBs (mg/kg)						
Aroclor 1016	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1221	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1232	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1242	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1248	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1254	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Aroclor 1260	-	0.11 U	0.02 U	0.064 U	0.36 U	0.22 U
Total PCBs	1	-	-	-	-	-
Metals (mg/kg)						
Arsenic	16	153	2.3	198	7	21.4
Barium	400	345	34.1	335	78	109
Cadmium	4.3	-	-	-	-	-
Chromium	180	-	-	-	-	-
Lead	400	89.3	16.2	50.3	36.1	168
Mercury	0.81	0.25	0.12 U	0.54	0.1 U	0.12
Selenium	180	-	-	-	-	-
Silver	180	-	-	-	-	-
XRF (mg/kg)						
Arsenic	-	-	ND	162 ± 11	-	-
Barium	-	-	62 ± 38	ND	-	-
Cadmium	-	-	-	-	-	-
Lead	-	-	18 ± 6	29 ± 9	-	-
Mercury	-	-	ND	8 ± 5	-	-
Cyanide (mg/kg)	27	-	-	-	-	-

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; PAHs = polycyclic aromatic hydrocarbons; PCBs = polychlorinated biphenyls; XRF = X-ray fluorescence; D = duplicate of previous sample; "-" = not analyzed, not applicable or not available; ND = not detected.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit
e/ Sample collected to delineate oil seepage from AOC 35G.

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-I

AOC 34 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:	SCOs (e)		WSP-SB-622			34-01				34-04		CS-1-EW	CS-2-WW	CS-3-BT	DS-1-SW	DS-2-BT	CS-4-EW	CS-5-WW	DS-3-SW	DS-4-BT	P1	P2	P3	P100 (D)	P4
Sample Depth (ft-bgs)(b):			0-2	2-2.5	4-5	0-0.17	0.3-0.5	0.5-2	1.8-2	0-0.17	0.17-2	1-2	0.5-1.5 (1)	2	0.5-1.5	2	1-2	1-2	1-2	2	0-2.0 (0.75)	0-2.0 (0.5)	0-2.0 (1.75)	0-2.0 (1.75)	0-2.0
PID (ppm):			-	-	-	-	-	-	-	-	-	-	0.6	0.3	-	-	-	-	-	-	0.3	0.1	0.1	0.1	-
Sample Date:			04/30/14	04/30/14	04/30/14	11/20/15	11/20/15	11/20/15	11/20/15	11/30/15	11/30/15	11/14/18	11/14/18	11/14/18	11/14/18	11/14/18	11/29/18	11/29/18	11/29/18	11/29/18	04/02/19	04/02/19	04/02/19	04/02/19	04/02/19
	RR	PoG																							
CVOCs (mg/kg)																									
1,1,1-Trichloroethane	100	0.68	0.012 U	0.013 U	0.0003 U	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U (e)	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.003 U	0.0028 U	-
1,1-Dichloroethene	100	0.33	-	-	-	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.003 U	0.0028 U	-
1,2-Dichloroethane	3.1	0.02	-	-	-	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.003 U	0.0028 U	-
cis-1,2-Dichloroethene	100	0.25	0.025 U	0.026 U	0.0005 U	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.017	0.019	-
Tetrachloroethene	19	1.3	1.26	0.686	0.0058	0.0022 U	-	-	0.0006 J	0.0109	0.0176	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.897	1.17	-
trans-1,2-Dichloroethene	100	0.19	0.023 U	0.024 U	0.0005 U	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0056 U	0.0054 U	0.006 U	0.0057 U	-
Trichloroethene	21	0.47	0.014 U	0.014 U	0.0003 U	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0011 U	0.0011 U	0.0207	0.0254	-
Vinyl chloride	0.9	0.02	0.05 U	0.053 U	0.0011 U	0.0022 U	-	-	0.0019 U	0.0034 U	0.0025 U	-	0.0049 U	0.0043 U	-	-	-	-	-	-	0.0028 U	0.0027 U	0.003 U	0.0028 U	-
PAHs (mg/kg)																									
Acenaphthene	100	-	-	-	-	-	2.1 U	0.149 J	-	1 U	0.11 U	90.4	0.1	-	0.2	0.073 U	517	0.089	6.1	0.31	0.0753	0.0007 J	0.0074	0.0152	2.44
Acenaphthylene	100	-	-	-	-	-	2.1 U	1.07	-	1 U	0.11 U	8.4	0.098	-	0.7	0.073 U	21.9	0.082 U	0.86	0.072 U	0.0063 U	0.0065 U	0.0067 U	0.0068 U	0.133 U
Anthracene	100	-	-	-	-	-	2.1 U	1.82	-	1 U	0.11 U	483	0.33	-	1.9	0.14	1,050	0.22	30.1	0.76	0.241	0.0017 J	0.0321	0.07	5.94
Benzo(a)anthracene	1	-	-	-	-	-	0.594 J	5.38	-	0.121 J	0.028 J	869	1.3	-	7.9	0.45	3,010	0.56	53.6	2.4	0.93	0.0087	0.106	0.237	9.75
Benzo(a)pyrene	1	-	-	-	-	-	0.802 J	5.02	-	1 U	0.0249 J	662	1.2	-	6.1	0.37	1,390	0.49	44.5	2.2	0.843	0.0092	0.0982	0.209	7.9
Benzo(b)fluoranthene	1	-	-	-	-	-	0.726 J	4.59	-	1 U	0.0269 J	905	2	-	11.8	0.74	3,320	0.56	65.1	2.7	1.11	0.0145	0.136	0.274	9.89
Benzo(g,h,i)perylene	100	-	-	-	-	-	0.493 J	2.72	-	1 U	0.0327 J	330	0.49	-	2.4	0.14	685	0.27	13.9	1.3	0.522	0.009	0.0659	0.131	3.92
Benzo(k)fluoranthene	3.9	-	-	-	-	-	0.631 J	4.78	-	1 U	0.0247 J	358	0.84	-	3.9	0.21	688	0.32	35.6	1.7	0.317	0.0039 J	0.0457	0.0992	3.21
Chrysene	3.9	-	-	-	-	-	0.718 J	5.28	-	0.144 J	0.0286 J	792	1.2	-	7.3	0.54	1,530	0.55	51.9	2.5	0.71	0.0099	0.0903	0.196	7.81
Dibenzo(a,h)anthracene	0.3	-	-	-	-	-	2.1 U	1.05	-	1 U	0.11 U	143	0.17	-	0.96	0.073 U	401	0.093	6.6	0.45	0.168	0.0018 J	0.0179	0.0392	1.5
Fluoranthene	100	-	-	-	-	-	0.881 J	11.8	-	0.19 J	0.0429 J	682	2.1	-	31.6	0.9	7,000	1.2	127	5.1	1.57	0.0183	0.249	0.523	25
Fluorene	100	-	-	-	-	-	2.1 U	0.624	-	1 U	0.11 U	85.8	0.1	-	0.71	0.073 U	536	0.082 U	6.1	0.26	0.0806	0.0009 J	0.0165	0.0305	2.56
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	2.1 U	2.59	-	1 U	0.11 U	314	0.47	-	2.6	0.12	702	0.24	13.9	1.1	0.484	0.0062 J	0.0598	0.123	3.97
Naphthalene	100	-	-	-	-	-	2.1 U	0.104 J	-	1 U	0.11 U	26.9	0.073 U	-	0.12	0.17	136	0.082 U	1.2	0.12	0.0522	0.0024 J	0.0034 J	0.006 J	1.01
Phenanthrene	100	-	-	-	-	-	0.784 J	6.6	-	0.146 J	0.0303 J	660	1	-	7.7	0.75	5,390	0.84	103	3.3	0.767	0.0081	0.155	0.313	19.8
Pyrene	100	-	-	-	-	-	1.13 J	9.41	-	0.196 J	0.0417 J	1,410	1.8	-	10.6	0.69	5,720	0.99	92.1	4.4	1.3	0.0143	0.18	0.386	14.4
Total PAHs	500 (d)		-	-	-	-	6.8	63.0	-	0.8	0.3	7,820	13.2	-	96.5	5.2	32,097	6.4	651.6	28.7	9.2	0.1	1.3	2.7	119.1

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-I

AOC 34 - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

		Sample Location:	**S4**	**S5**	**CS-6-BT**	**CS-7-EW**	**CS-8-BT**	**CS-9-WW**	**DS-5-SW**	**DS-6-SW**	**DS-7-EW**	**DS-8-BT**
		Sample Depth (ft-bgs)(b):	**0-2.0**	**0-2.0**	**2**	**2**	**3**	**0-2 (1.5)**	**0 - 2.0**	**0 - 2.0**	**0 - 2.0**	**2**
		PID (ppm):	**-**	**-**	**2.2**	**0.3**	**-**	**0**	**-**	**-**	**-**	**-**
		Sample Date:	**04/02/19**	**04/02/19**	**05/16/19**	**05/16/19**	**05/16/19**	**05/16/19**	**05/15/19**	**05/15/19**	**05/15/19**	**05/15/19**
	SCOs (e)											
	RR	**PoG**										
CVOCs (mg/kg)												
1,1,1-Trichloroethane	100	0.68	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
1,1-Dichloroethene	100	0.33	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
1,2-Dichloroethane	3.1	0.02	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
cis-1,2-Dichloroethene	100	0.25	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
Tetrachloroethene	19	1.3	-	-	0.0098	0.073	0.06	0.0051 U	-	-	-	-
trans-1,2-Dichloroethene	100	0.19	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
Trichloroethene	21	0.47	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
Vinyl chloride	0.9	0.02	-	-	0.0045 U	0.0061 U	0.0059 U	0.0051 U	-	-	-	-
PAHs (mg/kg)												
Acenaphthene	100	-	0.0624	3.19	0.0075 U	-	-	-	0.8	0.007 U	0.012	0.17
Acenaphthylene	100	-	0.0064 U	0.0065 U	0.0075 U	-	-	-	0.26	0.007 U	0.038	0.024
Anthracene	100	-	0.192	9.12 E	0.0075 U	-	-	-	3.1	0.007 U	0.092	0.51
Benzo(a)anthracene	1	-	0.698	28.8	0.0075 U	-	-	-	12.4	0.012	0.31	0.97
Benzo(a)pyrene	1	-	0.502	21.6	0.0075 U	-	-	-	11.2	0.01	0.26	0.74
Benzo(b)fluoranthene	1	-	0.665	28	0.0075 U	-	-	-	14.5	0.017	0.59	1.5
Benzo(g,h,i)perylene	100	-	0.283	10.7	0.0075 U	-	-	-	3.6	0.007 U	0.13	0.21
Benzo(k)fluoranthene	3.9	-	0.211	9.94	0.0075 U	-	-	-	5.1	0.0072	0.52	1.3
Chrysene	3.9	-	0.504	26	0.0075 U	-	-	-	9.4	0.011	0.29	0.73
Dibenzo(a,h)anthracene	0.3	-	0.0917	3.38	0.0075 U	-	-	-	1.6	0.007 U	0.045	0.1
Fluoranthene	100	-	1.14	23.7 E	0.0075 U	-	-	-	19.5	0.018	0.62	1.8
Fluorene	100	-	0.054	3.32	0.0075 U	-	-	-	0.66	0.007 U	0.035	0.17
Indeno(1,2,3-cd)pyrene	0.5	-	0.253	10.2	0.0075 U	-	-	-	4	0.007 U	0.12	0.25
Naphthalene	100	-	0.0104 J	0.0768	0.0075 U	-	-	-	0.2	0.007 U	0.043	0.11
Phenanthrene	100	-	0.686	21.3 E	0.0075 U	-	-	-	10.3	0.0099	0.41	1.6
Pyrene	100	-	0.901	45.4	0.0075 U	-	-	-	15.7	0.015	0.44	1.4
Total PAHs	500 (d)	-	6.3	244.7	0.0075 U				112.3	0.1	4.0	11.6

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; RR = restricted residential; PoG = protection of groundwater; mg/kg = milligrams per kilogram; CVOCs = chlorinated volatile organic compounds; PAH = polycyclic aromatic hydrocarbons; "-" = not analyzed, not applicable or not available.
b/ VOC sample depths shown in parentheses if different than other analytes.
c/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
d/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
e/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit
E = estimated concentration above the instrument calibration range

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-J

AOC 35A - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		LBA-TP-18	CS-1-WW	CS-2-EW	DS-1-BT	P1	P2	P3	P100 (D)	P4	P5	TPP-1	TPP-2	TPP-3
Sample Depth (ft-bgs)(d):		4	1.5 - 2	1.5 - 2	3	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	0-2.0	1.25-2	1.5 - 2	1-2
Sample Date:		08/09/13	11/07/18	11/07/18	11/07/18	04/01/19	04/02/19	04/02/19	04/02/19	04/01/19	04/01/19	06/24/19	06/24/19	06/24/19
	SCOs (b) RR													
Metals (mg/kg)														
Arsenic	16	6.3	393	167	347	4.2 B	2.7 B	7.69	5.82 B	10.2	6.88	10.9	27.4	10.7
Barium	400	50	173	94.1	166	-	-	-	-	-	-	-	-	-
Cadmium	4.3	0.032 J(c)	0.33 U	0.34 U	0.38 U	-	-	-	-	-	-	-	-	-
Chromium	180	5.7 J	20.1	10.6	17.1	-	-	-	-	-	-	-	-	-
Lead	400	19	35	19	47.3	-	-	-	-	-	-	-	-	-
Mercury	0.81	0.042	0.5	0.11 U	0.43	-	-	-	-	-	-	-	-	-
Selenium	180	1.3 J	8.3	3.8	6.1	-	-	-	-	-	-	-	-	-
Silver	180	1.3 U	0.67 U	0.68 U	0.76 U	-	-	-	-	-	-	-	-	-
XRF (mg/kg)														
Arsenic	-	-	-	-	-	6.5 ± 1.7	16 ± 2	10 ± 1.6	10 ± 1.6	23.2 ± 2	17 ± 2	-	-	-

Sample Location:		TPP-4	TPP-5
Sample Depth (ft-bgs):		0.25-2	1-2
Sample Date:		06/24/19	06/24/19
	SCOs (b) RR		
Metals (mg/kg)			
Arsenic	16	45.5	61.3
Barium	400	-	-
Cadmium	4.3	-	-
Chromium	180	-	-
Lead	400	-	-
Mercury	0.81	-	-
Selenium	180	-	-
Silver	180	-	-

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per
XRF = X-ray fluorescence; D = duplicate of previous sample; "-" = not analyzed.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit
B = analyte found in associated blank
d/ Sample depths measured at the time of sampling (i.e., before placement of soil cover).

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-K

AOC 35C - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

		Sample Location:	**35-37**	**35-38**	**35-39**	**CS-1-SW**	**CS-2-SW**	**CS-3-EW**	**CS-4-EW**	**CS-400-EW (D)**	**DS-1- NW**
		Sample Depth (ft-bgs)(b):	**0-0.17**	**0-0.17**	**0-1**	**1.75 - 2.25 (2)**	**0.5 - 1 (0.75)**	**0.5 - 1.5 (1)**	**1.25 - 2.25 (1.75)**	**1.25 - 2.25 (1.75)**	**4 - 5 (4.5)**
		PID (ppm):	**-**	**-**	**-**	**0**	**0**	**0**	**0**	**0**	**0**
		Sample Date:	**03/02/16**	**03/02/16**	**03/02/16**	**11/27/18**	**11/27/18**	**11/29/18**	**11/29/18**	**11/29/18**	**11/30/18**
	SCOs (c)										
	RR	**PoG**									
CVOCs (mg/kg)											
1,1,1-Trichloroethane	100	0.68	0.002	0.0049	0.0284	0.0077 U	0.0048 U	0.0048 U	0.0059	0.0042 U	0.025
1,1-Dichloroethene	100	0.33	0.002 U(e)	0.0023 U	0.0019 U	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U
1,2-Dichloroethane	3.1	0.02	0.002 U	0.0023 U	0.0019 U	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U
cis-1,2-Dichloroethene	100	0.25	0.002 U	0.0023 U	0.0019 U	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.02
Tetrachloroethene	19	1.3	0.00097 J	0.001 J	0.0014 J	0.0077 U	0.0048 U	0.0048 U	0.012	0.0042 U	0.0081
trans-1,2-Dichloroethene	100	0.19	0.002 U	0.0023 U	0.0019 U	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U
Trichloroethene	21	0.47	0.0086	0.0142	0.0133	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.061
Vinyl chloride	0.9	0.02	0.002 U	0.0023 U	0.0019 U	0.0077 U	0.0048 U	0.0048 U	0.0047 U	0.0042 U	0.0048 U
PAHs (mg/kg)											
Acenaphthene	100	-	-	-	-	0.5	0.38	1.9	0.74	0.44	5.5
Acenaphthylene	100	-	-	-	-	0.1	0.033	0.69	0.15	0.083	0.28
Anthracene	100	-	-	-	-	1.2	1.1	5.5	1.9	1.2	24.1
Benzo(a)anthracene	1	-	-	-	-	3.9	2.8	9.4	4.8	3	39.4
Benzo(a)pyrene	1	-	-	-	-	3.2	2.2	8.2	3.7	2.7	33
Benzo(b)fluoranthene	1	-	-	-	-	4.4	3.5	11.6	5.5	3.9	51.5
Benzo(g,h,i)perylene	100	-	-	-	-	0.9	0.5	3.0	1.5	1.0	6.3
Benzo(k)fluoranthene	3.9	-	-	-	-	2.2	1.4	5.5	2.8	2.2	21.3
Chrysene	3.9	-	-	-	-	3.5	2.4	11.1	5	3	38
Dibenzo(a,h)anthracene	0.3	-	-	-	-	0.54	0.26	1.3	0.6	0.36	2.6
Fluoranthene	100	-	-	-	-	7.1	5.7	36	9.1	7.4	92.9
Fluorene	100	-	-	-	-	0.56	0.6	2.9	0.67	0.4	3.8
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	1.1	0.54	3	1.5	0.97	6.2
Naphthalene	100	-	-	-	-	0.23	0.61	3.2	0.22	0.16	2.7
Phenanthrene	100	-	-	-	-	5.7	5.1	31.8	7.4	4.4	89.4
Pyrene	100	-	-	-	-	6.1	4.7	28.7	7.3	6.1	77.8
Total PAHs	500 (d)	-	-	-	-	41.3	31.8	163.8	52.9	37.3	494.8

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; RR = restricted residential; PoG = protection of groundwater; mg/kg = milligrams per kilogram; CVOCs = chlorinated volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; D = duplicate of previous sample; "-" = not analyzed, not applicable or not available.
b/ VOC sample depths shown in parentheses if different than other analytes.
c/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
d/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
e/ Data Qualifiers:
U = not detected

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-L

AOC 35D - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		**35-10**		**35-11**		**35-12**	
Sample Depth (ft-bgs):		**0 - 0.17**	**0.17 - 1.1**	**0 - 0.17**	**0.17 - 1.1**	**0 - 0.17**	**0.17 - 1.1**
Sample Date:		**12/02/15**	**12/02/15**	**12/02/15**	**12/02/15**	**12/02/15**	**12/02/15**
	SCOs (b)						
	RR						
PAHs (mg/kg)							
Acenaphthene	100	0.14 U	0.0288 J	0.0328 J	0.12 U	0.0211 J	0.0289 J
Acenaphthylene	100	0.0563 J	0.0281 J	0.114 J	0.0246 J	0.194	0.185
Anthracene	100	0.0738 J	0.0895 J	0.15	0.0407 J	0.194	0.197
Benzo(a)anthracene	1	0.23	0.232	0.392	0.112 J	0.458	0.459
Benzo(a)pyrene	1	0.235	0.218	0.397	0.115 J	0.451	0.472
Benzo(b)fluoranthene	1	0.209	0.208	0.318	0.1 J	0.353	0.424
Benzo(g,h,i)perylene	100	0.151	0.141	0.254	0.0789 J	0.259	0.282
Benzo(k)fluoranthene	3.9	0.177	0.182	0.36	0.0979 J	0.372	0.324
Chrysene	3.9	0.266	0.265	0.465	0.13	0.548	0.562
Dibenzo(a,h)anthracene	0.33	0.0555 J	0.0492 J	0.089 J	0.0266 J	0.0938 J	0.0962 J
Fluoranthene	100	0.39	0.441	0.694	0.187	0.727	0.744
Fluorene	100	0.0237 J	0.0214 J	0.0297 J	0.12 U	0.0247 J	0.0272 J
Indeno(1,2,3-cd)pyrene	0.5	0.131 J	0.122	0.221	0.0699 J	0.221	0.224
Naphthalene	100	0.14 U	0.12 U	0.0243 J	0.12 U	0.0275 J	0.0322 J
Phenanthrene	100	0.248	0.348	0.453	0.12	0.44	0.484
Pyrene	100	0.46	0.476	0.763	0.227	0.908	0.98
Total PAHs	500 (c)	2.71	2.85	4.8	1.3	5.3	5.5

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; PAHs = polycyclic aromatic hydrocarbons.

b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.

c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.

d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-M

AOC 35G - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:	SCOs (b) RR	SCOs (b) PoG	CS-1-SW	CS-2-EW	CS-3-EW	DS-1-BT	S-1-BT (d)	CS-4-SW	CS-5-WW	CS-6-WW	DS-2-WW	DS-3-BT
Sample Depth (ft-bgs):			0.75 - 1.75	0.75 - 1.5	0.75 - 1.5	2	1	1.5 - 2	0.5 - 1.5	0.25 - 1.25	1 - 2	4.5
PID (ppm):			-	-	-	-	40	-	-	-	-	-
Sample Date:			11/19/18	11/19/18	11/19/18	11/19/18	11/19/18	11/20/18	11/20/18	11/20/18	11/20/18	07/17/19
CVOCs (mg/kg)												
1,1,1-Trichloroethane	100	0.68	-	-	-	-	0.0074 U	-	-	-	-	-
1,1-Dichloroethene	100	0.33	-	-	-	-	0.0074 U	-	-	-	-	-
1,2-Dichloroethane	3.1	0.02	-	-	-	-	0.0074 U	-	-	-	-	-
cis-1,2-Dichloroethene	100	0.25	-	-	-	-	***0.28***	-	-	-	-	-
Tetrachloroethene	19	1.3	-	-	-	-	0.0074 U	-	-	-	-	-
trans-1,2-Dichloroethene	100	0.19	-	-	-	-	0.0074 U	-	-	-	-	-
Trichloroethene	21	0.47	-	-	-	-	0.02	-	-	-	-	-
Vinyl chloride	0.9	0.02	-	-	-	-	***0.03***	-	-	-	-	-
PAHs (mg/kg)												
Acenaphthene	100	-	-	-	-	-	2.2	-	-	-	-	0.035
Acenaphthylene	100	-	-	-	-	-	0.94 U	-	-	-	-	0.013
Anthracene	100	-	-	-	-	-	3.2	-	-	-	-	0.042
Benzo(a)anthracene	1	-	-	-	-	-	1.6	-	-	-	-	0.012
Benzo(a)pyrene	1	-	-	-	-	-	1.2	-	-	-	-	0.0081 U
Benzo(b)fluoranthene	1	-	-	-	-	-	2.8	-	-	-	-	0.02
Benzo(g,h,i)perylene	100	-	-	-	-	-	0.9 U	-	-	-	-	0.0 U
Benzo(k)fluoranthene	3.9	-	-	-	-	-	2.4	-	-	-	-	0.017
Chrysene	3.9	-	-	-	-	-	4.6	-	-	-	-	0.053
Dibenzo(a,h)anthracene	0.33	-	-	-	-	-	0.94 U	-	-	-	-	0.0081 U
Fluoranthene	100	-	-	-	-	-	3.6	-	-	-	-	0.015
Fluorene	100	-	-	-	-	-	5.4	-	-	-	-	0.066
Indeno(1,2,3-cd)pyrene	0.5	-	-	-	-	-	0.94 U	-	-	-	-	0.0081 U
Naphthalene	100	-	-	-	-	-	23.1	-	-	-	-	0.79
Phenanthrene	100	-	-	-	-	-	14	-	-	-	-	0.14
Pyrene	100	-	-	-	-	-	5.2	-	-	-	-	0.022
Total PAHs	500 (c)	-	-	-	-	-	69.3	-	-	-	-	1.23
PCBs (mg/kg)												
Aroclor 1016	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Aroclor 1221	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Aroclor 1232	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Aroclor 1242	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Aroclor 1248	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Aroclor 1254	-	-	-	-	-	-	14.6	-	-	-	-	0.68
Aroclor 1260	-	-	-	-	-	-	1.2 U	-	-	-	-	0.1 U
Total PCBs	1	-	-	-	-	-	14.6	-	-	-	-	0.68
Metals (mg/kg)												
Arsenic	16	16	4.8	***17.9***	10.3	7	-	3.6	12.2	9.1	8.3	3.2
Barium	400	820	308	134	82.4	268	-	67	54.2	224	228	87.2
Cadmium	4.3	-	0.33 U	1.1	0.97	1.2	-	0.32 U	1.1	0.52	0.38	-
Lead	400	-	65.8	190	90.4	267	-	18.2	107	151	77.8	11.5
Mercury	0.81	-	-	-	-	-	-	-	-	-	-	0.12 U
XRF (mg/kg)												
Arsenic	-	-	24 ± 7	ND; <53	ND; <26	ND; <30	-	ND; <14	21 ± 6	ND; <19	ND; <17	42 ± 8
Barium	-	-	1,052 ± 240	ND; <466	ND; <491	619 ± 201	-	633 ± 162	ND; <404	518 ± 168	501 ± 155	68 ± 17
Cadmium	-	-	ND; <101	109 ± 31	ND; <93	ND; <97	-	ND; <88	97 ± 28	ND; <86	ND; <92	-
Lead	-	-	72 ± 8	1,408 ± 26	242 ± 11	303 ± 13	-	28 ± 6	111 ± 8	117 ± 8	106 ± 7	89 ± 14
Mercury	-	-	-	-	-	-	-	-	-	-	-	NR

a/ ft-bgs = feet below ground surface; PID = photoionization detector; ppm = parts per million; SCOs = soil cleanup objectives; RR = restricted residential; PoG =protection of groundwater; mg/kg = milligrams per kilogram; CVOCs = chlorinated volatile organic compounds; PAHs = polycyclic aromatic hydrocarbons; PCBs = polychlorinated biphenyls; XRF = X-ray fluorescence; "-" = not analyzed, not applicable or not available.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Sample of slag-like material collected for characterization.
e/ Data Qualifiers:
U = not detected

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-N

AOC 35H - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		35-34		CS-1-EW	CS-2-WW	DS-1-BT	DS-2-SW	DS-3-SW	CS-3-EW	CS-4-EW	P1	S1	S2	S3	DS-4-BT	DS-5-BT
Sample Depth (ft-bgs):		0 - 0.17	0.17 - 2	0.75 - 1.75	0.5 - 1.5	2	1.5 - 2	0.5 - 1.5	1.5 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	0.2	0.3
Sample Date:		03/01/16	03/01/16	11/09/18	11/09/18	11/09/18	11/09/18	11/09/18	11/19/18	11/30/18	04/01/19	04/01/19	04/01/19	04/01/19	06/26/19	06/26/19
	SCOs (b) RR															
PAHs (mg/kg)																
Acenaphthene	100	0.64 U(d)	0.045 J	0.24	0.14 U	0.43	0.14 U	0.52	1.6	6	1.32	1.16	0.065 J	5	0.11	0.091
Acenaphthylene	100	0.64 U	0.034 J	0.15 U	0.14 U	0.28	0.14 U	0.15 U	0.14	0.25	0.165 U	0.032 U	0.128 U	0.135 U	0.031	0.021
Anthracene	100	0.64 U	0.117 J	0.72	0.14 U	1.6	0.37	1.3	2.6	13.4	2.06	1.59	0.151	6.68	0.25	0.15
Benzo(a)anthracene	1	0.269 J	0.424	2.4	0.23	5	1.5	4.7	6	45.5	4.1	5.01	0.467	20.5	1	0.62
Benzo(a)pyrene	1	0.303 J	0.415	2.4	0.24	4.6	1.5	4.6	5.3	37.5	3.8	3.92	0.481	16.3	0.87	0.63
Benzo(b)fluoranthene	1	0.331 J	0.372	3.6	0.33	6.6	2.1	7.4	8	55.5	4.53	5.56	0.628	21.2	2.3	2.3
Benzo(g,h,i)perylene	100	0.22 J	0.239	1.3	0.14 U	1.7	0.41	1.3	2.1	5.9	2.24	1.58	0.338	9.14	0.21	0.074
Benzo(k)fluoranthene	3.9	0.255 J	0.343	1.4	0.16	2.1	0.92	2.4	3	29	1.9	1.72	0.19	7.1	1.9	1.6
Chrysene	3.9	0.307 J	0.443	2.3	0.25	4.6	1.3	4.3	5.7	44.3	3.44	4.5	0.45	18.2	0.85	0.58
Dibenzo(a,h)anthracene	0.33	0.64 U	0.079 J	0.4	0.14 U	0.59	0.16	0.51	0.85	2.8	0.754	0.613	0.11 J	3.08	0.11	0.036
Fluoranthene	100	0.584 J	0.89	4.9	0.42	9.5	2.8	9.3	11.9	105	10.7	9.39	0.97	42.6	2.3	1.2
Fluorene	100	0.64 U	0.039 J	0.22	0.14 U	0.37	0.14 U	0.41	1.5	5.8	1.12	0.947	0.06 J	4.34	0.1	0.07
Indeno(1,2,3-cd)pyrene	0.5	0.64 U	0.2	1.2	0.14 U	1.5	0.42	1.4	2	6.3	2.1	1.71	0.263	8.56	0.27	0.09
Naphthalene	100	0.64 U	0.036 J	0.15 U	0.14 U	0.33	0.14 U	0.23	1.1	3	0.996	1.23	0.07 J	4.84	0.043	0.039
Phenanthrene	100	0.226 J	0.541	2.8	0.18	5.4	1.4	5.4	10.2	93.8	8.61	8.28	0.566	37.8	1	0.71
Pyrene	100	0.482 J	0.791	3.9	0.38	8.7	2.3	8	9.8	79.5	6.54	7.54	0.672	31.4	1.8	0.94
Total PAHs	500 (c)	3.0	5.0	27.8	2.2	53.3	15.2	51.8	71.8	533.6	54.2	54.8	5.5	236.7	13.1	9.2

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; PAHs = polycyclic aromatic hydrocarbons.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Data Qualifiers:
U = not detected
J = estimated concentration above the method detection limit, but below the reporting limit

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 5-O

AOC 35K - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		**35-24**		**35-25**	
Sample Depth (ft-bgs):		**0 - 0.17**	**0.17 - 2**	**0 - 0.17**	**0.17 - 2**
Sample Date:		**12/04/15**	**12/04/15**	**12/04/15**	**12/04/15**
	SCOs (b)				
	RR				
Metals (mg/kg)					
Arsenic	16	5.8	8.5	6.3	7.8
Barium	400	84.2	100	75.3	77.4
Cadmium	4.3	0.47	0.43	0.94	2.2
Chromium	180	12.2	15.9	21.7	21.4
Lead	400	48.5	47.1	56.4	69.4
Mercury	0.81	0.095	0.09	0.074	0.073
Selenium	180	1.1 U(c)	1.1 U	1 U	1 U
Silver	180	0.56 U	0.53 U	0.24 B	0.51 U

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; D = duplicate of previous sample; "-" = not analyzed.

b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.

c/ Data Qualifiers:

U = not detected

J = estimated concentration above the method detection limit, but below the reporting limit

B = analyte found in associated blank

Boxed value exceeds RR
Bold italic value exceeds PoG
Gray shading indicates soil was removed

Table 5-P

AOC 35L - IRM Soil Sample Results
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

Sample Location:		**CS-1-WW**	**DS-1-SW**	**DS-2-SW**	**DS-3-NW**	**CS-2-EW**	**CS-100-EW (D)**
Sample Depth (ft-bgs):		**0 - 2.0**	**0 - 2.0**	**0 - 2.0**	**0 - 2.0**	**0 - 2.0**	**0 - 2.0**
Sample Date:		**05/22/19**	**05/22/19**	**05/22/19**	**05/22/19**	**05/23/19**	**05/23/19**
	SCOs (b) RR						
PAHs (mg/kg)							
Acenaphthene	100	0.043	0.0079 U (d)	0.0075 U	0.023	0.024	0.025
Acenaphthylene	100	0.34	0.0079 U	0.0075 U	0.12	0.29	0.24
Anthracene	100	0.62	0.0099	0.0083	0.14	0.43	0.47
Benzo(a)anthracene	1	0.99	0.048	0.031	0.33	0.4	0.45
Benzo(a)pyrene	1	0.69	0.046	0.028	0.21	0.3	0.36
Benzo(b)fluoranthene	1	2.2	0.094	0.061	0.66	1.6	2
Benzo(g,h,i)perylene	100	0.15	0.027	0.019	0.054	0.035	0.041
Benzo(k)fluoranthene	3.9	1.9	0.08	0.052	0.57	1.4	1.7
Chrysene	3.9	1.8	0.05	0.036	0.56	0.79	0.85
Dibenz(a,h)anthracene	0.33	0.077	0.0081	0.0075 U	0.033	0.013	0.023
Fluoranthene	100	3.6	0.089	0.061	0.63	0.96	1.2
Fluorene	100	0.06	0.0079 U	0.0075 U	0.03	0.044	0.04
Indeno(1,2,3-cd)pyrene	0.5	0.2	0.024	0.016	0.059	0.042	0.049
Naphthalene	100	0.24	0.0079 U	0.0075 U	0.16	0.35	0.28
Phenanthrene	100	0.76	0.053	0.038	0.82	0.59	0.67
Pyrene	100	3.4	0.075	0.054	0.62	0.86	1
Total PAHs	500 (c)	17.1	0.6	0.4	5.0	8.1	9.4

a/ ft-bgs = feet below ground surface; SCOs = soil cleanup objectives; RR = restricted residential; mg/kg = milligrams per kilogram; PAHs = polycyclic aromatic hydrocarbons.
b/ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives. Effective December 14, 2006.
c/ New York State Department of Environmental Conservation Final Commissioner Policy (CP-51). Subsurface Soil Cleanup for Total PAHs. October 21, 2010. The policy established an alternative cleanup level of 500 mg/kg total PAHs for non-residential sites; total PAHs are the sum of the individual PAHs.
d/ Data Qualifiers:
U = not detected

Boxed value exceeds RR
Gray shading indicates soil was removed

Table 6

Remaining Groundwater Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	NYSDEC Criteria (b)	EW-1-62C	EW-2-62C	EW-3-60C	EW-4-25B	EW-5-25B	EW-6-60C	EW-7-25B	EW-8-62C	EW-10-25B	EW-11-43C/ MW-14C	EW-12-45C/ EXB-02	EXB-01	EXB-07			EXB-09			EXB-10		
Hydrogeologic Zone:		C Zone	C Zone	C Zone	B Zone	B Zone	C Zone	B Zone	C Zone	B Zone	C Zone	C Zone	C Zone	C Zone			C Zone			C Zone		
Sample Date:		09/26/17	09/26/17	09/26/17	09/26/17	08/28/18	08/28/18	09/27/17	09/27/17	09/27/17	03/20/12	05/27/15	05/27/15	03/07/19	06/18/19	12/09/19	03/07/19	06/17/19	12/12/19	03/06/19	06/18/19	12/12/19
CVOCs (µg/l)																						
Chloroethane	5	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	1.0 U	50 U	20 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	4.2	25 U	10 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	1.4	25 U	10 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	3.2 J	20 U	5.0 U	100 U	1.6	5.0 U	4.3 J	12.5 J	1.0 U	71.4	18.6 J	4.3 J	5.0 U	0.82 J	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1,750	1,760	503	5,050	897	1,190	2,480	5,580	429	20,400	11,500	2,330	832	66	962	1.0 U	1.0 U	1.0 U	1.0 U	0.64 J	1.0 U
trans-1,2-Dichloroethene	5	16.8	24.8	14.5	106	14	7.4 J	29.1	48.9	6.3	100 U	94.1	29	11.9	11.7	16.1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	14.5	25 U	10 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	5	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	1.0 U	25 U	10 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	5.0 U	20 U	5.0 U	100 U	1.0 U	5.0 U	5.0 U	25 U	1.0 U	1.0 U	25 U	10 U	5.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1,600	2,240	1,800	18,700	839	2,160	44.1	9,870	248	58,900	890	53	373	334	347	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	5.0 U	20 U	3.3 J	100 U	5.8	29	539	174	0.64 J	531	844	593	5 U	2.5	5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs (µg/l)	-	3,370	4,025	2,321	23,856	1,756	3,386	3,097	15,685	684	79,847	13,347	3,009	1,217	415	1,325	0	0	0	0	0.64	0
Barium (µg/l)	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (mg/l)	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Parameters	NYSDEC Criteria	*EXB-11*	MW-1B			MW-2B	MW-3B	MW-4	MW-4B			MW-5B			MW-5-25			MW-5-40			MW-5-100		
Hydrogeologic Zone:		*C Zone*	B Zone			B Zone	B Zone	B Zone	B Zone			B Zone			B Zone			B Zone			D Zone		
Sample Date:		*10/15/15*	03/05/19	06/18/19	12/12/19	03/05/19	03/05/19	01/08/16	03/06/19	06/18/19	12/12/19	03/06/19	06/19/19	12/12/19	03/06/19	06/19/19	12/11/19	03/06/19	06/19/19	12/10/19	03/06/19	12/11/19
CVOCs (µg/l)																						
Chloroethane	5	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.0 U	25 U	1.0 U	1.0 U
1,1-Dichloroethane	5	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.0 U	25 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.0 U	25 U	1.0 U	1.0 U
1,1-Dichloroethene	5	*0.4 J*	1.0 U	1.0 U	1.0 U	20 U	1.2	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	22.5 J	0.75 J	25 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	*240 J*	78.5 UJ	1.0 U	1.0 U	3,830	354	-	0.76 J	1.0 U	1.0 U	104	161	528	1.0 U	1.0 U	1.0 U	9,840	11,400	4,640	2.2	2.0
trans-1,2-Dichloroethene	5	*1.0*	0.72 J	1.0 U	1.0 U	23	6.8	-	1.0 U	1.0 U	1.0 U	2.1	1.0 U	8.0	1.0 U	1.0 U	1.0 U	226	247	18.6 J	1.0 U	1.0 U
Tetrachloroethene	5	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.8	25 U	1.0 U	1.0 U
1,1,1-Trichloroethane	5	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.0 U	25 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	*1.0 U*	1.0 U	1.0 U	1.0 U	20 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	25 U	1.0 U	25 U	1.0 U	1.0 U
Trichloroethene	5	*1.0 U*	154 UJ	0.67 J	0.57 J	7,600	37.2	-	1.0 U	1.0 U	1.0 U	478	316	722	1.0 U	1.0 U	1.0 U	3,910	3,040	49.8	1.0 U	1.0 U
Vinyl chloride	2	*27*	1.0 U	1.0 U	1.0 U	20 U	119	-	9.7	1.8	2.7	1 U	2.7	5.0 U	1.0 U	1.0 U	1.0 U	852	979	164	1.5	1.2
Total CVOCs (µg/l)	-	*268*	1	0.67	0.57	11,453	518	-	10.5	1.8	2.7	584	479.7	1,258	0	0	0	14,851	15,669	4,872	3.7	3.2
Barium (µg/l)	1,000	*510*	-	-	-	-	238 (c)	2,300	415 (c)	-	-	31.5 B		-	-	-	-	2,200 (c)	-	-	-	-
Cyanide (mg/l)	0.2	*0.0075 J*	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-

Boxed values greater than NYSDEC Criteria

Table 6

Remaining Groundwater Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	NYSDEC Criteria	MW-7B			MW-7-40	MW-8B			MW-8-40		MW-9B	MW-9-100	*MW-10B*	MW-11B	MW-12B	MW-12C			MW-13C	
Hydrogeologic Zone:		B Zone			B Zone	B Zone			B Zone		B Zone	D Zone	*B Zone*	B Zone	B Zone	C Zone			C Zone	
Sample Date:		03/05/19	06/19/19	12/11/09	03/07/19	03/05/19	06/19/19	12/11/19	03/08/19	12/11/19	03/26/14	10/14/15	*06/19/14*	06/17/14	03/24/11	03/06/19	06/19/19	12/12/19	08/29/18	12/12/19
CVOCs (µg/l)																				
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*2 U*	2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	11.9	1.0 U	*54.3*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*0.6 J*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*52.7*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	5.3	8.9	2.2	84.7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.1	1.0 U	*19,700*	5.5	3.3	3	2.2	2.0	296	263
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*241*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*5.7*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.2	1.0 U	*6.8*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*1 U*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	0.84 J	0.84 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*417*	1.0	3.2	1.0 U	0.60 J	1.0 U	323	301
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	27.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	*2,040*	4.6	9.9	1.0 U	1.0 U	1.0 U	2.5	6.2
Total CVOCs (µg/l)	-	6.14	8.9	2.2	112.3	0	0	0	0	0	17.2	0	*22,518*	10.1	16.4	3	2.8	2.0	622	570
Barium (µg/l)	1,000	-	-	-	-	-	-	-	253 (c)	-	-	1,980 (c)	-	-	54.5 (c)	-	-	-	-	-
Cyanide (mg/l)	0.2	-	-	-	-	-	-	-	-	-	-	0.01 UJ	-	-	-	-	-	-	-	-

Parameters	NYSDEC Criteria	MW-15C			MW-16B/C	*MW-16C*	*MW-16-100*	*MW-17B*	MW-17-40	MW-18A	MW-18B	*MW-19A*	MW-20B	*MW-21B*	*MW-22B*	*MW-23B*	MW-24B	*MW-24B (AOC 1)*	MW-25A	*MW-25B*	MW-26A	*MW-26B*
Hydrogeologic Zone:		C Zone			B/C Zone	*C Zone*	*D Zone*	*B Zone*	B Zone	B Zone	B Zone	*A Zone*	B Zone	*B Zone*	*B Zone*	*B Zone*	B Zone	*B Zone*	A Zone	*B Zone*	A Zone	*B Zone*
Sample Date:		03/06/19	06/21/19	12/12/19	07/17/12	*07/18/12*	*03/07/19*	*07/17/12*	03/06/19	03/08/19	07/18/12	*03/21/18*	03/08/19	*08/31/18*	*09/19/19*	*06/14/17*	04/13/16	*06/17/14*	03/08/19	*06/17/14*	03/08/19	*06/17/14*
CVOCs (µg/l)																						
Chloroethane	5	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	2.0 U	*2.0 U*	1.0 U	*0.70 J*	1.0 U	*2.0 U*
1,1-Dichloroethane	5	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1.0 U*	1.0 U	*3.2*	1.0 U	*12.2*
1,2-Dichloroethane	0.6	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1.0 U*	1.0 U	*1.0 U*	1.0 U	*1 U*
1,1-Dichloroethene	5	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1.0 U*	1.0 U	*1.0 U*	1.0 U	*4.7*
cis-1,2-Dichloroethene	5	866	47	1,110	1.0 U	*1.0 U*	*32.8*	*1.0 U*	1.0 U	1.0 U	3.2	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*10.3*	1.0 U	*6.0*	1.0 U	*2,620*
trans-1,2-Dichloroethene	5	5	0.63 J	5.5	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1.0 U*	1.0 U	*1.0 U*	1.0 U	*23.8*
Tetrachloroethene	5	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*0.72 J*	1.0 U	*1.2*	1.0 U	*1.0 U*	1.0 U	*0.6 J*
1,1,1-Trichloroethane	5	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1.3*	1.0 U	*1.0 U*	1.0 U	*1.0 U*	1.0 U	*1 U*
1,1,2-Trichloroethane	1	2.0 U	1.0 U	5.0 U	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1.0 U*	1.0 U	*1.0 U*	1.0 U	*1 U*
Trichloroethene	5	178	79.5	58.3	1.0 U	*1.0 U*	*1.0 U*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.7*	*1.0 U*	*0.32 J*	1.0 U	*7*	1.0 U	*1.5*	1.0 U	*11.6*
Vinyl chloride	2	12.4	4.9	26.4	1.0 U	*1.0 U*	*19*	*1.0 U*	1.0 U	1.0 U	1.0 U	*1.0 U*	1.0 U	*1.0 U*	*1.0 U*	*1 U*	1.0 U	*1 U*	1.0 U	*6*	1 U	*1,100*
Total CVOCs (µg/l)	-	1,061	132	1,200	0	*0*	*52*	*0*	0	0	3.2	*0*	0	*1.7*	*0*	*2.3*	0	*19*	0	*17*	0	*3,773*
Barium (µg/l)	1,000	605 (c)	-	-	-	*124 (c)*	*230 (c)*	*109 (c)*	39.2 B (c	171 (c)	-	-	79.5 (c)	*43.6 (c)*	-	-	217 (c)	-	-	-	784 (c)	*157 (c)*
Cyanide (mg/l)	0.2	-	-	-	-	-	*0.042 J (c)*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Boxed values greater than NYSDEC Criteria

Table 6

Remaining Groundwater Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	NYSDEC Criteria	MW-27B	MW-28B	MW-29B	MW-30B	MW-31B	MW-32B		MW-33B	MW-34B	MW-35B	MW-36B			MW-37B	MW-38T	MW-39T	MW-40T	MW-44T	MW-46-43C		
Hydrogeologic Zone:		B Zone	B Zone	B Zone	B Zone	B Zone	B Zone		A/B Zone	A/B Zone	A/B Zone	A/B Zone			A/B Zone	C Zone	C Zone	B Zone	C Zone	C Zone		
Sample Date:		01/07/16	01/06/16	01/06/16	11/25/14	01/06/16	03/08/19	06/18/19	08/06/13	08/06/13	08/06/13	06/04/17	06/19/19	12/11/19	08/06/13	01/07/16	06/16/16	01/07/16	01/19/16	03/05/19	06/19/19	12/11/19
CVOCs (µg/l)																						
Chloroethane	5	2.0 U	2.0 U	2.0 U	-	-	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	-	2.0 U	2.0 U	200 U	25 U	50 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.1	1.0 U	200 U	25 U	50 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	200 U	25 U	50 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	7.9	1.0 U	200 U	34.3	36.1
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	-	-	11.8	7.3	0.80 J	374	3.1	496	194	48.9	546	1.0 U	-	1,670	1.0 U	24,200	19,100	22,700
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.8	1.0 U	6	2.7	1.4	7.1	1.0 U	-	18.2	1.0 U	155	115	145
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.2	1.0 U	-	5.4	1.0 U	200 U	25 U	50 U
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	200 U	25 U	50 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	200 U	25 U	50 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	-	-	24.4	32.2	5.7 J	28.3	6.6	67.2	23	3.5	358	1.0 U	-	183	1.0 U	6,720	6,650	3,950
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	-	-	1.0 U	1.0 U	1 U	25.1	1 U	1.0 U	9.2	9.1	122	1.0 U	-	22.3	1.0 U	1,250	1,110	1,080
Total CVOCs (µg/l)	-	0	0	0	-	-	36.2	39.5	6.5	429	9.7	569	229	62.9	1,034	0	-	1,908	0	32,325	27,009	27,911
Barium (µg/l)	1,000	-	-	-	43.1 (d)	56.6 (d)	64.6 (c)		-	-	-	-	-	-	-	-	3,650	-	2,380 (c)	-	-	-
Cyanide (mg/l)	0.2	-	-	-	-	-	-		-	-	-	-	-	-	-	0.018 (c)	-	-	-	-	-	-

Parameters	NYSDEC Criteria	MW-46-72C			PTW-1	WSP-MW-01B	WSP-MW-02B	WSP-MW-02C	WSP-MW-03B	WSP-MW-04B	WSP-MW-05B	WSP-MW-06C		WSP-MW-07B		WSP-MW-07C	WSP-MW-08B	LBA-MW-01	LBA-MW-02	LBA-MW-03	LBA-MW-04	LBA-MW-05
Hydrogeologic Zone:		C Zone			B Zone	B Zone	B Zone	C Zone	B Zone	B Zone	B Zone	C Zone		B Zone		C Zone	B Zone	C Zone	C Zone	C Zone	B Zone	B Zone
Sample Date:		03/05/19	06/19/19	12/11/19	06/17/14	01/08/16	01/08/16	01/08/16	02/03/16	01/08/16	01/19/16	01/07/16	10/16/19	01/20/16	10/17/19	01/20/16	01/19/16	09/09/13	09/18/13	09/09/13	09/09/13	09/09/13
CVOCs (µg/l)																						
Chloroethane	5	100 U	25 U	50 U	2.0 U	2.0 U	2.0 U	2.0 U	7.4	2.0 U	2.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	100 U	25 U	50 U	12.5	1.0 U	0.54 J	1.0 U	2,840	2.7	8.9	-	-	-	-	-	-	1.0 U	0.65 J	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	100 U	25 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	100 U	20.1 J	38.2 J	4.6	1.0 U	1.0 U	1.0 U	95.1 J	1.3	1.2	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	8,630	14,700	28,300	3,900	0.6 J	1.0 U	1.0 U	9.6	345	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	23.3 J	55.5	180	44.8	1.0 U	1.0 U	1.0 U	1.0 U	55.8	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	100 U	25 U	25.9	1.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	5	100 U	25 U	50 U	1.1	1.0 U	1.0 U	1.0 U	1,920	4.4	9.7	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	100 U	25 U	50 U	1 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	19,300	15,700	20,500	126	1.0 U	1.0 U	1.0 U	0.42 J	110	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	232	201	285	269	1.5	1.0 U	1.0 U	28.3	46.7	1.0 U	-	-	-	-	-	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs (µg/l)	-	28,185	30,677	49,329	4,359	2	0.54	0	4,902	566	21	-	-	-	-	-	-	0	0.65	0	0	0
Barium (µg/l)	1,000	-	-	-	-	-	1,540	1,820	-	-	-	4,650	-	75.9	-	818	-	-	-	660	520	110
Cyanide (mg/l)	0.2	-	-	-	-	-	-	-	0.18 (c)	0.6	-	0.10	0.04	0.14	0.03	0.01 UJ	0.04	-	-	-	0.034 (c)	0.039

Boxed values greater than NYSDEC Criteria

Table 6

Remaining Groundwater Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	NYSDEC Criteria	LBA-MW-06	LBA-MW-07		LBA-MW-08		LBA-MW-09	LBA-MW-10	LBA-MW-11	LBA-MW-12	LBA-MW-13	LBA-MW-14	LBA-MW-15	LBA-MW-16		LBA-MW-17	LBA-MW-18	LBA-MW-19	LBA-MW-20	LBA-MW-21	LBA-MW-22	LBA-MW-23
Hydrogeologic Zone:		B Zone	A/B Zone		B Zone		B Zone	B Zone	B Zone	C Zone	A/B Zone	A/B Zone	B Zone	A/B Zone		B Zone	B Zone	B Zone	C Zone	A/B Zone	B Zone	B Zone
Sample Date:		09/09/13	09/10/13	10/17/19	09/10/13	10/17/19	09/10/13	09/13/13	09/10/13	09/10/13	01/18/16	01/18/16	01/19/16	09/12/13	10/17/19	09/12/13	09/13/13	09/10/13	09/13/13	09/12/13	01/05/16	01/08/16
CVOCs (µg/l)																						
Chloroethane	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	-	0.9	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.3	0.48 J
1,2-Dichloroethane	0.6	1.0 U	1.0 U	-	1.0 U	-	0.4 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	0.98	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	0.5 J	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.57 J	18.2
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7
1,1,1-Trichloroethane	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.8	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.2	1.1
Vinyl chloride	2	1.0 U	1.0 U	-	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	1.4
Total CVOCs (µg/l)	-	0	0	-	0.9	-	0.4	0	0	0.5	1.1	1	3.8	0	-	0	0	0	0	0.98	5.2	22.9
Barium (µg/l)	1,000	410	860	-	760	-	220	-	120	69	170 (c)	239 (c)	68 (c)	724	-	51	5,710 (c)	180 (c)	-	87	-	99 (c)
Cyanide (mg/l)	0.2	0.039	0.67 (c)	0.38	8.4 (c)	7.4	0.14	-	0.0079 J	-	1.6	0.29	0.017 (c)	0.62	0.67	0.39	0.62 (c)	0.31 (c)	-	0.022	-	0.14 (c)

Parameters	NYSDEC Criteria	LBA-MW-24	LBA-MW-25	LBA-MW-26		LBA-MW-27	LBA-MW-28	LBA-MW-30	LBA-MW-31	LBA-MW-32	LBA-MW-33	LBA-MW-34N	LBA-MW-34S	LBA-MW-35	LBA-MW-36		LBA-MW-37	LBA-MW-38	LBA-MW-39		LBA-MW-40N	LBA-MW-40S
Hydrogeologic Zone:		C Zone	C Zone	C Zone		C Zone	C Zone	B Zone	B Zone	B/C Zone	B Zone	B Zone	C Zone	B Zone	B Zone		C Zone	B Zone	B Zone		B Zone	C Zone
Sample Date:		01/08/16	09/18/13	01/06/16	10/15/19	01/06/16	09/17/13	09/16/13	10/06/13	12/09/13	10/06/13	07/23/14	12/22/13	01/16/14	01/16/14	10/17/19	12/22/13	12/22/13	01/19/16	10/15/19	01/16/14	01/16/14
CVOCs (µg/l)																						
Chloroethane	5	2.0 U	5.0 U	2.0 U	-	2.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	2.0 U	1.0 U	1.0 U	2.0 U	-	2.0 U	2.0 U	29.5	-	2.0 U	2.0 U
1,1-Dichloroethane	5	1.0 U	5.0 U	1.0 U	-	0.4 J	5.0 U	5.0 U	1.0 U	2.7	20 U	42.1	1.0 U	1.0 U	1.0 U	-	1.0 U	0.54 J	189	-	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1 U	-	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	0.98 J	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	30.6	-	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	209	5.0 U	1.0 U	-	5.6	5.0 U	5.0 U	1.0 U	2.4	20 U	136	1.0 U	1.0 U	1.0 U	-	1.0 U	7.2	11.9	-	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.1	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	1.5	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1 U	-	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1 U	-	1.0 U	1.0 U
1,1,1-Trichloroethane	5	1.0 U	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	8	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	281	-	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	1 U	-	1.0 U	1.0 U
Trichloroethene	5	2.7	5.0 U	1.0 U	-	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	20 U	10.2	1.0 U	1.0 U	1.0 U	-	1.0 U	1.0 U	2.6	-	1.0 U	1.0 U
Vinyl chloride	2	217	5.0 U	1.0 U	-	3.8	5.0 U	5.0 U	1.0 U	1.0 U	20 U	42.5	2.0 U	1.0 U	1.0 U	-	1.0 U	1.1	3.6	-	1.0 U	1.0 U
Total CVOCs (µg/l)	-	430	0	0	-	9.8	0	0	0	5.1	0	241	0	0	0	-	0	8.8	548	-	0	0
Barium (µg/l)	1,000	210 (c)	-	3,420	-	170 (c)	380	1,350 (c)	69	-	210	8,110 (c)	341 (c)	2,120 (c)	689	-	506 (c)	990 (c)	936 (c)	-	746	136
Cyanide (mg/l)	0.2	-	-	0.053 (c)	0.13	0.14 (c)	0.021	0.11	0.015	-	0.01 U	-	-	0.4	12.2	3.5	-	-	0.18 (c)	0.22	-	-

Boxed values greater than NYSDEC Criteria

Table 6

Remaining Groundwater Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	NYSDEC Criteria	LBA-MW-41	LBA-MW-42N	LBA-MW-42S	LBA-MW-43N		LBA-MW-43S		LBA-MW-44E	LBA-MW-44W
Sample Location:		*LBA-MW-41*	*LBA-MW-42N*	LBA-MW-42S	LBA-MW-43N		LBA-MW-43S		*LBA-MW-44E*	*LBA-MW-44W*
Hydrogeologic Zone:		*B Zone*	*B Zone*	C Zone	B Zone		C Zone		*B Zone*	*C Zone*
Sample Date:		*01/07/16*	*03/03/16*	01/16/14	01/15/14	10/16/19	01/15/14	10/16/19	*01/16/14*	*01/15/14*
CVOCs (µg/l)										
Chloroethane	5									
1,1-Dichloroethane	5	*2.0 U*	*2.0 U*	2.0 U	2.0 U	-	2.0 U	-	*2.0 U*	*2.0 U*
1,2-Dichloroethane	0.6	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*0.66 J*
1,1-Dichloroethene	5	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
cis-1,2-Dichloroethene	5	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
trans-1,2-Dichloroethene	5	*45.4*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
Tetrachloroethene	5	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
1,1,1-Trichloroethane	5	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
1,1,2-Trichloroethane	1	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
Trichloroethene	5	*1.0 U*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
Vinyl chloride	2	*6.1*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
Total CVOCs (µg/l)	-	*10.2*	*1.0 U*	1.0 U	1.0 U	-	1.0 U	-	*1.0 U*	*1.0 U*
		61.7	*0*	0	0	-	0	-	*0*	*0*
Barium (µg/l)	1,000									
Cyanide (mg/l)	0.2	*60.7 (c)*	*687 (c)*	2,700	699	-	6,510 (c)	-	*283*	*1,050 (c)*
		-	-	-	2.6	1.8	0.38	0.23	*0.56*	*1 (c)*

a\ NYSDEC = New York State Department of Environmental Conservation; CVOC = chlorinated volatile organic compound;
µg/l = micrograms per liter; mg/l = milligrams per liter; "-" indicates analysis not performed.
The most recent results for the period of 2011 through 2019 are provided. For sample/duplicate pairs, the highest concentration/detection limit is presented.
Data Qualifiers:
U = constituent not detected at the reporting limit noted
J = constituent detected at an estimated concentration between the reporting and method detection limits (organics)
Italicized information indicates the installation was abandoned or damaged or destroyed by others; refer to text and figures for additional details.
For sample/duplicate pairs, the highest detected concentration or lowest reported detection limit is presented.
b\ Evaluation criteria are the New York State Ambient Water Quality Standards and Guidance Values for Class GA groundwater provided in the NYSDEC Division of Technical and Operational Guidance Series (1.1.1), dated June 1998, and the April 2000 Addendum.
c\ Sample aliquots collected on the following dates:

	Sample Dates								
Location:	MW-3B	MW-4B	MW-5-40	MW-8-40	MW-9-100	MW-12B	MW-15C	MW-16C	MW-16-100
Barium	01/07/16	01/07/16	01/07/16	01/05/16	01/19/16	11/24/14	01/06/16	01/06/16	10/14/15
Cyanide	-	-	-	-	-	-	-	-	10/14/15

	Sample Dates								
Location:	MW-17B	MW-17-40	MW-18A	MW-20B	MW-21B	MW-24B	MW-26A	MW-26B	MW-32B
Barium	01/05/16	06/15/16	06/15/16	01/05/16	11/25/14	06/15/16	06/15/16	11/24/14	01/06/16
Cyanide	-	-	-	-	-	-	-	-	-

	Sample Dates								
Location:	MW-44T	WSP-MW-03B	LBA-MW-04	LBA-MW-07	LBA-MW-08	LBA-MW-13	LBA-MW-14	LBA-MW-15	LBA-MW-18
Barium	06/16/16	-	-	-	-	09/11/13	09/11/13	09/12/13	08/13/14
Cyanide	-	10/17/19	01/04/16	07/22/14	07/23/14	-	-	09/12/13	08/13/14

	Sample Dates								
Location:	LBA-MW-19	LBA-MW-23	LBA-MW-24	LBA-MW-26	LBA-MW-27	LBA-MW-30	LBA-MW-34N	LBA-MW-34S	LBA-MW-35
Barium	11/26/13	09/16/13	09/16/13	-	09/14/13	01/07/16	01/05/16	01/05/16	01/05/16
Cyanide	11/26/13	09/16/13	-	09/14/13	09/14/13	-	-	-	-

	Sample Dates						
Location:	LBA-MW-37	LBA-MW-38	LBA-MW-39	LBA-MW-41	LBA-MW-42N	LBA-MW-43S	LBA-MW-44W
Barium	01/05/16	12/22/13	01/15/14	11/03/15	01/16/14	01/05/16	01/04/16
Cyanide	-	-	01/15/14	-	-	-	07/22/14

d\ The sample dates shown are for barium; analysis for VOCs has not been performed since 2009.

Boxed values greater than NYSDEC Criteria

Table 7

Remaining Groundwater Seep Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

		Sample Location:	Building 24 Pipe																
		Sample Entity:	**LaBella**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**
		Flow Rate:	**-**	**-**	**0.04 gpm**	**0.22 gpm**	**2 gpm**	**0.2 gpm**	**1.71 gpm**	**0.25 gpm**	**-**	**-**	**-**	**<0.1 gpm**	**0.5 gpm**	**1.5 gpm**	**1.75 gpm**	**0.1 gpm**	**<0.25 gpm**
		Sample Date:	**12/11/13**	**12/11/13**	**10/04/14 (b)**	**10/15/14 (b)**	**10/15/14 (b)**	**11/06/14 (b)**	**11/07/14 (b)**	**12/10/15**	**12/14/18**	**03/07/19**	**06/12/19**	**08/29/19**	**12/06/19**	**01/16/20**	**02/05/20**	**03/11/20**	**04/07/20**
	NYSDEC Criteria (c)																		
Parameters	**GW**	**SW**																	
CVOCs (µg/l)																			
cis-1,2-DCE	5	-	2.1	1 U	7.4	14.4	1.7	10.4	2.4	4.7	2.7	1.0 U	7.1	4.4	0.65 J	1.2	0.7 J	0.66 J	1.8 J
TCE	5	40	31	25.6	***50.6***	***62.8***	13.4	***64.2***	18.3	***40.7***	13.4	1.0 U	***52.1***	19.7	4.4	9.0	5.8	4.9	14.2
PAHs (µg/l)																			
Benzo(a)anthracene	-	-	-	-	0.025 J	0.040 J	0.026 J	-	-	-	-	-	-	-	-				
Benzo(a)pyrene	ND (d)	0.0012	-	-	0.010 U	***0.042 J***	0.15 U	0.15 U	0.15 U	-	-	-	-	-	-	-	-	-	-
Chrysene	-	-	-	-	0.010 U	0.035 J	0.019 J	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	-	-	-	-	0.010 U	0.078 J	0.043 J	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	-	-	-	-	0.018 J	0.041 J	0.03 J	-	-	-	-	-	-	-	-	-	-	-	-
PCBs (µg/l)	0.09 (e)	1.0E-06 (e)	-	-	ND (f)	ND (f)	ND (f)	ND (f)	ND (g)	-	-	-	-	-	-	-	-	-	-
			-	-															
Metals (µg/l)																			
Barium	1,000	-	-	-	52.9	50.7	44.2 J	53.3	47.1 J	-	-	-	-	-	-	-	-	-	-
Cadmium	5	-	-	-	0.24 U	0.24 U	0.24 U	0.30 J	0.24 U	-	-	-	-	-	-	-	-	-	-
Chromium	50	-	-	-	3.8 J	1.3 J	4 J	1.20 J	1.1 J	-	-	-	-	-	-	-	-	-	-
Copper	200	-	-	-	3.6 U	4.1 J	3.9 J	3.6 U	3.6 U	-	-	-	-	-	-	-	-	-	-
Iron	300	300	-	-	13.5 J	***442***	296	182	22.3 J	-	-	-	-	-	-	-	-	-	-
Lead	25	-	-	-	1.9 U	2.3 J	1.9 U	1.9 U	1.9 U	-	-	-	-	-	-	-	-	-	-
Manganese	300	-	-	-	1.0 J	38.3	24.3	20.0	0.9 J	-	-	-	-	-	-	-	-	-	-
Nickel	100	-	-	-	15.2 J	4.8 J	18.6 J	3.6 J	5.1 J	-	-	-	-	-	-	-	-	-	-
Selenium	10	-	-	-	2.7 U	2.7 U	2.7 U	3.3 J	2.7 U	-	-	-	-	-	-	-	-	-	-
Sodium	20,000	-	-	-	125,000	128,000	100,000	127,000	119,000	-	-	-	-	-	-	-	-	-	-
General Chemistry (mg/l)																			
Cyanide	0.2 (h)	9 (h)	-	-	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U	-	-	-	-	-	-	-	-	-	-
Free cyanide	-	0.0052 / 0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	Sample Location:	Open Ditch 1	
	Sample Entity:	**WSP**	**WSP**
	Flow Rate:	**1.5 gpm**	**1.5 gpm**
	Sample Date:	**03/11/20**	**03/11/20**
	NYSDEC Criteria		
Parameters	**GW**	**SW**	
CVOCs (µg/l)			
cis-1,2-DCE	5	-	0.51 U	0.51 U
TCE	5	40	0.53 U	0.53 U

Boxed values greater than NYSDEC GW Criteria
Bold italic values greater than NYSDEC SW Criteria

WSP
\\Ushrn1ser01\es\Clients\Emerson\ITHACA\SMP_NYSDEC Approved ISMP 10142022\Tables\Ithaca_ISMP_Tables_102022FIN[Seep]

Table 7

Remaining Groundwater Seep Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

	NYSDEC Criteria									
Sample Location:			**Retaining Wall Sump**							
Sample Entity:			**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**	**WSP**
Flow Rate:			**-**	**-**	**-**	**0.5**	**3**	**0.5**	**3.5**	**1**
Sample Date:			**04/04/13 (i)**	**04/04/13 (i)**	**06/18/14**	**10/10/17**	**10/30/17 (j)**	**11/16/17**	**01/12/18**	**02/26/20**
Parameters	**GW**	**SW**								
CVOCs (µg/l)										
cis-1,2-DCE	5	-	53.4	57.7	30.8	5.8	0.87 J	16.6	3.2	19.6
TCE	5	40	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U	1 U
Vinyl chloride	2	-	32.9	64.8	20.1	8.4	1 U	10.5	1.7	9.9
PAHs (µg/l)										
Benzo(a)anthracene	0.002	0.023	-	-	-	0.20 U	0.20 U	0.20 U	***0.82***	1.1 U
Benzo(a)pyrene	ND	0.0012	-	-	-	0.20 U	0.20 U	0.20 U	***0.59***	1.1 U
Benzo(a)fluoranthene	-	-	-	-	-	0.20 U	0.20 U	0.20 U	0.81	1.1 U
Benzo(g,h,i)perylene	-	-	-	-	-	0.20 U	0.20 U	0.20 U	0.80	1.1 U
Benzo(k)fluoranthene	0.002	0.002	-	-	-	0.20 U	0.20 U	0.20 U	***0.75***	1.1 U
Chrysene	0.002	0.002	-	-	-	2.0 U	2.0 U	2.0 U	***0.92 J***	1.1 U
Dibenzo(a,h)anthracene	-	-	-	-	-	0.20 U	0.20 U	0.20 U	0.88	1.1 U
Fluoranthene	50	50	-	-	-	2.0 U	2.0 U	2.0 U	0.57 J	1.1 U
Indeno(1,2,3-cd)pyrene	0.002	0.002	-	-	-	0.20 U	0.20 U	0.20 U	***0.80***	1.1 U
Pyrene	50	4.6	-	-	-	2.0 U	2.0 U	2.0 U	0.46 J	1.1 U
PCBs (µg/l)	0.09	1.0E-06	-	-	-	ND (k)	ND (l)	ND (m)	ND (n)	-
Metals (µg/l)										
Barium	1,000	-	-	-	-	200 U	200 U	200 U	200 U	-
Iron	300	300	-	-	-	***1,820***	***404***	***3,460***	***1,420***	-
Manganese	300	-	-	-	-	271	29.4	451	46.8	-
Sodium	20,000	-	-	-	-	155,000	101,000	120,000	105,000	-
General Chemistry (mg/l)										
Cyanide	0.2	9	-	-	-	0.33	0.27	0.21	0.38	-
Free cyanide	-	0.0052 / 0.022	-	-	-	-	-	0.003 U	0.003 U	-

	NYSDEC Criteria								
Sample Location:			**Weir Box Seeps**						
			Groundwater						**Product**
			Seep 1	**Seep 2**	**Seep 3**				**Seep 1**
Sample Entity:			**WSP**	**WSP**	**WSP**			**Sample Entity:**	**WSP**
Sample Date:			**08/21/19**	**08/21/19**	**08/21/19**			**Sample Date:**	**08/21/19**
Parameters	**GW**	**SW**				**Parameters**	**NYSDEC SCOs (o) RR**	**NYSDEC SCOs (o) PoG**	
CVOCs (µg/l)						**CVOCs (mg/kg)**			
cis-1,2-DCE	5	-	5 U	170	159	cis-1,2-Dichloroethene	100	0.25	0.471 U
trans-1,2-DCE	5	-	5 U	2.1	2	trans-1,2-Dichloroethene	100	0.19	0.471 U
TCE	5	40	5 U	8.1	7.1	Trichloroethene	21	0.47	0.471 U
Vinyl chloride	2	-	20.7	33.8	32.4	Vinyl chloride	0.9	0.02	0.471 U
Metals (µg/l)									
Barium	1,000	-	230	77.3	106				
General Chemistry (mg/l)									
Cyanide	0.2	9	0.028	0.010	0.010 U				
Free cyanide	-	0.0052 / 0.022	-	-	-				

Boxed values greater than NYSDEC GW Criteria
Bold italic values greater than NYSDEC SW Criteria

WSP
\\Ushrn1ser01\es\Clients\Emerson\ITHACA\SMP_NYSDEC Approved ISMP 10142022\Tables\Ithaca_ISMP_Tables_102022FIN[Seep]

Table 7

Remaining Groundwater Seep Sample Exceedances
Site Management Plan
Former Emerson Power Transmission Facility
Ithaca, New York (a)

a\ NYSDEC = New York State Department of Environmental Conservation; GW = groundwater; SW = surface water; CVOC = chlorinated volatile organic compound; DCE = dichloroethene; TCE = trichloroethene; PAH = polycyclic aromatic hydrocarbon; PCBs = polychlorinated biphenyls; µg/l = micrograms per liter; mg/l = milligrams per liter; ND = not detected; "-" indicates criterion not established or analysis not performed.
Results are only provided for CVOCs detected in one or more sample from individual areas; all results for PAHs, PCBs, barium, and cyanide results are reported; additional metals data are provided for those metals reported above criteria.
Data Qualifiers:
U = constituent not detected at the reporting limit noted
J = constituent detected at an estimated concentration between the reporting and method detection limits (organics)

b\ The 2014 samples were collected under varying flow conditions:
October 4
October 15 (1)
October 15 (2)
November 6
November 7
The flow rates for the samples collected on December 14, 2018, March 7, 2019, and June 12, 2019 were not recorded. Based on previous findings (elevated concentrations during low flow and lower concentrations during high flow), the 2018 sample was likely collected during a moderate flow, the March 2019 sample during high flow, and June during low flow.

c\ Evaluation criteria are the New York State Ambient Water Quality Standards and Guidance Values for Class GA groundwater provided in the NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), dated June 1998, and the April 2000 Addendum. The surface water values for benzo(a)anthracene, benzo(a)pyrened, and pyrene are for Sixmile Creek; the values for benzo(k)fluoranthene, chrysene, fluoranthene, and indeno(1,2,3-cd)pyrene are for Cayuga Lake (there are no values for Sixmile Creek).

d\ "ND" indicates the criterion is not detectable using the requisite analytical method.

e\ The criterion is applicable to the sum of the substances (Aroclors 1016, 1021, 1032, 1042, 1048, 1054, 1060).

f\ The reporting limit for the individual Aroclors was 0.25 µg/l.

g\ The reporting limit for the individual Aroclors was 0.26 µg/l.

h\ The Class GA groundwater standard is based on the New York State Department of Health and U.S. Environmental Protection Agency (EPA) maximum contaminant level for free cyanide. EPA has stated that only free cyanides should be regulated because these are the species of health concern due to their bioavailability and toxicity. Reflecting the lack of bioavailability and toxicity related to non-free cyanides, the NYSDEC Class C Surface Water Standard for total cyanide is 9 mg/l, while those for free cyanide are 0.0052 mg/l and 0.022 mg/l for the protection of aquatic life from chronic and acute effects.

i\ Sample and duplicate.

j\ In addition, carbon disulfide was detected at 0.31 µg/l (estimated), below the groundwater standard of 60 µg/l.

k\ The reporting limit for the individual Aroclors was 0.50 µg/l.

l\ The reporting limit for the individual Aroclors was 0.33 µg/l.

m\ The reporting limit for the individual Aroclors was 0.25 µg/l.

n\ The reporting limit for the individual Aroclors was 0.33 µg/l.

o\ 6 NYCRR Part 375 Table 375-6.8(b): Restricted Use Soil Cleanup Objectives.

Boxed values greater than NYSDEC GW Criteria
Bold italic values greater than NYSDEC SW Criteria

Table 8

Remaining Indoor Air and Soil Vapor Sample Exceedances
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York (a)

	Building 13				Building 34 - Main (C)		Building 13B		Building 34 - Main (D)		Building 9			
VOCs (µg/m^3)	**B13A-12SS**	**B13A-15SS**	**B13B-1SS**	**B13A/B-IA**	**SS**	**IA**	**SS**	**IA**	**SS**	**IA**	**5SS**	**6SS**	**IA-I**	**IA-II**
Carbon Tetrachloride	-	-	-	-	0.90 J	0.96 U	0.90 JCI	0.96 U	0.96 UC	0.96 U	-	-	-	-
1,1-Dichloroethene	0.60 U	0.60 U	0.60 U	0.60 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.60 U	0.60 U	0.60 U	0.60 U
cis-1,2-Dichloroethene	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	12	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.73
Methylene chloride	0.53 U	0.49	0.53 U	0.53 U	3.35	3.71	12	3.39	5.37	3.21	0.53 U	0.53 U	0.46	0.53 U
Tetrachloroethene	1.2	1.0 U	1.0 U	0.76	75	0.69 J	114	1.03 U	15	1.03 U	1.0	0.8	1.0 U	0.97
1,1,1-Trichloroethane	0.83 U	2.6	3.3	0.83 U	12 J	0.83 U	3.66 I	0.83 U	1.50	0.83 U	1.8	3.2	0.83 U	1.1
Trichloroethene	1.2	27	1.7	0.55	51	0.33	61	0.22 U	5.08	2.46	18	1.5	0.66	4.2
Vinyl chloride	0.39 U	0.39 U	0.39 U	0.10 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.10 U	0.10 U

	Building 21 (4)										Building 24 - Main	
VOCs (µg/m^3)	**1SS**	**2SS**	**3SS**	**1IAB**	**2IAB**	**3IAB**	**4IAB**	**5IAB**	**1IAF**	**2IAF**	**SS**	**IA**
Carbon Tetrachloride	0.767 C	0.767 C	1.34 C	0.767 C	0.959 UC	0.959 UC	0.959 UC	0.959 UC	0.959 UC	0.959 UC	0.96 UC	1.40
1,1-Dichloroethene	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.605 U	0.61 U	0.61 U
cis-1,2-Dichloroethene	4.15	0.604 U	0.604 U	0.604 U	0.604 U	0.604 U	0.967	0.604 U	0.604 U	0.604 U	1.69 I	1.01
Methylene chloride	0.53 U	0.918	1.06	24.2	2.37	1.31	0.989	1.52	0.636	1.38	5.44 I	2.37
Tetrachloroethene	8.41	4.48	44.8	1.45	1.45	2.83	0.965 J	1.03 J	1.03 J	0.965 J	74	0.97 J
1,1,1-Trichloroethane	1.5 C	0.943 C	2.11 C	0.998 C	0.666 C	0.943 C	0.832 U	0.832 U	0.61 J	0.721 J	12	0.83 J
Trichloroethene	13.7	4.21	7.21	1.42	1.97	1.31	0.819	0.437	0.601	0.765	770 D	7.81
Vinyl chloride	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U

	Building 24 - Basement		Building 4 (A)		Building 4 (B)		Building 2				
VOCs (µg/m^3)	**SS**	**IA**	**SS**	**IA**	**SS**	**IA**	**6SS**	**13SS**	**IA-I**	**IA-II**	**IA-III**
Carbon Tetrachloride	1.28	0.83 J	0.64 J	0.96 J	0.96 U	0.64 J	-	-	-	-	-
1,1-Dichloroethene	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
cis-1,2-Dichloroethene	0.60 U	0.60 UC	11 C	1.37 C	172	2.66	1.6	0.60 U	0.60 U	2.0	0.85
Methylene chloride	4.63	67	1.69 I	3.43	3.67 I	2.58	3.3	0.53 U	0.53 U	0.53 U	0.53 U
Tetrachloroethene	2.96	2.28	67	51	549	19	0.90	1	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	0.61 J	0.83 U	2.22 I	4.55	1.83	4.80	4.7	0.8	0.83 U	0.78 J	1.2
Trichloroethene	20	5.63	297	7.54	1,620	13	6.4	1.4	0.2 U	2.3	2.1
Vinyl chloride	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.10 U	0.10 U	0.10 U

	Building 34 - Basement (A)		Building 34 - Basement (B)	
VOCs (µg/m^3)	**SS**	**IA**	**SS**	**IA**
Carbon Tetrachloride	0.96 U	0.45	1.22	0.45
1,1-Dichloroethene	0.61 U	1.60 U	0.61 U	1.60 U
cis-1,2-Dichloroethene	2.34	0.79 U	6.73	0.79 U
Methylene chloride	3.46	3.50	3.95	2.40
Tetrachloroethene	1,700 D	0.69 J	215	0.69 J
1,1,1-Trichloroethane	22	1.10 U	56	1.10 U
Trichloroethene	249	1.37	3,800 D	1.47
Vinyl chloride	0.39 U	0.51 U	0.39 U	0.51 U

a/ VOCs = volatile organic compounds; µg/m3 = micrograms per cubic meter; SS = sub-slab; IA = indoor air, "-" = not analyzed.
b/ New York State Department of Health. 2017. Soil Vapor/Indoor Air Decision Matrices. May.

Table 9

Schedule of Interim Monitoring/Inspection Report
See Section 7.1 - Site Managment Reports
Site Management Plan
Former Emerson Power Transmission
Ithaca, New York

FIGURES

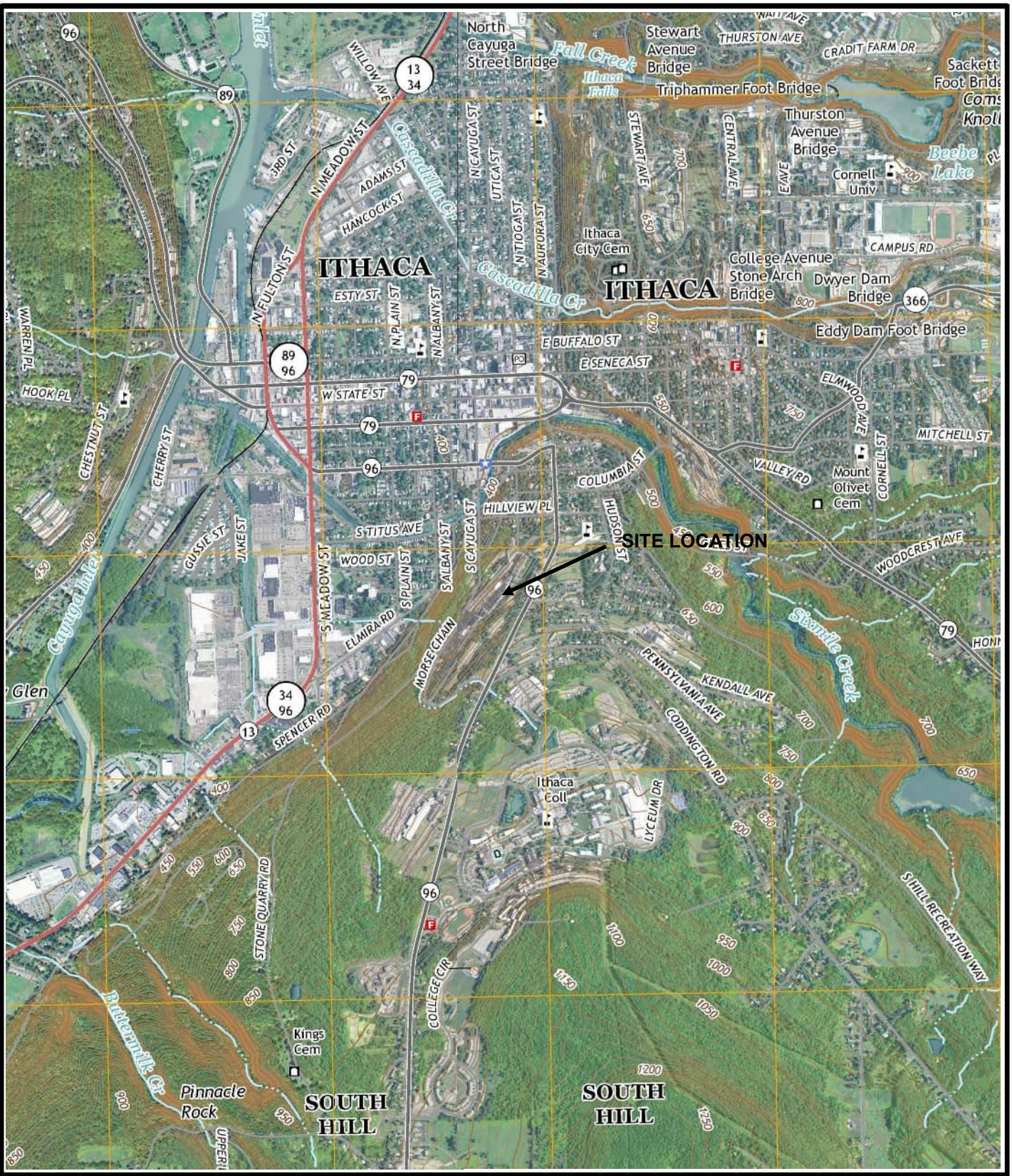
DWG Name: 314P1545.001_Figure 1-1_A01.pub

Checked:

Approved:

A

Drawn By: emk 03/14/19



REFERENCE:
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLE
ITHACA EAST AND WEST, NEW YORK 2016
SCALE 1:24,000

QUADRANGLE LOCATION

N

0 1000 2000 4000

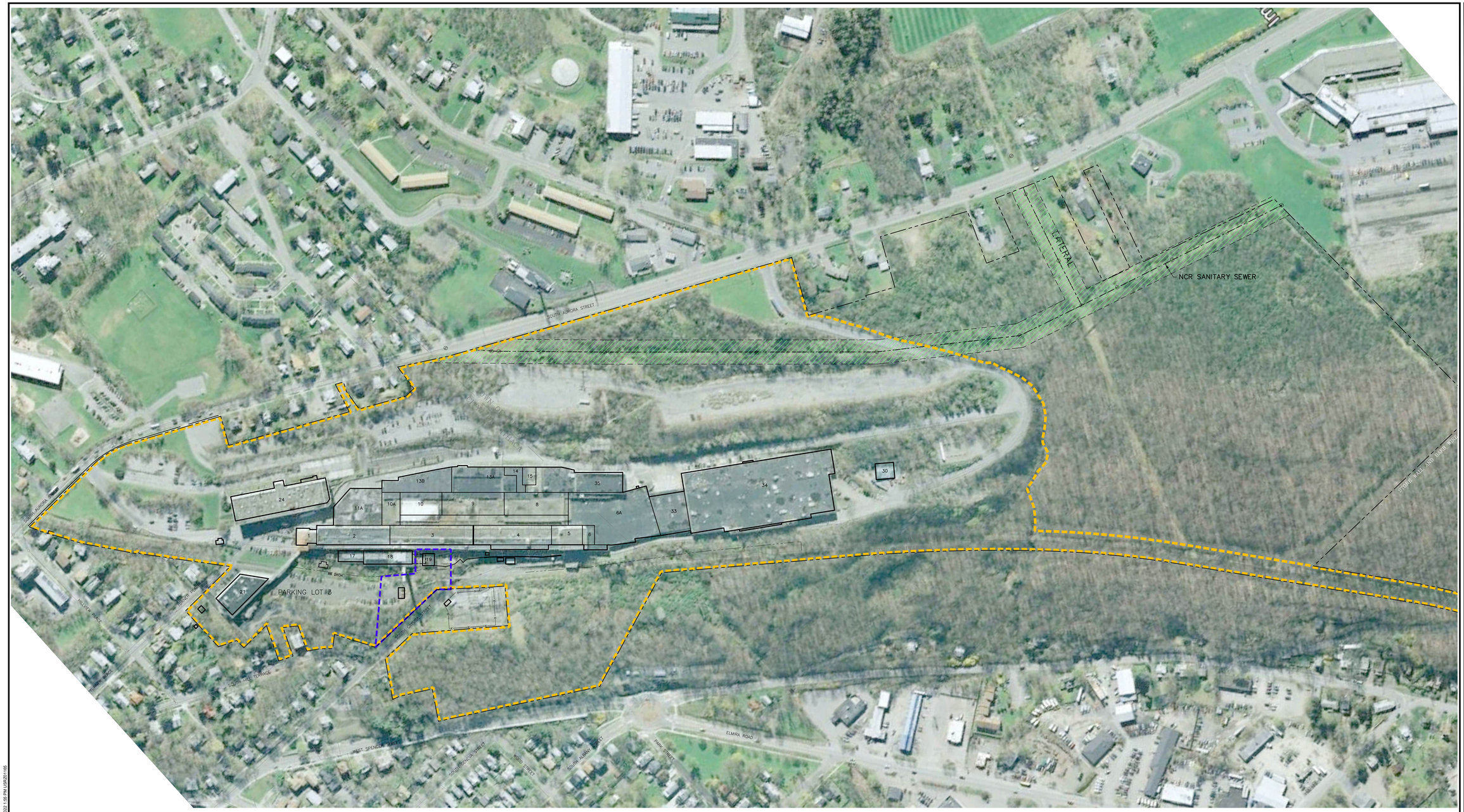
SCALE, FEET

WSP USA Inc.
11 STANWIX STREET
SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 1

SITE LOCATION

FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI



LEGEND

34 BUILDING NUMBER

SANITARY SEWER

PROPERTY LINE

DEED RESTRICTION PLACED BY EMERSON

BOUNDARY FOR OU-1 (RETAINED PROPERTY)

BOUNDARY FOR OU-2

150 0 150 300

SCALE, FEET

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

D

REVISIONS

REV	DESCRIPTION
1	Revised: Chkd: Appr.:
2	Revised: Chkd: Appr.:
3	Revised: Chkd: Appr.:

SEAL

DATE

DRAWN BY RJC 03/22/2020

CHECKED [illegible] 03/01/2021

APPROVED SAR 10/14/2022

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SITE LAYOUT

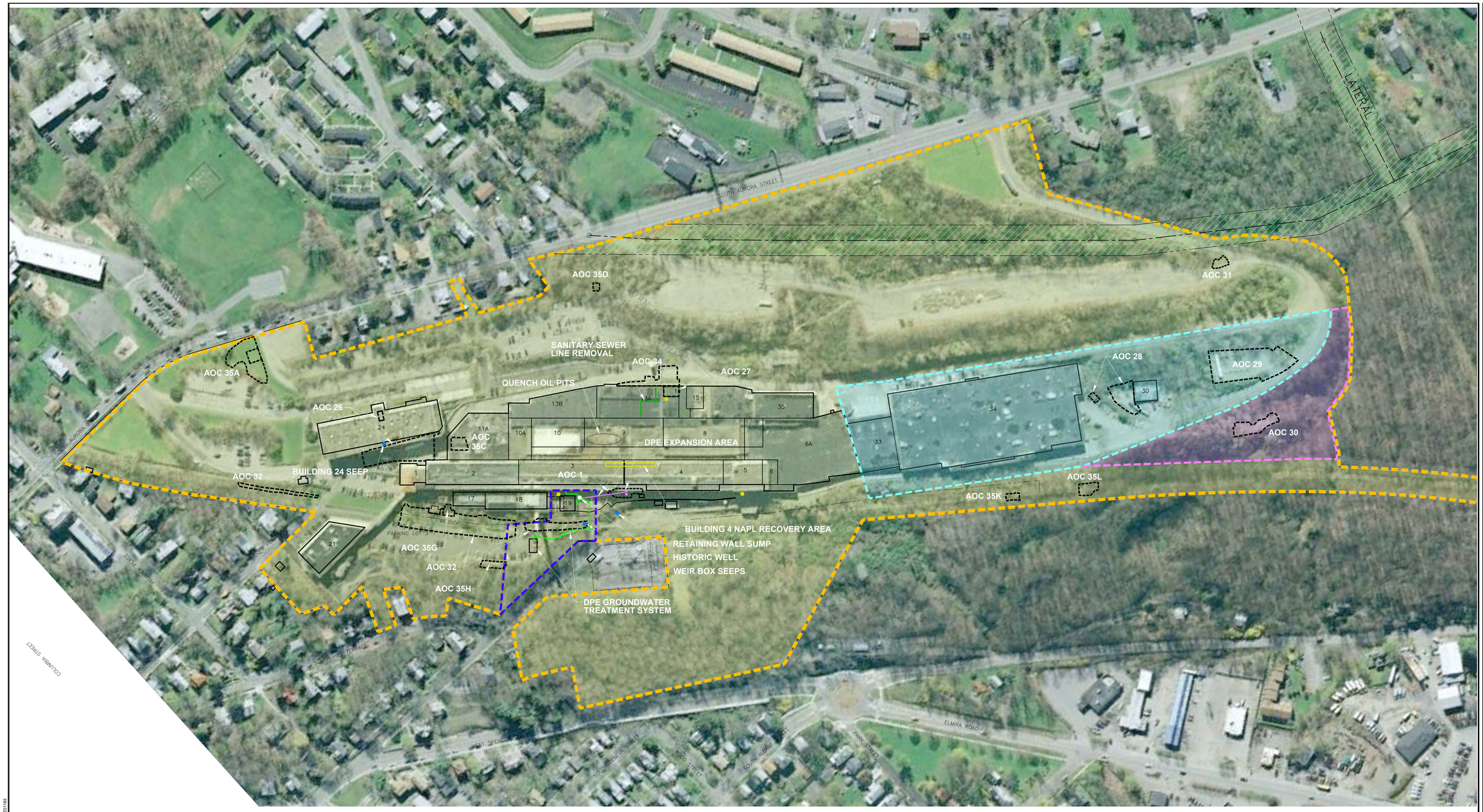
SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 2

Drawing Number
314P1545.001–D132



LEGEND

- 34 BUILDING NUMBER
- IRM AREAS
- DEED RESTRICTION PLACED BY EMERSON
- BOUNDARY FOR OU–1 (RETAINED PROPERTY)
- BOUNDARY FOR OU–2
- AREA WHERE RESTRICTED RESIDENTIAL USE SOCs ARE APPLIED
- AREA WHERE COMMERCIAL USE SOCs ARE APPLIED
- AREA WHERE INDUSTRIAL USE SOCs ARE APPLIED
- NAPL RECOVERY WELL
- GROUNDWATER SEEP
- SUMP

NOTES:

1. GOOGLE EARTH AERIAL PHOTOGRAPH, IMAGERY DATE 5/5/2013.
2. AERIAL PHOTOGRAPHS USED FOR THIS ILLUSTRATION CONTAIN INHERENT DISTORTIONS RESULTING FROM THE PHOTOGRAPHIC PROCESS THAT MAY RESULT IN SLIGHT MISALIGNMENTS WITH THE SURVEYED SITE FEATURES.

0 120 240 360
SCALE IN FEET

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D

V:\CADFiles\ACAD\CADD_CLIENT\Emerson\NY_Ithaca\314V1545.001\GIA\D314V1545.001-047.dwg 10/13/2022 1:53 PM USR0201165

REVISIONS

REV	DESCRIPTION
1	Revised: Chkd: App'd:
2	Revised: Chkd: App'd:
3	Revised: Chkd: App'd:

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DATE

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REMEDIAL ELEMENTS

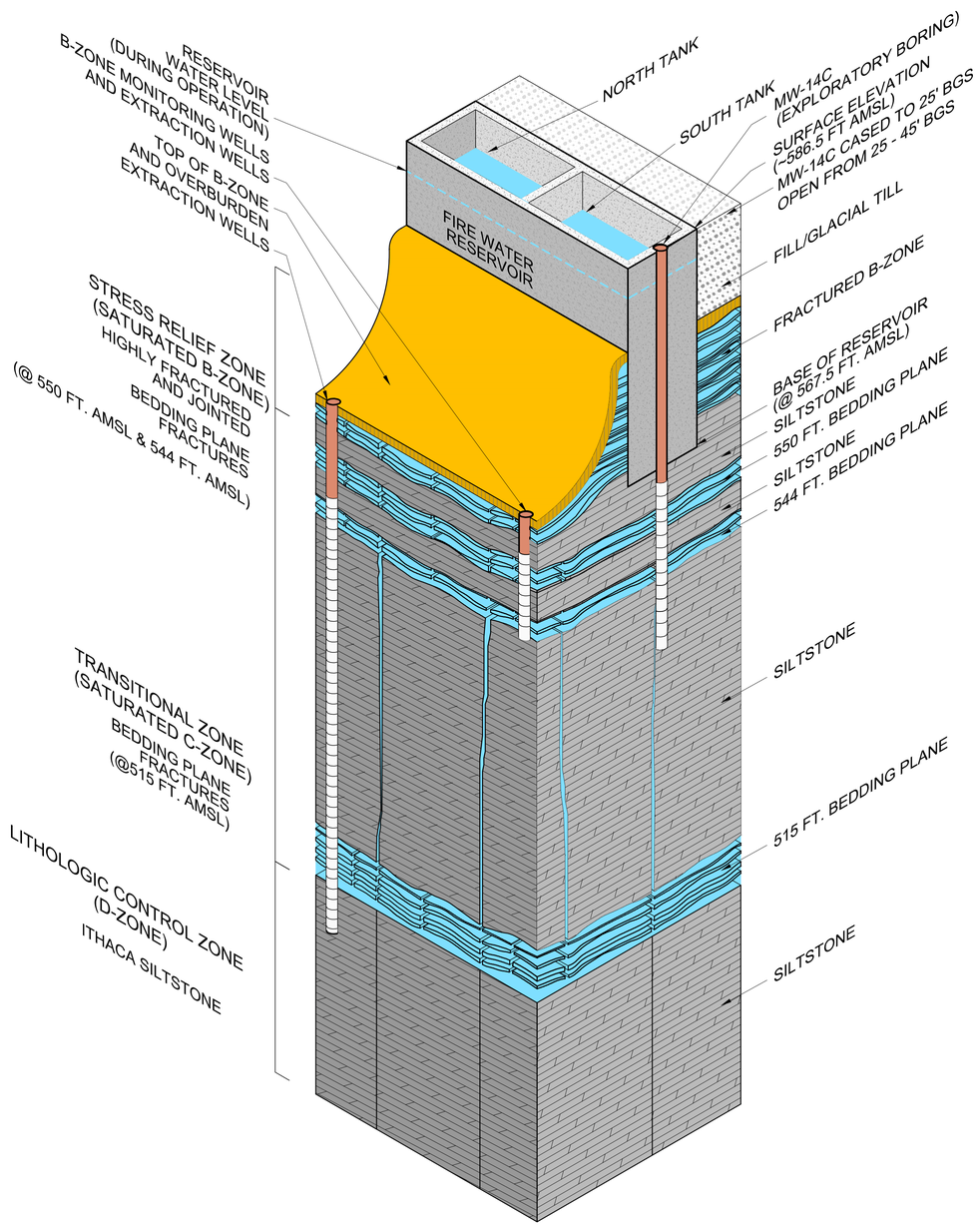
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

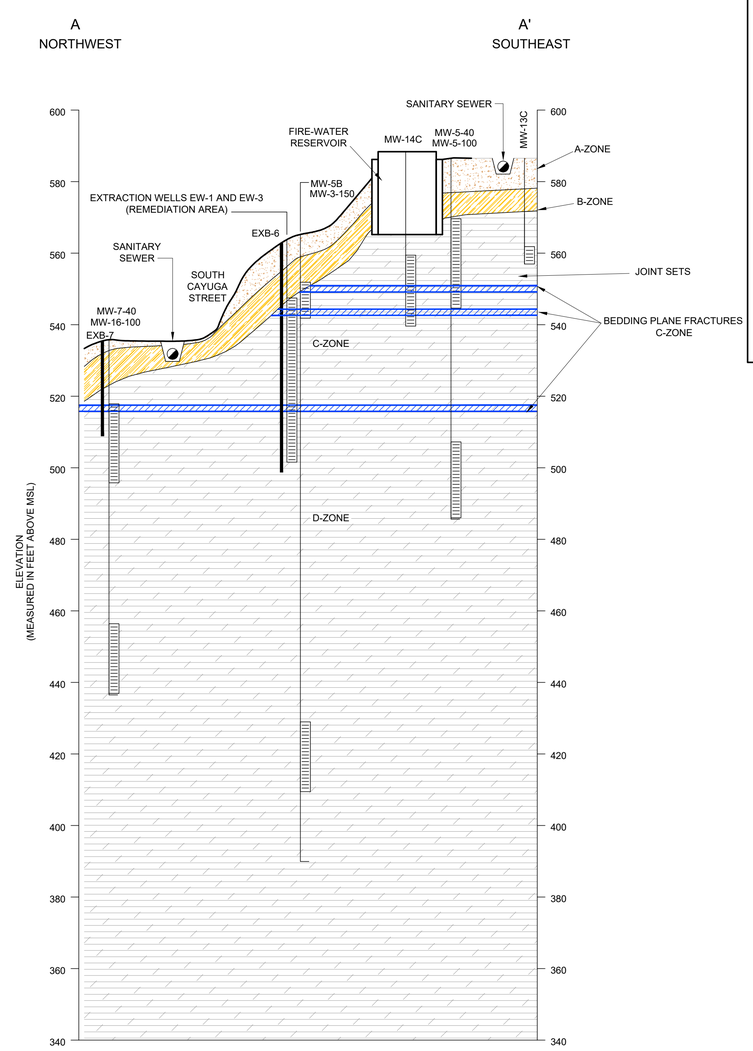
WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 3

Drawing Number
314V1545.001–047

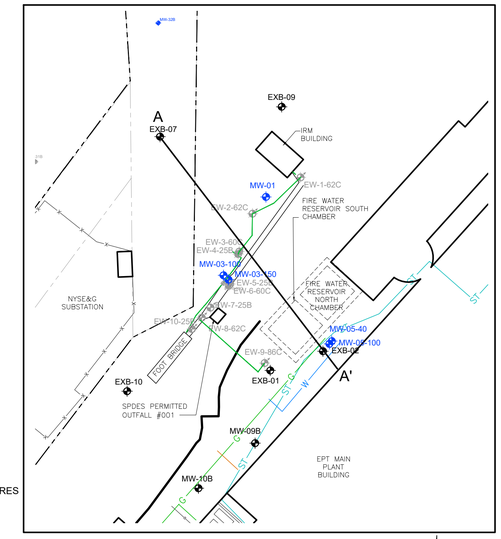


CONCEPTUAL SITE MODEL
BLOCK DIAGRAM-FIRE WATER RESERVOIR AREA



GENERALIZED GEOLOGIC CROSS SECTION A-A'

NOTE:
BEDDING PLANE FRACTURES AT 544' AMSL AND 550' AMSL., AND 515' AMSL. WELL MW-14C SCREENED BETWEEN 542' AMSL AND 562' AMSL.



CROSS SECTION LOCATION A-A'

0 60 120 180
SCALE IN FEET

0 50 100 150
HORIZONTAL SCALE IN FEET

0 20 40 60
VERTICAL SCALE IN FEET

REV	DESCRIPTION	
1	Revised:	Chkd: Appr.:
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GEOLOGIC CROSS SECTION

SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 4

Drawing Number
314P1545.001–D140

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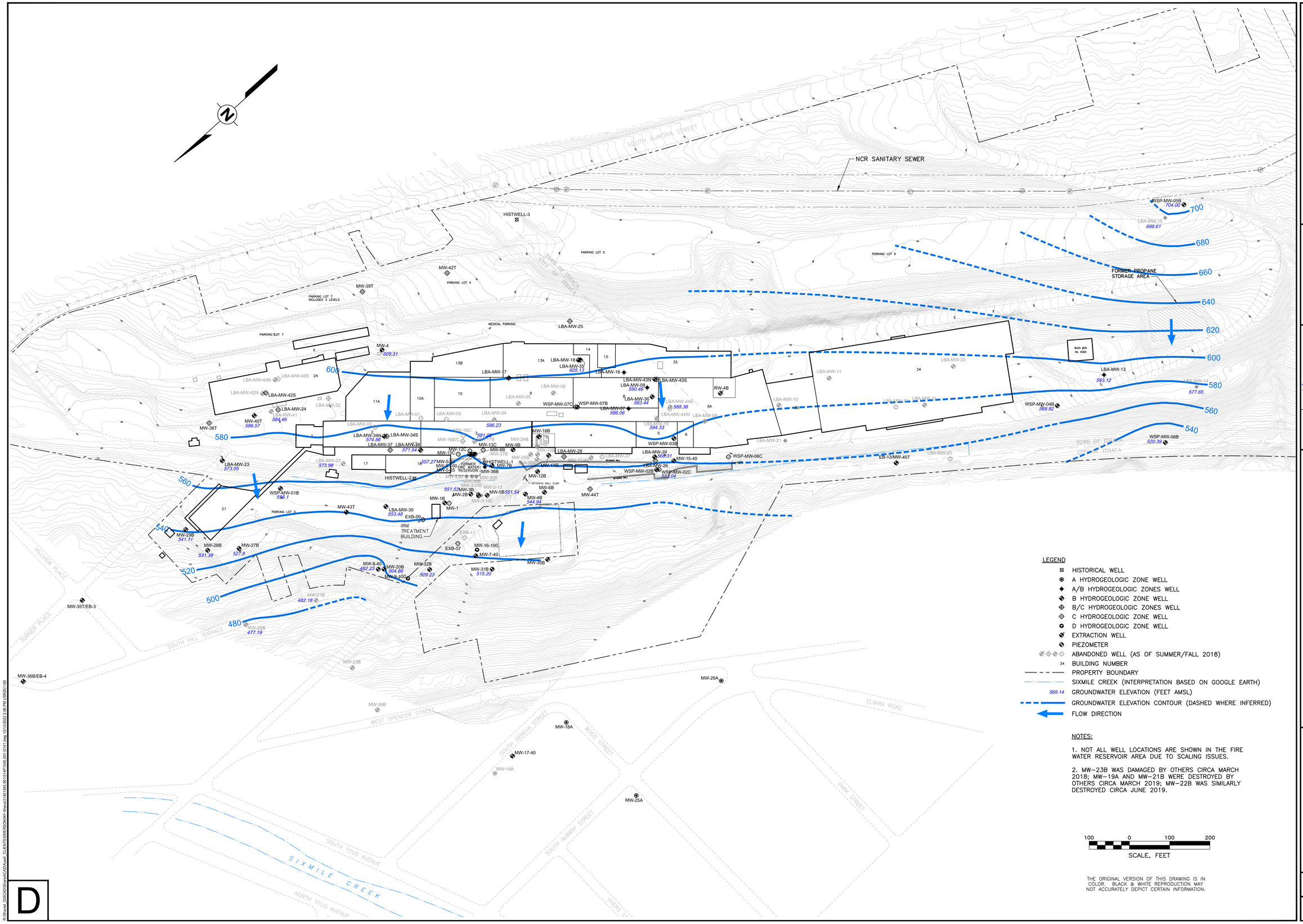

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3	Revised:	Chkd:	Appr.:

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CHECKED
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POTENTIOMETRIC SURFACE – A&B ZONES
JANUARY 2016

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ITHACA, NEW YORK

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EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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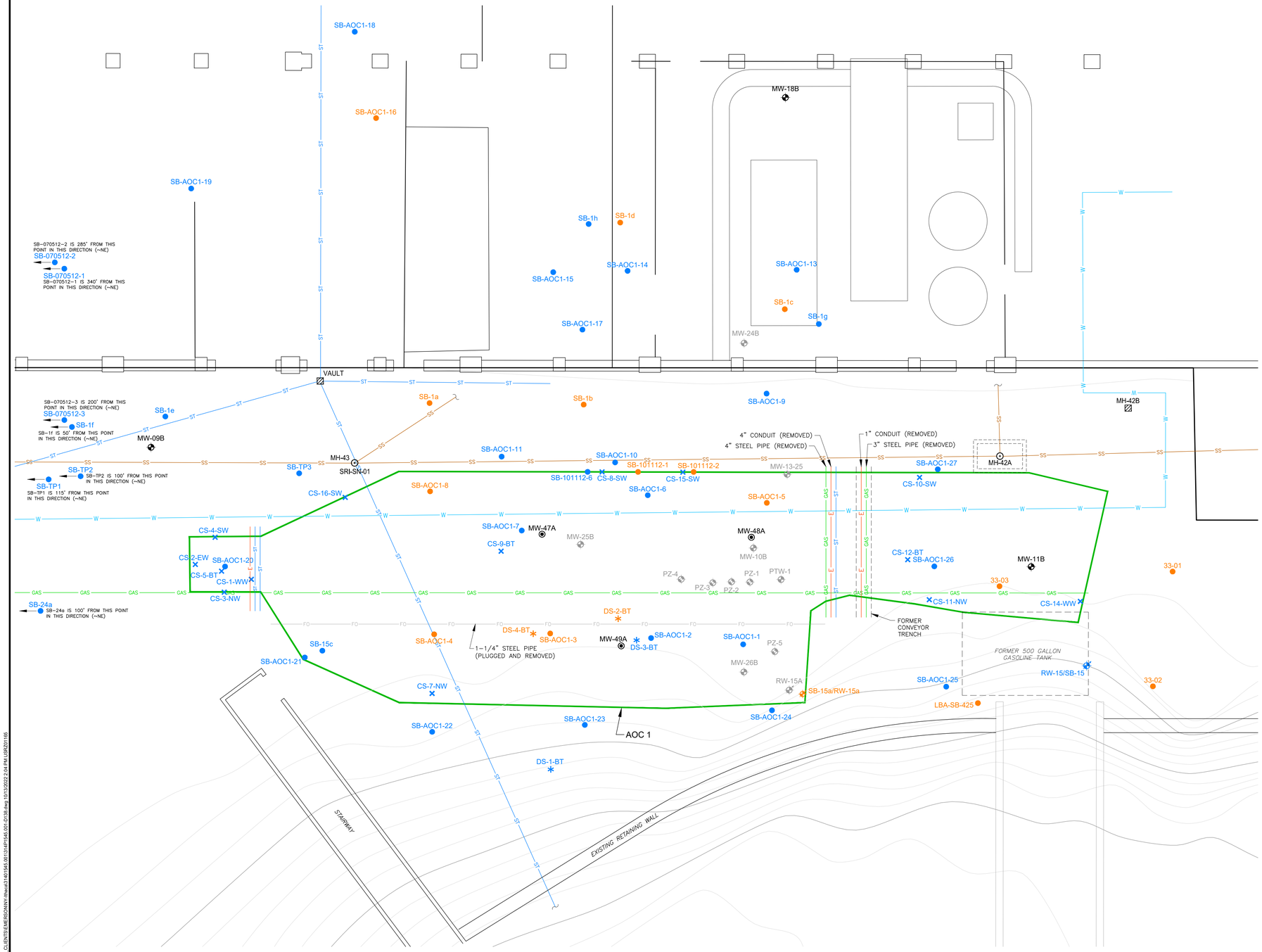
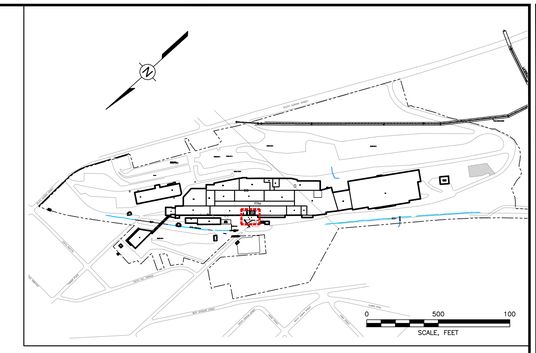
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 5

Drawing Number
314P1545.001–D141





KEY MAP

LEGEND

- ✱ SOIL IRM DOCUMENTATION SAMPLE
- × SOIL IRM CONFIRMATION SAMPLE
- ● SOIL BORING
  - ORANGE INDICATES SAMPLE RESULTS >UR SCOs
  - BLUE INDICATES SAMPLE RESULTS <UR SCOs
  - GRAY INDICATES ABANDONED WELL
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- A HYDROGEOLOGIC ZONE
- B HYDROGEOLOGIC ZONE
- EXTRACTION WELL
- PIEZOMETER
- MH-52 MANHOLE/MANWAY
- CB-03 CATCH BASIN
- 34 BUILDING NUMBER
- W WATER LINE (APPROX. LOCATION, SEE NOTE 5)
- ST STORM WATER SEWER LINE (APPROX. LOCATION)
- SS SANITARY SEWER LINE (APPROX. LOCATION)
- GAS GAS LINE (APPROX. LOCATION)
- E ELECTRICAL CONDUIT (APPROX. LOCATION)
- FO LIGHT FUEL OIL LINE (APPROX. LOCATION)
- FINAL EXTENT OF SOIL EXCAVATION AND CAP (AOC 1)

5 0 5 10
SCALE, FEET

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AOC 1 AND AOC 33 REMAINING SOIL SAMPLE EXCEEDENCES

SITE MANAGEMENT PLAN
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HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 6–A

Drawing Number
314P1545.001–D138

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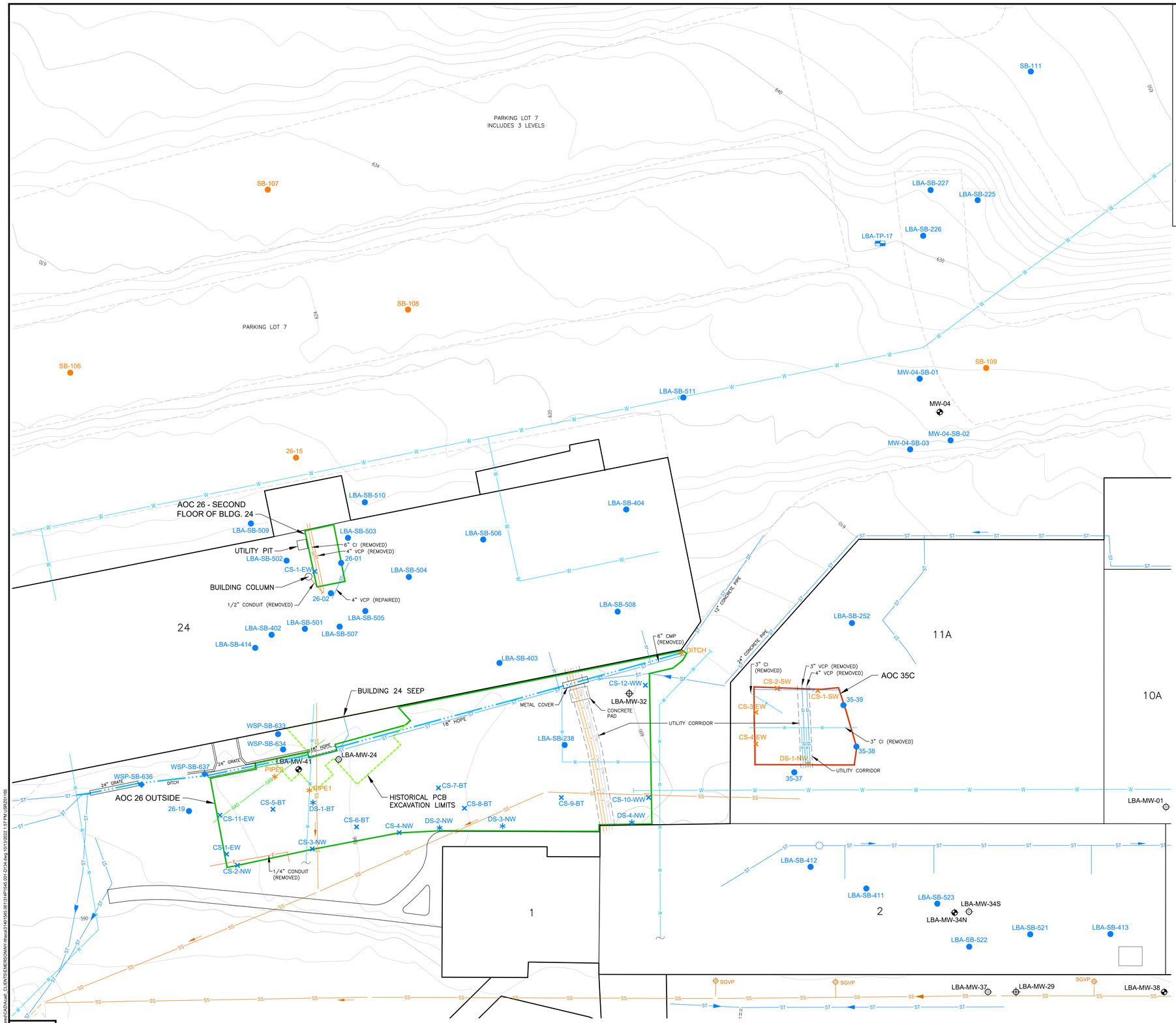

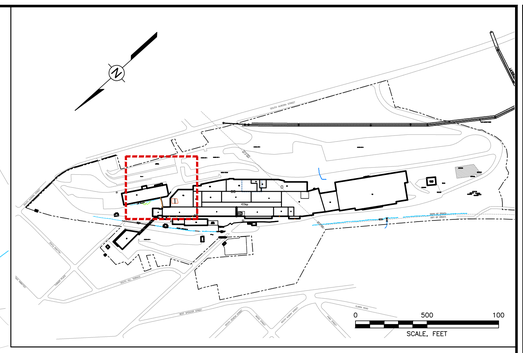

KEY MAP

LEGEND

- ✱ SOIL IRM DOCUMENTATION SAMPLE
- × SOIL IRM CONFIRMATION SAMPLE
- ● SOIL BORING
  - ORANGE INDICATES SAMPLE RESULTS >UR SCOs
  - BLUE INDICATES SAMPLE RESULTS <UR SCOs
  - GRAY INDICATES ABANDONED WELL
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- B HYDROGEOLOGIC ZONE
- B/C HYDROGEOLOGIC ZONES
- C HYDROGEOLOGIC ZONE
- SGVP SANITARY GAS VENT PIPE
- 34 BUILDING NUMBER
- CI CAST IRON
- CMP CORRUGATED METAL PIPE
- HDPE HIGH DENSITY POLYETHYLENE
- VCP VITREOUS CLAY PIPE
- W WATER LINE
- ST STORM WATER SEWER LINE
- SS SANITARY SEWER LINE
- GAS GAS LINE
- STM STEAM LINE
- T TELECOMMUNICATIONS LINE
- E ELECTRICAL CONDUIT
- INTERMITTENT STREAM OR DRAINAGE DITCH
- FINAL EXTENT OF SOIL IRM EXCAVATION (AOC 26)
- FINAL EXTENT OF SOIL IRM EXCAVATION (AOC 35C)

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AOCs 26 AND 35C REMAINING SOIL SAMPLE EXCEEDENCES

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FIGURE 6–B

Drawing Number
314P1545.001–D134

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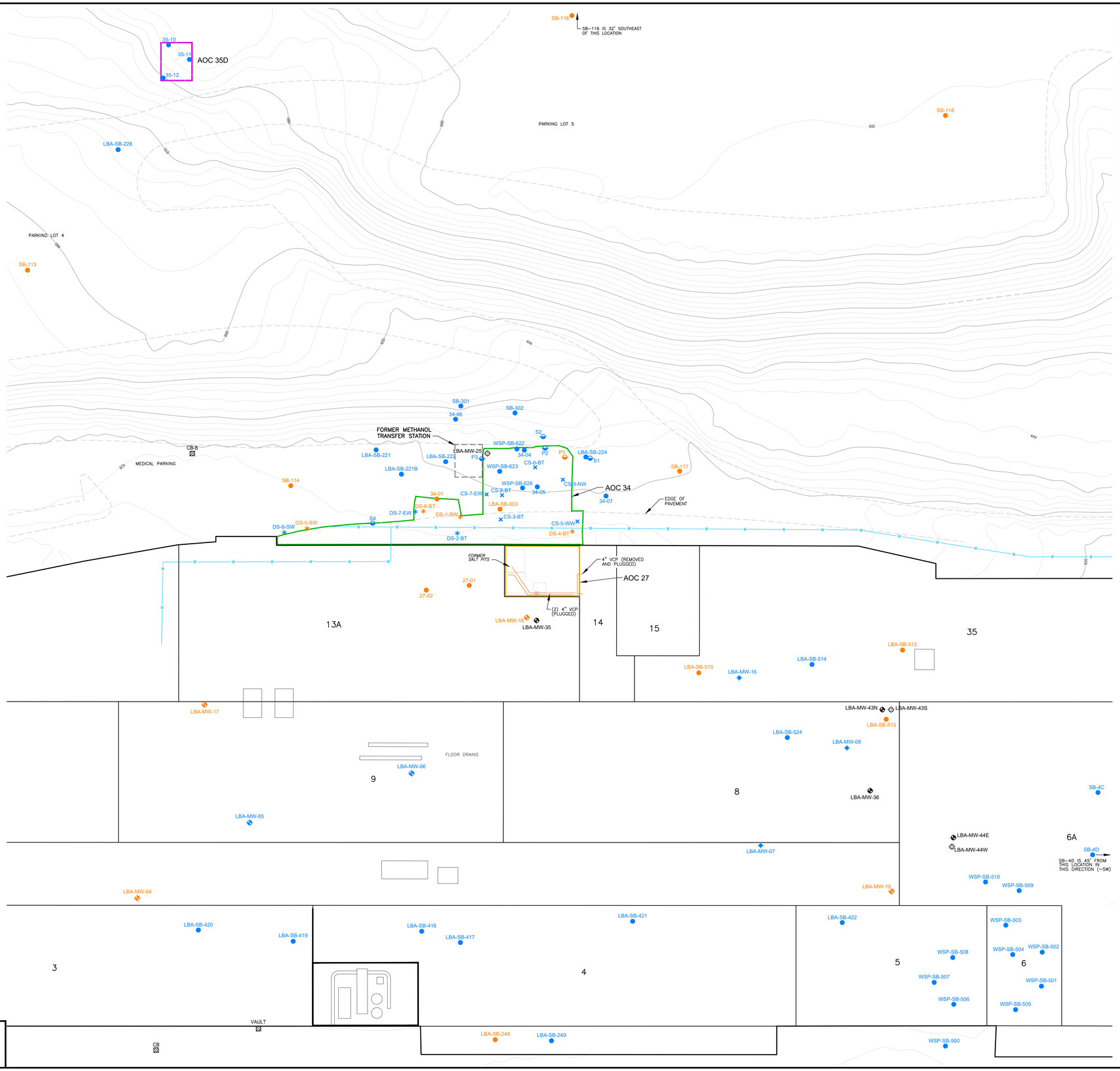
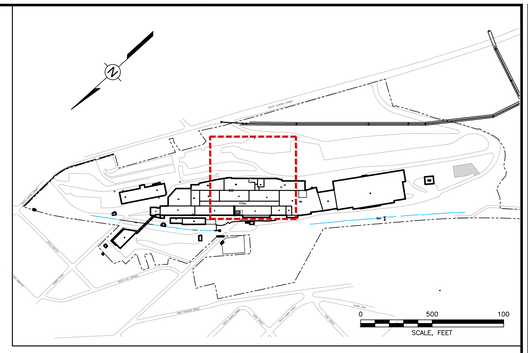
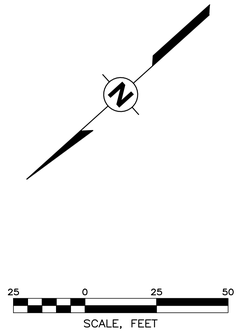




KEY MAP

LEGEND

- SOIL IRM DOCUMENTATION SAMPLE
- SOIL IRM CONFIRMATION SAMPLE
- SOIL IRM DELINEATION SAMPLE
- SOIL BORING
- TEST PIT
- ORANGE INDICATES SAMPLE RESULTS >UR SCOs
- BLUE INDICATES SAMPLE RESULTS <UR SCOs
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- A/B HYDROGEOLOGIC ZONES
- B HYDROGEOLOGIC ZONE
- C HYDROGEOLOGIC ZONE
- CB-03 CATCH BASIN
- 34 BUILDING NUMBER
- VCP VITREOUS CLAY PIPE
- WATER LINE
- SANITARY SEWER LINE
- FINAL EXTENT OF SOIL IRM EXCAVATION (AOC 35D)
- FINAL EXTENT OF SOIL IRM EXCAVATION (AOC 34)
- FINAL EXTENT OF BEDROCK IRM EXCAVATION (AOC 27)



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AOCs 27, 34, AND 35D REMAINING SOIL SAMPLE EXCEEDENCES

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ITHACA, NEW YORK

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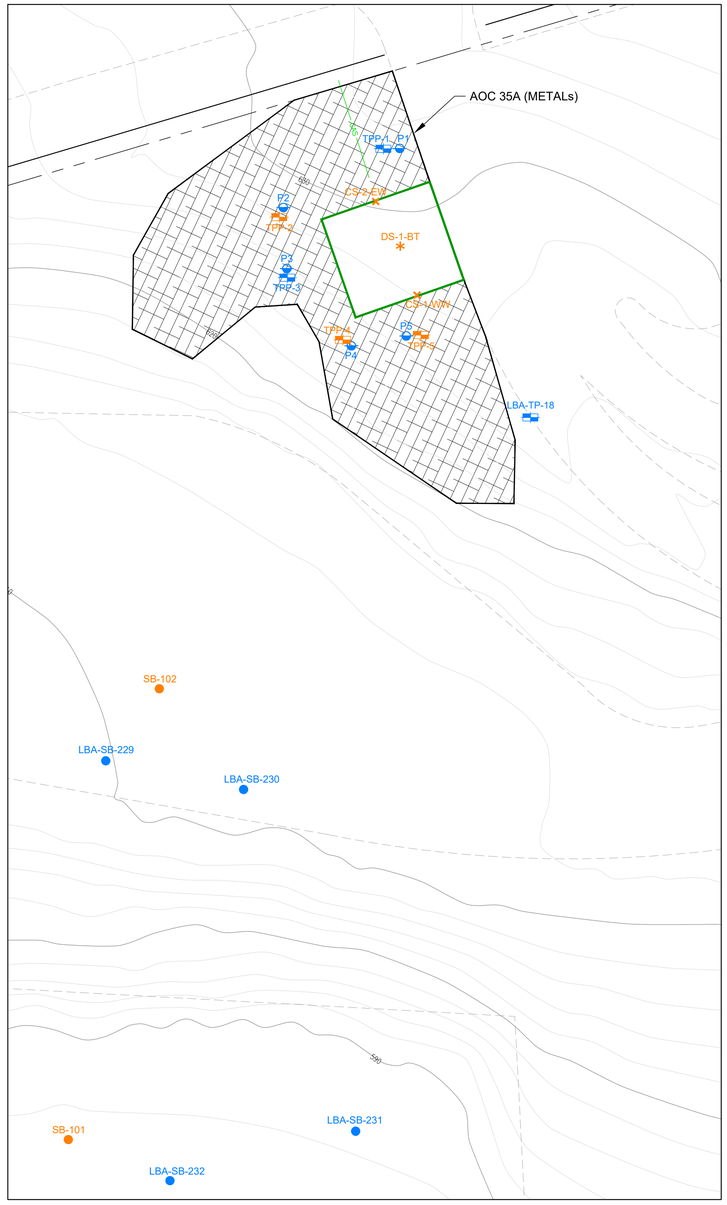
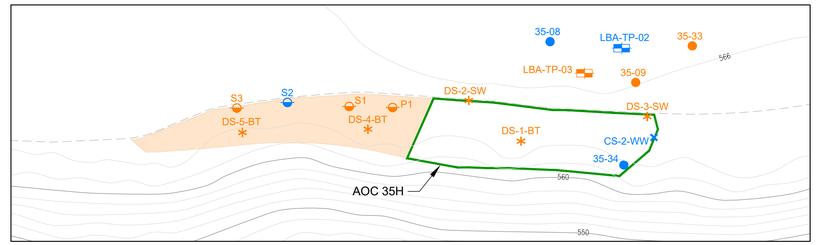
HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 6–C

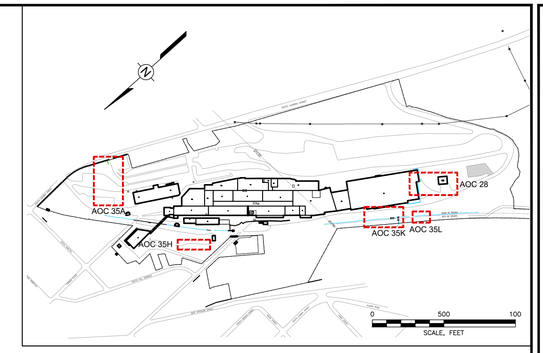
Drawing Number
314P1545.001–D133



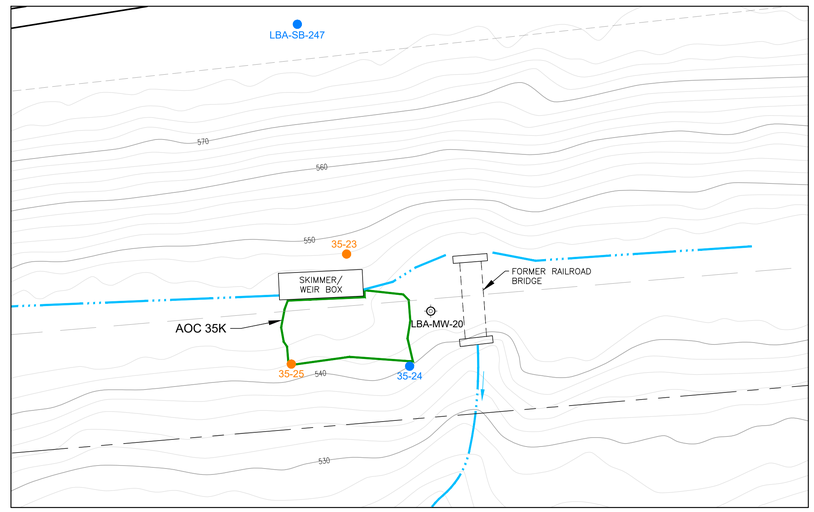
AOC 35A - EAST OF BUILDING 24



AOC 35H - PARKING LOT 3



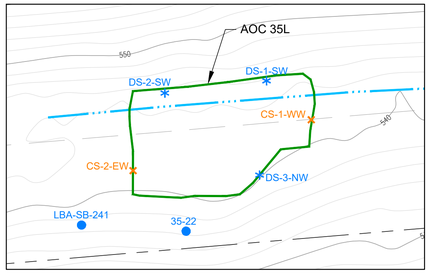
KEY MAP



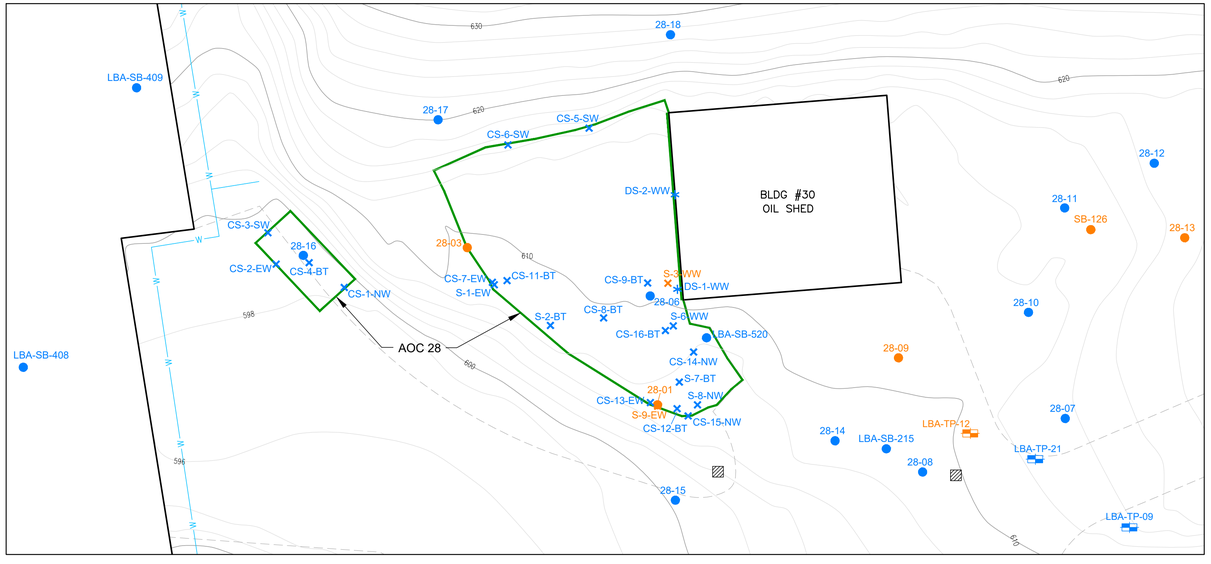
AOC 35K - FORMER RAILWAY RIGHT-OF-WAY/LBA-SB-240

LEGEND

- SOIL IRM DOCUMENTATION SAMPLE
- SOIL IRM CONFIRMATION SAMPLE
- SOIL IRM DELINEATION SAMPLE
- SOIL BORING
- TEST PIT
- ORANGE INDICATES SAMPLE RESULTS >UR SCOs
- BLUE INDICATES SAMPLE RESULTS <UR SCOs
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- A/B HYDROGEOLOGIC ZONES
- B HYDROGEOLOGIC ZONE
- C HYDROGEOLOGIC ZONE
- PROPERTY BOUNDARY
- WATER LINE
- STORM WATER SEWER LINE
- GAS LINE
- INTERMITTENT STREAM OR DRAINAGE DITCH
- FINAL EXTENT OF SOIL IRM EXCAVATION
- SOIL IRM COVER AREA (AOC 35A)
- ASPHALT DEBRIS REMOVAL AREA (AOC 35H)



AOC 35L - FORMER RAILWAY RIGHT-OF-WAY/DS-1



AOC 28 - BUILDING 30 OIL SHED AREA

20 10 0 20 40
SCALE, FEET

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AOCs 28, 35A, 35H, 35K, AND 35L REMAINING SOIL SAMPLE EXCEEDENCES

SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 6–D

Drawing Number
314P1545.001–D135

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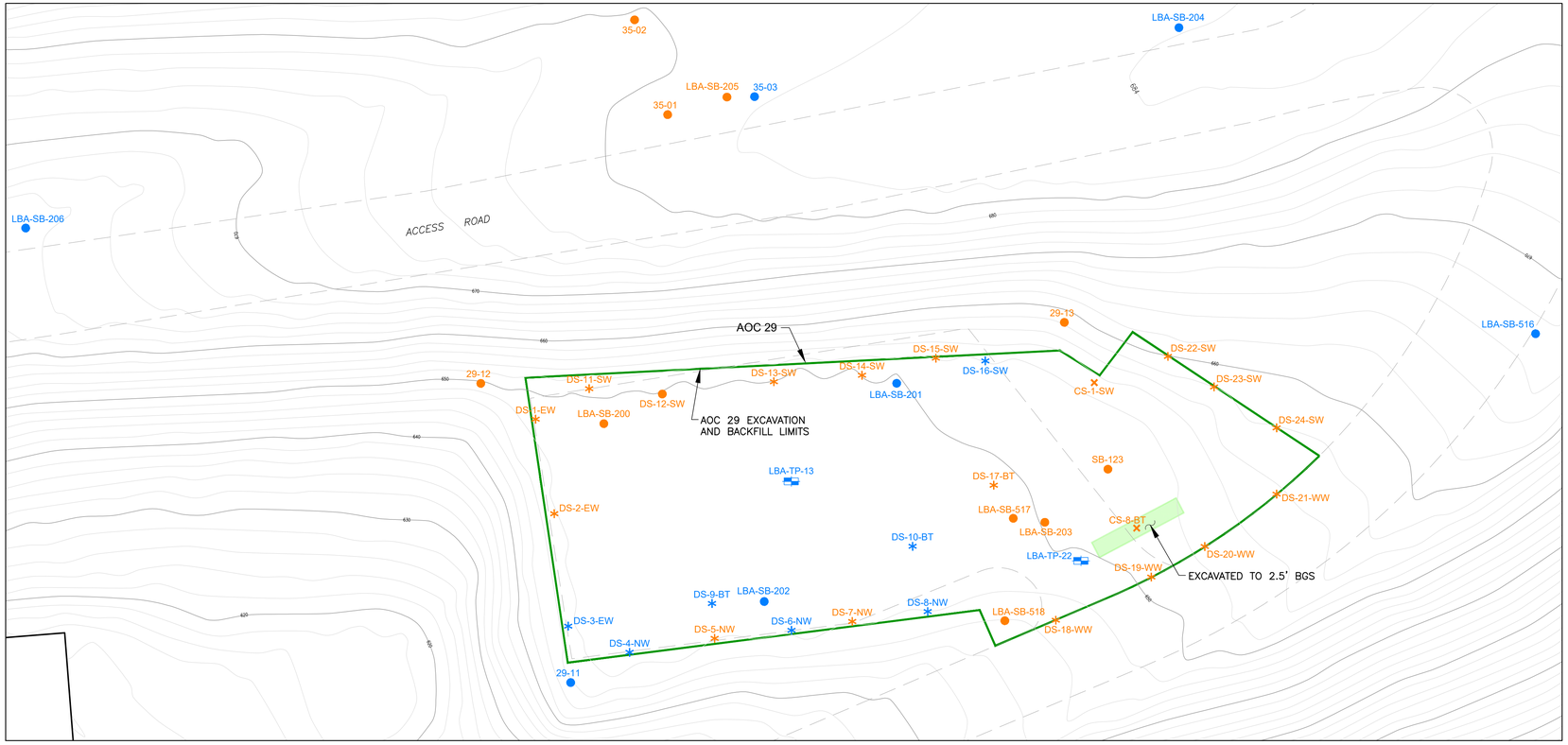
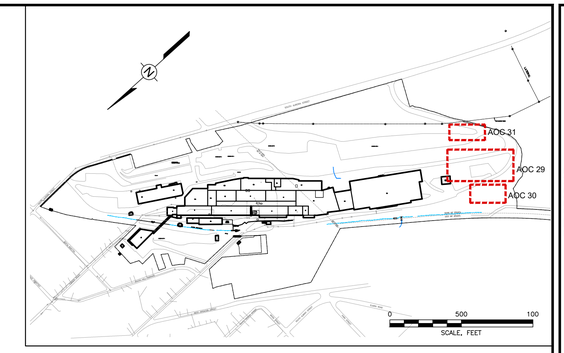


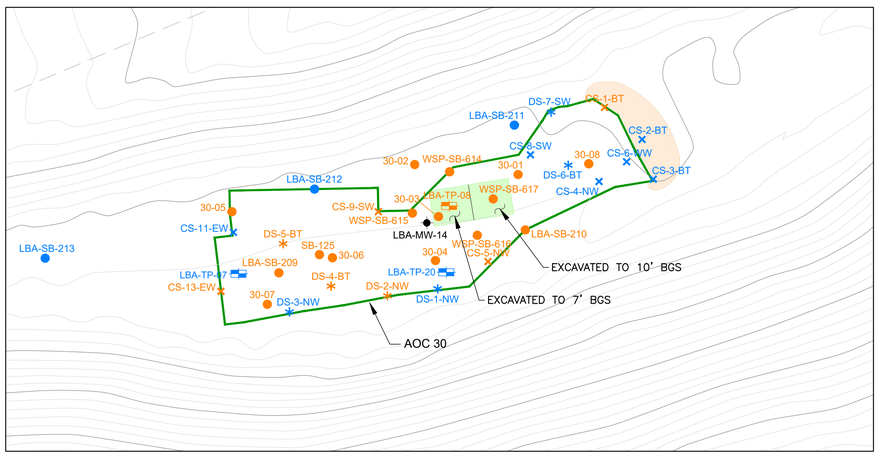
AOC 29 - FORMER PROPANE ABOVEGROUND STORAGE TANK AREA AND AOC 35F - SOUTH OF AOC 29



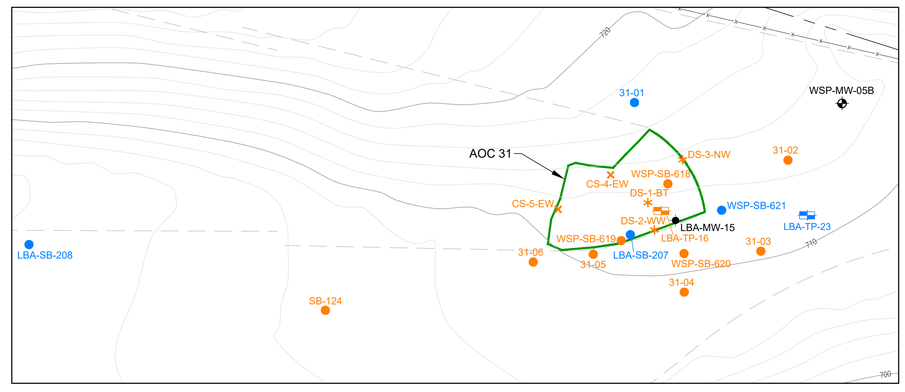
KEY MAP

LEGEND

- ✱ SOIL IRM DOCUMENTATION SAMPLE
- ✕ SOIL IRM CONFIRMATION SAMPLE
- ● SOIL BORING
- TEST PIT
- ORANGE INDICATES SAMPLE RESULTS >UR SCOs
- BLUE INDICATES SAMPLE RESULTS <UR SCOs
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- A/B HYDROGEOLOGIC ZONES
- B HYDROGEOLOGIC ZONE
- B/C HYDROGEOLOGIC ZONES
- C HYDROGEOLOGIC ZONE
- FINAL EXTENT OF SOIL EXCAVATION
- ASPHALT DEBRIS REMOVAL AREA (AOC 30)



AOC 30 - RICE PADDY AREA



AOC 31 - UPPER PARKING LOT 6

20 10 0 20 40
SCALE, FEET

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AOCs 29, 30, 31, AND 35F REMAINING SOIL SAMPLE EXCEEDENCES

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ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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TEL: +1 703.709.6500

FIGURE 6–E

Drawing Number
314P1545.001–D136

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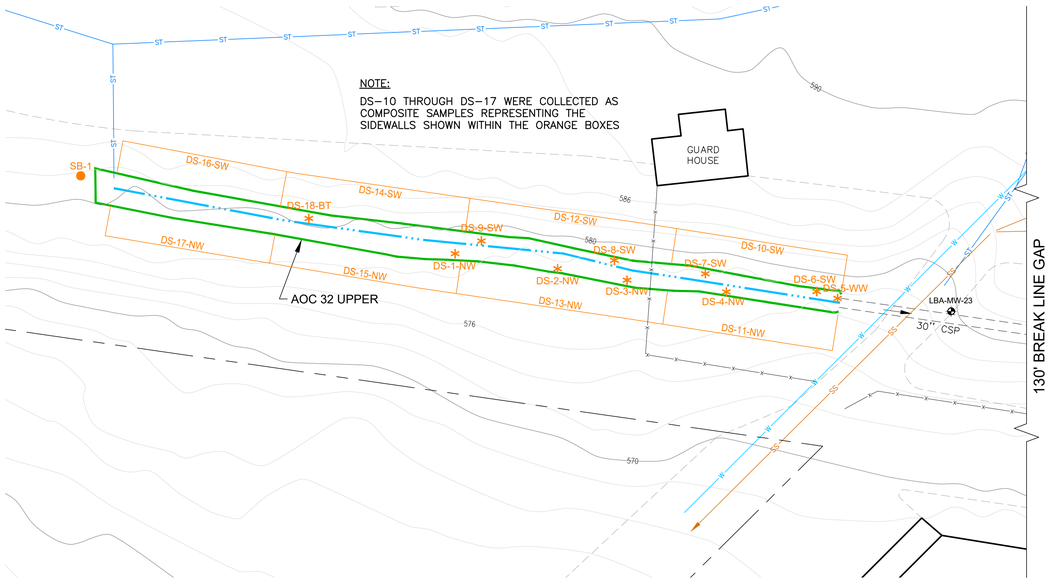
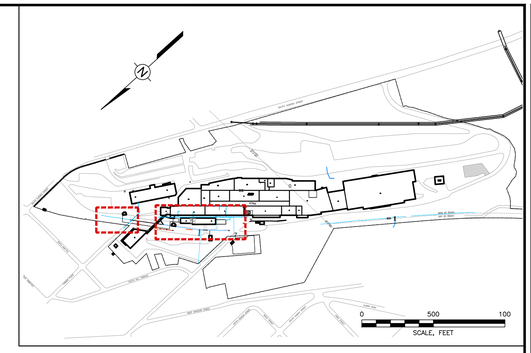
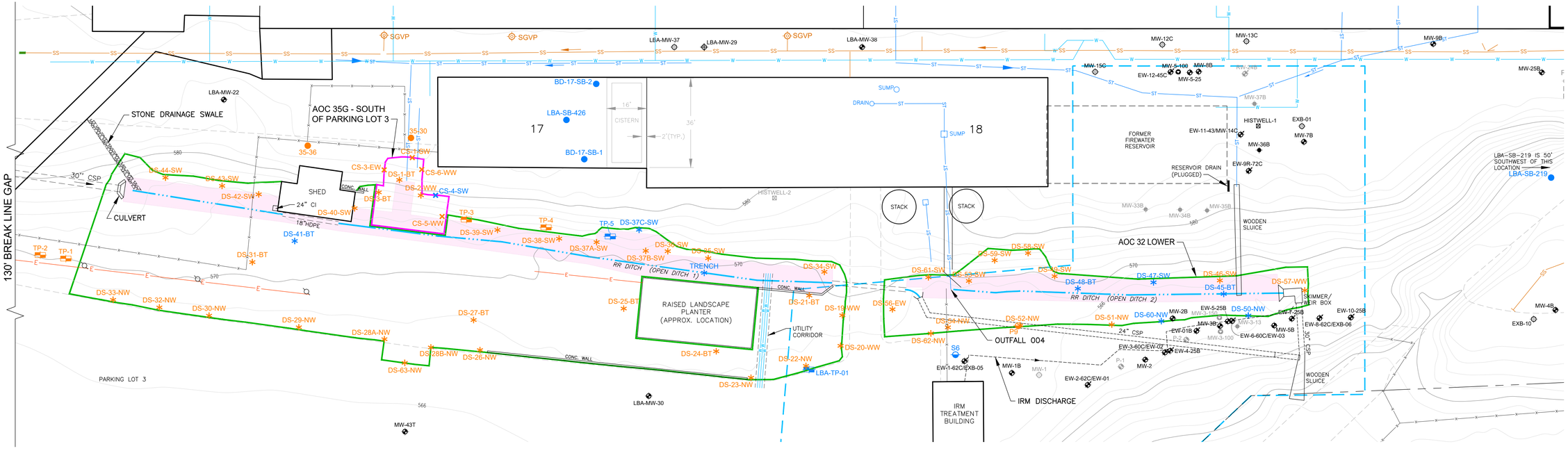


LEGEND

- SOIL IRM DOCUMENTATION SAMPLE
- SOIL IRM CONFIRMATION SAMPLE
- SOIL IRM DELINEATION SAMPLE
- SOIL BORING
- TEST PIT
- SEDIMENT SAMPLE
- ORANGE INDICATES SAMPLE RESULTS >UR SCOs
- BLUE INDICATES SAMPLE RESULTS <UR SCOs
- GRAY INDICATES ABANDONED WELL
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- HISTORICAL WELL
- A/B HYDROGEOLOGIC ZONES
- B HYDROGEOLOGIC ZONE
- B/C HYDROGEOLOGIC ZONES
- C HYDROGEOLOGIC ZONE
- D HYDROGEOLOGIC ZONE
- EXTRACTION WELL
- PIEZOMETER
- LIGHT POLE
- SGVP SANITARY GAS VENT PIPE
- 34 BUILDING NUMBER
- PROPERTY BOUNDARY
- LIMITS OF OU-1
- W WATER LINE
- ST STORM WATER SEWER LINE
- SS SANITARY SEWER LINE
- E ELECTRICAL CONDUIT
- INTERMITTENT STREAM OR DRAINAGE DITCH
- FINAL EXTENT OF SOIL EXCAVATION AOC 32
- FINAL EXTENT OF SOIL EXCAVATION AOC 35G
- LIMITS OF GCL (APPROXIMATE)



KEY MAP



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REVISIONS

REV	DESCRIPTION	
1	Revised:	Chkd: Appr.:
2	Revised:	Chkd: Appr.:
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AOCs 32 AND 35G REMAINING SOIL SAMPLE EXCEEDENCES

SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
13530 DULLES TECHNOLOGY DR, SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 6–F

Drawing Number
314P1545.001–D137

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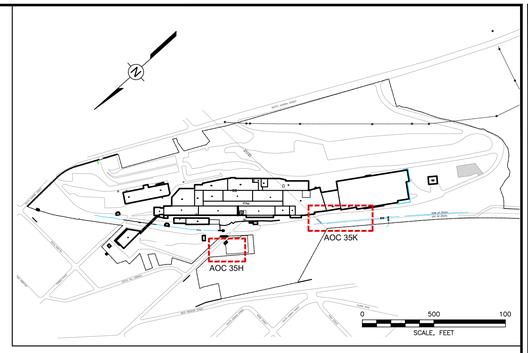
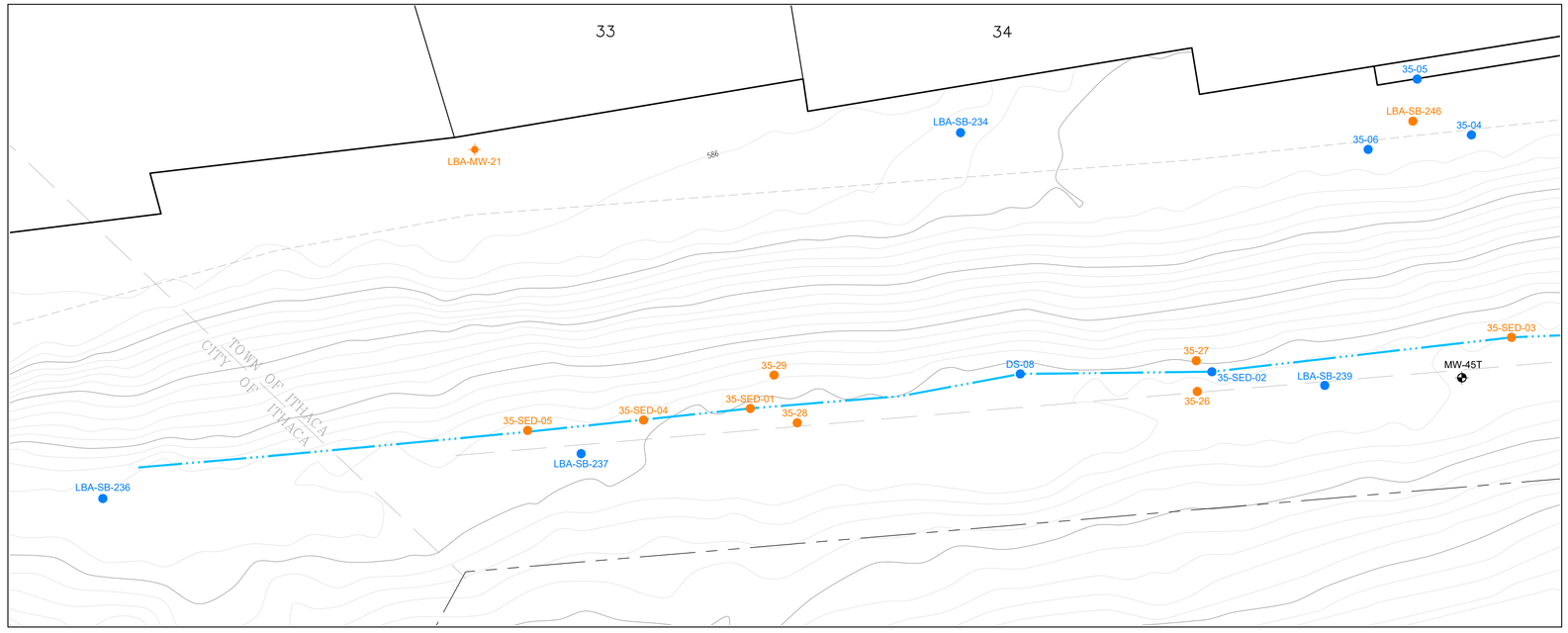
AOC 35I - WEST OF SOUTH CAYUGA STREET



KEY MAP



AOC 35J - FORMER RAILWAY RIGHT-OF-WAY/DS-8

LEGEND

- SOIL IRM DOCUMENTATION SAMPLE
- SOIL IRM CONFIRMATION SAMPLE
- SOIL IRM DELINEATION SAMPLE
- SOIL BORING
- TEST PIT
  - ORANGE INDICATES SAMPLE RESULTS >UR SCOs
  - BLUE INDICATES SAMPLE RESULTS <UR SCOs
  - GRAY INDICATES ABANDONED WELL
- SCOs SOIL CLEANUP OBJECTIVES
- UR UNRESTRICTED
- A/B HYDROGEOLOGIC ZONES
- B HYDROGEOLOGIC ZONE
- C HYDROGEOLOGIC ZONE
- 34 BUILDING NUMBER
- PROPERTY BOUNDARY
- WATER LINE
- INTERMITTENT STREAM OR DRAINAGE DITCH

20 10 0 20 40

SCALE, FEET

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

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AOCs 35I AND 35J REMAINING SOIL SAMPLE EXCEEDENCES

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PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

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HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 6–G

Drawing Number
314P1545.001–D139

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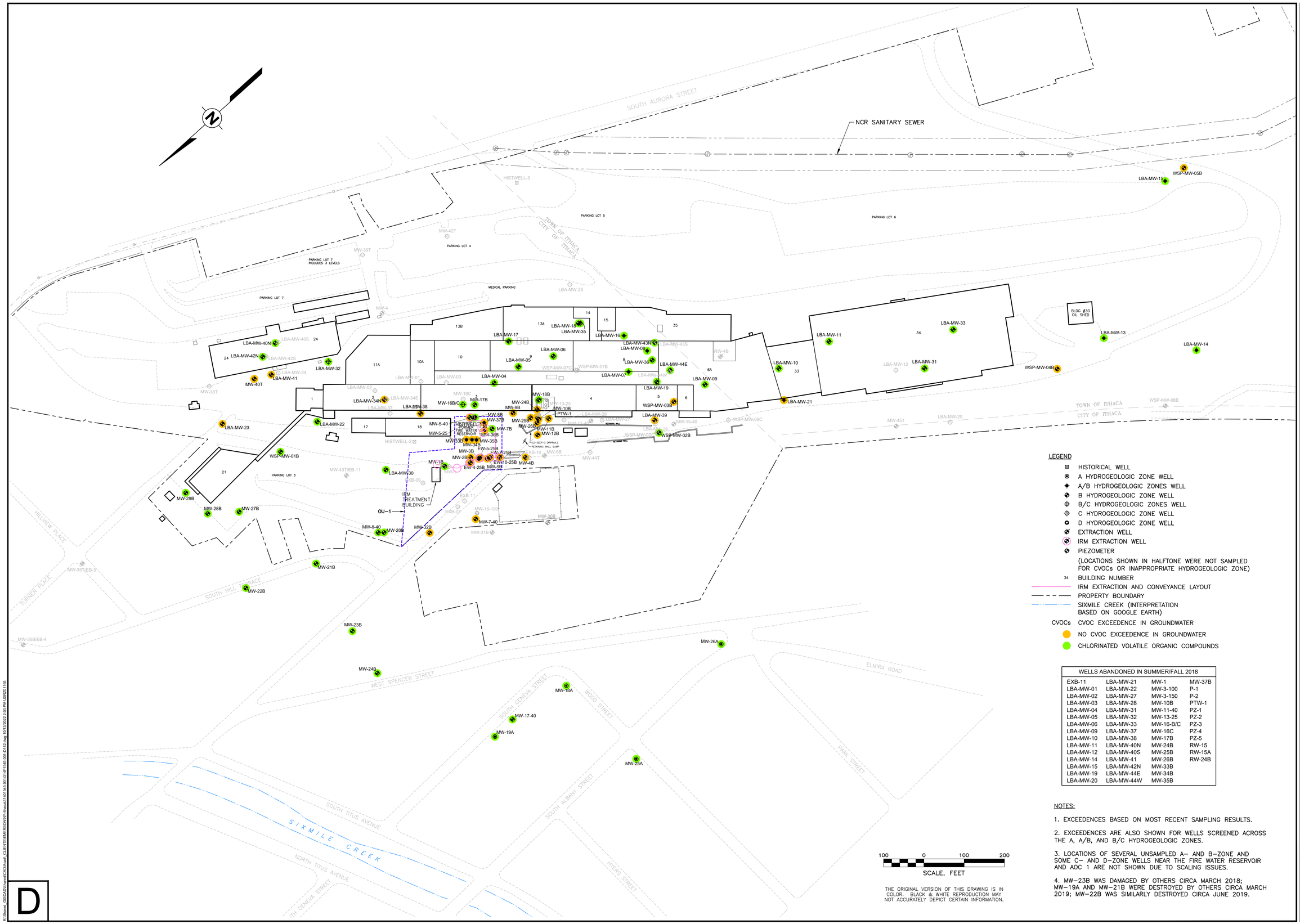

WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS.

2. EXCEEDENCES ARE ALSO SHOWN FOR WELLS SCREENED ACROSS THE A, A/B, AND B/C HYDROGEOLOGIC ZONES.

3. LOCATIONS OF SEVERAL UNSAMPLED A– AND B–ZONE AND SOME C– AND D–ZONE WELLS NEAR THE FIRE WATER RESERVOIR AND AOC 1 ARE NOT SHOWN DUE TO SCALING ISSUES.

4. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

D

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B ZONE CVOC EXCEEDENCES

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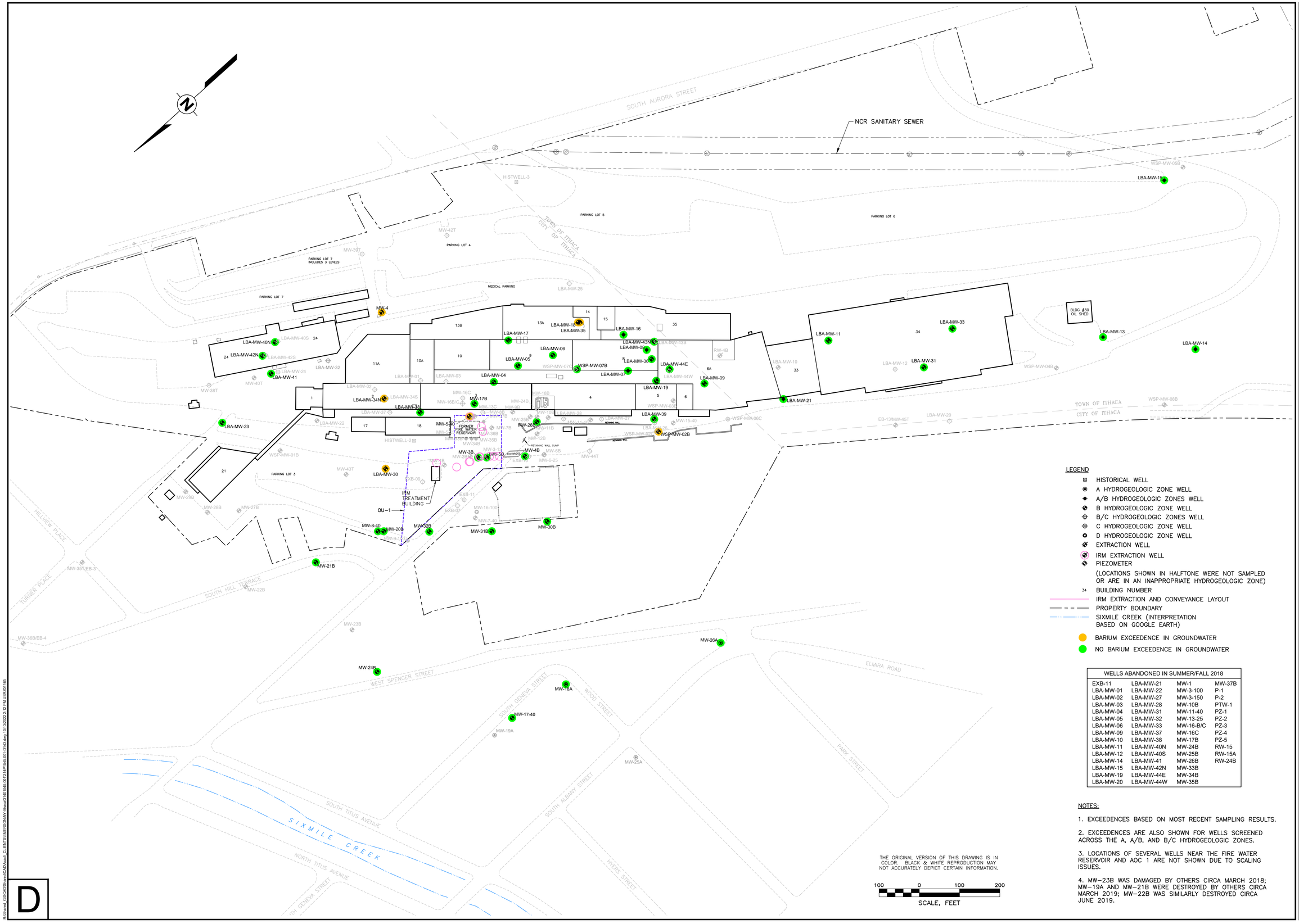
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 7–A

Drawing Number
314P1545.001–D142



WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS.

2. EXCEEDENCES ARE ALSO SHOWN FOR WELLS SCREENED ACROSS THE A, A/B, AND B/C HYDROGEOLOGIC ZONES.

3. LOCATIONS OF SEVERAL WELLS NEAR THE FIRE WATER RESERVOIR AND AOC 1 ARE NOT SHOWN DUE TO SCALING ISSUES.

4. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

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B ZONE BARIUM EXCEEDENCES

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FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 7–B

Drawing Number
314P1545.001–D143

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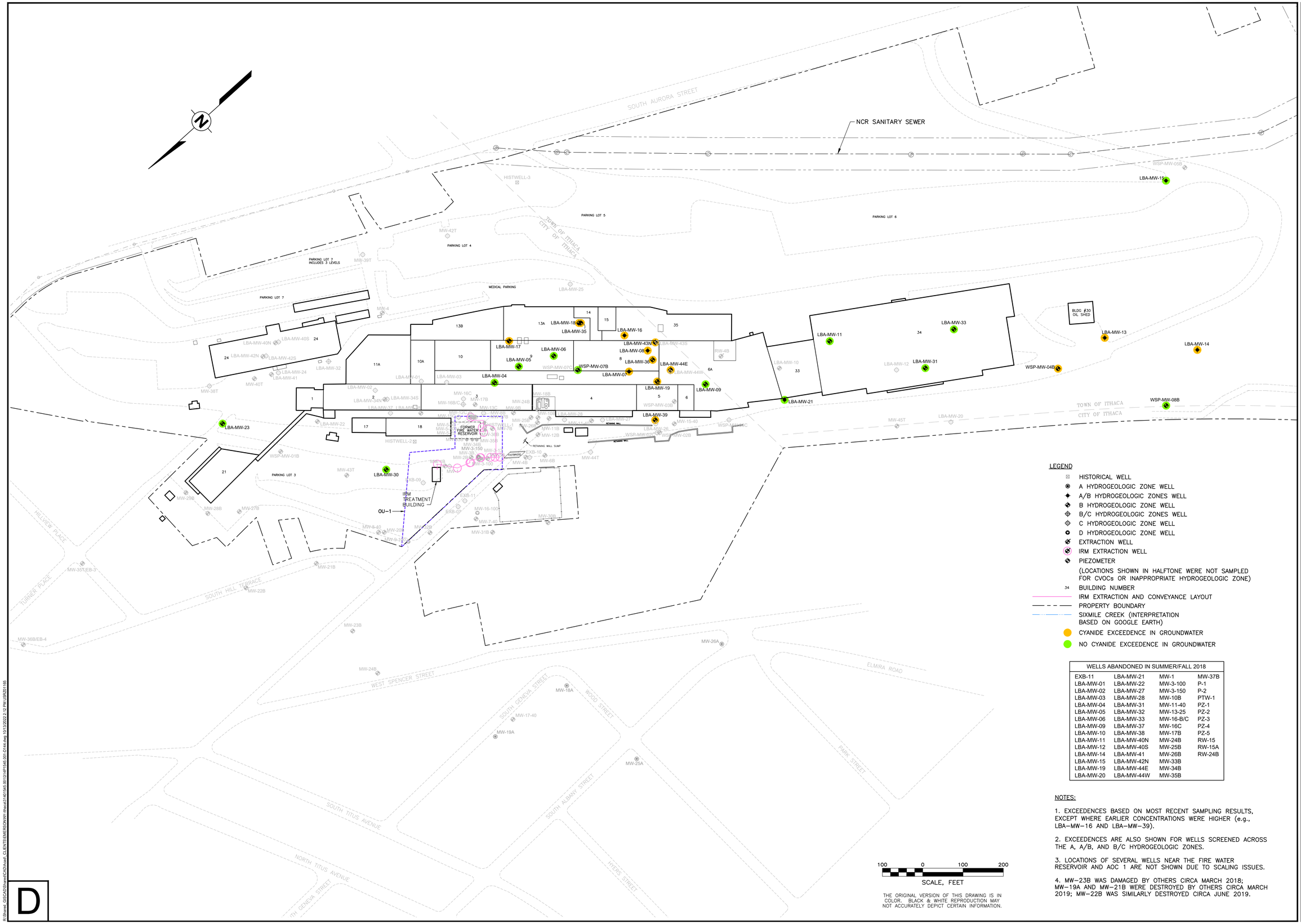

WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS, EXCEPT WHERE EARLIER CONCENTRATIONS WERE HIGHER (e.g., LBA–MW–16 AND LBA–MW–39).

2. EXCEEDENCES ARE ALSO SHOWN FOR WELLS SCREENED ACROSS THE A, A/B, AND B/C HYDROGEOLOGIC ZONES.

3. LOCATIONS OF SEVERAL WELLS NEAR THE FIRE WATER RESERVOIR AND AOC 1 ARE NOT SHOWN DUE TO SCALING ISSUES.

4. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

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B ZONE CYANIDE EXCEEDENCES

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ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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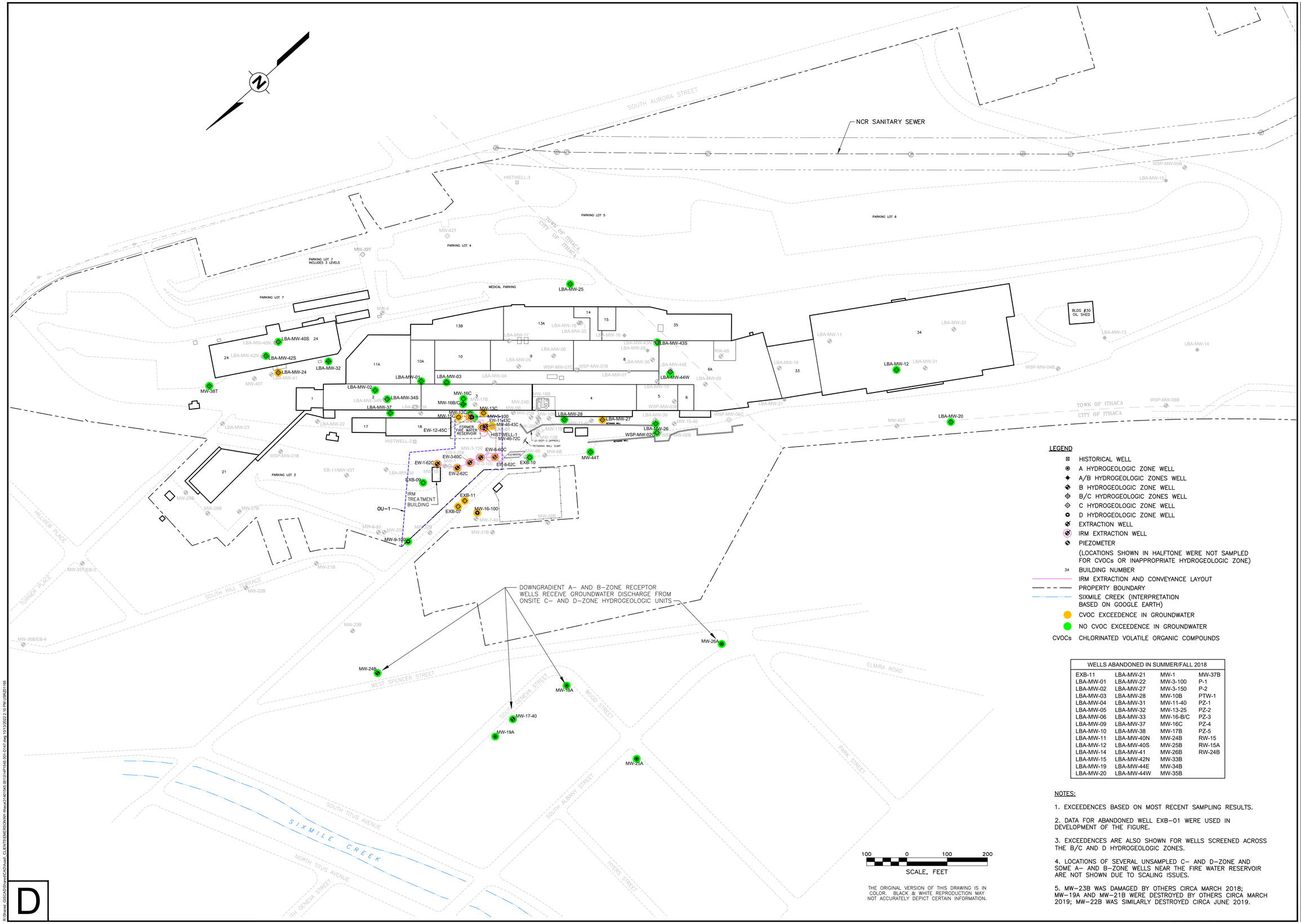
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 7–C

Drawing Number
314P1545.001–D144



THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

LEGEND

- HISTORICAL WELL
- A HYDROGEOLOGIC ZONE WELL
- A/B HYDROGEOLOGIC ZONES WELL
- B HYDROGEOLOGIC ZONE WELL
- B/C HYDROGEOLOGIC ZONES WELL
- C HYDROGEOLOGIC ZONE WELL
- D HYDROGEOLOGIC ZONE WELL
- EXTRACTION WELL
- IRM EXTRACTION WELL
- PIEZOMETER
  (LOCATIONS SHOWN IN HALFTONE WERE NOT SAMPLED FOR CVOCs OR INAPPROPRIATE HYDROGEOLOGIC ZONE)
- 34 BUILDING NUMBER
- IRM EXTRACTION AND CONVEYANCE LAYOUT
- PROPERTY BOUNDARY
- SIXMILE CREEK (INTERPRETATION BASED ON GOOGLE EARTH)
- CVOC EXCEEDENCE IN GROUNDWATER
- NO CVOC EXCEEDENCE IN GROUNDWATER
- CVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS

WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS.

2. DATA FOR ABANDONED WELL EXB–01 WERE USED IN DEVELOPMENT OF THE FIGURE.

3. EXCEEDENCES ARE ALSO SHOWN FOR WELLS SCREENED ACROSS THE B/C AND D HYDROGEOLOGIC ZONES.

4. LOCATIONS OF SEVERAL UNSAMPLED C– AND D–ZONE AND SOME A– AND B–ZONE WELLS NEAR THE FIRE WATER RESERVOIR ARE NOT SHOWN DUE TO SCALING ISSUES.

5. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

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C AND D ZONE CVOC EXCEEDENCES

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ITHACA, NEW YORK

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EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 7–D

Drawing Number
314P1545.001–D147

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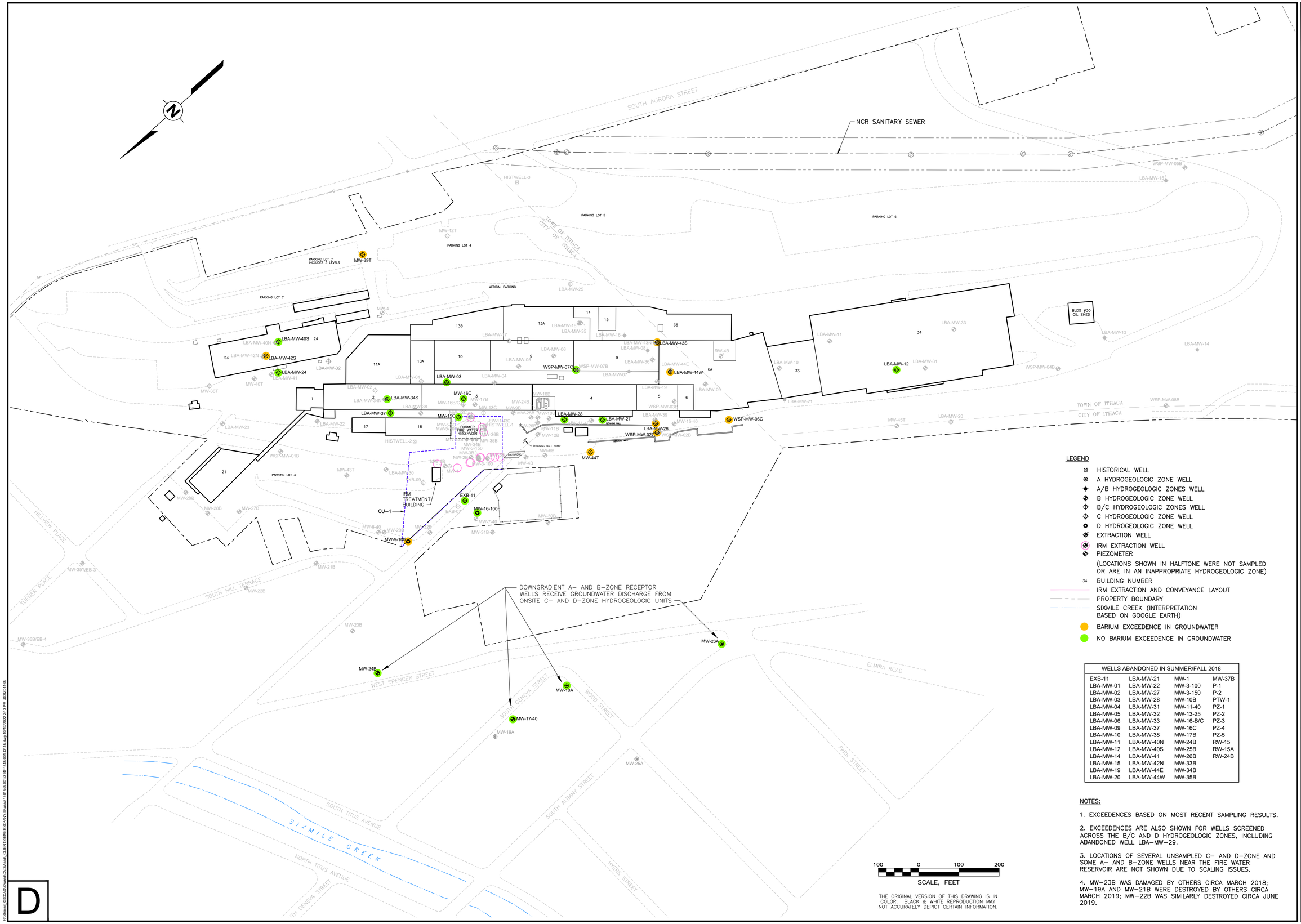

WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS.

2. EXCEEDENCES ARE ALSO SHOWN FOR WELLS SCREENED ACROSS THE B/C AND D HYDROGEOLOGIC ZONES, INCLUDING ABANDONED WELL LBA–MW–29.

3. LOCATIONS OF SEVERAL UNSAMPLED C– AND D–ZONE AND SOME A– AND B–ZONE WELLS NEAR THE FIRE WATER RESERVOIR ARE NOT SHOWN DUE TO SCALING ISSUES.

4. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

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C AND D ZONE BARIUM EXCEEDENCES

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ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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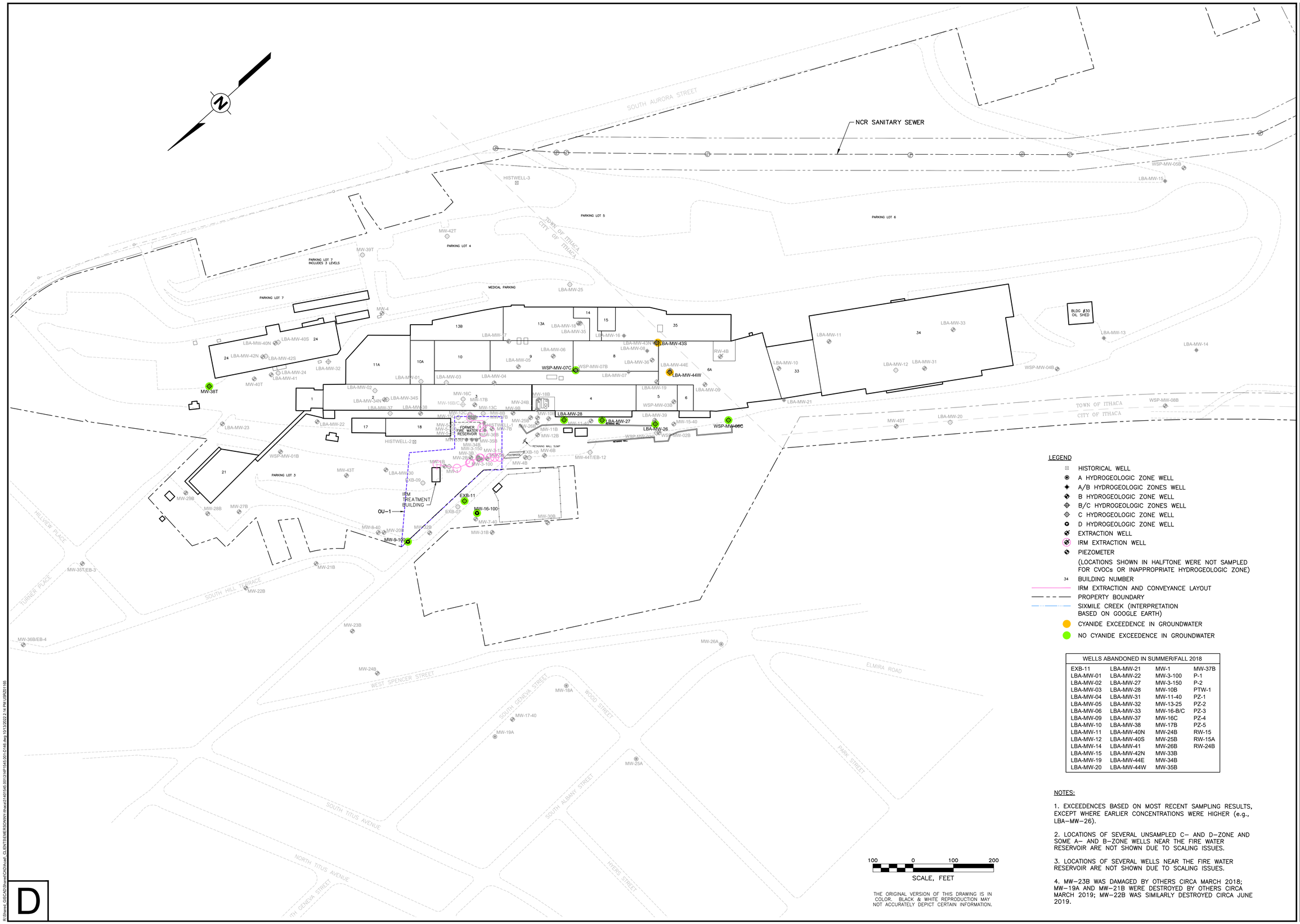
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 7–E

Drawing Number
314P1545.001–D145



LEGEND

- HISTORICAL WELL
- A HYDROGEOLOGIC ZONE WELL
- A/B HYDROGEOLOGIC ZONES WELL
- B HYDROGEOLOGIC ZONE WELL
- B/C HYDROGEOLOGIC ZONES WELL
- C HYDROGEOLOGIC ZONE WELL
- D HYDROGEOLOGIC ZONE WELL
- EXTRACTION WELL
- IRM EXTRACTION WELL
- PIEZOMETER
- (LOCATIONS SHOWN IN HALFTONE WERE NOT SAMPLED FOR CVOCs OR INAPPROPRIATE HYDROGEOLOGIC ZONE)
- 34 BUILDING NUMBER
- IRM EXTRACTION AND CONVEYANCE LAYOUT
- PROPERTY BOUNDARY
- SIXMILE CREEK (INTERPRETATION BASED ON GOOGLE EARTH)
- CYANIDE EXCEEDENCE IN GROUNDWATER
- NO CYANIDE EXCEEDENCE IN GROUNDWATER

WELLS ABANDONED IN SUMMER/FALL 2018

EXB-11	LBA-MW-21	MW-1	MW-37B
LBA-MW-01	LBA-MW-22	MW-3-100	P-1
LBA-MW-02	LBA-MW-27	MW-3-150	P-2
LBA-MW-03	LBA-MW-28	MW-10B	PTW-1
LBA-MW-04	LBA-MW-31	MW-11-40	PZ-1
LBA-MW-05	LBA-MW-32	MW-13-25	PZ-2
LBA-MW-06	LBA-MW-33	MW-16-B/C	PZ-3
LBA-MW-09	LBA-MW-37	MW-16C	PZ-4
LBA-MW-10	LBA-MW-38	MW-17B	PZ-5
LBA-MW-11	LBA-MW-40N	MW-24B	RW-15
LBA-MW-12	LBA-MW-40S	MW-25B	RW-15A
LBA-MW-14	LBA-MW-41	MW-26B	RW-24B
LBA-MW-15	LBA-MW-42N	MW-33B	
LBA-MW-19	LBA-MW-44E	MW-34B	
LBA-MW-20	LBA-MW-44W	MW-35B	

NOTES:

1. EXCEEDENCES BASED ON MOST RECENT SAMPLING RESULTS, EXCEPT WHERE EARLIER CONCENTRATIONS WERE HIGHER (e.g., LBA–MW–26).

2. LOCATIONS OF SEVERAL UNSAMPLED C– AND D–ZONE AND SOME A– AND B–ZONE WELLS NEAR THE FIRE WATER RESERVOIR ARE NOT SHOWN DUE TO SCALING ISSUES.

3. LOCATIONS OF SEVERAL WELLS NEAR THE FIRE WATER RESERVOIR ARE NOT SHOWN DUE TO SCALING ISSUES.

4. MW–23B WAS DAMAGED BY OTHERS CIRCA MARCH 2018; MW–19A AND MW–21B WERE DESTROYED BY OTHERS CIRCA MARCH 2019; MW–22B WAS SIMILARLY DESTROYED CIRCA JUNE 2019.

100 0 100 200

SCALE, FEET

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C AND D ZONE CYANIDE EXCEEDENCES

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FIGURE 7–F

Drawing Number
314P1545.001–D146

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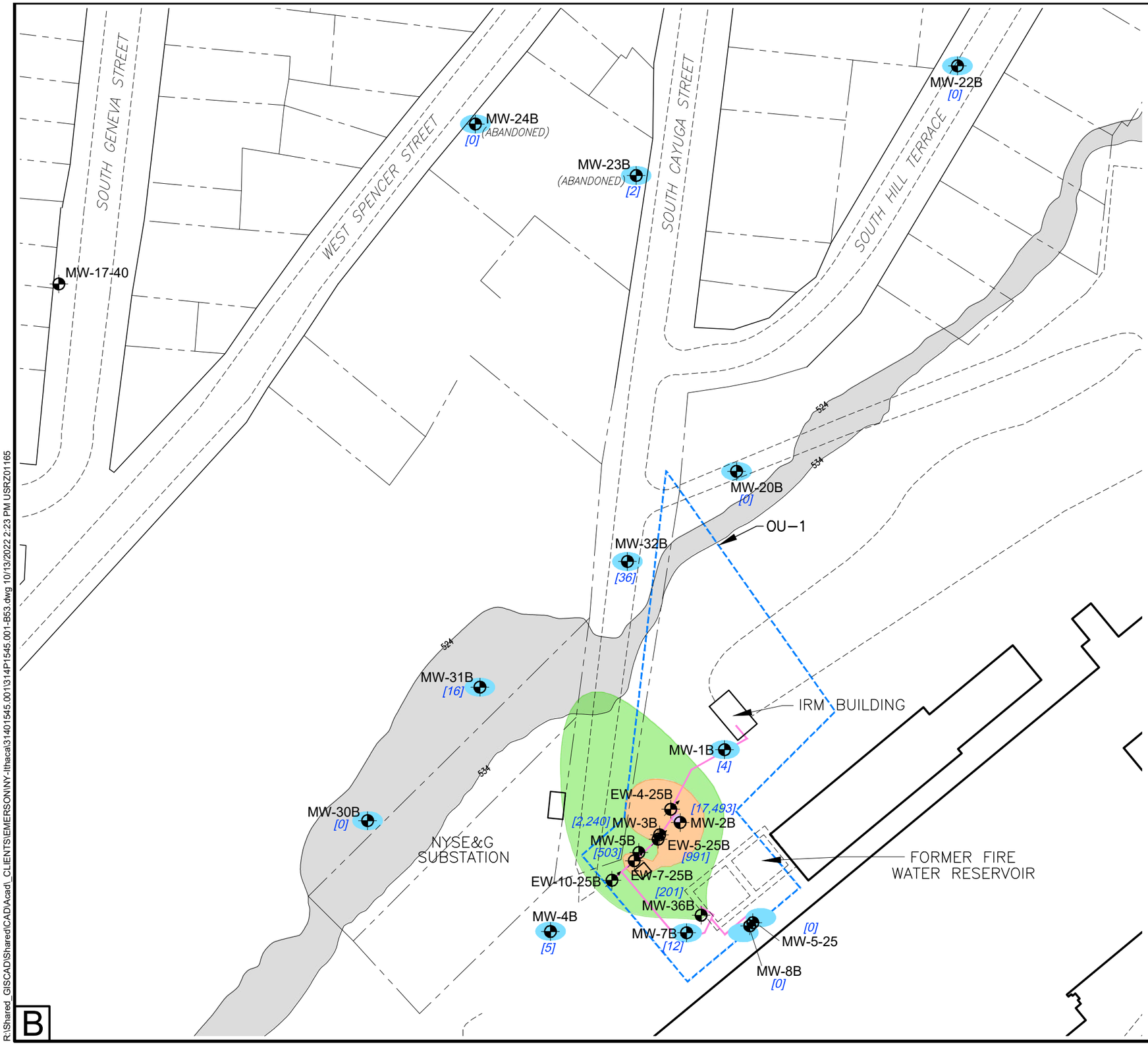

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FIGURE 7–G

DISTRIBUTION OF cVOCs IN B HYDROGEOLOGIC ZONE (FIRE WATER RESERVOIR AREA)

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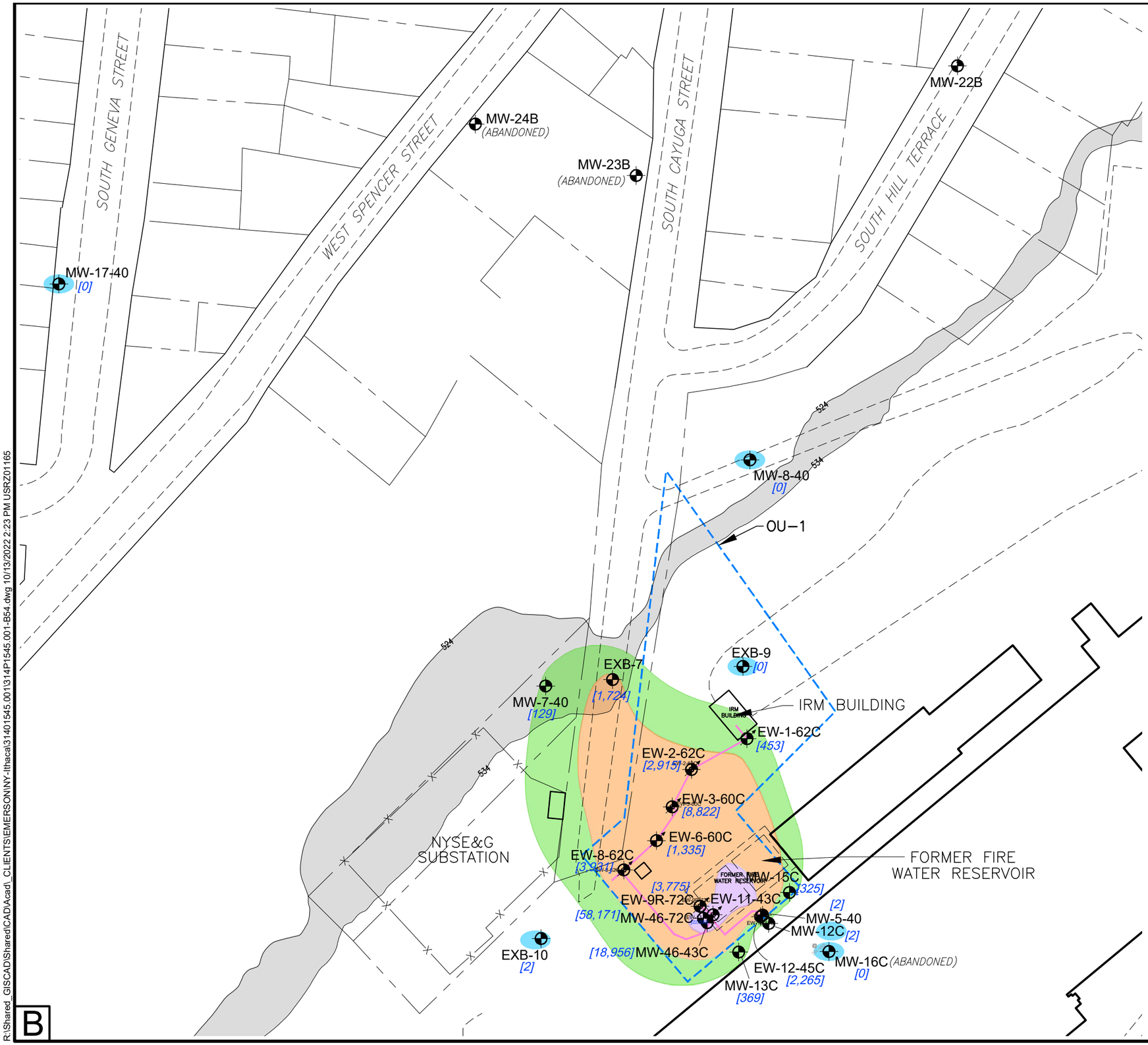

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- [16] TOTAL cVOCs
- TOTAL cVOCs <100
- IRM EXTRACTION AND CONVEYANCE LAYOUT
- PROPERTY BOUNDARY
- EDGE OF PAVEMENT
- C–ZONE TO B–ZONE DISCHARGE ZONE

TOTAL cVOCs:

- 100 to 1,000
- >1,000 to 10,000
- >10,000

cVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS – REPORTED AS MICROGRAMS PER LITER (μg/l)

0 40 80 160
SCALE, FEET

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FIGURE 7–H

DISTRIBUTION OF cVOCs IN
C HYDROGEOLOGIC ZONE
(FIRE WATER RESERVOIR AREA)

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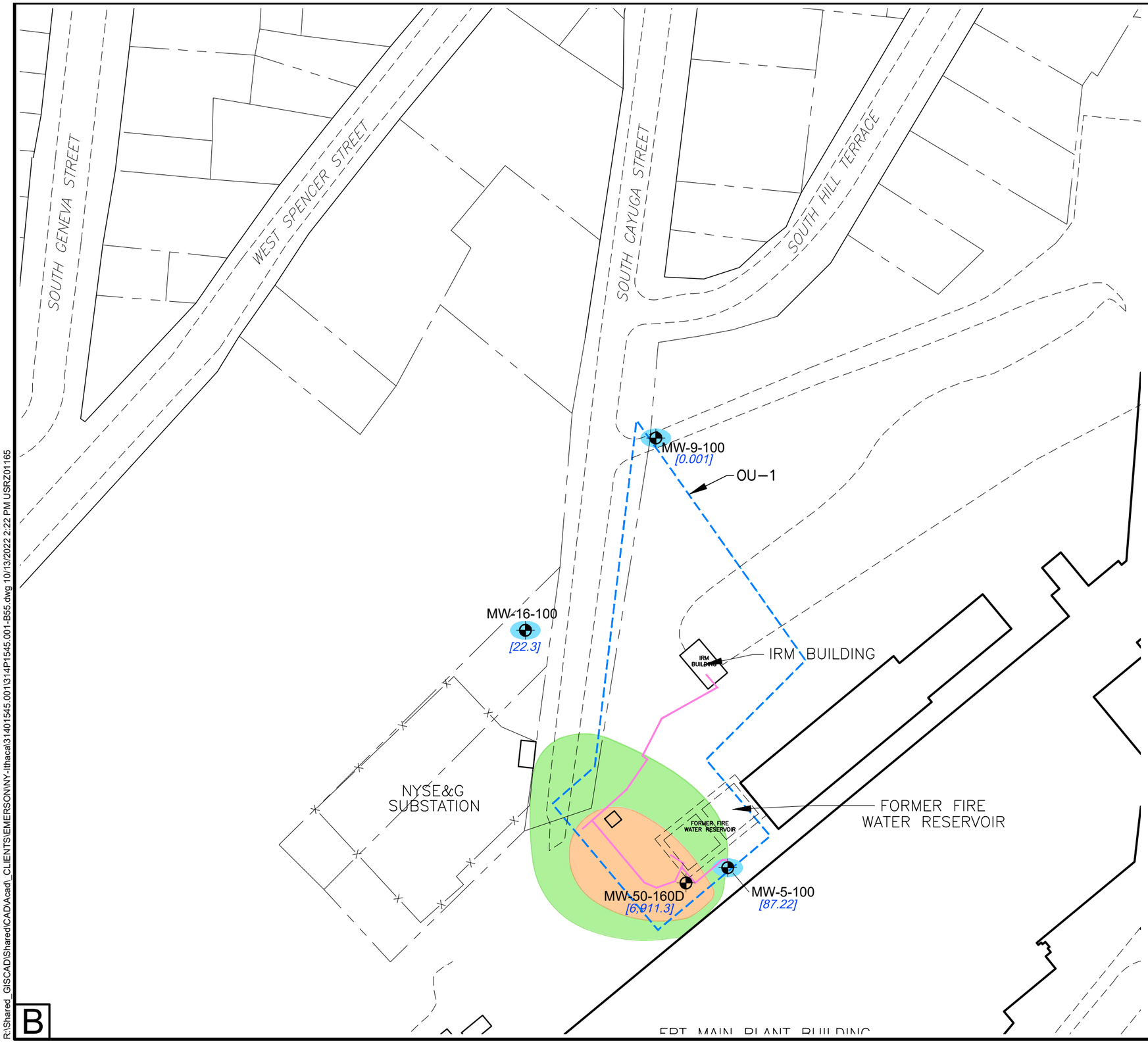

LEGEND

- MONITORING WELL
- EXTRACTION WELL
- [16] TOTAL cVOCs
- TOTAL cVOCs <100
- IRM EXTRACTION AND CONVEYANCE LAYOUT
- PROPERTY BOUNDARY
- EDGE OF PAVEMENT

TOTAL cVOCs:

- 100 to 1,000
- >1,000 to 10,000
- >10,000

cVOCs CHLORINATED VOLATILE ORGANIC COMPOUNDS – REPORTED AS MICROGRAMS PER LITER (μg/l)

0 40 80 160
SCALE, FEET

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FIGURE 7-I

DISTRIBUTION OF cVOCs IN D HYDROGEOLOGIC ZONE (FIRE WATER RESERVOIR AREA)

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PITTSBURGH, PA 15222
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B

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NYSDOH
SOIL VAPOR / INDOOR AIR MATRICES
MAY 2017

MATRIX A: Trichloroethene (TCE), cis-1,2-Dichloroethene (cis-1,2-DCE), 1,1-Dichloroethene (1,1-DCE) Carbon Tetrachloride (CT)

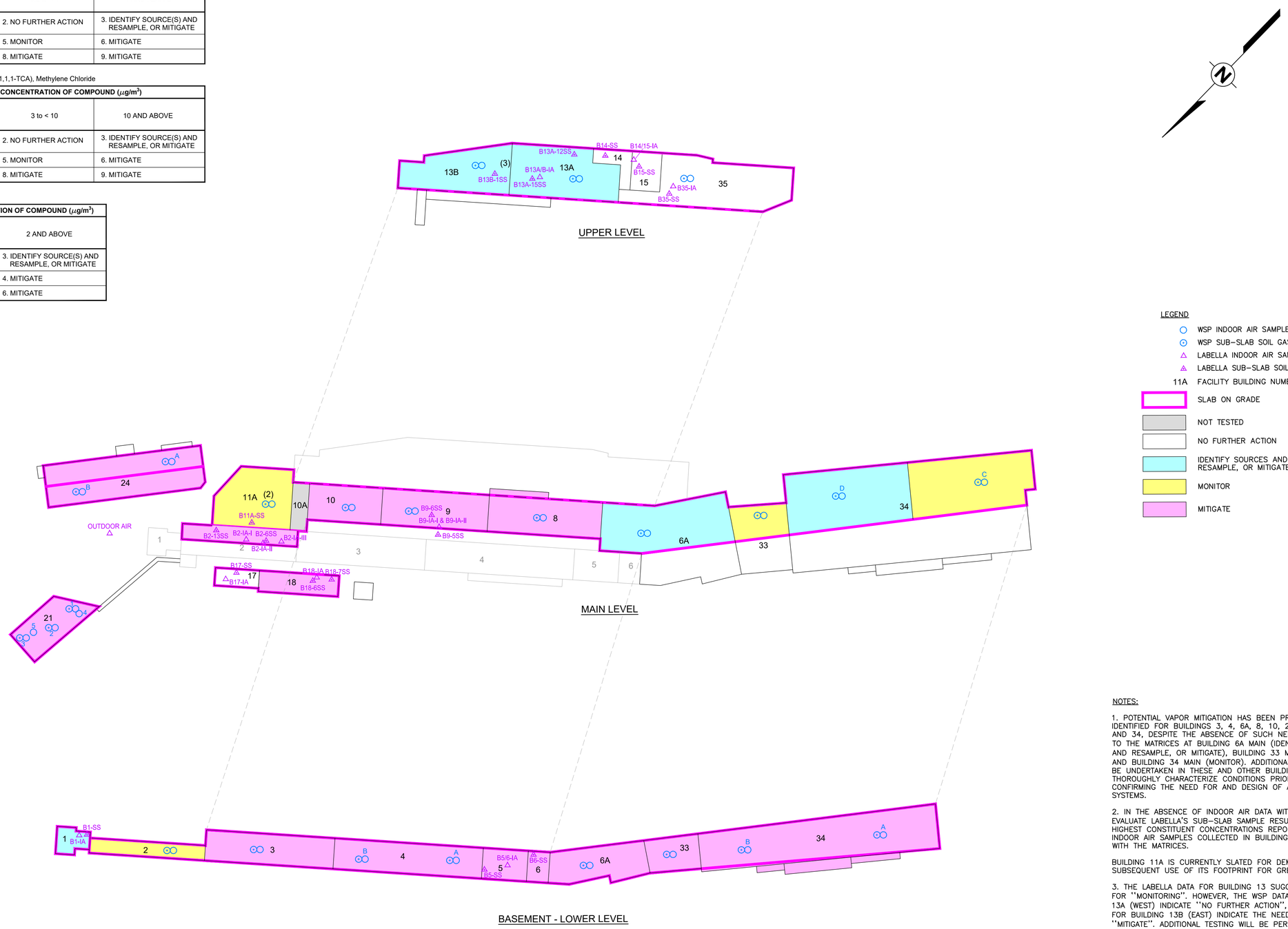
	INDOOR AIR CONCENTRATION OF COMPOUND ($\mu g/m^3$)		
SUB-SOIL VAPOR CONCENTRATION OF COMPOUND (mcg/m^3)	< 0.2	0.2 to < 1	1 AND ABOVE
< 6	1. NO FURTHER ACTION	2. NO FURTHER ACTION	3. IDENTIFY SOURCE(S) AND RESAMPLE, OR MITIGATE
6 to < 60	4. NO FURTHER ACTION	5. MONITOR	6. MITIGATE
60 AND ABOVE	7. MITIGATE	8. MITIGATE	9. MITIGATE

MATRIX B: Tetrachloroethene (PCE), 1,1,1-Trichloroethane (1,1,1-TCA), Methylene Chloride

	INDOOR AIR CONCENTRATION OF COMPOUND ($\mu g/m^3$)		
SUB-SOIL VAPOR CONCENTRATION OF COMPOUND (mcg/m^3)	< 3	3 to < 10	10 AND ABOVE
< 100	1. NO FURTHER ACTION	2. NO FURTHER ACTION	3. IDENTIFY SOURCE(S) AND RESAMPLE, OR MITIGATE
100 to < 1,000	4. NO FURTHER ACTION	5. MONITOR	6. MITIGATE
1,000 AND ABOVE	7. MITIGATE	8. MITIGATE	9. MITIGATE

MATRIX C: Vinyl Chloride

	INDOOR AIR CONCENTRATION OF COMPOUND ($\mu g/m^3$)	
SUB-SOIL VAPOR CONCENTRATION OF COMPOUND (mcg/m^3)	< 0.2	2 AND ABOVE
< 6	1. NO FURTHER ACTION	3. IDENTIFY SOURCE(S) AND RESAMPLE, OR MITIGATE
6 to < 60	4. MONITOR	4. MITIGATE
60 AND ABOVE	5. MITIGATE	6. MITIGATE



LEGEND

- WSP INDOOR AIR SAMPLE
- WSP SUB–SLAB SOIL GAS SAMPLE
- LABELLA INDOOR AIR SAMPLE
- LABELLA SUB–SLAB SOIL GAS SAMPLE
- 11A FACILITY BUILDING NUMBER
- SLAB ON GRADE
- NOT TESTED
- NO FURTHER ACTION
- IDENTIFY SOURCES AND RESAMPLE, OR MITIGATE
- MONITOR
- MITIGATE

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

NOTES:

1. POTENTIAL VAPOR MITIGATION HAS BEEN PRELIMINARILY IDENTIFIED FOR BUILDINGS 3, 4, 6A, 8, 10, 21, 24, 33, AND 34, DESPITE THE ABSENCE OF SUCH NEED PURSUANT TO THE MATRICES AT BUILDING 6A MAIN (IDENTIFY SOURCES AND RESAMPLE, OR MITIGATE), BUILDING 33 MAIN (MONITOR), AND BUILDING 34 MAIN (MONITOR). ADDITIONAL TESTING WILL BE UNDERTAKEN IN THESE AND OTHER BUILDINGS TO MORE THOROUGHLY CHARACTERIZE CONDITIONS PRIOR TO CONFIRMING THE NEED FOR AND DESIGN OF ANY MITIGATION SYSTEMS.

2. IN THE ABSENCE OF INDOOR AIR DATA WITH WHICH TO EVALUATE LABELLA'S SUB–SLAB SAMPLE RESULTS, THE HIGHEST CONSTITUENT CONCENTRATIONS REPORTED FOR INDOOR AIR SAMPLES COLLECTED IN BUILDING 2 WERE USED WITH THE MATRICES.

BUILDING 11A IS CURRENTLY SLATED FOR DEMOLITION AND SUBSEQUENT USE OF ITS FOOTPRINT FOR GREEN SPACE.

3. THE LABELLA DATA FOR BUILDING 13 SUGGEST THE NEED FOR "MONITORING". HOWEVER, THE WSP DATA FOR BUILDING 13A (WEST) INDICATE "NO FURTHER ACTION", WHILE DATA FOR BUILDING 13B (EAST) INDICATE THE NEED TO "MITIGATE". ADDITIONAL TESTING WILL BE PERFORMED IN THESE AREAS TO DETERMINE THE APPROPRIATE ACTION.

4. THE INDOOR AIR DATA FOR SAMPLES COLLECTED FROM LOCATIONS 4 AND 5 WERE USED IN CONJUNCTION WITH SUB–SLAB VAPOR DATA FOR LOCATIONS 1 AND 3.

DATA FOR INDOOR AIR SAMPLES COLLECTED FROM THE FIRST FLOOR ARE NOT PRESENTED BECAUSE THERE IS A BASEMENT ACROSS THE ENTIRE FOOTPRINT OF THE BUILDING.

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INDOOR AIR AND SUB–SLAB EXCEEDENCES

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PREPARED FOR
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FIGURE 8

Drawing Number
314P1545.001–D152

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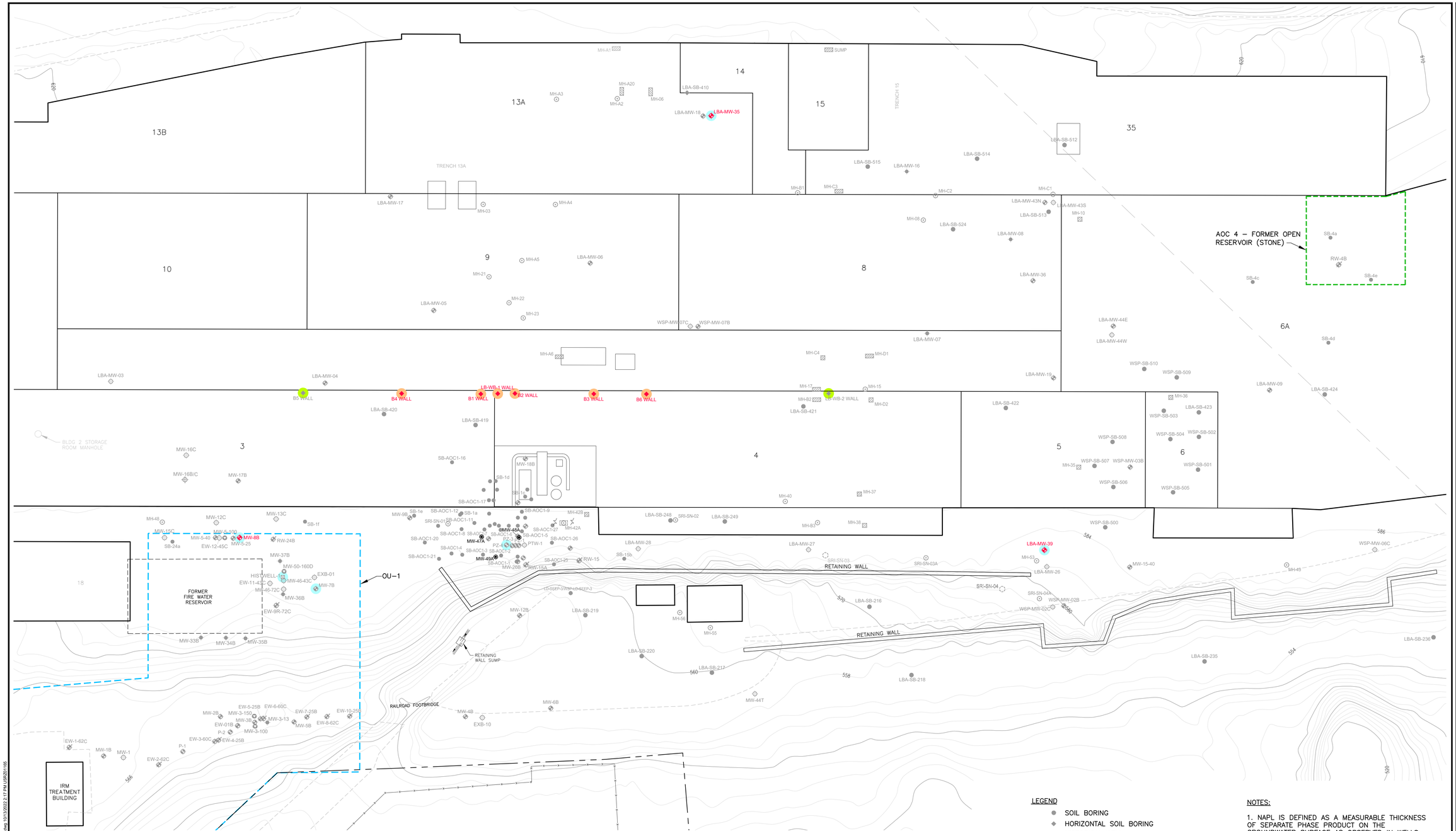

WELLS ABANDONED IN SUMMER/FALL 2018			
EXB-11	LBA-MW-21	MW-1	MW-34B
LBA-MW-01	LBA-MW-22	MW-3-13	MW-35B
LBA-MW-02	LBA-MW-27	MW-3-100	MW-37B
LBA-MW-03	LBA-MW-28	MW-3-150	P-1
LBA-MW-04	LBA-MW-31	MW-10B	P-2
LBA-MW-05	LBA-MW-32	MW-11-40	PTW-1
LBA-MW-06	LBA-MW-33	MW-13-25	PZ-1
LBA-MW-09	LBA-MW-37	MW-16-B/C	PZ-2
LBA-MW-10	LBA-MW-38	MW-16C	PZ-3
LBA-MW-11	LBA-MW-40N	MW-17B	PZ-4
LBA-MW-12	LBA-MW-40S	MW-24B	PZ-5
LBA-MW-14	LBA-MW-41	MW-25B	RW-15
LBA-MW-15	LBA-MW-42N	MW-26B	RW-15A
LBA-MW-19	LBA-MW-44E	MW-33B	RW-24B
LBA-MW-20	LBA-MW-44W		

LEGEND

- SOIL BORING
- HORIZONTAL SOIL BORING
- HISTORICAL WELL
- A HYDROGEOLOGIC ZONE WELL (2019)
- A HYDROGEOLOGIC ZONE WELL
- A/B HYDROGEOLOGIC ZONES WELL
- B HYDROGEOLOGIC ZONE WELL
- B/C HYDROGEOLOGIC ZONES WELL
- C HYDROGEOLOGIC ZONE WELL
- D HYDROGEOLOGIC ZONE WELL
- EXTRACTION WELL
- PIEZOMETER
- 34 BUILDING NUMBER
- PROPERTY BOUNDARY
- WATER ENCOUNTERED
- OIL AND WATER ENCOUNTERED
- WELL OR PIEZOMETER WHERE MEASURABLE NAPL WAS ENCOUNTERED
- LOCATION WHERE NAPL WAS OBSERVED

NOTES:

1. NAPL IS DEFINED AS A MEASURABLE THICKNESS OF SEPARATE PHASE PRODUCT ON THE GROUNDWATER SURFACE AS OBSERVED IN WELLS OR PIEZOMETERS.

2. LOCATIONS OF SEVERAL WELLS IN THE FIRE WATER RESERVOIR ARE NOT SHOWN DUE TO SCALING ISSUES.

3. NAPL CONTINUES TO BE PERIODICALLY RECOVERED AT MW–8B, LBA–MW–35, LBA–MW–39, AND HISTWELL–1. NAPL NO LONGER ACCUMULATES IN MW–7B.

4. PZ–4 WAS ABANDONED PRIOR TO IMPLEMENTING THE SOIIL IRM. FOLLOWING COMPLETION OF THE SOIL IRM IN AOC 1, WELLS MW–47A, MW–48A, AND MW–49A WERE INSTALLED TO MONITOR FOR THE POTENTIAL PRESENCE OF NAPL.

25 0 25 50
SCALE, FEET

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OBSERVATIONS OF NAPL

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FIGURE 9

Drawing Number
314P1545.001–D198

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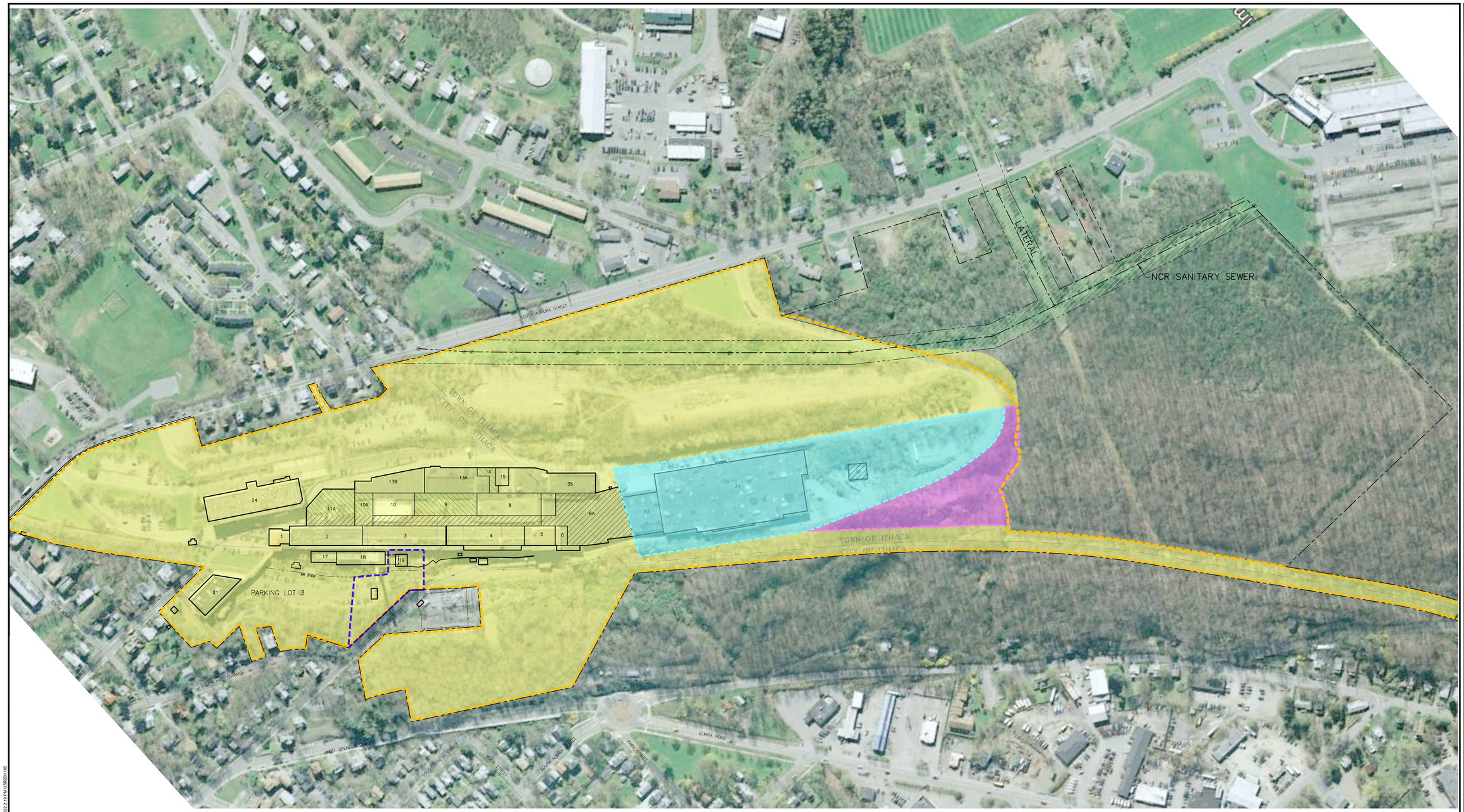

LEGEND

34	BUILDING NUMBER
	EASEMENT FOR NCR SEWER
	SANITARY SEWER
	PROPERTY BOUNDARY
	BOUNDARY FOR OU–1 (RETAINED PROPERTY)
	BOUNDARY FOR OU–2

LEGEND

	AREA WHERE RESTRICTED RESIDENTIAL USE SOCs ARE APPLIED
	AREA WHERE COMMERCIAL USE SCOs ARE APPLIED
	AREA WHERE INDUSTRIAL USE SCOs ARE APPLIED
	PROPOSED DEMOLITION AREA FOR GREEN SPACE
	PROPOSED DEMOLITION AREA FOR ROADWAY/PARKING

N

150 0 150 300

SCALE, FEET

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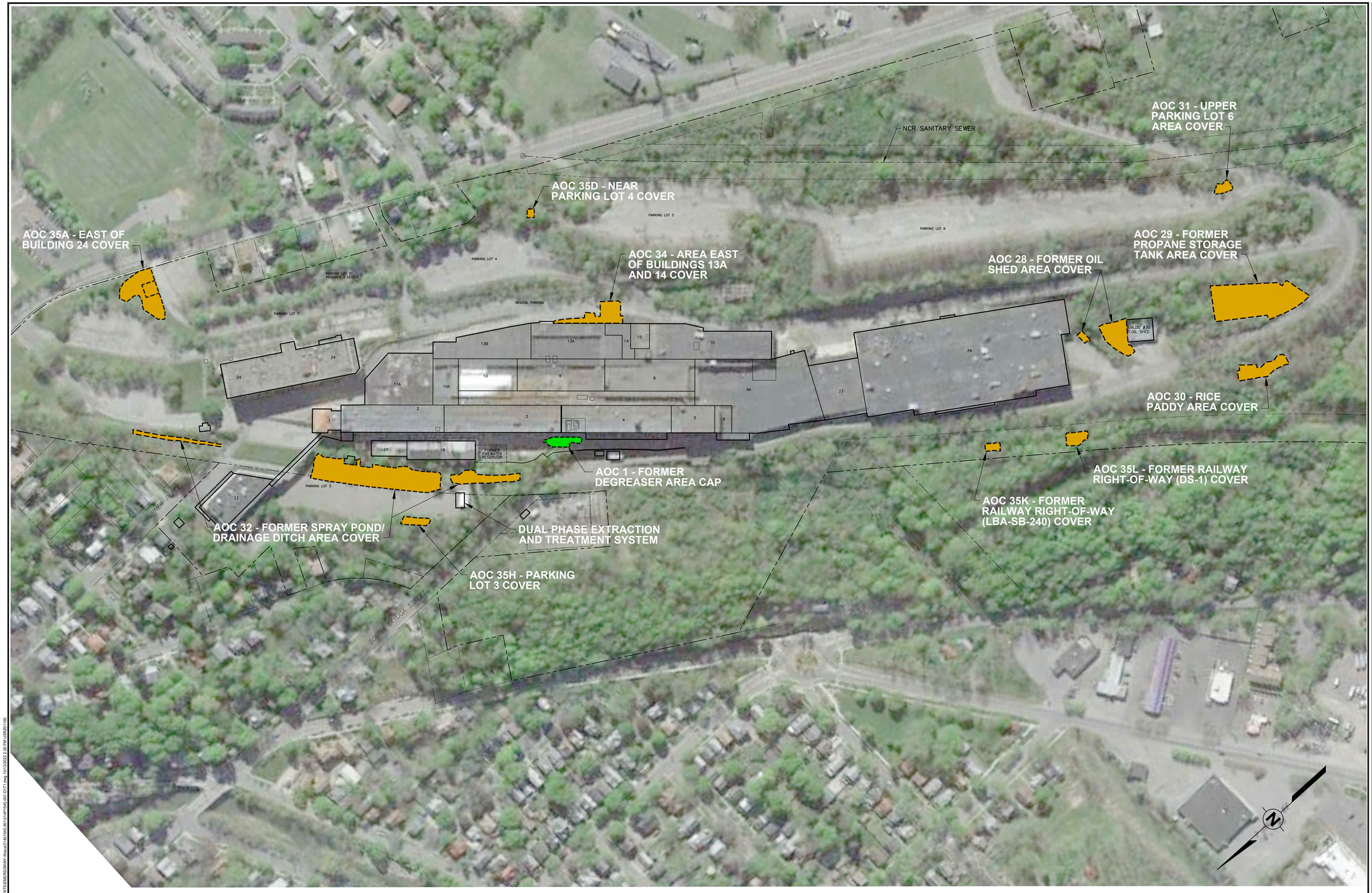
WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 10

Drawing Number
314P1545.001–D154



NOTES:

1. GOOGLE EARTH AERIAL PHOTOGRAPH, IMAGERY DATE 5/5/2013.

2. AERIAL PHOTOGRAPHS USED FOR THIS ILLUSTRATION CONTAIN INHERENT DISTORTIONS RESULTING FROM THE PHOTOGRAPHIC PROCESS THAT MAY RESULT IN SLIGHT MISALIGNMENTS WITH THE SURVEYED SITE FEATURES.

3. THE COVER SYSTEM IS COMPRISED OF IMPORTED BACKFILL (NYSDOT ITEM 4 GRAVEL) AND 6 INCHES OF IMPORTED TOPSOIL TO THE ORIGINAL GROUND SURFACE; AOC 29 WHICH DID NOT RECEIVE TOPSOIL BASED ON PLANS FOR REDEVELOPMENT. EXISTING CONCRETE AND ASPHALT ROADWAYS SERVE AS COVER SYSTEMS ABOVE REMAINING CONTAMINATION IN SEVERAL AREAS.

LEGEND

- 34 BUILDING NUMBER
- PROPERTY BOUNDARY
- APPROXIMATE LIMITS OF SOIL MANAGEMENT WITHIN AOC
- COVER SYSTEM
- GEOSYNTHETIC CLAY LINER/ASPHALT CAP

100 0 100 200
SCALE, FEET

THE ORIGINAL VERSION OF THIS DRAWING IS IN COLOR. BLACK & WHITE REPRODUCTION MAY NOT ACCURATELY DEPICT CERTAIN INFORMATION.

D

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REVISIONS

REV	DESCRIPTION
1	Revised: Chkd: Appr.:
2	Revised: Chkd: Appr.:
3	Revised: Chkd: Appr.:

SEAL

DATE

DRAWN BY: RM 09/22/2022
CHECKED: SKA 10/05/2022
APPROVED: SKA 10/06/2022

PROPERTY OF WSP USA INC.
IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS AND SUPPLIERS WITHOUT THE WRITTEN CONSENT OF WSP USA INC.
NOTICE: THIS DRAWING HAS BEEN PREPARED UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. IT IS A VIOLATION OF STATE LAW FOR ANY PERSONS, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT IN ANY WAY.

ENGINEERING CONTROLS

SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
11 STANWIX STREET, SUITE 950
PITTSBURGH, PA 15222
TEL: +1 412.604.1040

FIGURE 11

Drawing Number
314P1545.001–D171

APPENDIX

A ENVIRONMENTAL EASEMENT

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 11th day of October, 2022 between Owner, Emersub 15 LLC, having an office at c/o Emerson Electric Co., 800 West Florissant Avenue, St. Louis, County of St. Louis, State of Missouri (the "Grantor"), and The People of the State of New York (the "Grantee"), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 620-640 Aurora Street South in the Town of Ithaca, County of Tompkins and State of New York, known and designated on the tax map of the County Clerk of Tompkins as tax map parcel number: Section 106 Block 1 Lot 8.2, being a portion of the property conveyed to Grantor by deed dated December 2, 2014 and recorded in the Tompkins County Clerk's Office in Instrument No. 2014-14695.

WHEREAS, Grantor, is the owner of real property located at the address of V/L South Aurora Street in the Town of Ithaca, County of Tompkins and State of New York, known and designated on the tax map of the County Clerk of Tompkins as tax map parcel number: Section 106 Block 1 Lot 8.1, being a portion of the property conveyed to Grantor by deed dated December 2, 2014 and recorded in the Tompkins County Clerk's Office in Instrument No. 2014-14695.

WHEREAS, Grantor, is the owner of real property located at the address of 810 Danbury Road in the City of Ithaca, County of Tompkins and State of New York, known and designated on

the tax map of the County Clerk of Tompkins as tax map parcel number: Section 40 Block 3 Lot 3, being a portion of the property conveyed to Grantor by deed dated December 2, 2014 and recorded in the Tompkins County Clerk's Office in Instrument No. 2014-14695.

WHEREAS, Grantor, is the owner of real property located at the address of Portion of Stone Quarry Road in the City of Ithaca, County of Tompkins and State of New York, known and designated on the tax map of the County Clerk of Tompkins as tax map parcel number: Section 40 Block 3 Lot 14.2, being a portion of the property conveyed to Grantor by deed dated December 2, 2014 and recorded in the Tompkins County Clerk's Office in Instrument No. 2014-14695.

WHEREAS, the property subject to this Environmental Easement (the "Controlled Property") comprises approximately 61.54 +/- acres, and is hereinafter more fully described in the Land Title Survey dated August 5, 2021 and last revised on August 11, 2022 prepared by Fagan Engineers & Land Surveyors PC (Mark E. Flora, License No. 051097), which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: A7-0125-87-09, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) A 52.4-acre +/- portion of the Controlled Property, as described in Schedule B, may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii),

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv);

(2) A 7.16-acre +/- portion of the Controlled Property, as described in Schedule C, may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv);

(3) A 2.00-acre +/- portion of the Controlled Property, as described in Schedule D, may be used for:

Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv);

(4) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(5) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(6) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(7) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(8) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(9) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(10) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(11) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(12) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The 52.4-acre +/- portion of the Controlled Property described in Schedule B shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The 7.16-acre +/- portion of the Controlled Property described in Schedule C shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

D. The 2.00-acre +/- portion of the Controlled Property described in Schedule D shall not be used for Residential, Restricted Residential or Commercial purposes as defined in 6NYCRR 375-1.8(g)(i), (ii) and (iii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

E. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

F. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

G. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

H. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

I. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: 755010
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property

Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Emersub 15 LLC:

By: Stephen L. Clarke

Print Name: Stephen L. Clarke

Title: President Date: 9/20/2022

Grantor's Acknowledgment

STATE OF ~~NEW YORK~~ Missouri)
) ss:
COUNTY OF St. Louis)

On the 20th day of September in the year 2022, before me, the undersigned, personally appeared Stephen L. Clarke, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Jacqueline D. Greiwe
Notary Public - State of ~~New York~~ Missouri

JACQUELINE D. GREIWE
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Nov. 4, 2024
Commission # 12423116

JACQUELINE D. GREWE
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Nov. 4, 2024
Commission # 18423116

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Andrew O. Guglielmi, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 11th day of October, in the year 2022 before me, the undersigned, personally appeared Andrew O. Guglielmi, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

JENNIFER ANDALORO
Notary Public, State of New York
No. 02AN6098246
Qualified in Albany County
Commission Expires January 14, 2024

SCHEDULE "A" PROPERTY DESCRIPTION

All that tract or parcel of land, situate in the City and Town of Ithaca, County of Tompkins and State of New York, and being more particularly described as follows:

Beginning at the point of commencement at a point of the westerly line of lands of Frederick Beck, now or formerly, recorded in Tompkins County Clerk's Office in Book 840 and Page 334 of Deeds, said point being S 25°44'04" W a distance of 22.12' from the northwest corner of said lands;

THENCE following a centerline of a stream the following courses and distances.

S 75°53'05" W, 14.63 feet.
S 50°27'19" W, 37.02 feet.
S 58°52'40" W, 35.64 feet .
S 55°05'39" W, 31.38 feet.
S 61°42'00" W, 33.54 feet.
S 61°29'57" W, 84.94 feet.
S 56°30'06" W, 37.21 feet.
S 53°39'00" W, 48.73 feet.
S 55°58'58" W, 68.03 feet.
S 56°27'17" W, 48.08 feet.
S 59°36'59" W, 111.35 feet.
S 40°36'49" W, 24.76 feet.
S 72°37'22" W, 33.42 feet.
S 64°26'19" W, 33.35 feet.
S 69°13'58" W, 43.85 feet.
S 80°06'26" W, 43.31 feet.
N 80°11'22" W, 16.75 feet.
N 80°14'46" W, 52.83 feet.
N 57°58'51" W, 42.44 feet.
N 42°52'42" W, 41.41 feet.
N 36°34'25" W, 31.01 feet.
N 48°20'45" W, 16.75 feet.
N 76°30'43" W, 36.62 feet.
N 36°32'08" W, 33.22 feet.
N 05°36'15" W, 39.19 feet.
N 17°34'38" W, 42.13 feet.
N 12°26'27" W, 26.18 feet.
N 67°48'26" W, 27.63 feet.
N 69°06'25" W, 37.80 feet.
N 55°02'28" W, 33.46 feet.
N 49°31'27" W, 19.92 feet.
N 44°16'01" W, 25.01 feet.

THENCE along a curve to the right with a length of 21.31', a radius of 5102.88', a chord bearing of s 43°35'41.94" W and a chord length of 21.31' to a point;

THENCE along a curve to the right with a length of 471.36', a radius of 3547.44', a chord

bearing of S 47°31'16.01" W and a chord length of 471.01' to a point;

THENCE S 51°35'30" W, 436.97' to a point;

THENCE S 51°30'23" W, 306.88' to a point;

THENCE along a curve to the right with a length of 300.22', a radius of 2064.25', a chord bearing of S 55°40'44.41" W and a chord length of 299.96' to a point;

THENCE S 59°15'37" W, 173.94' to a point;

THENCE along the northern boundary of Stone Quarry Road the following courses and distances;

N 47°12'29" E, 60.51'
N 29°26'06" E, 52.69'
N 24°48'25" E, 43.66'

THENCE N 59°15'37" E, 56.57' to a point;

THENCE along a curve to the left with a length of 267.50', a radius of 1766.95', a chord bearing of N 54°55'24.27" E and a chord length of 267.24' to a point;

THENCE N 51°30'47" E, 743.49' to a concrete monument found;

THENCE along a curve to the left with a length of 462.53', a radius of 3261.76', a chord bearing of N 47°26'35.50" E and a chord length of 462.14' to a point;

THENCE along a curve to the left with a length of 38.95', a radius of 5635.72', a chord bearing of N 43°23'29.53" E and a chord length of 38.95' to a point;

THENCE on a curve to the left having a radius of 5635.72 feet and a length of 592.67 feet and a chord of N 40°10'19.18" E, 592.40 feet to a monument found.

THENCE N 37°06'36" E, 641.31' to a monument found;

THENCE N19°17'24" W, 427.60' to an iron pin found;

THENCE N 28°25'19" E, along the southeasterly road boundary of West Spencer Street a distance of 542.73' to a point;

THENCE S 60°31'42" E, a distance of 123.00' to an iron pin found;

THENCE N.29°28'18"E., a distance of 50.00 feet to an existing iron pipe;

THENCE N.60°31'42"W., a distance of 1.30 feet to a point;

THENCE N.29°28'18"E., a distance of 60.00 feet to an existing iron pipe;

THENCE N.20°16'18"E., a distance of 22.00 feet to a point;

THENCE S.58°01'42"E., a distance of 136.72 feet to its intersection with the westerly road boundary of South Cayuga Street;

THENCE S.01°44'18"E., along said westerly road boundary of South Cayuga Street, a distance of 118.54 feet to an existing iron pipe;

THENCE S.37°19'45"W., a distance of 318.10 feet to an existing iron pipe;

THENCE S.52°40'15"E., a distance of 131.48 feet to its intersection of said northeasterly line of said former Lehigh Valley Railroad;

THENCE N.37°10'20"E., along said northeasterly line of said former Lehigh Valley Railroad, a distance of 42.66 feet to an existing iron pipe at a point of curvature;

THENCE northeasterly, along a curve to the right, having a radius of 2187.09 feet an arc distance of 157.02 and a chord bearing of N 39°13'44" E, 156.99 feet to a point;

THENCE northeasterly, along a curve to the right, having a radius of 2187.09 feet an arc distance of 25.06 feet and a chord bearing of N 41°37'15.49" E, 25.06 feet to a point;

THENCE N.01°12'09"W., a distance of 279.41 feet to a point;

THENCE N.59°22'08"E., a distance of 142.00 feet to an existing iron pipe;

THENCE N.40°16'41"W., a distance of 47.38 feet to a point of curvature along the southeasterly road boundary of South Hill Terrace;

THENCE northeasterly, along a curve to the left, having a radius of 257.27 feet an arc distance of 84.00 feet and a chord bearing and distance of N35°37'08.35"E., 83.63 feet to a point;

THENCE S.68°10'44"E., a distance of 89.62 feet to a point;

THENCE N.36°10'17"E., a distance of 50.00 feet to a point;

THENCE N.67°17'10"W., a distance of 100.00 feet to its intersection with said southeasterly line of South Hill Terrace;

THENCE N.22°53'08"E., along said southeasterly road boundary of South Hill Terrace, a distance of 50.00 feet to an iron pipe;

THENCE S.67°06'52"E., a distance of 128.38 feet to a point;

THENCE N.01°05'38"E., a distance of 106.32 feet to a point;

THENCE N.88°14'20"E., a distance of 23.66 feet to a point;

THENCE N.22°35'04"E., a distance of 64.09 feet to a point;

THENCE N.87°40'07"E., a distance of 160.94 feet to its intersection with the westerly road boundary of Turner Place;

THENCE S.02°19'41"E., along said easterly road boundary of Turner Place, a distance of 214.20 feet to its intersection with said northeasterly line of said former Lehigh Valley Railroad;

THENCE N.50°10'21"E., along said northeasterly line of said former Lehigh Valley Railroad, a distance of 305.02 feet to an existing iron pipe;

THENCE N.82°08'58"E., a distance of 7.60 feet to an existing iron pipe;

THENCE N.00°00'04"W., a distance of 7.00 feet to an existing iron pipe;

THENCE N.53°53'26"E., continuing along said northeasterly line of said former Lehigh Valley Railroad, a distance of 13.44 feet to a point of curvature;

THENCE northeasterly, along a curve to the right, having a radius of 1825.61 feet an arc distance of 167.10 and a chord bearing and distance of N52°48'04.85"E., 167.04 feet to an existing railroad monument;

THENCE northeasterly, along a curve to the right, having a radius of 14500.77 feet an arc distance of 139.18 feet and a chord bearing and distance of N.58°10'52.85"E., 139.18 feet to a point of compound curvature;

THENCE northeasterly, along a curve to the right, having a radius of 411.32 feet an arc distance of 46.08' and a chord bearing and distance of N.61°39'26.85"E.,46.06' to a concrete monument found on the westerly road boundary of South Aurora Street (New York State Route 96B);

THENCE S.02°51'33"E., along said westerly road boundary of South Aurora Street, a distance of 72.42 feet to an angle point;

THENCE S.02°02'26"E., continuing along said westerly road boundary of South Aurora Street, a distance of 204.12 feet to a point of curvature;

THENCE southwesterly, along a curve to the right, having a radius of 370.00 feet an arc distance of 177.34 feet and a chord bearing and distance of S.11°41'25.81"W., 175.65 feet;

THENCE S.25°25'18"W., continuing along said westerly road boundary of South Aurora Street, a distance of 295.74 feet to an existing iron pipe;

THENCE N.63°50'28"W., a distance of 100.00 feet to a point;

THENCE S.26°09'32"W., a distance of 413.00 feet to a point;

THENCE S.74°58'28"E., a distance of 101.00 feet to its intersection said westerly road boundary of South Aurora Street;

THENCE S.26°09'32"W., along said westerly road boundary of South Aurora Street, a distance of 28.00 feet to a point;

THENCE N.63°54'22"W., a distance of 32.40 feet to an existing iron pipe,

THENCE N.85°05'42"W., a distance of 72.17 feet to an existing iron pipe;

THENCE S.26°54'14"W., a distance of 161.60 feet to an existing iron pipe;

THENCE S.03°30'29"E., a distance of 35.30 feet to an existing iron pipe;

THENCE S.84°53'19"E., a distance of 89.00 feet to its intersection with said westerly road boundary of South Aurora Street;

THENCE S.26°42'55"W., along said westerly road boundary of South Aurora Street, a distance of 48.00 feet to an angle point;

THENCE S.31°44'06"W., continuing along said westerly road boundary of South Aurora Street, a distance of 122.19 feet to the northeasterly corner of New York State Appropriation of State Highway 5043, Map No. 6, Parcel No. 6; thence westerly and southwesterly along said New York State Appropriation of State Highway 5043, Map No. 6, Parcel No. 6 the following courses and distances;

N.63°58'34"W., a distance of 17.00 feet to a point;
S.31°44'04"W., a distance of 100.50 to an angle point;
S.26°01'26"W., a distance of 600.13 feet to an angle point;
S.25°46'26"W., a distance of 483.13 feet to an existing granite monument;

THENCE N.64°11'56"W., a distance of 173.40 feet to a point;

THENCE S 25°44'04", 22.12 ' to the POINT OF BEGINNING and containing 61.56 acres of land.

SCHEDULE "B" – RESTRICTED RESIDENTIAL USE EASEMENT AREA

All that tract or parcel of land, situate in the City and Town of Ithaca, County of Tompkins, and State of New York, and being more particularly described as follows:

Beginning at the Point of Beginning (P.O.B), at the northerly most point of the parcel, along the western Right of Way line of NYS Route 96B (also known as South Aurora Street), said point being 30.16 feet south of the southern Right of Way line of Hillview Place;

THENCE following along the western Right of Way line of NYS Route 96B - South Aurora Street the following courses and distances.

S 2°51'33" E, 72.42';
S 2°02'26" E, 204.12';

Along a curve to the right with a length of 177.34', a radius of 370.00', a chord direction of S 11°41'25.81" W and a chord length of 175.65';

S 25°25'18" W, 295.74' to an iron pin found;

THENCE N 63°50'28" W, 100.00' to a point on the north-westerly corner of Tax Map Parcel 106-1-10;

THENCE S 26°09'32" W, 413.00' to a point on the south-westerly corner of Tax Map Parcel 106-1-15;

THENCE S 74°58'28" E, 101.00' to a point on the western Right of Way line of South Aurora Street and the south-easterly corner of Tax Map Parcel 106-1-15;

THENCE S 26°09'32" W, 28.00' along the western Right of Way line of South Aurora Street to a point on the north-easterly corner of Tax Map Parcel 106-1-16;

THENCE N 63°54'22" W, 32.40' to an iron pin found on the northern line of Tax Map Parcel 106-1-16; THENCE N 85°05'42" W, 72.17' to an iron pin found on the north-westerly corner of Tax Map Parcel 106-1-16;

THENCE S 26°54'14" W, 161.60' to an iron pin found on the western line of Tax Map Parcel 106-1-17;

THENCE S 3°30'29" E, 35.30' to an iron pin found on the south-western corner of Tax Map Parcel 106-1-17;

THENCE S 84°53'19" E, 89.00' to a point on the western Right of Way line of South Aurora Street and the south-eastern corner of Tax Map Parcel 106-1-17;

THENCE following along the western Right of Way line of NYS Route 96B – South Aurora Street the following courses and distances.

S 26°42'55 W, 48.00';
S 31°44'06" W, 122.19';

N 63°58'34" W, 17.00';
S 31°44'04" W, 100.50';
S 26°01'26" W, 600.13';
S 25°46'26" W, 483.13' to a granite monument found on the northern line of Tax Map Parcel 40-3-5;

THENCE N 64°11'56" W, 173.40' to a point on the northwest corner of Tax Map Parcel 40-3-5;

THENCE S 25°44'04" W, 22.12' to a point in the centerline of a stream on the western line of Tax Map Parcel 40-3-5;

THENCE along the centerline of the stream the following courses and distances.
S 75°53'05" W, 14.63' S 50°27'19" W, 37.02' S 58°52'40" W, 35.64' S 55°05'39" W, 31.38' S 61°42'00" W, 33.54' S 61°29'57" W, 84.94' S 56°30'06" W, 37.21' S 53°39'00" W, 48.73' S 55°58'58" W, 68.03' S 56°27'17" W, 48.08' S 59°36'59" W, 111.35' S 40°36'49" W, 24.76' S 72°37'22" W, 33.42' S 64°26'19" W, 33.35' S 69°13'58" W, 43.85' S 80°06'26" W, 43.31' N 80°11'22" W, 16.75'
N 80°14'46" W, 52.83' to a point in the centerline of the stream and on the northern line of Tax Map Parcel 40-3-3;

THENCE N 40°45'51" E, 40.21' to a point;

THENCE N 40°45'51" E, 38.05' to a point;

THENCE N 32°10'19" E, 548.74' to a point;

THENCE N 33°03'51" E, 612.29' to a point;

THENCE N 37°58'00" E, 110.15' to a point;

THENCE N 62°51'24" W, 273.76' to a point;

THENCE S 37°33'17" W, 173.78' to a point;

THENCE S 33°28'44" W, 458.06' to a point;

THENCE S 43°21.04 W, 610.49' to a point in the centerline of a stream and the northern line of Tax Map Parcel 40-3-3;

THENCE N 44°16'01" W, 25.01' along the centerline of a stream to a point;

THENCE along a curve to the right with a length of 21.31', a radius of 5102.88', a chord bearing of s 43°35'41.94" W and a chord length of 21.31' to a point;

THENCE along a curve to the right with a length of 471.36', a radius of 3547.44', a chord bearing of S 47°31'16.01" W and a chord length of 471.01' to a point;

THENCE S 51°35'30" W, 436.97' to a point;

THENCE S 51°30'23" W, 306.88' to a point;

THENCE along a curve to the right with a length of 300.22', a radius of 2064.25', a chord bearing of S 55°40'44.41" W and a chord length of 299.96' to a point;

THENCE S 59°15'37" W, 173.94' to a point;

THENCE along the northern boundary of Stone Quarry Road the following courses and distances;

N 47°12'29" E, 60.51'
N 29°26'06" E, 52.69'
N 24°48'25" E, 43.66'

THENCE N 59°15'37" E, 56.57' to a point;

THENCE along a curve to the left with a length of 267.50', a radius of 1766.95', a chord bearing of N 54°55'24.27" E and a chord length of 267.24' to a point;

THENCE N 51°30'47" E, 743.49' to a concrete monument found;

THENCE along a curve to the left with a length of 462.53', a radius of 3261.76', a chord bearing of N 47°26'35.50" E and a chord length of 462.14' to a point;

THENCE along a curve to the left with a length of 38.95', a radius of 5635.72', a chord bearing of N 43°23'29.53" E and a chord length of 38.95' to a point;

THENCE along a curve to the left with a length of 592.67', a radius of 5635.72' a chord bearing of N 40°10'19.18" E and a chord length of 592.40' to a concrete monument found on the southeastern line of Tax map Parcel 116-2-7;

THENCE N 37°06'36" E, 641.31' to an iron pin found on the eastern corner of Tax Map Parcel 105-8-1;

THENCE N 19°17'24" W, 427.60' to an iron pin found on the northern corner of Tax Map Parcel 105-8-1 and the eastern Right of Way line of West Spencer Street;

THENCE N 28°25'19" E, 542.73' along the eastern Right of Way line of West Spencer Street to a point; THENCE S 60°31'42" E, 123.00' to an iron pin found on the southern corner of Tax Map Parcel 93-7-7;

THENCE N 29°28'18" E, 50.00' to an iron pipe found;

THENCE N 60°31'42" W, 1.30' to a point;

THENCE N 29°28'18" E, 60.00' to an iron pipe found on the north-easterly corner of Tax Map Parcel 93-7-7;

THENCE N 20°16'18" E, 22.00' to a point on the south-western corner of Tax Map Parcel 106-1-2;

THENCE S 58°01'42" E, 136.72' to a point on the south-eastern corner of Tax Map Parcel 106-

1-2 and the western Right of Way line of South Cayuga Street;

THENCE S 1°44'18" E, 118.54' to an iron pin found on the western Right of Way line of South Cayuga Street;

THENCE S 37°19'45" W, 318.10' to an iron pin found on the western corner of lands now or formerly owned by New York State Electric & Gas and containing an electric power substation;

THENCE S 52°40'15" E, 131.48' to an iron pin found on the western corner of lands now or formerly owned by New York State Electric & Gas and containing an electric power substation;

THENCE N 37°10'20" E, 42.66' to a point;

THENCE along a curve to the right with a length of 157.02', a radius of 2187.09', a chord bearing of N 39°13'44" E and a chord length of 156.99' to a point;

THENCE continuing on a curve to the right with a length of 25.06', a radius of 2187.09', a chord bearing of N 41°37'15.49" E and a chord length of 25.06' to a point;

THENCE N 1°12'09" W, 279.41' to an iron pin found on the southern corner of Tax Map Parcel 106-1-7;

THENCE N 59°22'08" E, 142.00' to an iron pin found on the eastern corner of Tax Map Parcel 106-1-7;

THENCE N 40°16'41" W, 47.38' to an iron pin found on the northern corner of Tax Map Parcel 106-1-7 and the eastern Right of Way of South Hill Terrace;

THENCE along a curve to the left, and the eastern Right of Way line of South Hill Terrace, a length of 84.00', a radius of 257.27', a chord bearing of N 35°37'08.35" E and a chord length of 83.63' to a point on the western corner of Tax Map Parcel 92-9-10;

THENCE S 68°10'44" E, 89.62' to a point on the southern corner of Tax Map Parcel 92-9-10;

THENCE N 36°10'17" E, 50.00' to a point on the eastern corner of Tax Map Parcel 92-9-10;

THENCE N 67°17'10" W, 100.00' to a point on the northern corner of Tax Map Parcel 92-9-10 and the eastern Right of Way line of South Hill Terrace;

THENCE N 22°53'08" E, 50.00' along the eastern Right of Way line of South Hill Terrace to an iron pin found on the western corner of Tax Map Parcel 92-9-11;

THENCE S 67°06'52" E, 128.38' to a point on the southern corner of Tax Map Parcel 92-9-11;

THENCE N 1°05'38" E, 106.32' to a point on an eastern jog corner of Tax Map Parcel 92-9-13;

THENCE N 88°14'20" E, 23.66' to a point on an eastern jog corner of Tax Map Parcel 92-9-13;

THENCE N 22°35'04" E, 64.09' to a point on the eastern line of Tax Map Parcel 92-9-13 and the south-western corner of Tax Map Parcel 92-9-5;

THENCE N 87°40'07" E, 160.94' to a point on the south-east corner of Tax Map Parcel 92-9-5 and the western Right of Way line of Turner Place;

THENCE S 2°19'41" E, 214.20' along the western Right of Way line of Turner Place to a point;

THENCE N 50°10'21" E, 305.02' to an iron pipe found on the north-east Right of Way corner of Fountain Street and the southern line of Tax Map Parcel 92-8-14.2;

THENCE N 82°08'58" E, 7.60' to an iron pipe found on the south-east corner of Tax Map Parcel 92-8-14.2;

THENCE N 00°00'04" W, 7.00' to a pinch pipe found on the south-east corner of Tax Map Parcel 92-8-5.2;

THENCE N 53°53'26" E, 13.44' to a point on the southern line of Tax Map Parcel 92-8-5.2;

THENCE along a series of curves to the right with the following curve data;

A length of 167.10', a radius of 1825.61', a chord bearing of N 52°48'04.85" E and a chord length of 167.04' to a monument found on the southern line of Tax Map Parcel 92-8-7.2;

A length of 139.18', a radius of 14500.77', a chord bearing of N 58°10'52.85" E and a chord length of 139.18' to a point;

A length of 46.08', a radius of 411.32', a chord bearing of N 61°39'26.85" E and a chord length of 46.06' to the Point of Beginning and containing 52.4 acres of land.

SCHEDULE "C" COMMERCIAL USE EASEMENT AREA

All that tract or parcel of land, situate in the City and Town of Ithaca, County of Tompkins, and State of New York, and being more particularly described as follows:

Beginning at the Point of Beginning (P.O.B), at the northerly most point of the parcel;

THENCE S 62°51'24" E, 273.76' to a point;

THENCE S 37°58'00" W, 110.15' to a point;

THENCE S 33°03'51" W, 612.29' to a point;

THENCE S 32°10'19" W, 548.74' to a point;

THENCE S 40°45'51" W, 38.05' to a point;

THENCE along a series of curves to the right with the following curve data;

A length of 207.49', a radius of 184.47', a chord bearing of N 20°07'23.19" W and a chord length of 196.72';

A length of 91.20', a radius of 1044.76', a chord bearing of N 14°36'5.08" E and a chord length of 91.17';

A length of 108.30', a radius of 1491.35', a chord bearing of N 19°10'56.87" E and a chord length of 108.27' to a point;

THENCE N 21°15'46" E, 346.73' to a point;

THENCE N 33°28'44" E, 458.06' to a point;

THENCE N 37°33'17" E, 173.78' to the Point of Beginning and containing 7.16 acres of land.

SCHEDULE "D" INDUSTRIAL USE EASEMENT AREA

All that tract or parcel of land, situate in the City and Town of Ithaca, County of Tompkins, and State of New York, and being more particularly described as follows:

Beginning at the Point of Beginning (P.O.B), at the northerly most point of the parcel;

THENCE S 21°15'46" W, 346.73' to a point,

THENCE along a series of curves to the left with the following curve data;

A length of 108.30', a radius of 1491.35', a chord bearing of S 19°10'56.87" W and a chord length of 108.27';

A length of 91.20', a radius of 1044.76', a chord bearing of S 14°36'5.08" W and a chord length of 91.17';

A length of 207.49', a radius of 184.47', a chord bearing of S 20°07'23.19" E and a chord length of 196.72' to a point;

THENCE S 40°45'51" W, 40.21' to a point in the centerline of a stream;

THENCE along the centerline of the stream the following courses and distances;

N 57°58'51" W, 42.44';
N 42°52'42" W, 41.41';
N 36°34'25" W, 31.01';
N 48°20'45" W, 16.75';
N 76°30'43" W, 36.62';
N 36°32'08" W, 33.22';
N 05°36'15" W, 39.19';
N 17°34'38" W, 42.13';
N 12°26'27" W, 26.18';
N 67°48'26" W, 27.63';
N 69°06'25" W, 37.80';
N 55°02'28" W, 33.46';
N 49°31'27" W, 19.92' to a point;

THENCE N 43°21'04" E, 610.49' to the Point of Beginning and containing 2.00 acres of land.

TP-584.2 (10/96)

Recording Office Time Stamp

Real Estate Transfer Tax Return For Public Utility Companies' and Governmental Agencies' Easements and Licenses

This form may only be used by public utility companies regulated by the Public Service Commission and governmental agencies for the recording of easements and licenses where the consideration for the grant of such easement or license is $500.00 or less.

Name of grantee (public utility company or governmental agency)
The People of the State of New York

Federal employer identification number *(if applicable)*

Address of grantee
625 Broadway, Albany, New York 12233-1500

Name and telephone number of person to contact

Name(s) of Grantor Of Easement or License	Address of Property	Consideration Given For Easement or License
1. Emersub 15 LLC	620-40 Aurora Street S., Ithaca, NY 14850	$0.00
2. Emersub 15 LLC	V/L Aurora Street S. Ithaca, NY 14850	$0.00
3. Emersub 15 LLC	810 Danby Road, Ithaca, NY 14850	$0.00
4. Emersub 15 LLC	Portion of Stone Quarry Road, NY 14850	$0.00
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6.		
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9.		
10.		
11.		
12.		
13.		
14.		
15.		

If more than fifteen conveyances are to be recorded, attach a schedule of such other conveyances.

Signature of Grantee

I certify that the grantee is a public utility regulated by the Public Service Commission or is a governmental agency and the grantee of the easements and/or licenses above; that it is true to the best knowledge of the grantee that the granting of each such easement and/or license is exempt from Real Estate Transfer Tax imposed by Article 31 of the Tax Law by reason that each such conveyance is for a consideration of five hundred dollars or less and/or the conveyance is being made to a governmental agency.

The People of the State of New York
Name of grantee

Jennifer Andrews
Signature of partner, officer of corporation, governmental official, etc.

NYS DEC Attorney
Title

TP-584.2 (10/96)

Recording Office Time Stamp

Real Estate Transfer Tax Return For Public Utility Companies' and Governmental Agencies' Easements and Licenses

This form may only be used by public utility companies regulated by the Public Service Commission and governmental agencies for the recording of easements and licenses where the consideration for the grant of such easement or license is $500.00 or less.

Name of grantee (public utility company or governmental agency)
The People of the State of New York

Federal employer identification number *(if applicable)*

Address of grantee
625 Broadway, Albany, New York 12233-1500

Name and telephone number of person to contact

Name(s) of Grantor Of Easement or License	Address of Property	Consideration Given For Easement or License
1. Emersub 15 LLC	620-40 Aurora Street S., Ithaca, NY 14850	$0.00
2. Emersub 15 LLC	V/L Aurora Street S. Ithaca, NY 14850	$0.00
3. Emersub 15 LLC	810 Danby Road, Ithaca, NY 14850	$0.00
4. Emersub 15 LLC	Portion of Stone Quarry Road, NY 14850	$0.00
5.		
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If more than fifteen conveyances are to be recorded, attach a schedule of such other conveyances.

Signature of Grantee

I certify that the grantee is a public utility regulated by the Public Service Commission or is a governmental agency and the grantee of the easements and/or licenses above; that it is true to the best knowledge of the grantee that the granting of each such easement and/or license is exempt from Real Estate Transfer Tax imposed by Article 31 of the Tax Law by reason that each such conveyance is for a consideration of five hundred dollars or less and/or the conveyance is being made to a governmental agency.

The People of the State of New York
Name of grantee

Jennifer Andalora
Signature of partner, officer of corporation, governmental official, etc.

NYSDEC Attorney
Title

APPENDIX

B LIST OF SITE CONTACTS

APPENDIX B

LIST OF SITE CONTACTS

Name	Phone/E-mail Address
Site Owner L Enterprises David Lubin Owner's Consultant LaBella Associates Dan Noll PE	 607-739-3826 / lubin2@aol.com 585-295-6611 / dnoll@labellapc.com
Remedial Party Emerson Electric Co. Stephen L. Clarke	 314-553-1953 / steve.clarke@emerson.com
Remedial Party's Consultant WSP USA Inc. Scott Haitz Lisa Kelly PG David Rykaczewski PE	 703-318-3951 / scott.haitz@wsp.com 212-465-5334 / lisa.kelly@wsp.com 412-375-0282 / dave.rykaczewski@wsp.com
NYSDEC Karen A. Cahill Gary Priscott Margaret Sheen	 315-426-7432 / karen.cahill@dec.ny.gov 315-426-7551 / gary.priscott@dec.ny.gov 315-426-7405 / margaret.sheen@dec.ny.gov
NYSDEC Site Control Kelly Lewandowski	 518-402-9569 / kelly.lewandowski@dec.ny.gov
NYSDOH Anthony Perretta	 518-402-7860 / anthony.perretta@health.ny.gov

APPENDIX

C RESPONSIBILITIES OF OWNER AND REMEDIAL PARTY

Site Management Plan: Responsibilities of OU-2 Owner and Remedial Party

The former Emerson Power Transmission ("EPT") facility contains two Operable Units ("OU-1" and "OU-2"). Whereas a corporate affiliate of the Responsible Party ("RP") shall retain ownership of OU-1, the present and future owners of OU-2 (individually and collectively, the "OU-2 Owner") shall be parties unaffiliated to the RP. The responsibilities for implementing the Site Management Plan ("SMP") with respect to OU-2, are divided between the RP and OU-2 Owner as set forth below. For purposes of this Appendix only "Site" shall mean OU-2.

OU-2 Owner Responsibilities:

The OU-2 Owner is responsible for:

1. Following the SMP provisions as they relate to excavation, grading or other disturbances of the ground surface and below related to development, redevelopment and/or repairs at the Site except to the extent such actions are the responsibility of the RP.
2. Performing any future investigation, and/or remediation of soils and/or fill material (collectively, "soils") that may be required by this SMP (collectively, "Soil Remediation") in the areas of concern ("AOC") addressed to the satisfaction of NYSDEC as part of the RP's approved Interim Remedial Measure ("IRM") work, and as reflected in the IRM Construction Completion Report, dated October 23, 2020, except for future Soil Remediation associated with addressing contaminated soils beneath the oil shed in AOC 28, in the event that the oil shed is demolished, contaminated soils beneath the loading dock area within Building 11A, and contaminated soils beneath and inside the concrete "planter" located in the vicinity of AOC 32 (the "Additional Areas"); provided, however, that, once the RP performs the remediation of the Additional Areas to the extent required by NYSDEC for purposes of complying with the applicable soil cleanup objectives, the OU-2 owner will be responsible for any future Soil Remediation in these locations, as well.
3. Conducting any future Soil Remediation at areas of the Site besides the AOCs, to the extent that the need for such Soil Remediation is triggered by a change in land use designation from what appears in Exhibit H of the Amended and Restated Purchase and Sale Agreement between the Emersub 15, LLC and L Enterprises, LLC, dated May 9, 2017 ("Agreement") for the relevant portion of the Site, e.g. industrial to commercial or commercial to restricted residential.
4. Managing hazardous building materials and debris generated in connection with its demolition, renovation, or reconfiguration of existing buildings at the Site.
5. With respect to Site buildings in existence as of July 15, 2013, repairing or replacing any flooring following initial vapor mitigation system installation by the Responsible Party, except to the extent that such repair or replacement of the floor is part of the vapor mitigation system design, or otherwise necessary for proper operation of the system to ensure compliance with applicable indoor air quality standards (such as for purposes of example only where a drainboard may be used). For purposes of clarification, the OU-2 Owner's responsibility under this Item 5 shall extend to any openings in building floorings made in connection with the sewer test pit excavation that the RP undertook pursuant to Section 5.5.2 of the IRM Work Plan, as well as to any disturbed flooring, the restoration of which is not essential to the first OU-2 Owner's property redevelopment plans(e.g., disturbed flooring in a building that the first OU-2 Owner plans to demolish; any redevelopment activity undertaken by subsequent OU-2 Owners; etc.)
6. With respect to Site buildings erected after July 15, 2013, designing, constructing, and installing any vapor barriers or vapor mitigation systems that may be required to protect building occupants from soil vapor intrusion and the subsequent monitoring, operation and maintenance of same.
7. Maintaining drainage ditches, swales and permanent erosion controls such as riprap used for ditch lining, slope protection, and pipe outlet protection on OU-2 (specifically, at AOCs 32, 35G and 35L).

8. Refraining from any activity that may cause an exceedance of a water quality standard or otherwise trigger a new obligation on the part of the RP to perform remediation under the SPDES permit equivalent and taking all reasonable precautions to ensure that its affiliates, employees, agents, contractors, tenants, successors, and assigns (collectively, the "Affiliates") do the same.
9. Correcting any condition or exacerbation of a condition within OU-2 caused by OU-2 Owner or its Affiliates that may give rise to an exceedance of a water quality standard enforced through the SPDES permit equivalent or an obligation to perform remediation under the SPDES permit equivalent.
10. Complying with all Engineering Controls and Institutional Controls set forth in this SMP, the NCR Sewer Deed Restriction, and the Environmental Easement for the Site, except where compliance with those Engineering or Institutional Controls are the RP's responsibility, as set forth below, and to the extent that any such Engineering Controls are disturbed, unless by an act of the RP or its Affiliates, paying for or performing the repair and replacement of such Engineering Controls and managing any contamination that has been generated or disturbed as a result of such disturbance of the Engineering Controls.
11. Granting access to the Site to the RP and NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.
12. Not interfering, and requiring and taking steps to prohibit its Affiliates from interfering, with the components of active remedial systems located on the Site. In the event that damage to the components of active remedial systems is evident, the OU-2 Owner shall notify the RP and NYSDEC in accordance with the timeframes indicated in Section 1.3 - Notifications.
13. Notifying the RP and NYSDEC in accordance with the time frame indicated in Section 1.3 - Notifications in the event some action or inaction by the OU-2 Owner or its Affiliates adversely impacts the environmental condition of the Site and coordinating the performance of any necessary corrective actions with the RP and NYSDEC.
14. Notifying the RP and NYSDEC of any change in ownership of the Site or any portion thereof (identifying the tax map numbers in any correspondence) and providing contact information for the new owner of the Site property in accordance with the 6 NYCRR Part 375 (cf. https://www.dec.ny.gov/chemical/76250.html).
15. In accordance with a periodic time frame determined by NYSDEC, periodically certifying, in writing, that all Institutional Controls and Engineering Controls under the control of OU-2 Owner remain in place and continue to be complied with, and allowing the RP to include this certification in its periodic review report certifications to NYSDEC
16. Complying with the applicable provisions regarding tenant notification of indoor air contamination set forth at Environmental Conservation Law §27-2405, as may be amended.

Remedial Party Responsibilities:

The RP is responsible for:

1. Following the SMP provisions as they relate to any excavation, grading or other disturbance of the ground surface and below that it undertakes at the Site, and, except as set forth in this SMP, the Agreement or any other separate agreement with the OU-2 Owner, performing any activities specified in the Amended ROD dated September 2021 (e.g., seep collection, monitoring and/or treatment; site-wide groundwater monitoring; groundwater collection and treatment in AOC 1; and NAPL recovery).
2. Performing any Soil Remediation of the Additional Areas – but only to the extent required by NYSDEC for purposes of complying with the applicable soil cleanup objectives following the initial demolition of the pertinent improvements – and any future investigation and/or remediation of any other areas of the Site affected by releases predating the transfer of title to OU-2 to L

Enterprises, LLC (or an affiliate), to the extent set forth in the Agreement and not covered in the OU-2 Owner Responsibilities above.

3. Operating and maintaining the dual-phase extraction and treatment system specified in Appendix I to the SMP and performing the activities covered in the monitoring and sampling plan set forth in Appendix J to the SMP.
4. Constructing, operating, and performing maintenance on the final selected remediation alternative (subject to change based on the results of the pre-design studies) for the Building 24 Seep, Retaining Wall Sump, and the Weir Box seeps.
5. Designing, constructing, installing, and, to the extent required under NYSDOH regulations or recommended under NYSDOH guidance, performing startup testing of any vapor mitigation systems required for buildings at the Site that were in existence as of July 15, 2013. Such start up testing shall be consistent with NYSDOH regulation and guidance for the purpose of ensuring proper operation of the system at that time and may include but not be limited to indoor air testing and/or pressure field extension testing.
6. Complying with the requirements of the SPDES Permit equivalent.
7. Reporting to NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting, including, but not limited to, submitting periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.
8. Providing the OU-2 Owner with advance notification before accessing the Site to undertake a specific activity in accordance with an access agreement between the two parties.
9. If the RP or NYSDEC determines that a modification to the SMP is necessary based on anticipated or actual changed Site conditions, updating the SMP, obtaining final approval from NYSDEC, and, within 5 business days after NYSDEC approval, submitting a copy of the approved SMP to the owner(s).
10. Periodically certifying, in writing, that all Engineering and Institutional Controls applicable to the Site are in place and that compliance with them continues (note: regarding OU-2, such certification will entail coordination with the OU-2 Owner).
11. Notifying NYSDEC and the OU-2 Owner of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls) in accordance with 6 NYCRR Part 375 (cf. http://www.dec.ny.gov/chemical/76250.html).
12. Notifying NYSDEC of any damage to or modification of the systems as required under Section 1.3 - Notifications of the SMP.
13. Contacting NYSDEC to discuss the need to update the SMP, NCR Sewer Deed Restriction, or Environmental Easement in connection with any anticipated or actual change in use, change in ownership, change in site classification (e.g., delisting), reduction or expansion of remediation, or other significant changes related to the Site that may necessitate an update to the SMP and/or updated legal documents. The RP shall contact the Department to discuss the need to update such documents and provide copies of any such correspondence to the OU-2 Owner.

Change in RP ownership and/or control and/or Site ownership does not affect the RP's obligations with respect to the Site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

APPENDIX

D MONITORING WELL BORING AND CONSTRUCTION LOGS[2]

[2] The logs and construction details for wells installed in AOC-1 as part of the DPE and treatment system expansion will be included in the final SMP.

Boring Log: MW-04-SB-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): Not Determ

Total Depth (feet): 3.5

Borehole Diameter (inches):

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.0	- - - -	100		Topsoil
2	2	0.0	- - -	100		***Silty Gravel (GM)*** Dark yellowish-brown (10YR4/4) silty gravel dry; hard, non-plastic.
4						***Gravelly Silt (ML)*** Grayish-brown (10YR4/6) gravelly silt, some coal ash/cinders; non-plastic; medium hard; dry.
6						Bottom of Boring at 3.5 feet Refusal at 3.5 ft bgs.
8						
10						
12						
14						
16						
18						
20						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: MW-04-SB-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): Not Determ

Total Depth (feet): 5.5

Borehole Diameter (inches):

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Topsoil, some rootlets
2	1	(0-2) 0.0 (2-4) 0.0	- - - -	70		***Gravelly Silt (ML)*** Dark yellowish brown (10YR4/4) gravelly silt, trace coal cinders; low plasticity; cohesive; medium dense; dry.
4	1	0.0	- -	75		***Silt with Gravel (ML)*** Dark yellowish brown (10YR-4/4) gravel with silt and traces of sand and coal cinders; hard, low plasticity; dry.
6						***Well-Graded Gravel (GW)*** Grayish brown (10YR4/1) poorly graded gravel; loose; dry.
8						***Poorly-Graded Gravel with Silt (GP-GM)*** Dark yellowish brown (10YR4/4) gravel and silt, trace sand; very dense; moist.
10						Bottom of Boring at 5.5 feet Refusal at 5.5 ft bgs.
12						
14						
16						
18						
20						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: MW-04-SB-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): Not Determ

Total Depth (feet): 2

Borehole Diameter (inches):

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.0	- - - -	90		Topsoil
2						***Silt with Gravel (ML)*** Light brown (2.5 YR-4/4) silt with gravel; stiff, low plasticity, dry.
						Bottom of Boring at 2 feet Refusal at 2.0 ft bgs.
4						
6						
8						
10						
12						
14						
16						
18						
20						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 607.8

Total Depth (feet): 0.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.2 (0-0.8)	-			***Concrete*** Concrete.
1						***Silty Gravel (GM)*** Brown (10YR 4/3) gravel ranging from 0.5 to 2 in diameter, angular, little silt.
						Bottom of Boring at 0.8 feet Refusal at 0.8 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 607.77

Total Depth (feet): 1.4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-1.4)	-			***Concrete*** Concrete.
1						***Silt with Gravel (ML)*** Dark yellowish brown (10YR 4/4) silt, little gravel ranging from 0.5 to 2 in diameter, sub-angular, trace clay; dry.
2						Bottom of Boring at 1.4 feet Refusal at 1.4 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 607.75

Total Depth (feet): 0.4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-0.4)				***Concrete*** Concrete.
1						***Well-Graded Gravel (GW)*** Black (10YR 2/1) gravel ranging from 0.2 to 1 in diameter, sub-angular, trace silt.
2						Bottom of Boring at 0.4 feet Refusal at 0.4 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 607.81

Total Depth (feet): 0.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.4 (0-0.5)				***Concrete*** Concrete.
1						***Well-Graded Gravel (GW)*** Black (10YR 3/1) gravel ranging from 0.2 to 1.5 in diameter, sub-angular, trace silt.
2						Bottom of Boring at 0.5 feet Refusal at 0.5 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 597.66

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Concrete*** Concrete.
1	1	0.1 (0.6-1.2) 5.4 (1.2-1.8)	- - -	90		***Well-Graded Gravel with Silt (GW-GM)*** Gray (10YR 6/1) gravel ranging from 0.5 to 2 in diameter, angular, few silt; loose; dry.
2						***Silt with Gravel (ML)*** Dark gray (5YR 4/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; petroleum-like odor; sheen present.
3						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 597.45

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt.
1	1	0.2 (0-0.3) 0.2 (0.3-1.3) 0.2 (1.3-2)	- - -	85		***Silty Gravel (GM)*** Very dark gray (10YR 3/1) gravel ranging from 0.2 to 2 in diameter, angular, some silt; loose; dry.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 596.96

Total Depth (feet): 1.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.0 (0-0.8) 0.0 (0.8-1.5)	- -	93		***Concrete*** Concrete.
1						***Silt with Gravel (ML)*** Very dark gray (10YR 3/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; loose; moist.
2						Bottom of Boring at 1.5 feet Refusal at 1.5 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 596.96

Total Depth (feet): 2.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt.
1	1	0.0 (0-1.1) 0.1 (1.1-2.5)	- - -	100		***Silt with Gravel (ML)*** Yellowish brown (10YR 5/4) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; moist. Dry from 1.1 to 2' bgs.
2			-			***Silt with Gravel (ML)*** Dark grayish brown (10YR 4/2) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; dry.
3						***Lean Clay (CL)*** Yellowish brown (10YR 5/6) clay, medium plasticity, few gravel less than 0.5 in diameter, angular.
4						Bottom of Boring at 2.5 feet End of boring at 2.5 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-09

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 596.33

Total Depth (feet): 2.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt.
1	1	0.1 (0-1.3) 0.1 (1.3-1.7) 0.1 (1.7-2.5)	- - -	100		***Silty Gravel (GM)*** Gray (10YR 6/1) gravel ranging from 0.1 to 1 in diameter, some silt; loose; dry.
2			-			***Slag*** Fill: slag and ash.
3						***Silt*** Dark brown (10YR 3/3) silt, few gravel less than 0.5 in diameter, rounded; moist.
4						Bottom of Boring at 2.5 feet End of boring at 2.5 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-10

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 595.44

Total Depth (feet): 2.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.2 (0-0.2) 0.2 (0.2-1) 0.2 (1-2.5)	- - - -	88		***Asphalt*** Asphalt
1						***Well-Graded Gravel with Silt (GW-GM)*** Light gray (10YR 7/1) gravel less than 0.5 in diameter, angular, few silt; loose; dry.
2						***Slag*** Fill: slag, ash, red brick.
3						Bottom of Boring at 2.5 feet End of boring at 2.5 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-11

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 594.67

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-1) 0.3 (1-1.8) 0.3 (1.8-2)	- - - -	100		***Asphalt*** Asphalt, road gravel base.
1						***Slag*** Fill: slag, ash, trace red brick.
2						***Siltstone*** Light brownish gray (10YR 6/2) siltstone; highly fractured.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-12

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 594.35

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1		- - - -	95		***Asphalt*** Asphalt, road gravel base.
2						***Silt*** Brown (10YR 4/3) silt, low plasticity, little gravel less than 0.5 in diameter, sub-rounded; moist at 1.7' bgs.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-15

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 615.48

Total Depth (feet): 4.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1 2	1	(0-2) 0.0 (2-4) 0.0	- - - -	60		***Silt with Gravel (ML)*** Brownish-gray (10YR6/8) silt and gravel, some ash and coal cinders; medium hard; dense; dry.
3 4	2	0.0	-	100		***Gravelly Silt (ML)*** Brown (10YR4/6) gravelly silt; medium dense; hard; moist.
5 6 7 8 9 10			-			Bottom of Boring at 4.5 feet Refusal at 4.5 ft. bgs.

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-16

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 599.43

Total Depth (feet): 3.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0 (2-3.5) 0.0	- - - -	75		***Well-Graded Gravel (gw)*** Fill: grey siltstone gravel (0.25-1.0") and concrete debris
2						***Silt with Sand (ML)*** Dark brown (10YR4/6) silt and sand, some black staining; medium dense; medium plasticity; moist, becoming wet at 3.0'.
3						
4						Bottom of Boring at 3.5 feet Refusal at 3.5 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-17

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 598.67

Total Depth (feet): 3.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1 2	1	(0-2) 0.4 (2-3.5) 0.8	- - - -	60		***Silty Gravel (GM)*** Brown (10YR6/6) silty gravel fill, some ash, trace discoloration; loose; dry.
3						***Well-Graded Gravel with Silt (GW-GM)*** Brown (10YR5/6) silt and gravel, trace discoloration; plastic; cohesive; medium dense; wet.
4 5 6 7 8 9 10						Bottom of Boring at 3.5 feet Refusal at 3.5 ft. bgs.

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-18

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 593.44

Total Depth (feet): 4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						***Well-Graded Gravel (GW)*** Gravel (0.2-2.0) fill
2	1	(0-2) 0.0 (2-4) 0.0	- - - -	60		***Well-Graded Gravel with Silt (GW-GM)*** Brown (10YR4/6) silt and gravel, some discoloration; dense; medium plasticity; cohesive; moist.
3						
4						Bottom of Boring at 4 feet Refusal at 4.0 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC26-19

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 592.93

Total Depth (feet): 1.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.9	- - -	100		***Well-Graded Gravel (gw)*** Fill: coarse gravel (0.2 to 2.0 inches in diameter) and concrete debris, some coal cinders; trace silt; loose; dry.
2			-			Bottom of Boring at 1.5 feet Refusal at 1.5 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC27-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 612.73

Total Depth (feet): 1.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	1.3 (1-1.3) 5.4 (1.3-1.7)	- -	30		***Concrete*** Concrete.
						Well-Graded Gravel (GW) Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.
2						Bottom of Boring at 1.7 feet Refusal at 1.7 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC27-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 612.73

Total Depth (feet): 1.2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1		-	33		***Concrete*** Concrete.
1						***Well-Graded Gravel (GW)*** Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.
2						Bottom of Boring at 1.2 feet Refusal at 1.2 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 607.38

Total Depth (feet): 14.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description
						Ground Surface
2	1	0.1 (0-0.2) 0.1 (0.2-3)	- - - -	75		***Topsoil*** Topsoil, roots; dry.
4						***Slag*** Fill: slag, fire brick, red rock, coal fragments, bedrock fill. Roots present from 3.5 to 9.1' bgs.
6	2	0.1 (4-7)	- - - -	75		
8						
10	3	0.1 (8-9.1) 0.6 (9.1-10.4)	- - - -	65		***Gravelly Silt (ML)*** Grayish brown (2.5Y 5/2) silt, gravel less than 0.25 in diameter, flat, round, medium plasticity; no odor.
12						***Slag*** Fill: slag, fire brick, red brick, coal fragments.
14	4	1.4 (12-13.6)	- - - -	100		***Silt*** Dark grayish brown (2.5Y 4/2) silt, stiff, medium plasticity; wet.
16						Bottom of Boring at 14.5 feet Refusal at 14.5 ft. bgs.
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 609.66

Total Depth (feet): 14

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0.1 (0.2-2) 0.6 (2-2.7)	- - - -	65		***Topsoil*** Topsoil, roots. ***Slag*** Fill: bedrock fragments, slag, fire brick, red brick; no odor; dry.
4						
6	2	0.1 (4-4.3) 0.4 (4.3-6.1)	- - - -	53		
8						
10	3	0 (8-10) 0.2 (10-12)	- - - -	100		***Silt*** Dark grayish brown (2.5Y 4/2) silt, sitff to very stiff, medium plasticity; no odor; wet.
12	4	0.2 (12-13.2) 0.2 (13.2-14)	- - - -	100		***Slag*** Fill: slag, coal fragments, red brick; dry.
14						***Silt*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; wet. Bottom of Boring at 14 feet Refusal at 14.0 ft. bgs.
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 609.7

Total Depth (feet): 3.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.1 (0-1.8) 0.1 (1.8-2.4) 0.1 (2.4-2.8)	- - - -	74		***Gravelly Silt (ML)*** Fill: bedrock fragments, slag, coal fragments; no odor; dry.
2						***Silt*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; no odor; dry.
3						***Siltstone*** Siltstone, pulverized.
4						Bottom of Boring at 3.8 feet Refusal at 3.8 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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(315) 655-3900

Boring Log: SB-AOC28-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 610.99

Total Depth (feet): 3

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Topsoil Topsoil, slag, organics; dry.
1	1	0.1 (0-0.6) 0.7 (0.6-1.6)	- - - -	40		***Siltstone*** Siltstone, highly fractured.
2						
3						Bottom of Boring at 3 feet Refusal at 3.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC28-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 611.25

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Topsoil, organics.
1	1	0 (0-0.5) 0.2 (0.5-2)	- - -	100		***Siltstone*** Siltstone, weathered.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC28-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 609.91

Total Depth (feet): 14

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0 (0.2-2.5)	- - - -	63		***Asphalt*** Asphalt. ***Slag*** Fill: slag, red brick, fire brick, coal fragments; dry.
4						
6	2	0 (4-5.5) 0 (5.5-6.2)	- - - -	55		***Silt with Gravel (ML)*** Light yellowish brown (2.5Y 6/3) silt, few gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.
8						***Slag*** Slag, fire brick, red brick, coal fragments.
10	3	0 (8-9) 0 (10-10.9)	- - - -	73		***Silt with Gravel (ML)*** Light yellowish brown (2.5Y 6/3) silt, few small gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.
12						***Silt*** Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.
	4	0 (12-13.5) 0 (13.5-13.8) 0 (13.8-14)	- - - -	63		***Slag*** Fill: slag.
14						***Silt*** Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.
16						***Siltstone*** Light brownish gray (10YR 6/2) siltstone; highly fractured.
18						Bottom of Boring at 14 feet Refusal at 14.0 ft. bgs.
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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(315) 655-3900

Boring Log: SB-AOC28-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 613.2

Total Depth (feet): 3.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1 2 3	1	0 (0-0.2) 0 (0.2-3.5)	- - - -	58		***Asphalt*** Asphalt. ***Slag*** Fill: slag, red brick, fire brick, coal fragments, bedrock fill; dry.
4 5 6 7 8 9 10						Bottom of Boring at 3.5 feet Refusal at 3.3 ft. bgs.

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC28-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 608.85

Total Depth (feet): 18

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0 (0.2-3.5)	- - - -	87		***Asphalt*** Asphalt. ***Gravelly Silt (ML)*** Fill: bedrock fragments, slag; dry.
4, 6	2	0 (4-7)	- - - -	75		***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Wet from 9.3 to 14.5' bgs and 17 to 18' bgs.
8, 10	3	0 (8-10.6)	- - - -	65		
12, 14	4	0 (12-14.5)	- - - -	65		
16	5	0 (16-18)	- - - -	100		
18, 20						Bottom of Boring at 18 feet Refusal at 18.0 ft. bgs.

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC28-09

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 610.24

Total Depth (feet): 14

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0 (0.2-2.6)	- - - -	65		***Asphalt*** Asphalt.
4						***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Moist to wet beginning at 5.5' bgs.
6	2	0 (4-6.9)	- - - -	73		
8						
10	3	0.1 (8-10) 0 (10-11)	- - - -	75		***Silt*** Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet. Few bedrock fragments at bottom.
12	4	0 (12-14)	- - - -	100		
14						Bottom of Boring at 14 feet Refusal at 14.0 ft. bgs.
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC28-10

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 610.48

Total Depth (feet): 11

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0 (0.2-2.5)	- - - -	65		***Topsoil*** Topsoil, bedrock fill. ***Slag*** Fill: slag, bedrock fill, coal fragments, red brick, fire brick.
4						***Gravelly Silt (ML)*** Fill: bedrock fragments, fire brick, red brick, organics.
6	2	0 (4-6.3)	- - - -	58		
8						***Slag*** Fill: slag, fire brick, red brick; dry.
10	3	0 (8-9.5)	- - - -	77		***Gravelly Silt (ML)*** Light yellowish brown (2.5Y 6/3) silt, some bedrock fragments, stiff, medium plasticity; moist to wet. Siltstone present at bottom.
12						Bottom of Boring at 11 feet Refusal at 11.0 ft. bgs.
14						
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-11

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 612.02

Total Depth (feet): 3.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.2) 0 (0.2-1.8) 0 (1.8-2)	- - - -	57		***Well-Graded Gravel (GW)*** Fill: cobble.
1						***Slag*** Fill: slag, fire brick, bedrock fragments, few silt.
2						***Siltstone*** Siltstone, silt.
3						
4						Bottom of Boring at 3.5 feet Refusal at 3.5 ft. bgs.
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC28-12

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 616.12

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.2) 0 (0.2-2.4)	- - - -	0.6		***Topsoil*** Topsoil, bedrock fill; dry.
2						***Slag*** Fill: bedrock fragments, slag, fire brick, red brick, organics, few silt; moist to wet.
3						
4						***Gravelly Silt (ML)*** Bedrock fill; dry.
5	2	0 (4-5) 0 (5-6)	- - - -	100		***Slag*** Fill: slag, silt, bedrock fragments; wet.
6						Bottom of Boring at 6 feet Refusal at 6.0 ft. bgs.
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC28-13

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 616.18

Total Depth (feet): 7.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.3) 0 (0.3-1.9)	- - - -	47		***Tosoil*** Topsoil, organics; moist.
2						***Slag*** Fill: slag, coal fragments, wood debris, red brick, large root; dry.
3						***Slag*** Fill: fire brick, slag, red brick, large root; moist to wet.
4						
5	2	0.1 (4-4.3) 0 (4.3-4.8)	- - - -	80		***Siltstone*** Siltstone fragments, few silt; dry.
6						
7						
8						Bottom of Boring at 7.5 feet Refusal at 7.5 ft. bgs.
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC28-14

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 608.36

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete Fill
1			-			***Silt (ML)*** Brownish red (7.5YR4/6) silt with some cinders and ash fill; medium dense; moist.
2	1	(0-2) 0.0 (2-4) 0.0	- -	75		***Sandy Silt with Gravel (ML)*** Dark yellow (2.5YR5/6) sandy silt with gravel, trace ash; hard; very dense; dry.
3			-			
4						
5			-			
6	2	(4-6) 0.0 (6-8) 0.0	- -	75		***Sandy Silt (ML)*** Brown (10YR4/8) Sandy silt; soft; wet; cohesive; low plasticity; wet.
7			-			
8						***Well-Graded Sand (SW)*** Yellow(10YR6/8) sand, some gravel; dry; firm.
9			-			***Sandy Silt (ML)*** Brown (10YR4/6) sandy silt, trace ash and coal cinders; wet; non cohesive; medium dense.
10		(8-10) 0.0	-			

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

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Boring Log: SB-AOC28-14

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 608.36

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
	3	(10-12) 0.4	- -	40		***Sandy Silt (ML)*** Brown (10YR4/6) sandy silt, trace ash and coal cinders; wet; non cohesive; medium dense. *(continued)*
11						
12						Bottom of Boring at 12 feet Refusal at 12.0 ft. bgs.
13						
14						
15						
16						
17						
18						
19						
20						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC28-15

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 599.75

Total Depth (feet): 9.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Well-Graded Gravel (gw) Fill: gravel, concrete and crushed rock.
2	1	(0-2) 0.0 (2-4) 0.4	- - - -	90		***Sandy Silt (ML)*** Brown (10YR5/8) sandy silt, some gravel, trace ash and coal cinders; medium dense to dense; non cohesive; dry.
4						
6	2	(4-6) 0.4 (6-8) 0.6	- - - -	70		***Silt (ML)*** Brown (10YR5/8) silt, some ash and coal cinders; trace wood fragments; medium dense; dry.
8	3	(8-9.5) 0.0	- - - -	75		
10						Bottom of Boring at 9.5 feet Refusal at 9.5 ft. bgs.
12						
14						
16						
18						
20						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-16

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 598.23

Total Depth (feet): 2.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1 2	1	(0-2) 0.0 (2-2.5) 0.0	- - - -	90		***Well-Graded Sand with Gravel (SW)*** Light brown (2.5YR4/4) coarse sand, some gravel, trace silt; soft; dry.
3 4 5 6 7 8 9 10						Bottom of Boring at 2.5 feet Refusal at 2.5 ft. bgs.

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC28-17

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 619.37

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0		100		***Gravelly Silt (ML)*** Bedded siltstone fragments with black silt and loam, trace fine sand; moist; soft.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC28-18

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 626.27

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						***Gravelly Silt (ML)*** Siltstone fragments with silt and organics, trace fine sand, trace clay; moist; black to dark brown.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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Boring Log: SB-AOC29-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 648.83

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Topsoil, orgaincs; moist.
1	1	0 (0-0.4) 0.2 (0.4-2)	- - -	100		***Gravelly Silt (ML)*** Very dark brown (10YR 2/2) silt, some gravel less than 1 in diameter, angular, medium soft to stiff, low plasticity; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC29-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 649.11

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.
1	1	0 (0-0.4) 0 (0.4-2)	- -	100		***Silt with Gravel (ML)*** Very dark brown (10YR 2/2) silt, few gravel less than 1 in diameter, angular, medium soft to stiff; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC29-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 648.64

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Gravelly Silt (ML)*** Bedrock fill.
1	1	0 (0-0.2) 0.1 (0.4-2)	- - -	100		***Topsoil*** Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.
2						***Silt with Gravel (ML)*** Fill: very dark brown (10YR 2/2) silt, few gravel less than 0.5 in diameter, few coal fragments, medium soft to stiff, low plasticity; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
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Boring Log: SB-AOC29-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 649.44

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Gravelly Silt (ML)*** Fill: siltstone fragments; very broken; dry.
1	1	0 (0-0.2) 0 (0.2-0.6) 0.1 (0.6-2)	- - -	100		***Gravelly Silt (ML)*** Fill: very dark grayish brown (10YR 3/2) silt, some gravel less than 0.5 in diameter, medium soft, low plasticity; dry.
2						***Silty Gravel (GM)*** Dark brown (10YR 3/3) gravel less than 1.5 in diameter, angular, few silt, trace coal fragments; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC29-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 649.06

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Black (10YR 2/1) topsoil, roots, organics, silt, soft, low plasticity; moist.
1	1	0.1 (0-0.3) 0.1 (0.3-1.5) 0.1 (1.5-2)	- - -	100		***Silt with Gravel (ML)*** Very dark grayish brown (10YR 3/2) silt, few gravel less than 0.25 in diameter, angular; dry. Coal fragments present.
2			-			***Gravelly Silt (ML)*** Very dark brown (7.5YR 2.5/2) silt, some gravel, less than 2 in diameter, angular, blocky.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC29-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 650.77

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.4) 0 (0.4-1.5) 0.1 (1.5-2)	- - - -	100		***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, some gravel less than 0.25 in diameter, medium soft; moist.
						Well-Graded Gravel (GW) Light gray (10YR 7/1) gravel less than 1.5 in diameter, angular.
2						***Slag*** Fill: black (10YR 2/1) slag with coal fragments.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC29-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 651.81

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, roots, gravel.
1	1	0.1 (0-0.4) 0.1 (0.4-0.8) 0.1 (0.8-2)	- - -	100		***Silt*** Very dark brown (10YR 2/2) silt, medium soft, low plasticity; dry.
2						***Slag*** Fill: slag, coal fragments. Porous texture. Less dense.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC29-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 648.28

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt.
1	1	0.1 (0-0.6) 0.1 (0.6-0.8) 0.1 (0.8-2)	- - -	100		***Silt*** Very dark gray (10YR 3/1) silt, trace gravel less than 0.25 in diameter, sub-angular, medium soft, low plasticity; dry.
2						***Gravelly Silt (ML)*** Dark gray (10YR 4/1) silt, some gravel less than 1.5 in diameter, sub-angular to sub-rounded, medium soft to stiff; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC29-09

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 653.36

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Well-Graded Sand with Silt and Gravel (SW-SM)*** Light brownish gray (10YR5/6) sandy silt and siltstone gravel, trace coal fragments and cinders; non plastic; hard; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

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Boring Log: SB-AOC29-10

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 645.3

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Gravelly Silt with Sand (ML)*** Brownish gray (10YR6/8) gravelly silt with sand; firm; non plastic; medium density; dry.
						Siltstone fragments; very broken; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

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Boring Log: SB-AOC29-11

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 645.35

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						Not logged.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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5 Sullivan Street
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Boring Log: SB-AOC29-12

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 648.9

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
						Not logged.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.

1
2
3
4
5
6
7
8
9
10

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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5 Sullivan Street
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Boring Log: SB-AOC29-13

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 657.74

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** Ground Surface
						Not logged.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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Boring Log: SB-AOC30-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 608.08

Total Depth (feet): 24

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0 (0.2-0.8) 0.5 (0.8-2) 0 (2-2.5)	- - - -	63		***Topsoil*** Topsoil.
						Siltstone Fill: Siltstone, highly fractured.
4						***Gravelly Silt (ML)*** Very dark brown (10YR 2/2) silt, some gravel less than 0.25 in diameter, sub-rounded, medium soft, low plasticity; dry. Slag present. Faint petroleum-like odor around 1' bgs.
6	2	0.1 (4-5.5) 0.0 (5.5-7)	- - - -	75		***Well-Graded Gravel (GW)*** Fill: highly fractured rock fill.
						Well-Graded Sand with Gravel (SW) Fill: red brick, sand, rounded gravel.
8						***Slag*** Fill: slag material, angular gravel, coal fragments.
10	3	0.1 (8-10)	- - - -	50		
12						***Slag*** Fill: slag, fractured bedrock fill, fire brick.
14	4	0.1 (12-14.7) 0.2 (14.7-15)	- - - -	75		
16						***Silt*** Brown (10YR 4/3) silt, stiff, low plasticity; wet.
						Slag Fill: slag, red brick, fire brick, fractured bedrock; dry.
18	5	0 (16-18) 0.1 (18-20)	- - - -	100		***Slag*** Fill: very dark gray (10YR 3/1) slag, few silt, stiff; wet. Transitions to black slag near bottom.
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC30-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 608.08

Total Depth (feet): 24

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
22	6	0.1 (20-22) 0 (22-24)	- - - -	100		***Slag*** Fill: slag, fire brick, coal fragments; moist to wet.
						Siltstone Highly fractured siltstone.
24						Bottom of Boring at 24 feet Refusal at 24.0 ft. bgs.
26						
28						
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC30-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 608.35

Total Depth (feet): 22

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.1) 1.5 (0.1-2) 0.5 (2-3)	- - - -	75		***Topsoil*** Topsoil, organics.
						Gravelly Silt (ML) Fill: siltstone fragments; very broken; dry.
4						***Slag*** Fill: slag, fire brick, coal fragments, red brick. Wet starting at 15.4' bgs.
6	2	0.1 (4-7)	- - - -	75		
8						
10	3	0.5 (8-10)	- - - -	50		
12						
14	4	0.7 (12-14)	- - - -	50		
16						***Siltstone*** Siltstone, some slag.
18	5	0.6 (16-17.5)	- - - -	38		
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC30-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 608.35

Total Depth (feet): 22

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
	6		- - - -			***Siltstone*** Siltstone, some slag. *(continued)*
22						Bottom of Boring at 22 feet Refusal at 22.0 ft. bgs.
24						
26						
28						
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC30-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 607.81

Total Depth (feet): 25

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Topsoil Topsoil, some roots, some leaves.
2	1	0.1 (0-0.2) 1.4 (0.2-2.5)	- - - -	63		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs.
4						
6	2	0.8 (4-6)	- - - -	50		
8						
10	3	0.5 (8-10)	- - - -	50		
12						
14	4	0.3 (12-13.7)	- - - -	43		
16						
18	5	1.6 (16-18)	- - - -	50		
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC30-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 607.81

Total Depth (feet): 25

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
22	6	0.2 (20-21.6)	- - - -	43		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs. *(continued)*
24	7					
26						Bottom of Boring at 25 feet Refusal at 25.0 ft. bgs.
28						
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC30-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 606.75

Total Depth (feet): 27.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2)	- - - -	40		***Topsoil*** Topsoil, organics, roots; moist.
4						***Slag*** Fill: slag, fire brick, red brick, fill, few coal fragments; dry. Wet from 13.5 to 14.4' bgs.
6	2	0.2 (4-6.5)	- - - -	63		
8						
10	3	0.1 (8-9.8)	- - - -	45		
12						
14	4	5.9 (12-14.2)	- - - -	55		
16						***Gravelly Silt (ML)*** Bedrock fill; dry.
18	5	0.6 (16-16.6) 0 (16.6-18.6)	- - - -	63		***Slag*** Fill: slag, fire brick, coal fragments; dry.
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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(315) 655-3900

Boring Log: SB-AOC30-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 606.75

Total Depth (feet): 27.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
22	6	0.1 (20-23)	- - - -	75		***Gravelly Silt (ML)*** Fill: bedrock fragments, slag, fire brick, red brick. Dry from 20 to 21.5' bgs. Wet from 21.5 to 23' bgs. *(continued)*
24						***Slag*** Fill: slag, fire brick, red brick, bedrock fill, coal fragments.
26	7	0.1 (24-26.3)	- - - -	66		
28						Bottom of Boring at 27.5 feet Refusal at 27.5 ft. bgs.
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC30-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 608.48

Total Depth (feet): 17

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0.1 (0-0.3) 0.1 (0.3-1.5) 3.5 (1.5-3)	- - - -	75		***Topsoil*** Topsoil, organics, roots; moist.
						Gravelly Silt (ML) Bedrock fill; dry.
						Slag Fill: slag, fire brick, red brick, coal fragments; no odor; dry.
4						
6	2	0.2 (4-7)	- - - -	75		***Gravelly Silt (ML)*** Fill: bedrock fragments, slag, coal fragments, fire brick, red brick; dry. Bedrock at 15.4' bgs.
8						
10	3		- - - -	100		
12						
14	4	1.1 (12016)	- - - -	100		
16						
	5		-			
18						Bottom of Boring at 17 feet Refusal at 17.0 ft. bgs.
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC30-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): 607.18

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.2) 0.6 (0.2-2)	- - - -	100		***Topsoil*** Topsoil, organics; moist. ***Slag*** Fill: slag, coal fragments, fire brick, red brick; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
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Boring Log: SB-AOC30-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 18, 2015

Surface Elevation (feet AMSL*): Not Survey

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Topsoil, roots, organics; moist.
1	1	0 (0-0.1) 6.3 (0.1-2)	- - -	100		***Gravelly Silt (ML)*** Fill: bedrock fragments, fire brick, red brick, coal fragments; no odor; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC30-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 607.94

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description Ground Surface
						Not Logged.
						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

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Boring Log: SB-AOC31-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 16, 2015

Surface Elevation (feet AMSL*): 716.96

Total Depth (feet): 12

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Asphalt Asphalt.
2	1	0 (0-4)	- - - -	50		***Well-Graded Gravel (GW)*** Black (7.5YR 2.5/1) gravel, sub-angular to sub-rounded, poorly sorted, trace silt; dry.
4						***Well-Graded Gravel (GW)*** Very dark brown (7.5YR 2.5/2) gravel less than 0.25 in diameter, trace silt, medium soft, low plasticity; wet.
6	2	0 (4-8)	- - - -	50		***Well-Graded Gravel with Silt (GW-GM)*** Brown (7.5YR 4/3) gravel less than 0.25 in diameter, few silt, medium soft, low plasticity; wet.
8						***Well-Graded Gravel (GW)*** Pinkish gray (7.5YR 6/2) gravel less than 1.5 in diameter, sub-angular to angular; dry.
10	3	0 (10-11)	- - - -	75		***Well-Graded Gravel with Silt (GW-GM)*** Gravel less than 1.5 in diameter, poorly sorted, few silt, medium soft to stiff, low plasticity; wet.
12						***Well-Graded Gravel (GW)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, poorly sorted, trace silt, stiff; dry.
14						Bottom of Boring at 12 feet Refusal at 12 ft. bgs.
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
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(315) 655-3900

Boring Log: SB-AOC31-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 712.43

Total Depth (feet): 5.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Asphalt Asphalt and road base.
2	1	0.1 (0-4)	- - - -	63		***Topsoil*** Topsoil, organics; moist.
						Silty Gravel (GM) Dark brown (7.5YR 3/2) gravel less than 0.5 in diameter, sub-rounded, few silt, trace medium-grained sand; moist.
4	2	0.1 (4-5.5)	- -	40		***Well-Graded Gravel (GW)*** Gray (7.5YR 6/1) gravel less than 1 in diameter, angular, trace silt; dry.
6						***Siltstone*** Highly fractured siltstone; dry.
8						Bottom of Boring at 5.5 feet Refusal at 5.5 ft. bgs.
10						
12						
14						
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC31-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 709.92

Total Depth (feet): 14.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0.2 (0-0.6)	- - - -	15		***Well-Graded Gravel (GW)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, weathered; dry.
4						
6	2	0.2 (4-6.5)	- - - -	50		
8						
10	3	3.3 (8-9)	- - - -	25		
12						
14	4	0.3 (12-13) 0.3 (13-14.5)	- - - -	100		***Silt*** Brown (7.5YR4/4) silt, trace fine- to medium-grained sand, soft to stiff, low plasticity; wet.
16						Bottom of Boring at 14.5 feet Refusal at 14.5 ft. bgs.
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC31-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 709.48

Total Depth (feet): 7.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0.3 (0-4)	- - - -	100		***Well-Graded Gravel (GW)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, highly weathered; dry.
4						
6	2	0.1 (4-6) 0.1 (6-7.5)	- - - -	100		***Silt with Gravel (ML)*** Brown (7.5YR 4/4) silt, few gravel less than 0.25 in diameter, sub-angular, medium soft to stiff, low plasticity; wet.
						Siltstone Light gray (7.5YR 7/1) siltstone; dry.
8						Bottom of Boring at 7.5 feet Refusal at 7.5 ft. bgs.
10						
12						
14						
16						
18						
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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Boring Log: SB-AOC31-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 17, 2015

Surface Elevation (feet AMSL*): 709.78

Total Depth (feet): 7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0.2 (0-0.6) 0.1 (0.6-3)	- - - -	75		***Silt with Gravel (ML)*** Dark reddish brown (5YR 3/2) silt, few gravel less than 0.25 in diameter, angular, medium soft, low plasticity; dry. ***Well-Graded Gravel (GW)*** Light gray (7.5YR 7/1) gravel less than 1.5 in diameter, angular; dry.
4 6	2	0.2 (4-6)	- - - -	50		***Siltstone*** Light gray (7.5YR 7/1) siltstone less than 2 in diameter, angular, fractured; dry.
8 10 12 14 16 18 20						Bottom of Boring at 7 feet Refusal at 7.0 ft. bgs.

Geologist(s): Matthew Richardson
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Shawn Bodah
Method: Direct Push

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Boring Log: SB-AOC31-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 709.19

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Well-Graded Gravel with Silt (GW-GM)*** Fill material, siltstone fragments, brick fragments; some silt and coal ash; medium dense; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC32-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 570

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Very dark grayish brown (10YR 3/2) topsoil, roots present.
		0.1 (0-0.5)	-			
1	1	0.1 (0.5-1.2)		90		***Gravelly Silt (ML)*** Very dark gray (10YR 3/1) silt, some gravel ranging from 0.2 to 1.0 in diameter, angular; loose; dry.
		0.1 (1.2-2)	-			
			-			***Slag*** Fill: slag, ash, coal fragments, few small gravel. Siltstone rock present at 1.8' bgs.
2						
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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Boring Log: SB-AOC32-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 570.87

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.1 (0-0.5) 0.1 (0.5-1.7) 0.1 (1.7-2)	- - - -	100		***Topsoil*** Topsoil, roots present.
						Slag Fill: slag, coal, ash, trace brick, trace glass.
2						***Silt with Gravel (ML)*** Brown (10YR 4/3) silt, little gravel ranging from 0.5 to 1 in diameter, angular; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC32-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 569.5

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present.
1	1	0.2 (0-0.4) 0.2 (0.4-1.2) 0.2 (1.2-2)	- - -	75		***Slag*** Fill: slag, few gravel, angular, trace coal; dry.
2			-			***Siltstone*** Siltstone.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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Boring Log: SB-AOC32-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 566.91

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Topsoil*** Very dark gray (10 YR 3/1) topsoil, roots present.
1	1	0.2 (0-0.4) 0.2 (0.4-1) 0.2 (1-1.2)	- - -	60		***Slag*** Fill: slag, trace brick, trace coal; dry.
						Well-Graded Gravel (GW) Gravel ranging from 0.8 to 1.5 in diameter, angular; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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Boring Log: SB-AOC32-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 570.24

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.3 (0-1.2) 178.4 (1.2-2)	- - - -	100		***Topsoil*** Very dark gray (10YR 3/1) topsoil.
						Silt Very dark grayish brown (10YR 3/2) silt, few gravel ranging from 0.2 to 0.8 in diameter, angular; loose; dry. Tree roots from 0.9 to 1.2 bgs.
2						***Slag*** Fill: dark gray (10YR 4/1) slag, coal, ash, little gravel, angular; dry.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC32-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 570.52

Total Depth (feet): 1.4

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.2 (0-0.17)	-			***Topsoil*** Black (7.5YR 2.5/1) topsoil, trace gravel less than 1.5 in diameter, angular.
1		0.3 (0.17-1.4(	-			***Silt*** Black (7.5YR 2.5/1) silt, few gravel ranging from 0.2 to 2.5 in diameter, angular, moist. Becoming wet at bottom.
2						Bottom of Boring at 1.4 feet Refusal at 1.4 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC32-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 567.11

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.3 (0-0.17) 0.7 (0.17-1.1)	-			***Topsoil*** Very dark brown (7.5YR 2.5/2) topsoil, few gravel less than 1 in diameter, sub-angular, few roots, trace brick; loose; dry.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC32-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 566.43

Total Depth (feet): 1.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.3 (0-0.17) 0.3 (0.17-1.7)	- -			***Well-Graded Gravel (GW)*** Very dark gray (7.5YR 3/1) gravel less than 1.2 in diameter, angular, trace silt, trace roots; loose; dry. ***Well-Graded Gravel with Silt (GW-GM)*** Black (7.5YR 2.5/1) gravel less than 1.5 in diameter, angular, few silt; loose; dry.
2						Bottom of Boring at 1.7 feet Refusal at 1.7 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC32-09

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 565.81

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.2 (0-0.17) 0.3 (0.17-1.1)	-			***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, trace large gravel, trace organics, trace roots.
1						***Silt with Gravel (ML)*** Dark brown (7.5YR 3/3) silt, little gravel less than 1.5 in diameter, sub-angular, trace clay, trace fine-grained sand, trace roots; moist.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC32-10

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 565.82

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-0.9)	-			***Topsoil*** Topsoil, roots, organics, trace gravel less than 1.5 in diameter; loose; dry.
1						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC33-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 586.75

Total Depth (feet): 23.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.3) 0 (0.3-0.5) 0 (0.5-1.5) 0 (1.5-2.3)	- - - -	57		***Asphalt*** Asphalt. ***Concrete*** Road base. ***Well-Graded Gravel with Silt (GW-GM)*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling present from 1.5 to 3.1' bgs.
4						
6	2	0.1 (4-5)	- - - -	25		***Slag*** Fill: slag, coal fragments, red brick, fire brick; wet.
8						***Silty Gravel (GM)*** Fill: bedrock fragments, slag, few silt; wet at 9.5' bgs.
10	3	0.1 (8-10)	- - - -	50		
12						
14	4	0.2 (12-14.3)	- - - -	57		
16						
18	5	0.1 (16-18.1)	- - - -	53		
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC33-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 586.75

Total Depth (feet): 23.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
22	6	3.5 (20-22)	- - - -	53		***Well-Graded Gravel (GW)*** Gravel, coarse, LNAPL present; saturated. *(continued)*
24						Bottom of Boring at 23.8 feet Refusal at 23.8 ft. bgs.
26						
28						
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC33-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 20, 2015

Surface Elevation (feet AMSL*): 586.7

Total Depth (feet): 23.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Asphalt Asphalt.
2	1	0 (0-0.2)	- - - -	50		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs.
4						
6	2	0.3 (4-5.8)	- - - -	45		
8						
10	3	3.5 (8-10.7)	- - - -	65		
12						
14	4	0.6 (12-14.1)	- - - -	53		
16						
18	5	0.6 (16-18)	- - - -	50		
20						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC33-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 20, 2015

Surface Elevation (feet AMSL*): 586.7

Total Depth (feet): 23.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
22	6	1.4 (20-21.7) 3.7 (21.7-22.4)	- - - -	65		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs. *(continued)*
24						Bottom of Boring at 23.7 feet Refusal at 23.7 ft bgs.
26						
28						
30						
32						
34						
36						
38						
40						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC33-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 20, 2015

Surface Elevation (feet AMSL*): 587.06

Total Depth (feet): 19.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
2	1	0 (0-0.2) 0.2 (0.2-0.8) 0.2 (0.8-2.9)	- - - -	73		***Asphalt*** Asphalt. Road base. ***Gravelly Silt (ML)*** Rock fill. ***Slag*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling, light orange and pale brown in color, present from 1.5 to 3.1' bgs.
4						
6	2	0.2 (4-6.5)	- - - -	63		***Slag*** Fill: slag, coal fragments, red brick, gravel, angular; moist. Little silt from 5.9 to 6.5' bgs.
8						***Slag*** Fill: slag, coal fragments, red brick, gravel, angular. Sub-angular gravel present from 9.5 to 10.3' bgs.
10	3	0.3 (8-10.3)	- - - -	67		
12						***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating at 13.5' bgs.
14	4	0.2 (12-14.5)	- - - -	77		
16						***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating near bottom. Odor present.
18	5	2.5 (16-19.1)	- - - -	88		***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock with a brownish yellowish coating near bottom. Odor present.
20						Bottom of Boring at 19.5 feet Refusal at 19.5 ft. bgs.

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC34-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 20, 2015

Surface Elevation (feet AMSL*): 628.98

Total Depth (feet): 5.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Asphalt Asphalt.
1 2 3	1	0 (0-0.2) 0 (0.2-0.6) 0.2 (0.6-3.4)	- - - -	85		***Slag*** Slag, bedrock fill, coal fragments, red brick, fire brick. Light olive brown (2.5Y 5/4) few silt from 3.7 to 5.5' bgs. Siltstone at bottom of boring.
4 5	2	0.2 (4-5.3)	- -	86		
6 7 8 9 10						Bottom of Boring at 5.5 feet Refusal at 5.5 ft. bgs.

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC34-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 20, 2015

Surface Elevation (feet AMSL*): 628.22

Total Depth (feet): 6.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Topsoil Topsoil, organics, bedrock fill.
1			-			***Well-Graded Gravel with Silt (GW-GM)*** Gravel, angular, little very dark grayish brown (2.5Y 3/2) silt.
2	1	0.2 (0-0.3)	- - -	35		***Gravelly Silt (ML)*** Fill: bedrock fragments, highly factured, gravel, angular; dry.
3						
4						
5	2	0.2 (4-6.5)	- - -	96		
6						
7						Bottom of Boring at 6.5 feet Refusal at 6.5 ft. bgs.
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

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5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC34-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 630.7

Total Depth (feet): 5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete Concrete.
1			-			***Topsoil*** Topsoil.
2	1	0.1 (0-4)	- - -	75		***Topsoil*** Topsoil. ***Well-Graded Gravel with Silt and Sand (GW-GM)*** Very dark grayish brown (10YR 3/2) gravel ranging from 0.2 to 1.5 in diameter, some fine-grained sand, few silt; loose; dry.
3						***Lean Clay with Gravel (CL)*** Dark yellowish brown (10YR 3/4) clay, low plasticity, little gravel ranging from 0.5 to 1 in diameter; dry.
4	2	0 (4-5)	-	60		***Siltstone*** Light brownish gray (10YR 6/2) siltstone; highly fractured.
5						Bottom of Boring at 5 feet Refusal at 5.0 ft. bgs.
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC34-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 630.94

Total Depth (feet): 3

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Topsoil Topsoil.
1	1	0.2 (0-3)	- - - -	67		***Well-Graded Sand with Gravel (SW)*** Dark brown (10YR 3/3) fine to semi- coarse-grained sand, little gravel ranging from 0.2 to 0.8 in diameter, few silt; loose; dry.
2						***Gravelly Silt (ML)*** Dark yellowish brown (10YR 4/6) silt, low plasticity, some gravel ranging from 0.5 to 2 in diameter; loose; dry.
3						***Siltstone*** Light gray (10YR 7/2) siltstone; fractured; weathered; loose; dry.
						Bottom of Boring at 3 feet Refusal at 3.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
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Boring Log: SB-AOC34-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 629.99

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Concrete Concrete.
1						***Topsoil*** Topsoil.
2	1	0.1 (0-4)	- - - -	63		***Silt with Gravel (ML)*** Very dark grayish brown (10YR 3/2) silt, little gravel ranging from 0.2 to 0.8 in diameter; loose; dry.
3						***Slag*** Fill: slag; coal fragments.
						Lean Clay (CL) Dark yellowish brown (10YR 3/4) clay, medium plasticity; loose; dry. Few gravel ranging from 0.2 to 1.0 in diameter present from 1.2 to 1.8' bgs.
4						***Fat Clay (CH)*** Dark yellowish brown (10YR 3/4) clay; high plasticity; moist.
5	2	0.1 (4-6)	- - - -	50		***Siltstone*** Siltstone; weathered.
6						Bottom of Boring at 6 feet Refusal at 6.0 ft. bgs.
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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5 Sullivan Street
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Boring Log: SB-AOC34-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 634.37

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						***Silty Gravel (GM)*** Grayish brown (10YR5/2) siltstone fragments and silt; dry; loose.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
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Boring Log: SB-AOC34-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 629.79

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Well-Graded Gravel with Silt and Sand (GW-GM)*** Grayish brown (0YR5/6) gravel with sandy silt, fill; hard; non plastic; noncohesive; dry.
2						***Silty Gravel (GM)*** Light brown (10YR3/6) silty gravel, some coal fragments; hard; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-01

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 16, 2015

Surface Elevation (feet AMSL*): 680.81

Total Depth (feet): 3

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.1) 0 (1-1.5) 0 (1.5-1.8) 0 (1.8-2.3) 0 (2.3-3)	- - - -	100		***Silt with Sand (ML)*** Black (5YR 2.5/1) silt, some fine-grained sand, soft to medium stiff, low plasticity; moist.
						Poorly-Graded Gravel (GP) Light gray (5YR 7/1) gravel less than 1.5 in diameter; dry.
2						***Gravelly Silt (ML)*** Black (5YR 2.5/1) silt, some gravel less than 0.5 in diameter, angular, trace fine-grained sand, stiff; dry.
3						***Poorly-Graded Sand with Gravel (SP)*** Yellowish red (5YR 5/8) medium coarsed-grained sand, some gravel, angular, loose; dry.
4						***Poorly-Graded Sand with Gravel (SP)*** Black (5YR 2.5/1) medium coarsed-grained sand, some gravel less than 0.5 in diameter, angular, medium dense; moist.
5						Bottom of Boring at 3 feet End of boring at 3.0 ft. bgs.
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC35-02

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 16, 2015

Surface Elevation (feet AMSL*): 679.19

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.4) 0 (0.4-0.6) 0 (0.6-2)	- - - -	100		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.
						Poorly-Graded Gravel (GP) Gray (5YR 6/1) gravel less than 1.5 in diameter, angular; dry.
2						***Silty Gravel with Sand (GM)*** Dark reddish brown (5YR 2.5/2) gravel less than 1 in diameter, sub-rounded, few silt, few fine-grained sand; dry.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-03

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 16, 2015

Surface Elevation (feet AMSL*): 681.68

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.3) 0 (0.3-1.4) 0 (1.4-1.6) 0 (1.6-2)	- - - -	100		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.
						Poorly-Graded Gravel with Sand (GP) Gravel less than 1 in diameter, sub-rounded, few fine- to medium-grained sand, trace silt.
2						***Poorly-Graded Gravel (GP)*** Gray (5YR 6/1) gravel less than 1.5 in diameter.
3						***Silty Sand (SM)*** Black (5YR 2.5/1) medium-grained sand, some silt, loose; wet.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-04

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 578.68

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt.
1	1	0 (0-0.2) 0 (0.2-2)	- - -	100		***Silty Gravel (GM)*** Gravel, angular to sub-angular, some fines, trace brick; moist.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-05

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 579.19

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.2) 0 (0.2-2)	- - - -	100		***Asphalt*** Asphalt. ***Silty Gravel (GM)*** Gravel, angular to sub-angular, some fines, trace brick; moist.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
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Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-06

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 19, 2015

Surface Elevation (feet AMSL*): 578.77

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0 (0-0.2) 0 (0.2-0.4) 0 (0.3-2)	- - - -	100		***Asphalt*** Asphalt. ***Concrete*** Road base, trace coal.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
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Geologist(s): Matthew Richardson

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Shawn Bodah

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-07

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 565.91

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		0.1 (0-0.2)	-			***Topsoil*** Very dark gray (10YR 3/1) topsoil; dry.
1	1	0.1 (0.2-0.8)	-	75		***Concrete*** Concrete, road base; dry.
		0.1 (0.8-2)	-			***Gravelly Silt (ML)*** Brown (10YR 4/3) silt, some gravel ranging from 0.2 to 1.5 in diameter; loose; dry.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
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6						
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8						
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-08

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 566.35

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
			-			***Asphalt*** Asphalt, road base.
1	1	0.1 (0-0.5) 0.1 (0.5-1.3) 0.1 (1.3-2)	- - -	90		***Slag*** Fill: gravel, angular to sub-angular, some fines, trace brick; moist.
2						***Well-Graded Gravel with Clay (GW-GC)*** Brown (10YR 5/3) gravel, few clay. high plasticity; moist.
						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
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8						
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-09

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 1, 2015

Surface Elevation (feet AMSL*): 565.85

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
		0.2 (0-0.2)	-			***Asphalt*** Asphalt, road base.
1	1	0.2 (0.2-0.9)	-	95		***Silty Gravel (GM)*** Yellowish brown (10YR 5/4) gravel ranging from 0.2 to 0.8 in diameter, little silt; loose; dry.
		0.2 (0.9-1.5)	-			
		0.2 (1.5-2)	-			***Slag*** Fill: slag, little gravel, trace coal.
2						***Well-Graded Gravel with Clay (GW-GC)*** Brown (10YR 5/3) gravel, few clay, high plasticity; moist.
3						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
4						
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-10

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 683.83

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.1)	-	100		***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present; dry.
1						***Topsoil*** Dark grayish brown (10YR 4/2) topsoil, silt, little gravel ranging from 0.5 to 1.1 in diameter, sub-angular, few wood present; dry.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
3						
4						
5						
6						
7						
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9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-11

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 684.25

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.1)	-	100		***Topsoil*** Very dark gray (10YR 3/1) topsoil with roots, little gravel less than 1 in diameter, angular; dry.
1						***Silt with Gravel (ML)*** Dark grayish brown (10YR 4/2) silt, little gravel less than 1 in diameter, sub-angular, little roots; dry.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-12

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 677.62

Total Depth (feet): 0.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0.1 (0.17-0.8)	-	100		***Topsoil*** Very dark gray (10YR 3.1) topsoil, little gravel ranging from 0.2 to 1 in diameter, angular thin slabs of gravel, roots present; dry.
1						Bottom of Boring at 0.8 feet Refusal at 0.8 ft. bgs.
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5						
6						
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10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-13

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 630.24

Total Depth (feet): 0.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-0.8)	-	100		***Topsoil*** Very dark grayish brown (10YR 3/2) topsoil, roots present; dry.
1						***Silt with Gravel (ML)*** Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 0.5 in diameter, sub-angular, trace roots; dry.
2						Bottom of Boring at 0.8 feet Refusal at 0.8 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-14

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 628.21

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.1 (0-0.17) 0.1 (0.17-0.9)	-	100		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel ranging from 0.2 to 1 in diameter, sub-angular, roots; dry.
1						***Silt with Gravel (ML)*** Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1.5 in diameter, angular, trace roots; dry.
2						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-15

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 627.56

Total Depth (feet): 0.75

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.1 (0-0.17) 0.1 (0.17-0.75)	-	100		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel, sub-angular, roots; dry.
1						***Silt with Gravel (ML)*** Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1 in diameter, angular, trace roots; dry.
2						Bottom of Boring at 0.75 feet Refusal at 0.75 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: SB-AOC35-16

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 600.26

Total Depth (feet): 5.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.1 (0-0.3) 0.5 (0.3-1.2) 0.2 (1.2-2.4)	- - - -	60		***Concrete*** Concrete.
						Silt with Gravel (ML) Black (7.5YR 2.5/1) silt, low palsticity, little gravel less than 1 in diameter, angular; loose; dry.
2						***Silty Gravel (GM)*** Dark brown (7.5YR 3/2) gravel ranging from 0.2 to 2 in diameter, angular, little silt, non-plastic; loose; dry. Only angular rock present from 1.2 to 1.4' bgs. More silt is present from 2.1 to 2.4' bgs.
3						
4						***Silt with Gravel (ML)*** Dark gray (7.5YR 4/1) silt, non-plastic, little gravel ranging from 0.2 to 1 in diameter, sub-angular; loose; dry.
5	2	o.2 (4-4.6)	- -	40		
6						Bottom of Boring at 5.5 feet Refusal at 5.5 ft. bgs.
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Direct Push

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5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-17

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 531.58

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-0.9)	-			***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, roots, little gravel less than 2 in diameter, sub-angular; loose; dry.
1						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

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5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-18

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 531.41

Total Depth (feet): 1.3

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.3 (0-0.17) 0.3 (0.17-1.3)	- -			***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, little gravel less than 1.5 in diameter, sub-angular, trace roots; loose; dry.
1						***Silt*** Black (7.5YR 2.5/1) silt, little slag, few gravel less than 0.8 in diameter, trace red brick, trace glass; dry.
2						Bottom of Boring at 1.3 feet Refusal at 1.3 ft. bgs.
3						
4						
5						
6						
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8						
9						
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

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5 Sullivan Street
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Boring Log: SB-AOC35-19

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 3, 2015

Surface Elevation (feet AMSL*): 531.06

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	0.3 (0-0.17) 0.4 (0.17-1.1)	-			***Topsoil*** Black (7.5YR 2.5/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular to angular, litle slag; loose; dry.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC35-20

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 541.33

Total Depth (feet): 1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1)	-			***Topsoil*** Dark brown (7.5YR 3/2) topsoil, roots present; dry.
1						***Topsoil*** Dark brown (7.5YR 3.2) topsoil, little gravel less than 1.2 in diameter, sub-angular, few organics; dry. Few clay from 0.8 to 1' bgs.
2						Bottom of Boring at 1 feet Refusal at 1.0 ft bgs.
3						
4						
5						
6						
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8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

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5 Sullivan Street
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Boring Log: SB-AOC35-21

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 541.24

Total Depth (feet): 1.2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.2)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; dry.
1						***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 1 in diameter, sub-angular; wet starting at 1 foot bgs.
2						Bottom of Boring at 1.2 feet Refusal at 1.2 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
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Boring Log: SB-AOC35-22

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 536.5

Total Depth (feet): 0.8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.2 (0-0.17)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.
1						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angualr; loose; dry.
2						Bottom of Boring at 0.8 feet Refusal at 0.8 ft. bgs.
3						
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Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-23

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 546.6

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-0.9)	-			***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics; loose; dry.
1						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry.
2						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-24

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 540.99

Total Depth (feet): 1.2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.2)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.
1						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular; loose; dry.
2						Bottom of Boring at 1.2 feet Refusal at 1.2 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-25

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 540.61

Total Depth (feet): 1.2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.2)	- -			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel less than 0.8 in diameter, sub-angular.
1						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.2 in diameter, sub-angular; loose; dry.
2						Bottom of Boring at 1.2 feet Refusal at 1.2 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-26

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 547.18

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0.1 (0-0.17) 0.1 (0.17-0.9)	-			***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 0.8 in diameter, sub-angular; loose; dry.
1						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1 in diameter, sub-angular; loose; dry.
2						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-27

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 548.33

Total Depth (feet): 0.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 2.5 in diameter, sub-angular; loose; dry.
1						Bottom of Boring at 0.7 feet Refusal at 0.7 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-28

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 548.98

Total Depth (feet): 0.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-0.7)	-			***Topsoil*** Dark brown (7.5YR 3/3) to very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.
1						Bottom of Boring at 0.7 feet Refusal at 0.7 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-29

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 550.57

Total Depth (feet): 0.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-0.7)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel.
1						***Topsoil*** Brown (7.5YR 4/3) topsoil, few gravel less than 1 in diameter, sub-angular, trace organics.
2						Bottom of Boring at 0.7 feet Refusal at 0.7 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-30

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 586.38

Total Depth (feet): 1.1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.17) 0 (0.17-1.1)	-			***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics, few gravel less than 0.5 in diameter, sub-angular; loose; dry.
1						***Silt with Gravel (ML)*** Very dark gray (7.5YR 3/1) silt, organics, little gravel less than 1.5 in diameter; loose; dry.
2						Bottom of Boring at 1.1 feet Refusal at 1.1 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-31

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 573.91

Total Depth (feet): 0.9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.9)	-			***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.
1						Bottom of Boring at 0.9 feet Refusal at 0.9 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-32

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 4, 2015

Surface Elevation (feet AMSL*): 576.85

Total Depth (feet): 0.7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	0 (0-0.7)	-			***Silt with Sand (ML)*** Very dark gray (7.5YR 3/1) topsoil, silt, little fine-grained sand, little organics; loose; dry.
1						***Gravelly Silt (ML)*** Black (7.5YR 2.5/21) silt, some gravel ranging from 0.25 to 3.5 in diameter with flat platey appearance, trace to little organics; loose; dry.
2						Bottom of Boring at 0.7 feet Refusal at 0.7 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Molly Long

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Rocky

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-33

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 566.07

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Well-Graded Gravel with Sand (GW)*** Dark gray (2Y4/2) fill: gravel with coarse sand, trace ash fill; medium hard; dry.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-34

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 563.56

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	100		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry. ***Well-Graded Gravel with Silt and Sand (GW-GM)*** Dark gray (2.5YR4/1) gravel with silty sand; medium dense; moist.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-35

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 1, 2016

Surface Elevation (feet AMSL*): 564.32

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						Not Logged.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-36

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 585.07

Total Depth (feet): 2

Borehole Diameter (inches): 4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1						Not Logged.
2						Bottom of Boring at 2 feet End of boring at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor:

Driller/Operator:

Method: Hand Auger

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-37

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 597.92

Total Depth (feet): 0.75

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
						Not Logged.
1						Bottom of Boring at 0.75 feet Refusal at 0.75 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-38

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 600.27

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	75		***Silt (ML)*** Brown (10YR4/6) silt with coarse sand; medium dense; dry. ***Silty Gravel (GM)*** Brown (10YR4/6) siltstone fragments with some silt; dense; dry.
2						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-39

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 600.29

Total Depth (feet): 1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	(0-1) 0.0	- - - -	50		***Silty Gravel (GM)*** Brown (10YR4/6) silty gravel, some coarse sand; hard; medium dense; moist.
1						Bottom of Boring at 1 feet Refusal at 1.0 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-40

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 600.29

Total Depth (feet): 1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	1	(0-1) 0.0	- - - -	50		***Well-Graded Gravel with Silt (GW-GM)*** Dark brown (10YR4/8) silty gravel, trace coarse sand; loose; dry.
1						Bottom of Boring at 1 feet Refusal at 1.0 ft. bgs.
2						
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: SB-AOC35-41

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: March 2, 2016

Surface Elevation (feet AMSL*): 600.28

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
1	1	(0-2) 0.0	- - - -	90		***Sandy Silt (ML)*** Fill: brown (10YR4/6 silt with some coarse sand, some ash and coal cinders, trace brick fragments, trace black discoloration; hard; dry.
2						Siltstone fragments and gravel; weathered; very broken; dry.
						Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne Pesch

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-01B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 25, 2015

Surface Elevation (feet AMSL*): 566.59

TOC Elevation (feet AMSL*):

Total Depth (feet): 25.5

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						Ground Surface	
	1	0.2	10 10 12 35	100		Asphalt.	
2						***Well-Graded Sand (SW)*** Black (10YR2/1) angular coarse sand with slag and cinders, some gravel (0.25-0.75in); loose; dry.	
4						***Silt (ML)*** Dark yellowish brown (10YR4/4) silt, some angular siltstone gravel >2.0in in diameter; relict bedding; medium dense; dry.	
6						Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures	
8	2			Total: 100% Solid: 98% RQD: 0%			
10							
12	3			Total: 100% Solid: 90% RQD: 14%			
14							
16	4			Total: 100% Solid: 96% RQD: 30%			
18							
20							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-01B

Project: Former EPT Ithaca
Project No.: 4255/4507/Legacy 127491
Location: Ithaca, New York
Completion Date: November 25, 2015

Surface Elevation (feet AMSL*): 566.59
TOC Elevation (feet AMSL*):
Total Depth (feet): 25.5
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
22 24	5			Total: 100% Solid: 74% RQD: 58%		Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures *(continued)*	
26 28 30 32 34 36 38 40						Bottom of Boring at 25.5 feet End of boring at 25.5 ft. bgs.	

Geologist(s): Erik S. Reinert
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-02B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 578.58

TOC Elevation (feet AMSL*):

Total Depth (feet): 35.5

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
	1	2.5	12 5 6 6	100		Asphalt.	
2	2	2.3	8 6 3 2	25		***Silt with Gravel (ML)*** Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	
4	3	14	3 2 2 6	50		***Silt (ML)*** Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
6	4	11.1	5 6 6 7	50			
8	5	2.6	18 20 10 8	25			
10	6	0.5	10 6 6 8	12.5			
12	7	0.4	6 7 4 6	25		***Silt (ML)*** Dark grayish brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	
14	8	3	8 50 50/2 -	50		***Silt with Gravel (ML)*** Grayish brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16							
18	9			Total: 100% Solid: 74% RQD:		***Well-Graded Gravel with Silt (GW-GM)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at24.5'.	
20							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-MW-02B

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 578.58

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 35.5

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
				58%			
22 24	10			Total: 100% Solid: 89% RQD: 8%		Siltstone; dark gray; moderate to strong field strength; aphanitic; uniform structure with possible laminations; fresh to slightly decomposed; competent; intensely fractured; fractures appear parallel to bedding every 1-3' ranging from extremely narrow to very narrow in aperture (0-3mm); not healed; clean; rough; stepped. 20.6-21.1' High angle fracture; very narrow; clean; rough; stepped.	
26 28 30	11			Total: 96% Solid: 42% RQD: 7%		27.2-28.3' Near vertical fractures; extremely narrow; not healed; smooth; clean. 29.1-30.65' Near vertical fractures; extremely narrow; not healed; smooth; clean.	
32 34	12			Total: 100% Solid: 92% RQD: 36%			
36 38 40						Bottom of Boring at 35.5 feet End of boring at 35.5 ft. bgs.	

Geologist(s): Erik S. Reinert
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-02C

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 579.23

TOC Elevation (feet AMSL*):

Total Depth (feet): 66

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						Ground Surface	
	1	2.5	12 5 6 6	100		Asphalt.	
2	2	2.3	8 6 3 2	25		***Well-Graded Gravel (gw)*** Angular gravel fill; loose.	
4	3	14	3 2 2 6	50		***Well-Graded Gravel with Silt (gw-gm)*** Black (10YR2/2) to yellowish brown silty coal cinders with angular gravel (0.2-2.0in), trace coarse sand; loose; dry.	
6	4	11.1	5 6 6 7	50		***Silty Gravel (GM)*** Gray (10YR5/1) sub-angular gravel (0.2-2.0in), some silt, some coal cinders, trace medium sand; loose; dry.	
8	5	2.6	18 20 10 8	25			
10	6	0.5	10 6 6 8	12.5			
12	7	0.4	6 7 4 6	25			
14	8 9	3	8 50 50/2	50		***Lean Clay (CL)*** Gray (10YR5/1) silty clay, some sub angular gravel (0.2-1.5in); cohesive; medium plasticity; wet; soft.	
16			- - - - -			Fractured siltstone bedrock, trace silt; loose; wet.	
18	9			Total: 93% Solid: 60%			
20							

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

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Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-02C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 579.23

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 66

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
				RQD: 11%			
22	10			Total: 100% Solid: 68% RQD: 8%		Siltstone; strong; gray with occasional dark brown oxidized zones; aphanitic; massive with occasional banding; fresh to slightly decomposed; slight disintegration; intensely fractured. 18.3-18.55' Bedding plane fracture zone; wide; healed with cohesive clay sediment; rough; dry to moist. 18.7' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.1' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.4' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.8' 70° joint; narrow; slightly healed; surface oxidation; smooth; dry. 20.0-21.0' fracture zone; not healed; very broken; rough to smooth; dry. *(continued)*	
24							
26	11			Total: 100% Solid: 88% RQD: 26%		Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; intensely fractured, bedding plane fractures and vertical joint sets every 1-4, slight healing, some surface oxidation; rough to smooth. 36.4-39.6' Bedding plane fracture zone; narrow to medium wide; healed to clean; cohesive sediment; stepped; wet. 39.8-39.95' Bedding plane fracture; wide; healed; cohesive sediment; wet.	
28							
30							
32	12			Total: 98% Solid: 65% RQD: 8%			
34							
36	13	13.5 ppm 39.8-39.95'		Total: 100% Solid: 95% RQD: 36%			
38							
40							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-02C

Project: Former EPT Ithaca
Project No.: 4255/4507/Legacy 127491
Location: Ithaca, New York
Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 579.23
TOC Elevation (feet AMSL*):
Total Depth (feet): 66
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
42, 44	14			Total: 26% Solid: 22% RQD: 0%		Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; intensely fractured, bedding plane fractures and vertical joint sets every 1-4, slight healing, some surface oxidation; rough to smooth. 36.4-39.6' Bedding plane fracture zone; narrow to medium wide; healed to clean; cohesive sediment; stepped; wet. 39.8-39.95' Bedding plane fracture; wide; healed; cohesive sediment; wet. *(continued)*	
46, 48, 50	15			Total: 98% Solid: 98% RQD: 64%			
52, 54	16			Total: 100% Solid: 84% RQD: 69%			
56, 58, 60	17			Total: 92% Solid: 86% RQD: 76%			

Geologist(s): Nathaniel Winston
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Boring Log: WSP-MW-02C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 579.23

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 66

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
62	18			Total: 100% Solid: 92% RQD: 88%		Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; fractured. 46.25' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 46.95' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 47.3-47.6' 75° Joint; narrow to medium wide; clean; not healed; smooth; wet. 48.2' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped.	
64							
66						48.55' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 48.9' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 49.15' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 50.3' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 50.3-50.8' 90° Joint; medium narrow; clean; not healed; smooth; wet. 51-51.3' Fracture zone; very broken; narrow to moderately wide; medium healed; cohesive sediment; stepped; wet. 51.75' Mechanical break 52.15' Mechanical break 52.55' Mechanical break 53.15' Mechanical break 53.6' Mechanical break 52.9-53.55' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.1-55.2' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.5-56.0' Broken; possible fracture zone, possible mechanical break; some cohesive sediment; 60° fracture plane at 55.8' 55.6' Mechanical break 58.25' Mechanical break 59.15' Mechanical break 57.0-57.3 Fracture zone; very broken; narrow to moderately wide; clean; stepped; wet. 59.5-60.6 60-90° Joint set; wide to medium narrow; some healing; cohesive sediment; stepped; wet. 62.6' Mechanical break	
68							
70							
72							
74							
76							
78							
80							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-02C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 579.23

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 66

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
82						63.2' Mechanical break 63.6-63.8 70° Joint; wide; healed; cohesive sediment; wet; stepped. 64.9' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.1' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.6-66.0' Fracture zone; very wide; healed; cohesive sediment; dry; stepped. *(continued)*	
84						Bottom of Boring at 66 feet End of boring at 66.0 ft. bgs.	
86							
88							
90							
92							
94							
96							
98							
100							

Geologist(s): Nathaniel Winston
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Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-03B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: January 8, 2016

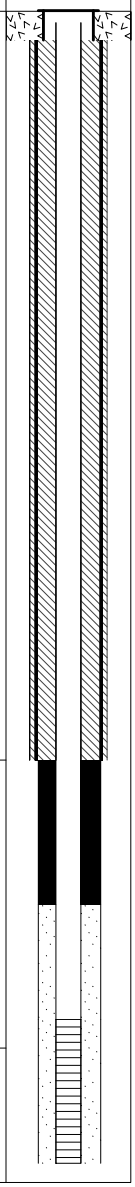
Surface Elevation (feet AMSL*): 587.05

TOC Elevation (feet AMSL*):

Total Depth (feet): 27.5

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description** (Ground Surface)	**Well Details**
						Overburden, not logged.	
						Bluish gray siltstone; strong; aphanitic; massive; fresh; competent; intensely fractured; fractures are primarily horizontal bedding plane fractures; smooth to slightly rough; no infilling; extremely narrow to tight. Recovery: Total: 100%, Solid: 65%, RQD: 15%	
						SAA; intensely fractured to 22', moderately fractured below Recovery: Total: 100%, Solid: 93%, RQD: 22%	

Depth scale: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
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Boring Log: WSP-MW-03B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: January 8, 2016

Surface Elevation (feet AMSL*): 587.05

TOC Elevation (feet AMSL*):

Total Depth (feet): 27.5

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
22						SAA; intensely fractured to 22', moderately fractured below Recovery: Total: 100%, Solid: 93%, RQD: 22% *(continued)*	
24 26						SAA; fossiliferous between 26.6' and 27.0'. Possible fracture zone from 23.33-23.75' w solid core recovery between fractures; Horizontal bedding plane fractures at 23.95', 24.0', 24.2', 24.5', 24.75', 24.9', 25.1', 25.25', 25.65', 25.8', 26.1', 26.55', 26.0', and 27.2'. Recovery: Total: 100%, Solid: 95%, RQD: 60%	
28						Bottom of Boring at 27.5 feet End of boring at 27.5 ft. bgs.	
30							
32							
34							
36							
38							
40							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-04B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 593.57

TOC Elevation (feet AMSL*):

Total Depth (feet): 41.2

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						Ground Surface	
						Asphalt Asphalt and gravel debris	
2	1	(0-2) 1.7 (2-4) 3.0	- - - -	69		***Silt with Gravel (ML)*** Dark grayish brown (10YR4/2) silt and subangular gravel; moist; medium dense; non cohesive; nonplastic.	
4							
6	2	(4-6) 2.6 (6-8) 3.7	- - - -	63		***Silt (ML)*** Dark reddish brown (10YR2/1) silt, some sub-angular gravel; loose; dry; non cohesive; nonplastic.	
8							
10	3	(8-10) 2.3 (10-12) 4.9	- - - -	63		***Well-Graded Gravel (gw)*** Fill: black (10YE2/1) to dark red (2.5YR3/6) coal ash and brick fragments, some angular coal fragments; loose; dry; non cohesive; odorless.	
12							
14	4	(12-14) 10.3 (14-16) 4.1	- - - -	63			
16							
18	5	(16-18) 6.9 (18-20) 3.4	- - - -	75			
20						***Well-Graded Gravel (gw)*** White fragmented sandstone fill.	

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-04B

Project: Former EPT Ithaca
Project No.: 4255/4507/Legacy 127491
Location: Ithaca, New York
Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 593.57
TOC Elevation (feet AMSL*):
Total Depth (feet): 41.2
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
	6	(20-21) 0.1	- - - -	100		***Well-Graded Gravel (gw)*** Fill: red (2.5YR3/6) brick fragments, trace coal; loose; dry.	
22						***Silt (ML)*** Grayish brown (10YR5/2) silt, trace brick and coal fragments; wet; soft.	
24	7			Total: 100% Solid: 60% RQD: 27%			
26							
28	8			Total: 100% Solid: 81% RQD: 18%			
30							
32							
34	9			Total: 82% Solid: 65% RQD: 13%			
36							
38	10			Total: 100% Solid: 100% RQD: 62%			
40							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
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Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-04B

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 593.57

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 41.2

Completion Date: November 30, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°.	
42						26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break 27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet.	
44						28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break 29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp; 30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft.	
46						31.9' Mechanical break 32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break 33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet.	
48						33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break 35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet.	
50						36.8' Mechanical break 37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break	
52							
54							
56							
58							
60							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-04B

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 593.57

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 41.2

Completion Date: November 30, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
62						38.05' Mechanical break 38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet. 39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet. *(continued)*	
64						Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°.	
66						26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break 27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet.	
68						28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break 29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp; 30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft.	
70						31.9' Mechanical break 32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break 33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break 35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed;	
72							
74							
76							
78							
80							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
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Boring Log: WSP-MW-04B

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 593.57

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 41.2

Completion Date: November 30, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.8' Mechanical break 37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break 38.05' Mechanical break 38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet. 39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet. *(continued)*	
82							
84							
86							
88						Bottom of Boring at 41.2 feet End of boring at 41.2 ft. bgs.	
90							
92							
94							
96							
98							
100							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-05B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 712.35

TOC Elevation (feet AMSL*):

Total Depth (feet): 25

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
	1	2.7	17 22 34 22	100		Asphalt.	
2	2	1.4	18 19 50/2 -	100		***Silty Gravel (GM)*** Brown (10YR4/5) silty sub angular gravel; loose to medium dense; dry.	
4 6						Not logged, augered down to set casing.	
8 10	3			Total: 98% Solid: 82% RQD: 8%		Siltstone; strong gray; dark; aphanitic; massive with possible laminations; fresh; competent; intensely fractured. 6.3-6.6' broken; 6.7' horizontal bedding plane; 6.85' horizontal bedding plane; 7-7.1' broken; 7.3' horizontal bedding plane; 7.5-7.55' horizontal bedding plane; 7.7, 7.8, 7.9, 8.1, 8.3, 8.5, 8.75, 8.9, 9.1, 9.25, 9.4, 9.8, 10, 10.2, 10.5' horizontal bedding plane fractures; 10.7-11.2' broken. Fractures are extremely narrow; not healed; clean; rough; stepped with visible water flow.	
12 14 16	4			Total: 98% Solid: 82% RQD: 8%		Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-4 with horizontal bedding plane fractures; clean; rough; stepped. Vertical fracture between 15.2-15.8'	
18 20	5			Total: 100% Solid: 9% RQD: 28%		Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-3 with horizontal bedding plane fractures; clean; rough; stepped. Highest fracture density between 22.4 and 23.1'.	

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-05B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: November 30, 2015

Surface Elevation (feet AMSL*): 712.35

TOC Elevation (feet AMSL*):

Total Depth (feet): 25

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
22							
24	6			Total: 65% Solid: 65% RQD: 42%		Siltstone; strong; gray; laminated; fresh; competent; intensely fractured. Horizontal bedding plane fractures at 21.8, 21.9, 22.1, 22.4, 22.9, 23.3, 23.8, 24.2, 24.4'. Fractures are clean; rough; stepped with narrow aperatures. High angle fracture between 24.0 and 24.2.	
26							
28						Bottom of Boring at 25 feet End of boring at 25.0 ft. bgs.	
30							
32							
34							
36							
38							
40							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
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(315) 655-3900

Boring Log: WSP-MW-06C

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 584.72

TOC Elevation (feet AMSL*):

Total Depth (feet): 66

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
						Ground Surface	
	1	0.7	13 20 10 11	100		Asphalt.	
2	2	1.9	17 18 16 13	75		***Silt with Gravel (ML)*** Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	
4	3	1.7	7 9 6 6	50		***Silt (ML)*** Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
6	4	-	7 6 5 4	0			
8	5	1.8	2 3 4 4	25			
10	6	1.6	3 4 4 3	15			
12	7	2	6 7 3 3	50		***Silt (ML)*** Dark grayish brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	
14	8	1.4	3 4 6 3	25		***Silt with Gravel (ML)*** Grayish brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16	9	1.2	21 3 5 4	62.5			
18	10	1.4	15 6 6 3	50		***Well-Graded Gravel with Silt (GW-GM)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'.	
20							

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-MW-06C

Project: Former EPT Ithaca
Project No.: 4255/4507/Legacy 127491
Location: Ithaca, New York
Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 584.72
TOC Elevation (feet AMSL*):
Total Depth (feet): 66
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
	11	0.8	6 3 3 6	20		***Well-Graded Gravel with Silt (GW-GM)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'. *(continued)*	
22	12	1.8	6 7 7 8	15			
24	13	3.3	10 7 5 8	50			
26	14	3.8	7 7 6 13	15			
28	15	3	6 13 40 52	100		Light brownish gray (2.5YR6/2) siltstone fragments, trace silt; broken; loose.	
30 32 34	16			Total: 84% Solid: 68% RQD: 23%			
36 38 40	17			Total: 100% Solid: 100% RQD: 44%			

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-MW-06C

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 2, 2015

Surface Elevation (feet AMSL*): 584.72

TOC Elevation (feet AMSL*):

Total Depth (feet): 66

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
42 44	18	PID 2.2 ppm at 39.4'		Total: 100% Solid: 100% RQD: 56%		Siltstone, strong dark gray; aphanitic; massive with occasional bedding; fresh to slightly decomposed; competent to moderately disintegrated; some very intense fracturing. 31.3' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.4' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.6' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.7' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 32.2-32.5' Mechanical break 32.5-33.05' Bedding plane fracture zone; moderately narrow to wide; healed cohesive sediment; some sand; stepped; wet. 33.1-33.3' 90° Joint; narrow; not healed; clean; stepped; wet. 33.5' Mechanical break 33.7' Mechanical break 34.5' Mechanical break 35.0' Mechanical break 35.95' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet. 36.2' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet. 36.4' Bedding plane fracture; moderately narrow; not healed; stepped; wet. 36.65-36.70' 30° Joint; narrow; not healed; clean; smooth; wet. 37.0' Mechanical break 37.25-37.30' 20° Joint; narrow; not healed; clean; smooth; wet. 37.7' Mechanical break 37.8' Mechanical break 38.15' Mechanical break 38.25' Bedding plane fracture; narrow; not healed; stepped; wet. 39.1' Bedding plane fracture; medium wide; not healed; stepped; wet. 39.2' Mechanical break 39.4-39.55' Bedding plane fracture; wide; healed; cohesive clay with sand; wet. 39.7-39.8' 45° Joint; narrow; not healed; clean; stepped; wet. 40.2' Mechanical break 40.3' Mechanical break 40.95' Mechanical break	
46 48 50	19			Total: 100% Solid: 100% RQD: 68%			
52 54	20	PID 1.7 ppm at 54.3'; PID 2.3 ppm at 55.4'		Total: 100% Solid: 92% RQD: 60%			
56 58 60	21			Total: 71% Solid: 71% RQD: 71%			

Geologist(s): Nathaniel Winston

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-06C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 584.72

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 66

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
62	22	PID 5.6 ppm at 62.4'		Total: 60% Solid: 100% RQD: 90%		41.3' Bedding plane fracture; narrow; medium healed; smooth; wet 41.80' Bedding plane fracture; medium narrow; medium healed; some cohesive clay and sand sediment; wet. 42.0' Mechanical break 42.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 42.65' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 43.5' 20° Joint; narrow; some healed; cohesive sediment; smooth; wet. 43.70' Mechanical break 44.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 44.50' Mechanical break 45.1' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 45.2' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 45.45' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 46.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 47.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 47.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 48.1' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 48.9' Mechanical break 49.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 49.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 50.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 50.2' Mechanical break 50.8-51.6 90° joint; narrow to moderately narrow; medium healed; cohesive sediment; stepped; wet. 52.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 52.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 53.1' Mechanical break	
64							
66							
68							
70							
72							
74							
76							
78							
80							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-06C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 584.72

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 66

Completion Date: December 2, 2015
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
82						53.4' Bedding plane fracture; narrow; medium healed; some cohesive clay; wet. 53.8-54.0' Bedding plane fracture; wide; clean; stepped; wet. 54.3' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet. 55.4' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet. 55.6' Mechanical break 55.7-57.0 Joint set; 70-90°; extremely narrow; medium healed; stepped; wet; 57-59' core loss, driller notes that the bit dropped during drilling. A void/cavity likely present. 59.8' Mechanical break 61.0' Mechanical break 61.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 62.1' Mechanical break 62.4-62.8' Fracture zone; very wide; healed; cohesive sediment and coarse gravel; rough and stepped; wet. 63.6' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.9' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 65.4-65.8' Mechanical break *(continued)*	
84							
86							
88							
90							
92						Bottom of Boring at 66 feet End of boring at 66.0 ft. bgs.	
94							
96							
98							
100							

Geologist(s): Nathaniel Winston
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-07B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: January 7, 2016

Surface Elevation (feet AMSL*): 599.67

TOC Elevation (feet AMSL*):

Total Depth (feet): 23.1

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
2, 4, 6						Not logged.	
8	1		- - - -	Total: 100%; Solid: 59%; RQD: 0%		Siltstone; blueish gray (10B 5/1); moderate strong; fossiliferous; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; horizontal bedding plane fractures.	
10, 12, 14	2		- - - -	Total: 100%, Solid: 83%, RQD: 0%		SAA; fractures are horizontal bedding plane fractures; extremely narrow; rough; tight; some CaCO3 recrystallization. Fracture bedding begins to dip to 10° at 19.0'.	
16, 18, 20	3		- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA, intensely fractured with horizontal bedding plane fractures from 19.8' to 21.5'; extremely narrow; not healed; clean; smooth to rough.	

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-MW-07B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: January 7, 2016

Surface Elevation (feet AMSL*): 599.67

TOC Elevation (feet AMSL*):

Total Depth (feet): 23.1

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
22	4		- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA *(continued)*	
24						Bottom of Boring at 23.1 feet End of boring at 23.10 ft. bgs.	
26							
28							
30							
32							
34							
36							
38							
40							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
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Boring Log: WSP-MW-07C

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: January 6, 2016

Surface Elevation (feet AMSL*): 599.84

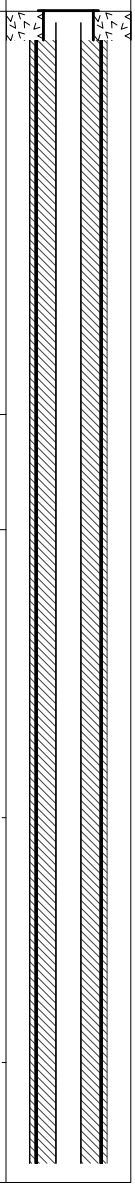
TOC Elevation (feet AMSL*):

Total Depth (feet): 47.25

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
2, 4, 6						Not logged.	
8	1			Total: 43%; Solid: 19%; RQD: 0%		Siltstone; gray; strong; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; fracture surfaces have yellow to red ironoxide staining. Horizontal fractures at 8.5', 8.6', 8.9'; vertical fractures from 8.5'-8.9' Recovery: Total: 43%; Solid: 19%; RQD: 0%	
10, 12, 14	2			Total: 100%; Solid: 90%; RQD: 19%		Siltstone; gray; strong; aphanitic; massive, some laminations; fresh to slightly decomposed; competent; intensely fractured from 9-12' with fracture density decreasing between 12-14'; fractures are mostly horizontal bedding plane fractures and extremely narrow; not healed; clean rough; stepped.	
16, 18	3			Total: 100%; Solid: 92%; RQD: 20%		SAA, intensely fractured with horizontal bedding plane fractures; extremely narrow; not healed; clean; smooth to rough.	
20				Total: 100%;		SAA	



Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-07C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 599.84

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 47.25

Completion Date: January 6, 2016
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	Sample/Interval	PID/OVM (ppm)	Blow Count	% Recovery	Lithology	Description	Well Details
	4			Solid: 98%; RQD: 40%		SAA *(continued)*	
22						SAA *(continued)*	
24	5			Total: 100%; Solid: 98%; RQD: 28%		SAA SAA	
26							
28	6			Total: 100%; Solid: 97%; RQD: 63%		SAA SAA	
30							
32							
34	7			Total: 100%; Solid: 97.5%; RQD: 97.5%		SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow. SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow.	
36							
38	8			Total: 100%; Solid:		SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow	
40							

Geologist(s): Erik S. Reinert
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-MW-07C

Project: Former EPT Ithaca
Surface Elevation (feet AMSL*): 599.84

Project No.: 4255/4507/Legacy 127491
TOC Elevation (feet AMSL*):

Location: Ithaca, New York
Total Depth (feet): 47.25

Completion Date: January 6, 2016
Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
42				100%; RQD: 100%		SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow *(continued)*	
44	9			Total: 100%; Solid: 100%; RQD: 100%		SAA, core recovered entirely intact.	
46						SAA, core recovered entirely intact.	
48						Bottom of Boring at 47.25 feet End of boring at 47.25 ft. bgs.	
50							
52							
54							
56							
58							
60							

Geologist(s): Erik S. Reinert
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Wayne Nielson
Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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Boring Log: WSP-MW-08B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 9, 2015

Surface Elevation (feet AMSL*): 536.52

TOC Elevation (feet AMSL*):

Total Depth (feet): 21

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
						Ground Surface	
	1	0	7 12 50/2.5			***Well-Graded Gravel (GW)*** Black gravel, little fine grained sand, little silt; dry; medium dense.	
2						***Silt (ML)*** Light brown silt, trace coarse sand and gravel; dry.	
4						Not logged, augered down to set casing.	
	2			Total: 40% Solid: 35% RQD: 35%		Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	
6							
8	3			Total: 98% Solid: 66% RQD: 0%		Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	
10							
12	4			Total: 100% Solid: 75% RQD: 15%		Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean; Vertical fracture from 21.1 to 12.4' and from 14.8-15.1'.	
14							
16	5			Total: 100% Solid: 70% RQD: 8%		Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean. Vertical fracture between 16.2 and 16.7'; smooth; narrow; clean.	
18							
20							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-MW-08B

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: December 9, 2015

Surface Elevation (feet AMSL*): 536.52

TOC Elevation (feet AMSL*):

Total Depth (feet): 21

Borehole Diameter (inches): 8.25/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile		
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**	**Well Details**
22	6			Total: 100% Solid: 92% RQD: 98%		Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures ever 2 to 1'; extremely narrow to very narrow; rough stepped; clean.	
24						Bottom of Boring at 21 feet End of boring at 21.0 ft. bgs.	
26							
28							
30							
32							
34							
36							
38							
40							

Geologist(s): Erik S. Reinert

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Wayne Nielson

Method: Hollow Stem Auger/Core Barrel

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Boring Log: WSP-SB-500

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 584.19

Total Depth (feet): 10.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-500 (0-1)	0.4	- - - -			***Asphalt*** Asphalt.
2						***Gravelly Silt with Sand (ML)*** Brown (10YR4/3) silt, with ~25% angular, poorly graded, gravel and traces of fine, soft sands; medium dense; low plasticity, dry.
4						
6						***Well-Graded Gravel with Silt (GW-GM)*** Grey and tan (10YR6/4) well graded, sub angular, coarse gravel with weathered siltstone and some brown, non plastic, stiff silt. Very hard, high density and dry.
8	WSP-SB-500 (8-9)	2.1	- - - -			***Gravelly Silt with Sand (ML)*** Light brown silt (10YR4/4) with coarse gravel, trace fine sand and weathered siltstone; firm, medium dense; wet.
10						Bottom of Boring at 10.5 feet Refusal at 10.5 ft. bgs.
12						
14						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-501

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.32

Total Depth (feet): 8

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-501 (0-1)	0.2	- - - -			***Concrete*** Concrete slab
2						***Gravelly Silt with Sand (ML)*** Brown (7.5YR4/4) Silt with ~15% well graded, angular, medium gravel, trace fine, soft sand; firm, medium density and dry.
4						
6						
	WSP-SB-501 (0-1)	0.2	- - - -			
	WSP-SB-501 (0-1)					
8	WSP-SB-501 (7-8)					Bottom of Boring at 8 feet Refusal at 8.0 ft. bgs.
10						
12						
14						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-502

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.33

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-502 (0-1)	0.3	-			***Concrete*** Concrete slab
1			-			***Fill Material*** Fill material of brownish grey (7.5 YR5/4) poorly graded, sub angular, medium-coarse gravel, ash and fine, soft sand;medium density; dry.
	WSP-SB-502 (1-2)	0	-			
2			-			***Well-Graded Gravel with Silt (GW-GM)*** Light brown (10YR6/8) well graded, angular gravel with silt, some weathered shale; hard; dry.
3			-			Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
4			-			
5						
6						
7						
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-503

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.34

Total Depth (feet): 1

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-504 (0-1)	0	- - - -			***Concrete*** Concrete slab
1						***Poorly-Graded Gravel (GP)*** Fill: dark black (10YR3/2) poorly graded, sub angular, medium gravel, with silt and some coarse sand; medium density; dry. Some weather siltstone at bottom 2 of core.
2						Bottom of Boring at 1 feet Refusal at 1.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-504

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.37

Total Depth (feet): 6

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-504 (0-1)	0.2	- - - -			***Concrete*** Concrete slab
1						***Poorly-Graded Gravel with Sand (GP)*** Fill: Grey to tan (7.5YR6/3) well graded, sub angular, fine-medium gravel; fine sands with ash and broken up siltstone; hard, medium density; dry.
2						
3						***Well-Graded Sand with Gravel (SW)*** Brownish tan (10YR6/6) well graded angular gravelly sand ; hard; very dense; dry.
4						***Sandy Silt with Gravel (ML)*** Brown (7.5YR4/6) fine grained sandy silt with poorly graded, angular, medium gravel; medium density; moist to wet with increasing depths.
5						
	WSP-SB-504 (5-6)	11.9	- - - -			
6						Bottom of Boring at 6 feet Refusal at 6.0 ft. bgs.
7						
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-505

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.36

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-505 (0-1)		- - - -			***Concrete*** Concrete slab
2						***Fill*** Fill: Dark brown to black (10YR3/2) poorly graded sandy, sub angular gravel and ash; medium-coarse; about 50% gravel with increasing presence of gravel further down the core run; hard; medium density; dry. Sand was fine grained.
4						
6						***Sandy Silt with Gravel (ML)*** Dark brown (10YR3/4) silt with fine, firm sand and ~20% sub angular, poorly graded, medium-coarse gravel; very dense; dry.
	WSP-SB-505 (7-8)	1.4	- - - -	100		
8						***Shale/ siltstone*** Broken up and weathered shale and siltstone.
10						Bottom of Boring at 9 feet Refusal at 9.0 ft. bgs.
12						
14						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-506

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 18, 2016

Surface Elevation (feet AMSL*): 587.42

Total Depth (feet): 9

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-506 (0-1)		- - - -			***Concrete*** Concrete slab
2						Fill: brownish grey (10YR5/3) poorly sorted, sub angular gravel, coarse sand and ash, over 50% grave/ and all gravel from 4-5'; hard; low density; dry.,
4						
	WSP-SB-506 (5-6)	0.6	- - - -	75		
6						
8						***Sandy Silt with Gravel (ML)*** Light brown (7.5YR4/6) moderately fine sandy silt with ~10% well graded, angular gravel; medium density; moist.
10						Bottom of Boring at 9 feet Refusal at 9.0 ft. bgs.
12						
14						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-507

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 19, 2016

Surface Elevation (feet AMSL*): 587.45

Total Depth (feet): 7

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-507 (0-1)	0.3	- - - -	40		Concrete slab
1						Fill: grey and brownish yellow (10YR6/4) well graded, angular gravel with fine sand, trace coarse ash and concrete; hard; medium density; dry. .
2						
3						
4						
5						
6						
	WSP-SB-507 (6-7)	0.3	- -	90		***Elastic Silt with Gravel (MH)*** Light brown (10YR3/4) elastic silt with ~20% well graded, angular gravel; dense.
7			- -			Bottom of Boring at 7 feet Refusal at 7.0 ft. bgs.
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

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5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-SB-508

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 19, 2016

Surface Elevation (feet AMSL*): 587.43

Total Depth (feet): 5.5

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-508 (0-1)	0.4	- - - -	25		Concrete slab
1						Fill: brownish grey (10YR5/4) well graded, sub rounded gravel with mixture of coarse and fine sands, trace non plastic silt; medium density; dry.
2						
3						Brownish grey (10YR-5/3) poorly graded, sub rounded, medium gravel, with dark, coarse ash fill; very hard, and much denser than the above fill material; dry.
4						
5	WSP-SB-508 (4.5-5.5)		- - - -	50		***Sandy Elastic Silt with Gravel (MH)*** Dark brown (10YR2/2) fine grained sandy silt with ~10% well-graded, sub-rounded gravel; medium density; moist.
6						Bottom of Boring at 5.5 feet Refusal at 5.5 ft. bgs.
7						
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

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5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Boring Log: WSP-SB-509

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 19, 2016

Surface Elevation (feet AMSL*): 599.52

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-509 (0-1)	0.6	- -	100		***Concrete*** Concrete slab
1	WSP-SB-509 (1-2)	1.7	- -	100		***Well-Graded Gravel with Sand (GW)*** Yellow and grey (10YR6/6) sandy well graded, sub angular, coarse gravel with weathered siltstone and broken up shale, trace coarse, poorly graded fill ash material; hard, very dense; dry.
2			- - - - -			Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Chris Cresci

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

WSP USA Corp.
5 Sullivan Street
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(315) 655-3900

Boring Log: WSP-SB-510

Project: Former EPT Ithaca

Project No.: 4255/4507/Legacy 127491

Location: Ithaca, New York

Completion Date: May 19, 2016

Surface Elevation (feet AMSL*): 599.56

Total Depth (feet): 2

Borehole Diameter (inches): 2

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	WSP-SB-510 (0-1)	0.7	- -	90		***Concrete*** Concrete slab
1	WSP-SB-510 (1-2)	8.1	- -	90		***Well-Graded Gravel (GW)*** Grey to brown (10YR5/2) well graded, angular medium-coarse gravel with weathered siltstone, trace coarse, poorly graded sand and broken up shale at bottom 3 of borehole; very hard; dense; dry.
2			- - - -			Bottom of Boring at 2 feet Refusal at 2.0 ft. bgs.
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Chris Cresci

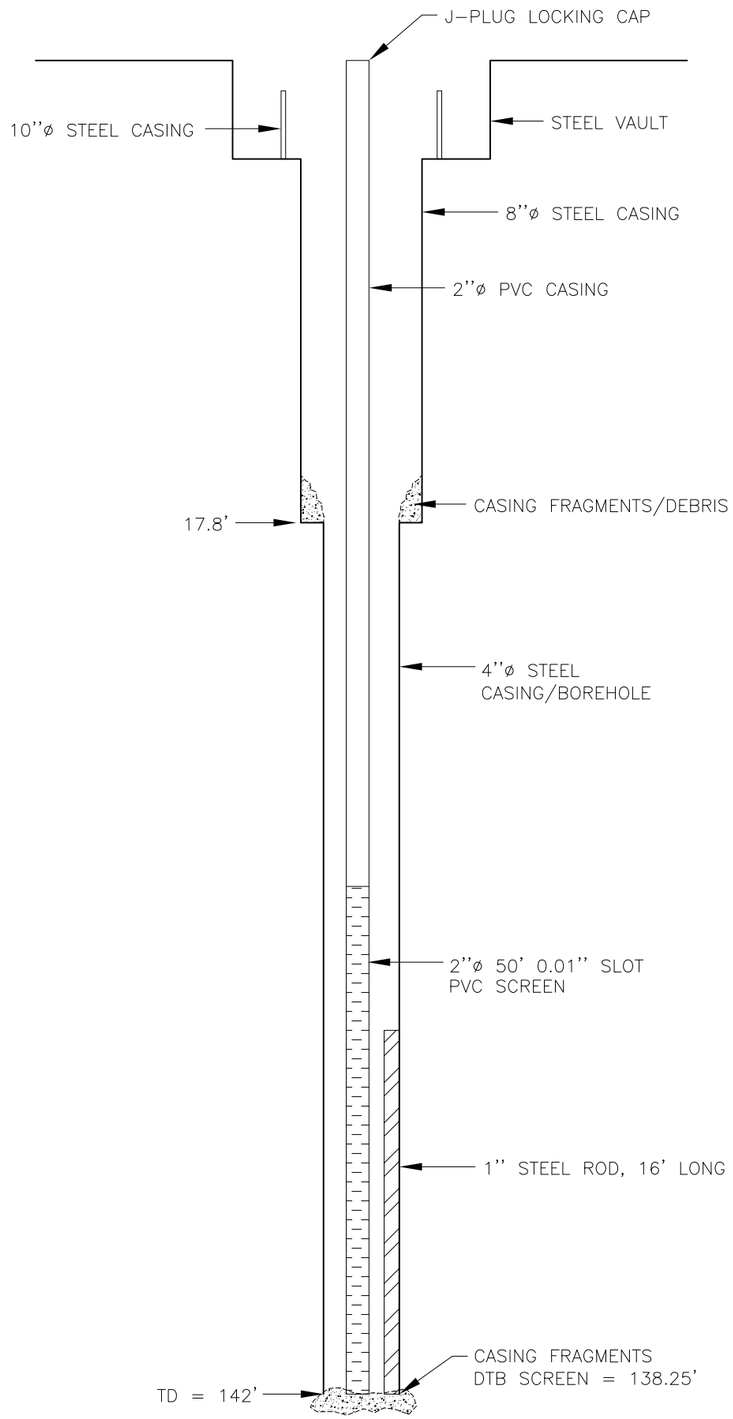
Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Layne

Method: Direct Push

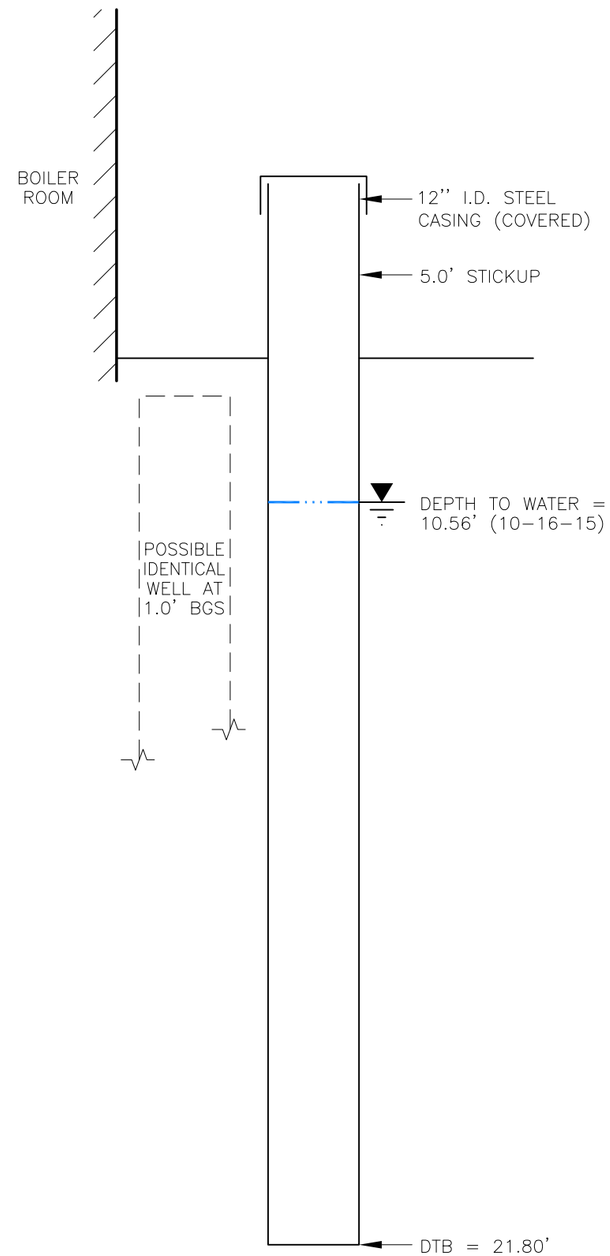
WSP USA Corp.
5 Sullivan Street
Cazenovia, NY 13035
(315) 655-3900

Historical Well Diagrams



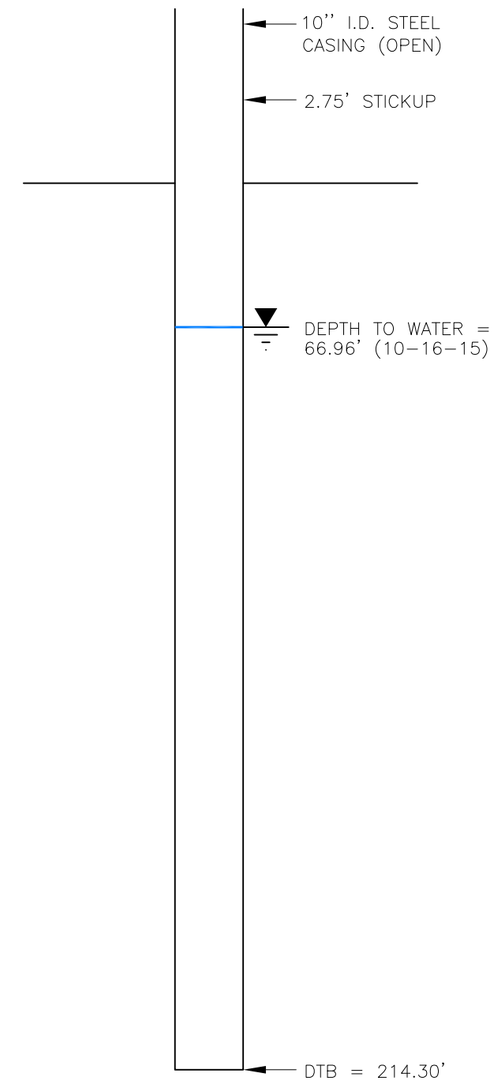
HISTWELL–1 DIAGRAM

NOT TO SCALE



HISTWELL–2 DIAGRAM

NOT TO SCALE



HISTWELL–3 DIAGRAM

NOT TO SCALE

B

Drawn By: RAZ 11/13/2015

Checked:

Approved:

DWG Name: 00004507–B24

FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

FIGURE 3–22

HISTORICAL WELL DIAGRAMS

WSP | PARSONS BRINCKERHOFF
WSP USA Corp.
13530 Dulles Technology Drive, Suite 300
Herndon, Virginia 20171
(703) 709-6500
www.wspgroup.com/usa

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Boring Logs

EXB-11, MW-9-100, MW-16-100

Boring Log: EXB-11

Project: Emerson Power Transmission

Surface Elevation (feet AMSL*): 532.82

Project No.: 127491

Location: Ithaca, New York

Total Depth (feet): 80

Completion Date: May 30, 2008

Borehole Diameter (inches): 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
						Ground Surface
	SS 1	0	-	100		***FILL*** Asphalt road surface.
1			-			***FILL*** Black sandy gravel fill; loose and dry.
			-			***Siltstone*** Ithaca Siltstone; grey; weathered.
2			-			***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings)
3						
4						
5						
6						
7						
8						
9						
10						

Geologist(s): Tim Dowle

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Glen

Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission

Project No.: 127491

Location: Ithaca, New York

Completion Date: May 30, 2008

Surface Elevation (feet AMSL*): 532.82

Total Depth (feet): 80

Borehole Diameter (inches): 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
11						***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
12			-			
			-			
13	RR 1	N/A		N/A		
			-			
			-			
14						
15						
16						
17						
18						
19						
20						

Geologist(s): Tim Dowle

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Glen

Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
21 22 23 24						***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
25 26 27 28 29 30	RUN 1	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 Mechanical fractures; mainly horizontal; 2 vertical; extremely narrow, 80 degree dip. 2 Bedding plane fractures at 26.1' and 29.5'; horizontal; very narrow; not healed; lower fracture slightly infilled with cohesive sediment and damp; upper fracture, smooth and dry. RQD: 100% (Excellent)

Geologist(s): Tim Dowle
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Glen
Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
31 32 33 34 35	RUN 2	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 7 Mechanical fractures; 5 horizontal; 2 vertical; extremely narrow, 90 degree dip. 1 Bedding plane fractures at 32.9'; horizontal; very narrow; clean, smooth; dry. RQD: 100% (Excellent)
36 37 38 39 40	RUN 3	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 5 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent)

Geologist(s): Tim Dowle
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Glen
Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
41 42 43 44 45	RUN 4	N/A	- - - -	92		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 42.9' - 43.2'; not healed; possibly infilled with cohesive sediment or washed out from above; rough; damp. RQD: 86% (Good)
46 47 48 49 50	RUN 5	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 Mechanical fractures; horizontal; extremely narrow, 90 degree dip. 4 Bedding plane fractures at 45', 47.5', 49.1' and 49.9'; horizontal; narrow to extremely narrow; clean, smooth; dry. RQD: 97% (Excellent)

Geologist(s): Tim Dowle
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Glen
Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
51 52 53 54 55	RUN 6	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 3 Bedding plane fractures at 51.8', 52.3' and 53.2'; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)
56 57 58 59 60	RUN 7	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fracture at 57.5"; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)

Geologist(s): Tim Dowle
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Glen
Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
61 62 63 64 65	RUN 8	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 60.5' to 60.75'; horizontal; narrow to very narrow; clean, smooth to undulating; dry. RQD: 95% (Excellent)
66 67 68 69 70	RUN 9	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 2 Bedding plane fractures at 65.9' and 67.9'; horizontal; extremely narrow; clean, smooth; dry. RQD: 100% (Excellent)

Geologist(s): Tim Dowle
Subcontractor: Parratt Wolff, Inc.
Driller/Operator: Glen
Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

Boring Log: EXB-11

Project: Emerson Power Transmission **Surface Elevation (feet AMSL*):** 532.82

Project No.: 127491

Location: Ithaca, New York **Total Depth (feet):** 80

Completion Date: May 30, 2008 **Borehole Diameter (inches):** 10/4

**AMSL = Above mean sea level*

Sample Data					Subsurface Profile	
Depth	**Sample/Interval**	**PID/OVM (ppm)**	**Blow Count**	**% Recovery**	**Lithology**	**Description**
71 72 73 74 75	RUN 10	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent)
76 77 78 79 80	RUN 11	N/A	- - - -	100		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fractures at 79'; horizontal; very narrow; clean, smooth; dry. RQD: 100% (Excellent)

Bottom of Boring at 80 feet

Geologist(s): Tim Dowle

Subcontractor: Parratt Wolff, Inc.

Driller/Operator: Glen

Method: Hollow Stem Auger/ Rock Roller / Core Barrel

WSP Environment & Energy
11190 Sunrise Valley Drive
Reston, VA 20191
+1 703 709 6500

BORING WELL # MW-9-100 PROJECT Emerson Power Transmission

LOCATION Cayuga St. and Access Road DATES OF DRILLING 8/15/89 - 8/18/89

LOG RECORDED BY R. T. Church GROUND SURFACE ELEV. (ft.MSL) 507.35 ft. (USGS)

TYPE OF WELL RIG CME-75 Empire Soils

Depth	Sample Depth (feet)	Sample Number	Blow Counts	Description	Remarks
				6 inches Asphalt	
0				SILTY CLAY: black, trace fine to coarse gravel, moist	HNu = 0.0 ppm
-					
-					
-				Bedrock at 2.5 ft.	
-					
5				Note: Reamed bedrock to 4.0 ft. in order to fit core barrel between drive head and bottom of borehole.	
-					
-					
-				Bottom of boring 101.0 ft. Screen from 80.0 ft. to 100.0 ft.	
-					
10					
-					
-					
-					
-					
-					
15					
-					
-					
-					

BJG-13
1016-01.bjg.2

CORE LOG

Well #: MW-9-100
Location: Cayuga Street and Access Rd.
Rig Type: CME-75
Recorded By: Merin

Project: EPT
Drilling Date: August 15-August 16, 1989
Core Barrel Diameter: NX
Land Surface Elevation: 507.35 ft. MSL

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
							Rock at 2.5 ft.; first core @ 4.0 ft.
5 Fe stained VIF to VF	#1	#1 4.0 to 10.0	100% 85%	14 72	8 12 2 4 3 6	BPF: VIF to IF Joints: 4.7 to 4.8, Fe stained, smooth.	SILTSTONE: grey, fresh, very intensely to intensely fractured; Fe stained to 6.0 ft.; one joint 4.7 to 4.8 smooth face.
10 15 VF to MF	#1 and #2	#2 10.0 to 20.0	100% 98%	94 120	4 3 7 0 3 3 1 1 2 0	BPF: VIF to IF to 12.9 then VF to MF. Joints: none	As above except very intensely to intensely fractured to 12.9 ft. and very to moderately fractured below, no joints.
20 25 NONE BPF?	#2	#3 20.0 to 30.0	100% 100%	120 120	0 0 0 0 0 0 1 1 0 0	BPF: all induced except possible BPF @ 27.4 ft. Joints: one from 26.2 ft. to 27.0 ft., rough, clean.	As above except: unfractured except for one possible BPF @ 27.4 ft. and one rough clean joint from 26.2 to 27.0.
30 NONE Fissil NONE 35 BPF NONE Fissil	#3	#4 30.0 to 40.0	100% 100%	118 120	0 0 0 5+ 0 1 0 0 2+ 0	BPF: unfractured except possible BPF @ 35.7 and fissil zones @ 33.4 to 33.5 and 38.7 to 38.8. Joints: none	As above: unfractured except for fissil zones from 33.4 to 33.5 and 38.7 to 38.8 and possible BPF @ 35.7; no joints.
40 NONE Fissil Fissil	#3 + #4	#5 40.0 to 50.0	100% 100%	59 120	1 0 6+ 9+ 0	BPF: unfractured except fissil @ 42.2, 42.5 to 42.6, 43.6 to 43.9, 45.6 to 45.8, 47.3 to 47.4, 48.1 to 48.5.	As above: except numerous fissil zones and for joints from 40.2 to 40.8 and 46.6 to 46.8.

CORE LOG

Well #: MW-9-100
Location: Cayuga Street and Access Road
Rig Type: CME-75
Recorded By: Merin

Project: EPT
Drilling Date: 15-16 August 1989
Core Barrel Diameter: NX
Land Surface Elevation: 507.35 ft. MSL

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
45 – Fissil – Fissil – Fissil					0 4+ 2 3+ 5+ 0	Joints: rough clean from 40.2 to 40.8 rough clean 46.6 to 46.8	
50 – NONE	#4 + #5	#6 50.0 to 60.0	100% 100%	120 120	0 0 0 0 0 0 0 0 0 0	BPF: None Joints: None	As above except unfractured.
60 – BPF – BPF – BPF – BPF – NONE	#5 + #6	#7 60.0 to 70.0	100% 100%	120 120	0 0 1 0 1 2 0 0 0 0	BPF: induced except possible BPF @ 62.1, 64.8, 65.1, 65.9. Joints: rough clean @ 60.0 to 60.5.	As above: unfractured except for possible BPF @ 62.1, 64.8, 65.1, 65.9, and one rough clean joint @ 60.0 to 60.5.
70 – BPF – BPF – BPF – BPF – BPF – NONE	#5 + #6	#8 70.0 to 80.0	100% 100%	120 120	0 1 0 1 1 1 1 1 0 0 0	BPF: possible BPF @ 71.6, 73.4, 74.5, 75.5, 76.5. Joints: none	As above: unfractured except possible bedding plane fractures @ 71.6, 73.4, 74.5, 75.5, and 76.5.
80 – BPF – NONE – BPF – BPF – NONE – Fissil	#6	#9 80.0 to 90.0	100% 100%	120 120	0 0 0 0 1 1 0 0 2+	BPF: induced except possible BPF @ 80.2, 84.8, 85.3, and one fissil zone from 88.8 to 88.9.	As above: unfractured except for possible bedding plane fractures @ 80.2, 84.8, and 85.3 and one fissil zone from 88.8 to 88.9; no joints.

CORE LOG

Well #: MW-9-100
Location: Cayuga Street and Access Road
Rig Type: CME-75
Recorded By: Merin

Project: EPT
Drilling Date: 15-16 August 1989
Core Barrel Diameter: NX
Land Surface Elevation: 507.35 ft. MSL

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
90					0		
13		#10	100%	120	1	Joints: none	As above: unfractured except one possible bedding plane fracture @ 96.6 and one rough clean joint from 90.0 to 90.6.
	#7	90.0 to 100	100%	120	0	BPF: induced except for possible BPF @ 96.6.	
NONE					0		
95					0		
BPF					0	Joints: rough clean @ 90.0 to 90.6.	
NONE					1		
					0		
					0		
					0		
100							Coring terminated @ 100.0 ft.
105							
110							
115							
120							
125							
130							

WELL COMPLETION LOG

Project Name: Emerson Power Transmission

Project Number: 215-004-36

Well No. MW-9-100 Log Recorded By R.T. Church

Location Cayuga Street and access road Completion Date 8/18/89

Drilling Method Size NX core barrel and 5 5/8" tri-cone roller

Borehole Depth 101.0 ft Borehole Diameter 5 5/8'

Materials:

Casing Diameter/Type 2-inch type 304 stainless steel

Screen Diameter/Type/Slot Size 2-inch, 304 stainless steel, 10-slot

Sand/Gravel Coarse sand

Bentonite Seal Pellets

Grout Type I Portland cement/powder bentonite 6:1

Intervals:

Screen Interval 100.0' to 80.0'

Casing Interval 80.0' to 0.8'

Sand/Gravel Pack Interval 100.0' to 76.5'

Bentonite Seal Interval 76.5' to 73.0'

Grout Interval 73.0' to 0.9'

Type of Surface Completion 6-inch manhole over locking expandable plug

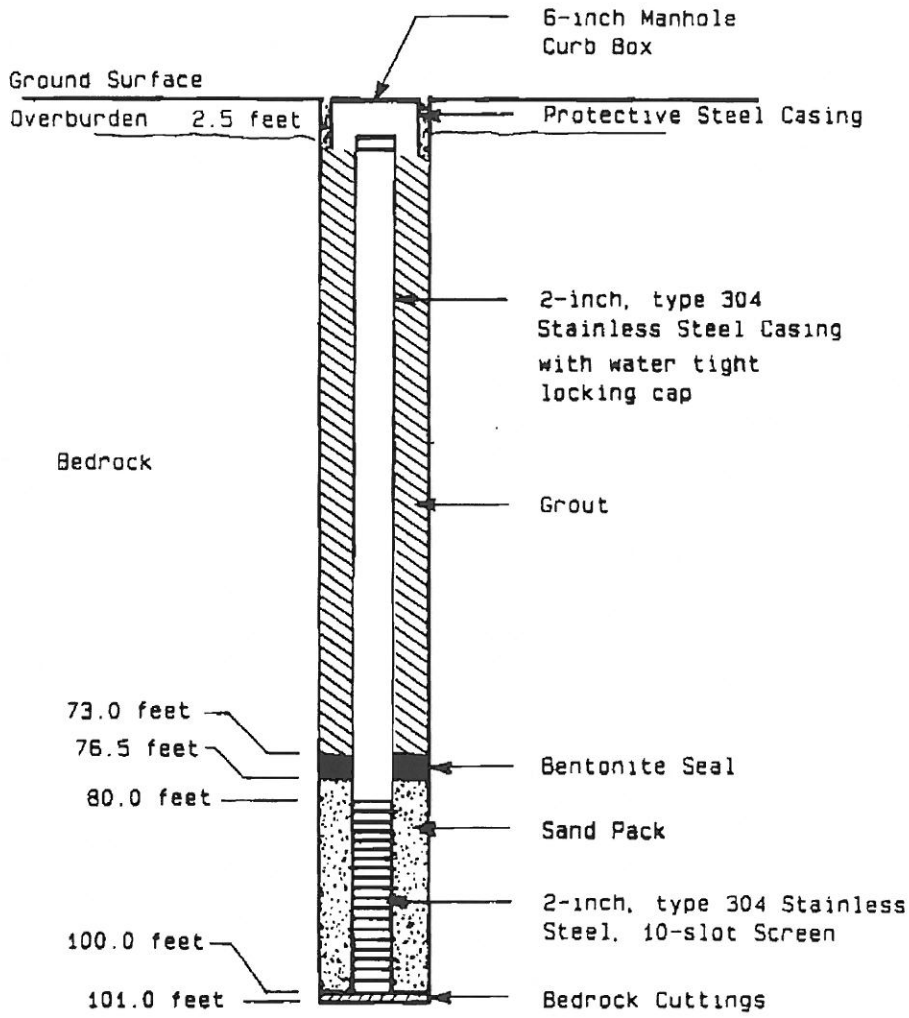
NOTES: 1 ft. of rock cuttings settled to bottom of borehole before installing well

BJG-13
1012-01.bjg.3

WELL CONSTRUCTION DIAGRAM

Location: Emerson Power Transmission
Ithaca, New York

Well Number: MW-9-100



NOT TO SCALE

RADIAN CORPORATION

BORING WELL # MW-16-100 PROJECT Emerson Power Transmission

LOCATION NYSEG property DATES OF DRILLING 7/27/88-8/2/88

LOG RECORDED BY W.P. Sugg GROUND SURFACE ELEV. (ft.MSL) 149.72 (USGS DATUM)

TYPE OF WELL RIG CME-75 SAMPLING INTERVAL (ESTIMATED)

Depth	Sample Depth (feet)	Sample Number	Blow Counts	Description	Remarks
0				SANDY SILT: black to brown with gravel (Fill)	No split spoon samples taken. Stratigraphy taken from MW-7-40 located 6 ft. away.
5				SANDY SILT: black to brown with gravel (Fill)	HNu = 0.0 ppm wellhead
10					
				Bedrock at 10.8 ft. Bottom of boring 100.0 ft. Screen from 80.0 ft. to 100.0 ft.	
15					
20					

BJG-13
1016-01.bjg.47

CORE LOG

Well #: MW-16-100
Location: NYSGE
ig Type:
ecorded By: Merin 10 August 1988

Project: EPT
Drilling Date: 27 July-2 August 1988
Core Barrel Diameter: NX
Land Surface Elevation: 149.72 (USGS)

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
5-							
10-							
VIF IF VF 15-	#1	#1 10.8 to 13.3	100% 95%	0" 30"	15 8 5	Bedding Plane: VIF-IF; clean Inclined: none	SILTSTONE: grey, fresh, very intensely to intensely fractured. BPF are all clean. No joints. No fossil beds.
18.0 18.1 19.2 19.3 20-	#1	#2 13.3 to 23.3	100% 100%	117" 120"	6 1 1 2 2 0 0 0 0	Bedding Plane: IF-VF to 15.2'; SF to 19.3'; none below except 18.0-1 + 19.2-3 Inclined: 87° dipping, clean slightly rough face 15.2-16.9'	As above except intensely to very fractured to 15.2' slightly fractured to 19.3'; unfractured below. One clean, slightly rough face joint dipping 87° from 15.2-16.9'. No fossil beds.
25- 25.3 26.8 30- 30.8 31.2 32.6 FB	#1+2	#3 23.3 to 33.3	100% 100%	120" 120"	0 0 1 1 0 0 0 2 0 1	Bedding Plane: SF to none Inclined: none	As above except slightly to unfractured. No joints. fossil beds: 32.0 - 32.3 Brachiopod.
35- 37.3 38.8 40- IF VF FB	#3	#4 33.3 to 43.3	100% 100%	97" 120"	0 0 0 0 1 1 4 5 5 0	Bedding Plane: none to 37.3; SF to 39.8'; IF-VF to 41.8; none below Inclined: none	As above except unfractured to 37.3'; slightly fractured to 39.8'; intensely to very fractured to 41.8'; unfractured below. No joints. Fossil beds: 41.7-42.1 Brachiopods & Crinoids
5- IF VF 50-	#3	#5 43.3 to 53.3	100% 90%	109" 120"	0 0 1 3 3 1 0	Bedding Plane: none except IF-VF @ 46.2-48.2'; BPF @ 50.6 & 50.8' Inclined: vertical closed planar joint 47.0-47.9	As above except unfractured to 46.2; IF-VF from 46.2 -48.2'; unfractured below except BPF @ 50.6 & 50.8'. One vertical planar closed joint from 47.0-47.9'. Fossil bed: 53.0-53.3': Brachiopods & Crinoids

CORE LOG

Well #: MW-16-100
Location: NYSGE
Rig Type:
Recorded By: Merin 10 August 1988

Project: EPT
Drilling Date: 28 July-2 August 1988
Core Barrel Diameter: NX
Land Surface Elevation: 149.72 (USGS)

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
53.6 / 53.8					2		
FB		53.3	100%	112"	0	Bedding Plane: none except:	As above except slightly fractured to 57.7'; very
54.6		to	94%	120"	1	@ 53.6'; 54.5'; VIF 57.7-	intensely fractured from 57.6 to 58.8'; unfractured
55- 54.5		63.3			1	58.8'. All are clean.	below. All BPF are clean. Three parallel joints from
	#3				0	(VIF 57.7 - 58.8 may	57.6 - 58.8 partially calcite filled, planar &
					0	be induced)	spaced 1 inch apart.
VIF					8	Inclined: Three parallel	Fossil beds:
					4	85° dipping partially	@ 60.3 - 60.4: Crinoids & Brachiopods
60- FB					0	calcite filled planar	@ 61.8 - 61.9: Brachiopods & Crinoids
FB					0	joints spaced 1" apart.	
					0		
					0		
J		#7			1		
	#4	63.3	100%	120"	0	Bedding Plane: none except	As above except unfractured except for one BPF @
65-		to	100%	120"	0	@ 72.8	72.8' and two parallel joints @ 63.7-64.3 & 71.5-
		73.3			0	Inclined:	72.8'. The joints dip 85° have partially calcite
					0	@ 63.7 - 64.3	filled, smooth faces & planar trace & are spaced
					0	@ 71.5 - 72.5	about 20" apart. The upper has plumose markings and
0-					0		slight pyrite stain. No fossil beds.
J					0		
					1		
72.8					2		
72.8					1		
75-		#8			0		
	#4	73.3	100%	120"	0	Bedding Plane: none except	As above except unfractured except for possible BPF @
		to	100%	120"	0	possible BPF @ 73.3'	73.3'. No joints. No fossil beds.
		83.3			0	Inclined: none	
					0		
80-					0		
					0		
					0		
					0		
83.8					1		
85-		#9			0		
	#5	83.3	100%	112"	0	Bedding Plane: none except	As above unfractured except BPF @ 83.8; VF between
VF J		to	100%	120"	3	@ 83.8; VF btw 86.4 - 86.7	86.4 - 88.1' & 89.9 - 90.5'; VIF from 92.6-93.0'.
		93.3			1	and 89.9 - 90.5; VIF btw	Vertical partially calcite filled, slightly rough
					0	92.6 - 93.0'. All clean.	open face joint from 87.0-88.1'. Vertical calcite
90- VF J					1	Inclined:	filled closed joint from 90.4-90.6'. No fossil beds.
					1	@ 87.0 - 88.1: vert, part	
					0	calcite fill, slt rough	
VIF					10+	@ 90.4 - 90.6: vert	
93.8					1	calcite closed	

0817-01.nrj.16

CORE LOG

Well #: MW-16-100
Location: NYSGE
`ig Type:
.ecorded By: Merin 10 August 1988

Project: EPT
Drilling Date: 28 July-2 August 1988
Core Barrel Diameter: NX
Land Surface Elevation: 149.72 (USGS)

DEPTH	BOX	RUN	% RECOVERY	RQD	FRACTURE FREQUENCY	ORIENTATION SPACING FILLING	LITHOLOGY COLOR WEATHERING
95-		10			0		
- 0		93.3	100%	86"	0	Bedding Plane: possible	As above unfractured except possible BPF @ 93.8;
-		to	100%	86"	0	BPF @ 93.8; 97.5; 97.9;	97.5; & 97.9'. No joints. No fossil beds.
- 97.5		100.5			2	no others	
- 97.9					0	Inclined: none	
100- 0					0		
-							
-							Coring Terminated @ 100.5 ft

0817-01.nrj.17

RADIAN CORPORATION

WELL COMPLETION LOG

Project Name: Emerson Power Transmission

Project Number: 215-004-01

Well No. MW-16-100 Log Recorded By R.T. Church

Location EPT Completion Date 8/2/88

Drilling Method tricone roller thru bedrock, hollow stem auger thru soil

Borehole Depth 100 ft Borehole Diameter 5 5/8 inches

Materials:

Casing Diameter/Type 2-inch 304 stainless steel schedule 5

Screen Diameter/Type/Slot Size 2-inch 304 stainless steel 0 .01 slot

Sand/Gravel coarse sand

Bentonite Seal pellets

Grout type I Portland Cement and Bentonite Powder 6:1

Intervals:

Screen Interval 100 ft to 80 ft

Casing interval 80 ft to surface + 2.5 ft stickup

Sand/Gravel Pack Interval 100 ft to 78 ft

Bentonite Seal Interval 78 ft to 75 ft

Grout Interval 75 ft to surface

Type of Surface Completion protective casing with locking cap

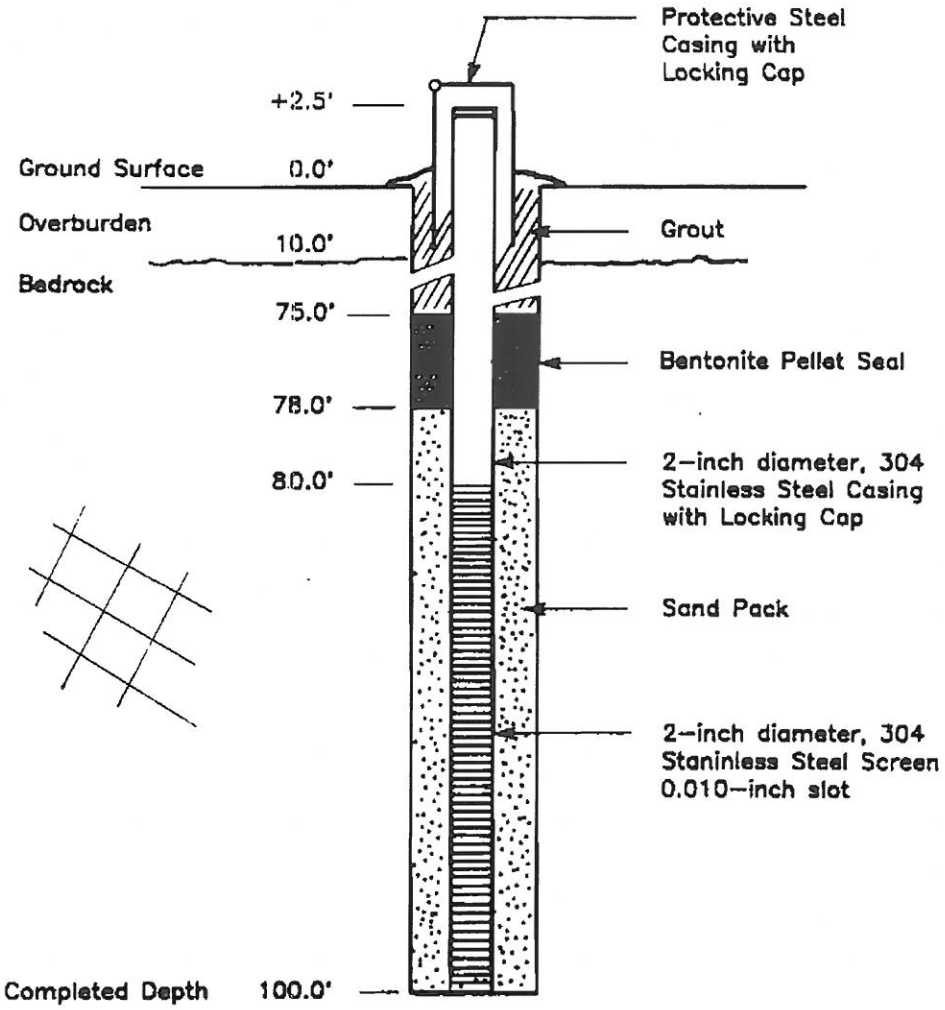
NOTES:

Rev. 8/86

WELL CONSTRUCTION DIAGRAM

Location: Emerson Power Transmission
Ithaca, New York

Well Number MW-16-100



NOT TO SCALE

RADIAN CORPORATION

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-P1*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/1/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
1								1
2				- - - -	75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; moist, becoming wet @3.5' bgs.; loose.
3								
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: AOC35A-P2
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 7.8	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. (0.3)
1								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. (1.4)
2					100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
3								
4								(4.4)
5								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry.
6					95	(4-6) 0.0 (6-7.8) 0.0		
7								(6.5) ***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.5' bgs; medium dense to dense; moist. Refusal at 7.8' bgs.
8								Bottom of Boring at 7.8 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-P3*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. (0.4)
1								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. (1.3)
2				- - - -	93.75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose. (2.9)
3								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	**Client:**	**Location:** Ithaca, New York	**Boring Log:** *AOC35A-P4*
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft):** Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
1								1
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
2				-	93.75	(0-2) 0.0 (2-4) 0.0		
				-				
				-				
3								2.9
								Ash, Slag, and Sand Fill: White sandy ash, and slag; dry; loose.
								3.6
4								***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose.
								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-P5*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/1/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 7	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
1								1
								Well-Graded Gravel (gw) Gravel, trace brown (10YR4/4) silt; dense; dry.
								1.75
2					87.5	(0-2) 0 (2-4) 0.7		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
3								
4								
								4.5
5					100	(4-7) 0.2		***Silt with Gravel (ml)*** Yellowish brown (10yr5/4) silt, some gravel (0-2"); medium dense becoming soft at 6.5' bgs; cohesive; non-plastic; moist, becoming wet @ 6.5' bgs. Refusal at 7.0' bgs.
6								
7								Bottom of Boring at 7 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
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Project Name: Former EPT Ithaca	**Client:**	**Location:** Ithaca, New York	**Boring Log:** ***AOC35A-S1***
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft):** Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
								0.75
1								***Well-Graded Gravel with Silt (gw-gm)*** Dark yellowish brown (10YR4/4) silt and gravel (0.2-2.0"); moist; soft.
								1.25
								Ash, Slag, and Sand Fill: Dark black ash, sand, and slag; dry; loose.
								1.6
2					87.5	0.0 (0-2) 0.0 (2-4)		***Silty Gravel (gm)*** Gravel (0.2-2.0"), some dark yellowish brown (10YR4/4) silt; soft to medium dense; moist.
								2.8
3								***Silt (ml)*** Brown (10YR4/3) silt; soft to stiff; moist.
4					100	0.0 (4-5)		
								4.75
5								***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose. Refusal at 5.0' bgs.
								Bottom of Boring at 5 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
6								
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Project Name: Former EPT Ithaca	**Client:**	**Location:** Ithaca, New York	**Boring Log:** ***AOC35A-S10***
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft):** Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Topsoil Topsoil, trace rootlets; moist; soft. PID readings in top 2" of soil.
								0.5
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
								0.75
1				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
2				-	87.5	1.8 (0-2) 0.0 (2-4)		
				-				
				-				
								2.8
3								***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
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Project Name: Former EPT Ithaca	**Client:**	**Location:** Ithaca, New York	**Boring Log:** ***AOC35A-S2***
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft):** Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.
								0.5
				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.
1					100	(0-2) 0.0		
				-				
								1.5
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
2								Bottom of Boring at 2 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
3								
4								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: AOC35A-S3
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. 0.4
1				-	100	(0-2) 0.0		***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. 1.3
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
2				-				
3								2.9 ***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-rounded gravel (0.2-2.0"); medium dense; cohesive; non-plastic; moist.
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
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7								
8								
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Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: AOC35A-S4
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. (0.5)
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. (0.75)
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose. (1.5)
2				-	100	(0-2) 0.0 (2-4) 0.0		***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.
3				-				
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
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7								
8								
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Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-S5*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. (0.3)
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.
2				-	100	(0-2) 0.0 (2-4) 0.0		(1.9) ***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.
3				-				
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-S6*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/1/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
1								1
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
2				-	75	(1-2) 0.0 (2-4) 0.0		
				-				2.5
3				-				***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: AOC35A-S7
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/1/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
1				-				***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.
								1.25
2				-	75	(1-2) 4.8 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
3				-				
4				-				
5								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: *AOC35A-S8*
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 8	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. (0.3)
1								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. (0.85)
2				- - - -	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.
3								(3.5)
4								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry, becoming soft and moist @6.75' bgs.
5				- - - -	100	(4-6) 0.0 (6-8) 0.0		
6								
7								(7.3)
8								***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.6' bgs; medium dense to dense; moist. Refusal at 8.0' bgs.
9								Bottom of Boring at 8 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.

Project Name: Former EPT Ithaca	Client:	Location: Ithaca, New York	Boring Log: AOC35A-S9
Drilled By: Parratt Wolff, Inc./Matt Carnie	Drill Start Date:	Drill End Date: 4/2/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 4	Bore Diameter (in): 2	Ground Surface (ft): Not Determined

Notes:

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	Physical Description
								Ground Surface
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist. 0.4
1								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry. 1.2
								Ash, Slag, and Sand Fill: Dark black ash, sand, and slag; dry; loose. 1.5
2					100	(0-2) 0.0 (2-4) 0.0		***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.
3								
4								Bottom of Boring at 4 feet. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
5								
6								
7								
8								
9								

Project Name: Former EPT Ithaca	Client: Emersub15, LLC	Location: Ithaca, New York	Boring Log: BD17-SB-1
Drilled By: Parratt Wolff, Inc./Mark Eaves	Drill Start Date: 8/6/2019	Drill End Date: 8/6/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth: 16	Bore Diameter: 2	Ground Surface: ND

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	
								Ground Surface
								Concrete Concrete (0.8)
2					25	0.4 (3-4)		***Void***
								(3) ***Slag*** Brown (10YR5/3); trace ash; loose; dry; faint odor; slighlty oily; fill.
4								
6					25	0.2 (7-8)		(6) ***Silty Gravel (gm)*** Dark reddish brown (5YR3/3); fine- to coarse-grained gravel; loose to medium dense; dry; no odor; slightly oily; fill.
8								
								(9) ***Silty Gravel (gm)*** Dark gray (7.5YR 4/1; medium dense; moist, becoming wet at 14' bgs; odor; oily; fill.
10					50	0.0 (10-12)		
12								
14					50	0.0 (12-16)		
16								(15.75) ***SILTSTONE*** Dark gray (7.5YR 4/1), trace bluish (5B5/1) staining; wet; weathered bedrock.
18								Bottom of Boring at 16 feetRefusal at 16.0' bgs. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.

Project Name: Former EPT Ithaca	Client: Emersub15, LLC	Location: Ithaca, New York	Boring Log: BD17-SB-2
Drilled By: Parratt Wolff, Inc./Mark Eaves	Drill Start Date: 8/6/2019	Drill End Date: 8/6/2019	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth: 10	Bore Diameter: 2	Ground Surface: ND

Depth (ft)	Elevation (ft)	Type	Lab Sample	Blows	Recovery (%)	PID (PPM)	Graphic Log	
								Ground Surface
								Concrete Concrete (0.8)
								Void
2				- - - -	37.5	0.0 (2.5-4)		(2.5)
								Well Graded Gravel (gw) Dark gray (7.5YR 4/1), trace black staining at 7.25' bgs; trace silt; loose; dry; no odor; fill.
4								
6				- - - -	75	0.0 (5-6) 0.0 (6-8)		
8								
				- - - -	100	0.0 (8-10)		(8.5) ***Silty Gravel (gm)*** Dark gray (7.5YR 4/1); loose; wet; faint odor; slightly oily.
10								Bottom of Boring at 10 feetRefusal at 16.0' bgs. All soil classification based on visual descriptions made during the installation of the boring, unless noted otherwise.
12								
14								
16								
18								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC 34-06
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
					0.0		Broken up, weathered shale and some silt.	
1					0.0			
2							*Bottom of boring at 2 feet. Hand augered to 2' bgs. Samples collected at 0-2" and 2"-2'.*	2
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC 34-07
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
					100	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Greyish brown gravel with coarse sand and silt, 10YR-5/6, Hard, non plastic, dense and dry.	
1					100	0.0			1.5
								Gravelly Silt (ML) Light brown gravelly silt with some coal cinders and slight black discoloration, 10YR-3/6, very hard and dry.	
2									2
								Bottom of boring at 2 feet. Boring terminated at 2' bgs	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-15
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel (GP)*** Fill material of dark ash, coal cinders and poorly graded gravel. Very hard and very dense.	
1					60	0.0			
2									2.5
								Silt with Gravel (ML) Brown silt with poorly graded gravel. 10YR-4/6, Stiff, medium density, moist.	
3					60	0.0			
4					60	0.0			4.5
								Bottom of boring at 4.5 feet. Boring terminated at 4.5' bgs due to bedrock refusal.	
5									
6									
7									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-26-15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
8								
9								
10								
11								
12								
13								
14								
15								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-16
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	75	0.0		***Concrete*** Concrete and gravel fill material.	1.5
2				- - - -	75	0.0		***Sandy Elastic Silt (MH)*** Dark brown elastic silt with traces of coarse sand. 10YR-4/6, medium density and plasticity, dry until 3-3.5' where it gets very wet. Some black staning throughout, but no odor.	3.5
3								*Bottom of boring at 3.5 feet. Boring terminated at 3.5' bgs due to bedrock refusal.*	
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-17
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel (GP)*** Fill material of ash, sediment and poorly graded gravel. Some dark discoloration but no odor.	
1					60	0.8			
2									2.5
					60	.4		***Elastic Silt with Gravel (MH)*** Brown cohesive silt with gravel. 10YR-5/6, medium plasticity, medium density, wet, some dark discoloration but no odor.	
3									3.5
								Bottom of boring at 3.5 feet. Boring terminated at 3.5' bgs due to bedrock refusal.	
4									
5									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-26-17

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				
				-				
6								
7								
8								
9								
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-18
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	60	0.0		***Poorly-Graded Gravel (GP)*** Coarse gravel fill material	1
2				- - - -	60	0.0		***Elastic Silt with Gravel (MH)*** Brown elastic silt with coarse gravel. 10YR-4/6, dense, medium plasticity, moist, some dark discoloration throughout but no odor.	
3									
4									4
								Bottom of boring at 4 feet. Boring terminated at 4' bgs due to bedrock refusal.	
5									
6									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-19
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Fill material*** Fill Material of ash, poorly graded gravel and concrete. No native soil encountered in the boring.	
1					90	0.9			1.5
								Bottom of boring at 1.5 feet. Boring terminated at 1.5' bgs due to bedrock refusal.	
2									
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-14
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Fill*** Concrete and fill ash	1
					75	0.0		***Sandy Silt (ML)*** Broenish red sandy silt with some ash fill material. 7.5YR-4/6, Stiff, medium density, moist	2
2					75	0.0		***Sandy Silt with Gravel (ML)*** Dark yellow sandy silt with some gravel and traces of ash. 2.5YR-5/6. Stiff, very dense and dry.	
4					90	0.0			6
6					90	0.0		***Elastic Silt (MH)*** Brown elastic silt with some fill ash. 10YR-4/8, wet, soft, med plasticity	7.5
8								***Poorly-Graded Sand with Silt (SP-SM)*** Poorly graded yellow sand with silt. 10TY-6/8, firm, dry, low density.	9
10					40	0.4		***Sandy Silt (ML)*** Brown sandy silt with ahs and gravel fill material. 10YR-4/6, wet and soft	12
12								*Bottom of boring at 12 feet. Boring terminated at 12' bgs due to bedrock refusal*	
14									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-15
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0			
					90	0.0		***Fill*** Fill consisting of gravel concrete and crushed brick	1.25
2					90	0.4		***Sandy Silt with Gravel (ML)*** Brown sandy silt with gravel and traces of fill materials such as ash and coal cinders. 10YR-5/8, hard, dense and dry.	
4					70	0.4			
6					75	0.6		***Fill*** Mostly fill materials consisting of ash, wood and coal. Traces of brown, medium density, soft silt.	6
8					75	0.0			
10								*Bottom of boring at 9.5 feet. Boring terminated at 9.5' bgs due to bedrock refusal*	9.5
12									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-16
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Sand with Gravel (SP)*** Light brown coarse sand with traces of gravel. 2.5YR-4/4, soft, non plastic, dry, low density.	
1					90	0.0			
2					90	0.0			2.5
								Bottom of boring at 2.5 feet. Boring terminated at 2.5' bgs due to bedrock refusal	
3									
4									
5									

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-28-16

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
				-				
				-				
6								
7								
8								
9								
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description	
						Ground Surface	
1						***Silt (ML)*** Bedded siltstone with black silt and loam, moist, soft, traces of fine sand.	
2						*Bottom of boring at 2 feet. Hand auger to 2' bgs. Samples collected from 0-2" and 2"-2'.*	2
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description
						Ground Surface
						Silt (ML) Siltstone fragments with silt and organics. Some trace sand and clay, moist, black to dark brown.
2						*Bottom of boring at 2 feet. Hand auger to bedrock refusal at 2' bgs. Samples collected from 0-2" and from 2"-2'.*

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-09
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Sandy Silt with Gravel (ML)*** Light brownish grey sandy silt with gravel and traces of siltstone fragments as well as coal. Hard, dry, non plastic, 10YR-5/6	
1				- - - -	100	0.0			
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	2
3				- - - -					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-10
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Gravelly Silt with Sand (ML)*** Gravelly silt with fine sands, 10YR-6/8, stiff, dry, non plastic, medium density.	
1					100	0.0			1.25
								Siltstone Fragments of siltstone	
2									2
								Bottom of boring at 2 feet. Boring terminated at 2' bgs	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description
						Ground Surface
1						
2						
3						
4						
5						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	
						Ground Surface	
1						***Silt with Gravel (ML)*** Dark Brown silt with sub angular gravel.	
2						*Bottom of boring at 2 feet. Hand Auger to 2' bgs. Samples collected 0-2" and 2"-2'.*	2
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-30-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-31-06
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Fill material*** Fill material of coal ash and crushed brick.	
1					100	0.0			
									1.5
								Siltstone Broken up fragments of siltstone	
2									2
								Bottom of boring at 2 feet. Boring terminated at 2' bgs	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P1
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P10
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***SILT (ml)*** Yellowish-brown (10YR 5/4).
1				- - -	100	0.0		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Yellowish-brown (10YR 5/4).
2				-				***SILT (ml)*** Gray (10YR 5/1).
								Bottom of boring at 2 feet. End of boring at 2.0' bgs.
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	(0-2) 0.0		***SILTY GRAVEL (gm)*** Brown (10YR 4/3).
								SILTY GRAVEL (gm) Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs.*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1).	
				-				Olive yellow (2.5Y 6/8).	
1					100	0.0			
				-				Light gray (10R 7/1).	
				-					
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***WELL-GRADED GRAVEL (gw)*** Reddish-black (2.5YR 2.5/1).	
				-				Olive yellow (2.5Y 6/8).	
1					100	0.0			
				-				Light reddish-gray (2.5YR 7/1).	
				-					
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*	
3									
4									
5									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL (gm)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***SILT (ml)*** Brown (10YR 5/3).	
1				-	100	0.0		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1).	
				-					
				-					
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P7
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***SILT (ml)*** Brown (10YR 5/3).
1				- - -	100	0.0		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P8
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SAND (gw)*** Very dark gray (10YR 3/1).
2								***SILT (ml)*** Dark gray (10YR 4/1).
3								*Bottom of boring at 2 feet. End of boring at 2.0'bgs*
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P9
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- -				***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/4).
1				- -	100	0.0		***WELL-GRADED SAND WITH GRAVEL (sw)*** Very dark gray (10YR 3/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL (gm)*** Brown (10YR 4/3).
								SILTY GRAVEL (gm) Dark yellowish-brown (10YR 4/6).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILT WITH GRAVEL (ml)*** Brown (10YR 5/3).
2								***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1).
3								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- - -	75	0.0		***SILT (ml)*** Brown (10YR 5/3).
1				- -				***SILT (ml)*** Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	75	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (10YR 5/3).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***SILTY GRAVEL (gm)*** Brown (10YR 5/3).
				-				
1					100	0.0		***SILT (ml)*** Dark brown (10YR 3/3).
				-				
				-				***SILT (ml)*** Brownish-yellow (10YR 6/8).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- -				***SILT WITH GRAVEL (ml)*** Very dark gray (10YR 3/1).
1					100	0.0		
				- -				***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***ORGANIC SOIL (ol/oh)*** Dark brown (10YR 3/3).
				-				***ORGANIC SOIL WITH GRAVEL (ol/oh)*** Dark yellowish-brown (10YR 4/6).
1				-	100	0.0		***SILTY GRAVEL (gm)***
				-				***WEATHERED BEDROCK*** Very dark gray (10YR 3/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***Asphalt***
				-				***SILT WITH GRAVEL (ml)***
1				-	100	0.1		
				-				***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3).
2								*Bottom of boring at 2 feet. End of boring at 2.0'bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL WITH SAND (gm)*** Dark grayish-brown (10YR 4/2).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- -				***SILT WITH GRAVEL (ml)*** Very dark gray (10YR 3/1).
1				- - -	100	0.0		***SILT WITH GRAVEL (ml)*** Dark yellowish-brown (10YR 3/6).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***ORGANIC SOIL (ol/oh)*** Dark grayish-brown (10YR 4/2).
				-				***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/6).
1					100	0.0		
				-				
				-				***SILT WITH GRAVEL (ml)***
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***Asphalt***
				-				***SILT WITH GRAVEL (ml)***
1				-	100	0.0		
				-				***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark grayish-brown (10YR 4/2).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***SILT (ml)*** Dark brown (10YR 3/3).	
1				-	100	0.5		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark gray (10YR 4/1).	
				-					
				-					
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-33
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel with Sand (GP)*** Dark grey poorly graded gravel with coarse sand and traces of ash. 2.5Y-4/2, low density and dry.	
1				- - - -	100	0.0			
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	2
3				- - - -					
4									
5									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-34
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
				- - - -	0.0 0.0		
2				- - - -			
4							
6							
8							
10							
12							
14							
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-35
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Topsoil*** Topsoil	0.4
1					100	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark grey poorly graded gravel with silty sand. 5YR-4/1, firm, low density and moist.	2
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-39
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- -	50	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Silty gravel with coarse sand, medium density, hard and moist.	1
1				- -				*Bottom of boring at 1 feet. Boring terminated at 1' bgs due to bedrock refusal.*	
2									
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-40
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				- -	50	0.0		***Poorly-Graded Gravel with Silt (GP-GM)*** Dark Brown to grey silty gravel with traces of coarse sand. 1-YR-4/8, Dry, soft, low density, non plastic.
1				- -				*Bottom of boring at 1 feet. Boring terminated at 1' bgs due to bedrock refusal.*
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-41
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-	90	0.0		***Fill*** Fill material of coarse sand, ash and crushed brick. Hard and dry with dark discoloration.	
1				-	90	0.0			
				-					1.5
				-				***Siltstone*** Broken up fragments of siltstone.	
2									2
				-				*Bottom of boring at 2 feet. Boring terminated at 2' bgs due to bedrock refusal.*	
3				-					
				-					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1								***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
2 3				- - - -	75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; moist, becoming wet @3.5' bgs.; loose.	4
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 7.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.4
2				-	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-					
4									4.4
5				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry.	
6				-	95	(4-6) 0.0 (6-7.8) 0.0			6.5
7				-				***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.5' bgs; medium dense to dense; moist. Refusal at 7.8' bgs.	7.8
8								*Bottom of boring at 7.8 feet.*	
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.3
2				-	93.75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2.9
3				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	4
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
1				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
				-	93.75	(0-2) 0.0 (2-4) 0.0			
2				-					
				-					2.9
3								***Ash, Slag, and Sand*** Fill: White sandy ash, and slag; dry; loose.	3.6
4								***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose.	4
								Bottom of boring at 4 feet.	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				- - - -	87.5	(0-2) 0 (2-4) 0.7		***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
								Well-Graded Gravel (gw) Gravel, trace brown (10YR4/4) silt; dense; dry.	1.75
2								***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3									
4									4.5
5				- - - -	100	(4-7) 0.2		***Silt with Gravel (ml)*** Yellowish brown (10yr5/4) silt, some gravel (0-2"); medium dense becoming soft at 6.5' bgs; cohesive; non-plastic; moist, becoming wet @ 6.5' bgs. Refusal at 7.0' bgs.	
6									
7									7
								Bottom of boring at 7 feet.	
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	0.75
1								***Well-Graded Gravel with Silt (gw-gm)*** Dark yellowish brown (10YR4/4) silt and gravel (0.2-2.0"); moist; soft.	1.25
								Ash, Slag, and Sand Fill: Dark black ash, sand, and slag; dry; loose.	1.6
2					87.5	0.0 (0-2) 0.0 (2-4)		***Silty Gravel (gm)*** Gravel (0.2-2.0"), some dark yellowish brown (10YR4/4) silt; soft to medium dense; moist.	2.8
3								***Silt (ml)*** Brown (10YR4/3) silt; soft to stiff; moist.	
4					100	0.0 (4-5)			4.75
5								***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose. Refusal at 5.0' bgs.	5
								Bottom of boring at 5 feet.	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S10
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, trace rootlets; moist; soft. PID readings in top 2" of soil.	0.5
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	0.75
1				-					
				-		1.8 (0-2) 0.0 (2-4)		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
2					87.5				
				-					
				-					2.8
3								***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.	
4									4
								Bottom of boring at 4 feet.	
5									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.5
1				-	100	(0-2) 0.0		***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.5
2				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2
								Bottom of boring at 2 feet.	
3									
4									
5									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-	100	(0-2) 0.0		***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.3
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
2				-					
									2.9
3								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-rounded gravel (0.2-2.0"); medium dense; cohesive; non-plastic; moist.	
4									4
								Bottom of boring at 4 feet.	
5									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.5 0.75
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.5
2				-	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
4				-					4
								Bottom of boring at 4 feet.	
5									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	
2				-	100	(0-2) 0.0 (2-4) 0.0			1.9
3				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
4				-					4
								Bottom of boring at 4 feet.	
5									
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9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S6
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1								***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
2				- - - -	75	(1-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2.5
3								***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.	4
4								*Bottom of boring at 4 feet.*	
5									
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7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S7
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				-				***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1.25
2				-	75	(1-2) 4.8 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-					
4				-					4
5								*Bottom of boring at 4 feet.*	
6									
7									
8									
9									
10									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S8
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	0.85
2				- - - -	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3									3.5
4								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry, becoming soft and moist @6.75' bgs.	
5				-					
6				- - -	100	(4-6) 0.0 (6-8) 0.0			
7									7.3
8								***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.6' bgs; medium dense to dense; moist. Refusal at 8.0' bgs.	8
								Bottom of boring at 8 feet.	
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S9
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.2
				-		(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	1.5
2				-	100			***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
3				-					
4									4
								Bottom of boring at 4 feet.	
5									
6									
7									
8									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-P1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.6
				-				***Well-Graded Gravel (gw)*** Well graded gravel fill (0.2-2.0"), some brown (10YR5/3) silt; medium dense; dry.	1
1				-	100	(0-2) 0.0		***Well-Graded Gravel with Silt and Sand (gw-gm)*** Brown (10YR5/3) to black (10YR2/1) gravel, silt, and sand, some dark black staining; medium dense; moist.	2
2				-				*Bottom of boring at 2 feet.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.2
				-				***Well-Graded Gravel with Silt (gw-gm)*** Gray (10YR3/1) to dark brown (10YR3/3) gravel fill (0.2-2.0"), some silt, trace coarse sand, trace coal fragments, some staining at 0.9' bgs.; medium dense; dry.	
1					100	(0-2) 0.0			
				-					
				-					
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	100	(0.25-2) 0.0		***Well-Graded Gravel with Silt (gw-gm)*** Dark gray (10YR4/1) to black (10YR2/1) gravel fill (0.2-2.0"), some silt, trace coarse sand,, moderate to heavy staining from 0.6-1.0' bgs.; loose to medium dense; dry.	
2								*Bottom of boring at 2 feet.*	2
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil.	0.2
								Well-Graded Gravel with Silt (gw-gm) Brown (10YR5/3) gravel and silt; medium dense; moist.	0.6
1				-	100	(0-2) 0.0		***Well-Graded Gravel with Silt (gw-gm)*** Brown (10YR5/3) to black (10YR2/1) gravel fill (0.2-2.0"), some silt, some coal asphalt debris, trace coarse sand, heavy staining at 1.5' bgs.; loose to medium dense; dry.	
				-					
				-					
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Poorly-Graded Gravel with Sand (gp)*** Gravel (0.2-2.0") and brown (10YR5/3) coarse to fine sand; loose; dry.	0.75
1				-	100	(0-2) 0.0		***Slag, ash, and debris*** Black (10YR3/1) to strong brown (10YR5/6) slag, fine ash, and coal debris, trace oily black debris; loose; dry.	
2				-					2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -				***Poorly-Graded Gravel with Sand (gp)*** Gravel (0.2-2.0") and brown (10YR5/3) coarse to fine sand; loose; dry.	0.75
1					100	(0-2) 0.0		***Slag, ash, and debris*** Black (10YR3/1) to strong brown (10YR5/6) slag, fine ash, and coal debris, trace oily black debris; loose; dry.	
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S6
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	100	(0-2) 0.0		***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.25
								Ash and Slag Black (10YR3/1) to reddish yellow (7.5YR7/8) fine ash, some multicolored slag, trace black staining; loose; dry.	
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark brown (7.5 YR 3/2) organic silt with trace gravel, soft, moist, trace rootlets	0.5
2				80	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt, dry, medium dense, some fine sand	3.4
4							***Lean Clay (CL)*** Gray (7.5 YR 4/1) clay, trace sand, medium plasticity, moist	3.6
							Bottom of boring at 3.6 feet. Refusal at 3.6'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark brown (7.5 YR 3/2) organic silt with trace clay, loose, soft, dry, trace rootlets	0.75
2				80	0.0		***Silt with Gravel (ML)*** Dark brown (10 YR 3/3) silt with some gravel (0.2"-0.5"), dense, dry	3.25
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2)highly weathered shale, dry, bedded, trace clay, very dense	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Well-Graded Gravel (GW) Dark gray (10 YR 4/1) weathered shale with organic soil and gravel (0.2" to 0.5"), loose, moist	0.5
2				80	0.0		***Lean Clay (CL)*** Yellowish brown (10 YR 5/4) clay, low plasticity, moist, dense	3.25
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2) to brownish yellow (10 YR 6/6) highly weathered shale, dry, slight bedding, some clay, very dense	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				80	0.0		***Organic Soil (OL/OH)*** Dark grayish brown (10 YR 4/2) organic soil with rootlets, some gravel (0.2" to 0.5"), moist	0.5
2							***Lean Clay (CL)*** Yellowish brown (10 YR 5/4) clay, low plasticity, moist, dense	2.75
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2) to brownish yellow (10 YR 6/6) highly weathered shale, dry, slight bedding, some clay, dense	3
							Bottom of boring at 3 feet. Refusal at 3'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-05 (log missing)
Drilled By: /	**Drill Start Date:**	**Drill End Date:**	**Drill Method:**
Logged By: Erik S. Reinert	**Total Depth (ft):**	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 677.15

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
2	675					
4	673					
6	671					
8	669					
10	667					
12	665					
14	663					
16	661					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt with organics, loose, soft, trace rootlets	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5'*	
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt with organics, loose, soft, trace rootlets	0.75
							Bottom of boring at 0.75 feet. Refusal at 0.75'	
2								
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BD17-SB-1
Drilled By: Parratt Wolff, Inc./Mark Eaves	**Drill Start Date:**	**Drill End Date:** 8/6/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 16	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.8
2				- - - -	25	0.4 (3-4)		***Void***	
									3
4								***Slag*** Brown (10YR5/3); trace ash; loose; dry; faint odor; slighlty oily; fill.	
6				- - - -	25	0.2 (7-8)			6
								Silty Gravel (gm) Dark reddish brown (5YR3/3); fine- to coarse-grained gravel; loose to medium dense; dry; no odor; slightly oily; fill.	
8									
									9
10				- - - -	50	0.0 (10-12)		***Silty Gravel (gm)*** Dark gray (7.5YR 4/1; medium dense; moist, becoming wet at 14' bgs; odor; oily; fill.	
12									
14				- - - -	50	0.0 (12-16)			
									15.75
16									16
								SILTSTONE Dark gray (7.5YR 4/1), trace bluish (5B5/1) staining; wet; weathered bedrock.	
18								*Bottom of boring at 16 feet. Refusal at 16.0' bgs*	
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BD17-SB-2
Drilled By: Parratt Wolff, Inc./Mark Eaves	**Drill Start Date:**	**Drill End Date:** 8/6/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 10	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.8
2					37.5	0.0 (2.5-4)		***Void***	
4								***Well Graded Gravel (gw)*** Dark gray (7.5YR 4/1), trace black staining at 7.25' bgs; trace silt; loose; dry; no odor; fill.	
6					75	0.0 (5-6) 0.0 (6-8)			
8									8.5
10					100	0.0 (8-10)		***Silty Gravel (gm)*** Dark gray (7.5YR 4/1); loose; wet; faint odor; slightly oily.	10
12								*Bottom of boring at 10 feet. Refusal at 10.0' bgs*	
14									
16									
18									
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-01
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete and Asphalt	1
2				- - - -	75	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark brown (10YR 3/3) gravelly sand with some silt and siltstone fragments; sand is medium- to coarse-grained; gravel is subangular to rounded; moist at 2 ft bgs.	4
4				- - - -	50	0.0		***Siltstone*** Brown (10YR 4/3) siltstone with some silt; dry; bedrock refusal.	6.2
6								*Bottom of boring at 6.2 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-02
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2				- - - - -	50	0.0		***Clayey Silt (ML)*** Dark olive brown (10YR 3/3) clayey silt with some siltstone fragments.	4
4				- - - -	50	0.0		***Siltstone*** Siltstone fragments with some yellowish brown (10YR 5/6) silt; dry to slightly moist.	6
6								***Poorly-Graded Sand with Gravel (SP)*** Dark yellowish brown (10YR 3/4) gravelly sand; sand is fine- to medium-grained; gravel is fine-grained and subangular; moist to wet.	6.6
8								*Bottom of boring at 6.6 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-03
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Clayey Silt (ML) Dark olive brown (10YR 3/3) clayey silt; rootlets common; slightly moist.	0.5
2				- - - -	50	0.0		***Gravelly Silt (ML)*** Dark yellowish brown (10YR 3/4) gravelly silt with some siltstone fragments; moist.	3
4								***Clayey Silt (ML)*** Yellowish brown (10YR 5/6) clayey silt with some gravel; gravel is fine-grained and subangular; moist.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

Notes:

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-04
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
								Gravelly Silt (ML) Yellowish brown (10YR 5/6) gravelly silt; gravel is fine-grained and subrounded; dry.	1 1.5
2				- - - -	100	0.0		***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry.	
								Clayey Silt (ML) Dark yellowish brown (10YR 4/6) clayey silt with some gravel; gravel is fine-grained and rounded to subangular; many woody organics; moist.	3
4								***Siltstone*** Dark gray (10YR 4/1) siltstone.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

Notes:

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-05
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Asphalt***	0.5
				-	100	0.212		***Gravelly Silt (ML)*** Dark gray (7.5YR 4/1) gravelly silt with some siltstone fragments.	
2				-					2
								Clayey Silt (ML) Brown (7.5YR 4/2) clayey silt with trace coarse-grained sand and fine-grained gravel; both are subrounded to subangular; moist.	2.2
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	2.5
								Bottom of boring at 2.5 feet.	
6									
8									
10									
12									
14									
16									

Notes:

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-06
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	90	0.002, 0.031		***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt with some siltstone fragments; slightly moist.	3.5
4				- - - -	100	0.860		***Clayey Silt (ML)*** Yellowish brown (10YR 5/6) clayey silt with little coarse-grained gravel; gravel is subangular; moist.	4
								Sandy Silt (ML) Grayish brown (10YR 5/2) sandy silt with yellowish brown (10YR 5/8) mottling; sand is fine- to medium-grained; moist.	4.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	6.1
								Bottom of boring at 6.1 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-07
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	95	0.019, 0.017		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; gravel is fine-grained and subrounded; moist.	3.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-08
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Clayey Silt (ML) Dark brown (7.5YR 3/3) clayey silt; rootlets common; moist.	1
2					75	0.002, 0.048		***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt and some siltstone fragments; gravel is coarse-grained and subangular; moist.	4
4					100			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	5.6
6								*Bottom of boring at 5.6 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-09
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	60	0.0		***Sandy Silt (ML)*** Dark brown (10YR 3/3) sandy silt with some gravel; sand is subrounded; gravel is fine- to coarse-grained and rounded to subrounded; moist.	3.5
4				- - - -	25	0.0		***Gravelly Silt (ML)*** Brown (7.5YR 4/3) gravelly silt with some coarse-grained sand; trace siltstone fragments; gravel is coarse-grained and subangular.	4
6								***Clayey Silt (ML) to Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) clayey silt to gravelly silt; gravel is coarse-grained and subangular; moist to wet.	6
8								*Bottom of boring at 6 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-10
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								No Recovery	
2				- - - -	25	0.836 (2-4)			2
								Gravelly Silt (ML) Dark brown (7.5YR 3/2) gravelly silt and siltstone rock fragments; gravel is fine-grained and subangular; moist; increased clay content from 4-5 ft bgs.	
4									
									5
6				- - - -	75	1.8, 1.2		***Gravelly Silt (ML)*** Dark yellowish brown (10YR 3/4) gravelly silt with some siltstone rock fragments; moist; wet from 7.5-8 ft bgs.	
8									8
								Bottom of boring at 8 feet.	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-11
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Clayey Silt (ML) Dark brown (10YR 3/3) clayey silt with some coarse-grained sand; sand is subrounded; moist.	0.5 1
								Asphalt gravel	
2				- - - -	75	1.6, 1.2		***Gravelly Silt (ML)*** Dark yellowish brown (10YR 4/4) gravelly silt with some siltstone fragments; moist.	3.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; refusal.	3.8
								Bottom of boring at 3.8 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-12
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 7.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	1.4, 2.1		***Gravelly Silt (ML)*** Very dark brown (10YR 2/2) gravelly silt; gravel is fine- to coarse-grained and subangular; slightly moist.	1
2								***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt with some clay and trace brick fragments; gravel is fine-grained and subangular; moist.	3.5
4				- - - -	100	1.7, 0.834		***Clayey Silt (ML)*** Dark yellowish brown (10YR 4/6) clayey silt with some siltstone fragments and little coarse-grained subangular gravel; moist.	5.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone; bedrock refusal.	7.7
8								*Bottom of boring at 7.7 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-13
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				-				***Concrete and Asphalt***	
2				-	100	0.0			2
3				-				***Siltstone*** Brown (10YR 4/3) siltstone; some silt present; dry.	
4				-					4
5								*Bottom of boring at 4 feet.*	
6									
7									
8									
9									
10									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-14
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-			***Asphalt***	0.5
				-	0.0		***Clayey Silt (ML)*** Light olive brown (2.5Y 5/4) clayey silt with angular fine-grained gravel; dry to slightly moist.	1.5
2				-			***Poorly-Graded Gravel with Silt (GP-GM)*** Dark yellowish brown (10YR 4/6) clayey silt to silty gravel with coarse-grained (>75mm) siltstone fragments; gravel is fine- to coarse-grained and subrounded; moist; refusal.	3
							Bottom of boring at 3 feet.	
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-15
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	0.0		***Gravelly Silt (ML) to Silty Gravel (GM)*** Strong brown (7.5 YR 5/6) silty gravel to gravelly silt; gravel is fine- to coarse-grained and subangular; dry.	2
4				- - - -	50	0.0		***Gravelly Silt (ML) to Silty Gravel (GM)*** Strong brown (7.5 YR 5/6) silty gravel to gravelly silt with siltstone fragments; gravel is fine- to coarse-grained and subangular; moist.	4
								Silty Gravel (GM) Dark yellowish brown (10YR 4/4) silty gravel; gravel is fine-grained and subrounded; moist to wet; saturated from 5-5.5 ft bgs.	5.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone; moist to dry; wet from 5.7-6.0 ft bgs; bedrock refusal.	6
								Bottom of boring at 6 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-17
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.5
				- - - -	75	0.051, 0.0		***Gravelly Silt (ML) to Silty Gravel (GM)*** Dark brown (7.5YR 3/2) gravelly silt to silty gravel; gravel is coarse-grained and subrounded to subangular; slightly moist.	2
2								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry.	2.5
								Gravelly Silt (ML) Dark brown (10YR 3/3) gravelly silt; gravel is fine- to coarse-grained and subangular; moist.	3.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-18
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	80	0.219, 0.0		***Gravelly Silt (ML)*** Very dark grayish brown (10YR 3/2) to dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; slightly moist to moist.	
4				- - - -	50			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4 / 5.1
6								*Bottom of boring at 5.1 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-20
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	0.338, 1.0		***Gravelly Silt (ML)*** Brown (10YR 4/3) gravelly silt with trace coarse-grained sand and siltstone rock fragments; gravel is fine- to coarse-grained and subangular; slightly moist.	
4				- - - -	100	0.005			
									5.5
6								*Bottom of boring at 5.5 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-21
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.7
2				- - - -	75	0.0		***Silty Gravel (GM)*** Dark yellowish brown (10YR 4/4) silty gravel with some coarse-grained sand; trace siltstone fragments; dry.	3.8
4				- - - -	50	1.8 (4-6)		***Gravelly Silt (ML)*** Dark brown (10YR 3/3) gravelly silt with trace coarse-grained sand; gravel is fine-grained; moist; refusal.	8
8								*Bottom of boring at 8 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-22
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
				- - - - -	100	2.4, 1.5		***Siltstone*** Dark gray (10YR 4/1) siltstone fragments with some silt; dry.	2
								Gravelly Silt (ML) Yellowish brown (10YR 5/4) gravelly silt with some siltstone fragments; gravel is fine- to coarse-grained and subangular.	4
				- - - - -	0			***No Recovery*** Refusal.	4.6
								Bottom of boring at 4.6 feet.	

2, 4, 6, 8, 10, 12, 14, 16

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-23
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	50	1.8, 1.7		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some clay and siltstone fragments; gravel is fine-grained and subangular; moist.	
4				- - - -	100	1.4		***Clayey Silt (ML) to Gravelly Silt (ML)*** Brown (7.5YR 4/2) clayey silt to gravelly silt with some siltstone fragments; gravel is fine-grained and subangular; moist; refusal.	4
6								*Bottom of boring at 6 feet.*	6
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-25
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	1.2, 0.019		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; gravel is fine-grained and subrounded; moist.	
4				- - - -	100			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4
								Bottom of boring at 5.1 feet.	5.1
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-02/ MW-34B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/18/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 22	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 411.28
Coordinates (X/Y): 843401.54/887793.73	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 411.21

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9.5 to 14.5	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - - -	0			***Asphalt*** Asphalt and gravel base.	0.5
					13	9.5		***Silty Gravel (GM)*** Brown (10 YR 4/3) silt with gravel; medium dense; dry; fill.	2.3
2	409			- 4 5 7	50	0		***Poorly-Graded Sand with Silt and Gravel (SP-SM)*** Brown (10 YR 4/3) fine- to coarse-grained sand; little silt, gravel; medium dense; dry becoming wet at 4 feet bgs; fill.	
4	407			4 4 5 5	20	0			
6	405			3 2 5 9	100	0		***Silt (ML)*** Brown (10 YR 4/3) silt; little clay; dense; moist.	6.5
8	403			33 16 8 8	100	0			9
					0			***Weathered Siltstone*** Gray (10 YR 5/1) siltstone; brittle; highly weathered; laminated; friable; dry.	9.3
10	401			7 29 50 -				***Siltstone*** Gray siltstone - no sample.	10
12	399			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate becoming strong at 11.3 feet bgs; fine-grained; laminated; slightly to moderately decomposed; intensely fractured to moderately fractured at 11.3 feet bgs.	
14	397			- - - -				Fracture Classification: Fracture zone at 10-11.3 feet bgs; dry with staining. Horizontal bedding plane joints (possibly mechanical) at 12.2, 13.4 and 13.7 feet; very narrow; not healed; smooth; dry with staining.	15
16	395			- - - -	100			RQD: 58% Water sample MW-34B collected for VOCs.	
18	393			-				***Siltstone*** Gray (10 YR 5/1) siltstone; strong to very strong; fine-grained; laminated; fresh; competent; slightly fractured.	19
20	391			-				Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 16.2 and 17.6 feet; very	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-02/ MW-34B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				- - -	100			narrow; not healed; smooth; dry with staining. RQD: 100%	
22	389							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 19.4, 19.6, 20.3, 20.6 and 20.9 feet; very narrow; not healed; smooth; dry with staining. RQD: 60% *(continued)*	22
24	387								
26	385							*Bottom of boring at 22 feet.*	
28	383								
30	381								
32	379								
34	377								
36	375								
38	373								
40	371								
42	369								
44	367								

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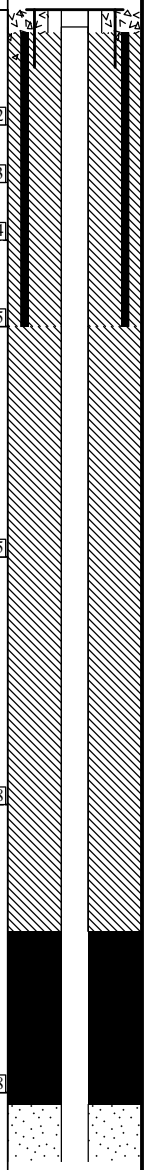
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-03/ MW-35T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/20/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30.2	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 517.27
Coordinates (X/Y): 843564.09/887105.95	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 516.95

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	21 to 26	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				25, 13, 13, 10	0	0		***No Recovery***
2	515			15, 20, 11, 50	20	1.9		***Silt (ML)*** Dark brown (10 YR 3/3) silt; little sand, gravel, and rock fragments; dense; non-plastic; moist.
4	513			- - - -	0			***Weathered Siltstone*** Gray (10 YR 5/1) siltstone; fragmented; dry.
								Siltstone Gray siltstone - no sample.
6	511			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak; fine-grained; laminated; moderately decomposed; very intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); very narrow to narrow; not healed; staining and decomposition; rough; dry with staining.
8	509							RQD: 45%
10	507			- - - -	93			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (many mechanical breaks possible); non-cohesive sediment infilling, rough and damp at 9.5-11.5 feet; clean and dry with staining at 11.5-13.8 feet.
12	505							
14	503			- - - -	100			RQD: 30%
16	501							***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (many mechanical breaks possible); not healed; clean; rough; dry with staining.
18	499							RQD: 38%
20	497							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-03/ MW-35T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	495			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured to moderately fractured at 21.6 feet bgs. Fracture Classification: Fracture zone at 18.8-21.6 (many mechanical breaks possible). Mechanical breaks at 22, 22.3, and 23.5; horizontal; very narrow; not healed; clean; smooth; dry.	
24	493							RQD: 44% Water sample MW-35T collected for VOCs. *(continued)*	23.8
26	491			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical breaks throughout sample. Vertical joint at 23.9-24.3; 70 degree dip; narrow; not healed; staining; smooth; dry with staining.	
28	489								28.8
30	487			- - - -	100			RQD: 78% ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Mechanical breaks at 29.5 and 29.8 feet; horizontal; narrow; not healed; clean; smooth; dry. RQD: 71% *Bottom of boring at 30.2 feet.*	30.2
32	485								
34	483								
36	481								
38	479								
40	477								
42	475								
44	473								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-04/ MW-36B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/19/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 29	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 478.91
Coordinates (X/Y): 843511.9/887349.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 478.58

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 22	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				37 50	100	0		***Asphalt*** Asphalt and gravel base.	0.5 0.8
2	477				0			***Poorly-Graded Gravel (GP)*** Gray gravel and rock fragments; loose angular; dry.	
4	475							***Siltstone*** Gray Siltstone - no sample.	4.5
6	473				100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak; fine-grained; laminated; moderately decomposed; competent; intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); very narrow; not healed; staining; rough; dry with staining. RQD: 8%	
8	471								9
10	469				100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; moderately decomposed; competent; intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); horizontal with 80 degree dip at 11 feet bgs; very narrow; not healed; staining; rough; dry with staining. RQD: 36%	
12	467								
14	465				100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; moderately decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 16.9-17 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry. RQD: 36%	14
16	463								
18	461							Water sample MW-36B collected for VOCs.	19
20	459								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-04/ MW-36B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	457			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 19.7-20.2 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry.	
24	455							RQD: 74% *(continued)* 24	
26	453			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 24.6-25.4 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry.	
28	451							RQD: 78% 29	
30	449							*Bottom of boring at 29 feet.*	
32	447								
34	445								
36	443								
38	441								
40	439								
42	437								
44	435								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-05/ MW-37B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/14/2007	**Drill Method:** Hollow Stem Auger
Logged By: Jerome D. McSorley	**Total Depth (ft):** 15	**Bore Diameter (in):** 10	**Ground Surface (ft-msl):** 408.97
Coordinates (X/Y): 843376.63/887759.7	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 408.46

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 15	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - - -	0			***Asphalt*** Asphalt and gravel base. (0.5)	
					30	2.2			
2	407			- 6 7 6	25	2		***Silty Gravel (GM)*** Dark gray (10 YR 3/1) to brown (10 YR 4/3) silt with gravel; non-plastic; moist; fill. (2)	
4	405			7 5 5 2	25	0		***Silt (ML)*** Dark gray (10 YR 3/1) to brown (10 YR 4/3) silt; some clay; little gravel; non-plastic; stiff to soft; moist becoming wet at 6 feet bgs; fill. Water sample MW-37B collected for VOCs.	
6	403			1 3 4 5	50	0			
8	401			6 6 5 4	20	0			
10	399			3 4 6 8	50	0		(11)	
12	397			8 10	50	0		***Weathered Siltstone*** Gray (10 YR 5/1) to yellowish brown siltstone; brittle; highly weathered; easily broken; fragmented; wet. (12.9)	
14	395			11 12 18 50	0			***Siltstone*** Gray (10 YR 5/1) to yellowish brown siltstone - no sample. (15)	
16	393			- - - -				*Bottom of boring at 15 feet.*	
18	391			- - - -					
20	389								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-06/ MW-38T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/10/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 41	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 590.39
Coordinates (X/Y): 843681.6/886577.3	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 590.18

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	27 to 37	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				5, 9, 8, 5	50	0		***Silt with Gravel (ML)*** Yellowish-brown silt; some angular gravel and rock fragments; stiff; non-plastic; moist.	
2	588			50	75	0			2.3, 2.4
				- - -				***Weathered Siltstone*** Gray weathered siltstone; brittle; dry.	
4	586			- - - -	0			***Siltstone*** Gray siltstone - no sample.	
6	584								6
				- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 6.2, 6.4 and 7.5 feet; very narrow; clean; rough; dry with staining.	
8	582								9.5
10	580							RQD: 0%	
				- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed to fresh; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 10, 12.4 and 13.7 feet; very narrow; clean; rough; dry. Vertical joints at 11-11.5 feet; joint; extremely narrow; clean; dry.	
12	578								
14	576								14.5
								RQD: 51%	
				- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed to fresh; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 15.7 and 17.9 feet; extremely narrow; clean; smooth; dry. Vertical joints at 16-17.2 feet; 70 degree dip; very narrow; partly healed with non-cohesive sediment; smooth; damp.	
16	574								
18	572								
									19.5
20	570								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-06/ MW-38T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								RQD: 48%	
22	568			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 20.2, 21.1, 21.6, 23 and 24.5 feet; very narrow; clean; smooth; dry.	
24	566							RQD: 61% *(continued)* (24.5)	
26	564			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 25.8, 26.3, 27, 27.4, 27.7, 27.9, 28.3, and 29.2 feet; very narrow; clean to slightly decomposed; rough; dry. Vertical joints at 26.5 (45 degree dip) and 28.5-29 (80 degree dip); very narrow; clean; smooth; dry.	
28	562								
30	560			- - - -	100			RQD: 33% (29.5) ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints at 30.3, 31.1, 31.3, 31.6, 31.9, 32.1, 33, 33.9, and 34.4 feet; very narrow; clean; rough; dry. Vertical joint at 30.5 feet; 25 degree dip; very narrow; clean; rough; dry.	
32	558								
34	556			- - - -	100			RQD: 71% (34.5) Water sample MW-38T collected for VOCs. ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 34.9, 36.2, 36.5 and 36.6 feet; very narrow; not healed; clean; smooth; dry. Vertical joints at 35.4-36.6 and 38.1-39.5 feet; extremely narrow; partly healed; rough; dry.	
36	554								
38	552								
40	550			- - - -	100			RQD: 42% (39.5) ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Mechanical break at 40.5 feet. RQD: 100% (41) *Bottom of boring at 41 feet.*	
42	548								
44	546								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-07/ MW-39T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/12/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 60	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 641.7
Coordinates (X/Y): 843670.41/886076.19	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 641.33

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	44 to 54	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				0 6 7 9	25	0		***Asphalt*** Asphalt and gravel base. (0.5)	
2	640			39 50	50	0		***Silt with Gravel (ML)*** Yellowish-brown silt; some angular gravel; dense; dry. (2)	
								Weathered Siltstone Light gray (7.5 YR 7/1) weathered shale; brittle; dry. (2.9)	
4	638				0			***Siltstone*** Gray Siltstone - no sample.	
6	636							(6)	
8	634				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Predominantly mechanical throughout sample. Fracture zones at 7.9 - 8.2 and 10.4 -11 feet; narrow; clean; smooth; dry. RQD: 0%	
10	632							(11)	
12	630				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical fracture joint at 12 feet; 80-90 degree dip; very narrow to narrow; moderately healed; clean; smooth; dry with staining. RQD: 20%	
14	628								
16	626							(16)	
18	624				100				
20	622								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-07/ MW-39T

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Siltstone Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Horizontal bedding plane joints at 16.7, 17.4, and 17.6 feet; narrow; not healed; clean; smooth; dry. RQD: 50% *(continued)*	21
22	620			- - - -	100				
24	618							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 21.3 - 23.7 feet; 80-90 degree dip; narrow; clean; smooth; damp; tight and cemented at 23.5-23.7 feet. Horizontal bedding plane joints at 21.3 feet; narrow; not healed; clean; smooth; damp. RQD: 60%	26
26	616								
28	614			- - - -	96				
30	612							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderate fracture. Fracture Classification: Mechanical fracture at 26.3 feet. Horizontal bedding plane joints at 26.7, 26.9, 28.6, and 28.8 feet; narrow; not healed; clean; smooth; dry with staining. Vertical joints at 27.9-28.1 feet; 10 degree dip; narrow; not healed; clean; rough; dry with staining. RQD: 83%	31
32	610			- - - -	100				
34	608							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; slightly to moderately fractured. Fracture Classification: Mechanical fracture at 32 feet. Horizontal bedding plane joints at 33.6, 33.9, 35.1, and 35.3 feet; narrow; not healed; clean; smooth to rough; dry with staining. RQD: 97%	36
36	606								
38	604			- - - -	100				
40	602							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; fresh; competent; slightly fractured. Fracture Classification: Mechanical fractures at 36.5 and 38.5 feet. Horizontal bedding plane joints at 39.8 and 40.4 feet; very narrow; not healed; clean; smooth ; dry. Vertical joint at 37.8 feet; very narrow; not healed; clean; rough; dry. RQD: 100%	41
42	600			- - - -	100				
44	598								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-07/ MW-39T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	596							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Mechanical fractures at 41.2 and 42.2 feet. Horizontal bedding plane joints at 41.6, 41.7, 43, 43.3, 43.5, 44.4 and 44.6 feet; very narrow; not healed; clean; smooth; dry. Horizontal joint at 45.1 feet; narrow; not healed; clean; rough; dry. RQD: 78% *(continued)*	46
48	594			- - - -	100				
50	592								
52	590			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly to moderately fractured. Fracture Classification: Mechanical fractures at 47.3, 50 and 52 feet. Horizontal bedding plane joints at 46.8, 48.2, 48.6, 48.8, and 49.9 feet; narrow; not healed; clean; rough; dry. Vertical joint at 50.6-51 feet; 80 degree dip; tight; partly healed; clean; smooth ; dry to restricted. RQD: 92% Water sample MW-39T collected for VOCs.	51
54	588								
56	586								56
58	584			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Horizontal bedding plane joints at 52.2, 53.8, and 55.5 feet; narrow; not healed; clean; smooth; dry with staining. RQD: 100%	
60	582								60
62	580							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Mechanical fracture at 56.9 feet. Horizontal bedding plane joints at 57.5, 58, 59.1, and 59.7 feet; very narrow; not healed; clean; smooth; dry with staining. RQD: 100% *Bottom of boring at 60 feet.*	
64	578								
66	576								
68	574								
70	572								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-08/ MW-40T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/7/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30.6	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 593.3
Coordinates (X/Y): 843620.56/886481.76	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 592.97

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9 to 19	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
				- - 50 -	100	0		***Asphalt*** Asphalt with gravel base.	1.3
2	591			- - - - -	0			***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark gray to dark brown gravel and rock fragments; some sand and silt; loose; wet; fill.	
4	589							***Siltstone*** Gray siltstone - no sample.	4
6	587			- - - -	98			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 4.9, 5.3, 5.5, 5.8, 6.8, 6.9 and 8.3 feet; very narrow; clean; smooth; dry. RQD: 50%	
8	585								8.6
10	583			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 8.9, 9.6, 10.2, 11.4, 11.9, 12.3 and 13.4 feet; very narrow; clean; smooth; dry. RQD: 31% Water sample MW-40T collected for VOCs.	
12	581								
14	579			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Vertical joints at 15.4 and 15.9 feet; 30-40 degree dip; very narrow; clean; smooth; dry. RQD: 23%	
16	577								
18	575								13.6
20	573								18.6

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-08/ MW-40T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	571			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joints at 21.5 and 22.1 feet; very narrow; clean; smooth; dry.	
24	569							23.6 RQD: 33% *(continued)*	
26	567			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joints at 24.3, 25.1, 25.8, 26.3 and 27.3 feet; very narrow; clean; smooth; dry. Vertical joints at 23.8-24.1 feet; 80 degree dip; very narrow; clean; smooth; dry.	
28	565							28.6 RQD: 43%	
30	563			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured.	
32	561							30.6 Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joint at 29.7 feet; very narrow; clean; smooth; dry. RQD: 64%	
34	559							*Bottom of boring at 30.6 feet.*	
36	557								
38	555								
40	553								
42	551								
44	549								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-10/ MW-42T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/11/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 48.8	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 656.35
Coordinates (X/Y): 843564.43/885888.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 655.98

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	33 to 43	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				21, 16, 8, 6	40	0		***Asphalt*** Asphalt and gravel base. (1.5)	
2	654			5, 6, 6, 7	60	0		***Silt (ML)*** Yellowish-brown silt; firm and dry becoming soft and moist at 2 feet bgs. (4)	
4	652			6, 4, 5, 6	60	14		***Silt with Gravel (ML)*** Yellowish-brown silt with gravel; firm and moist becoming wet at 8 feet bgs.	
6	650			9, 27, 24, 31	80	26.2			
8	648			16, 8, 13, 50	50	0		(9.5)	
10	646			20, 50	50	0		***Weathered Siltstone*** Light gray siltstone; fragmented; dry. (11)	
12	644			- - - -	0			***Siltstone*** Gray Siltstone - no sample.	
14	642							(15.5)	
16	640			- - - -	88			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 15.9 and 17.3 feet; narrow; clean; dry. (18.8)	
18	638							RQD: 72%	
20	636								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-10/ MW-42T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	634			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 19.4, 20.3, 21.1 and 23.8 feet; narrow; clean; dry.	
24	632							RQD: 96% *(continued)* (23.8)	
26	630			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Vertical natural fractures at 24 and 26 feet are joints; 60 degree dip; smooth; very narrow; not healed; clean; dry. Horizontal natural fractures at 24.9, 25.2, 27, 27.8, and 28.5 are bedding plane joints; smooth, very narrow, not healed; clean; dry.	
28	628							RQD: 50% (28.8)	
30	626			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 30.2 and 30.7 feet; smooth, narrow, not healed; clean; dry.	
32	624							RQD: 92% (33.8)	
34	622			- - - -	100			Water sample MW-42T collected for VOCs. ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical 35.2 - 35.9 Fracture zone; damp Horizontal bedding plane joints at 34.5 and 38.5 feet; smooth, narrow, not healed; clean; dry.	
36	620							RQD: 74% (38.8)	
38	618								
40	616			- - - -	94			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Horizontal horizontal bedding plane joints at 40, 40.3, 41, 42.6, and 42.9 feet; smooth, narrow, not healed; clean; dry. RQD: 85% (43.8)	
42	614								
44	612								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-10/ MW-42T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	610			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joint at 44.8 feet; smooth, narrow, not healed; clean; dry. 48.8 RQD: 92% *(continued)*	
48	608								
50	606							*Bottom of boring at 48.8 feet.*	
52	604								
54	602								
56	600								
58	598								
60	596								
62	594								
64	592								
66	590								
68	588								
70	586								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-11/ MW-43T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/10/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 35	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 565.55
Coordinates (X/Y): 843289.03/886471.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 565.18

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	14.5 to 24.5	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - - -	0	0		***Asphalt*** Asphalt and gravel base.	1
2	564			37 9 8 6	40	0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Black to dark gray gravel; some sand and silt; moist becoming wet at 5 feet bgs; fill.	
4	562			7 4 3 3	20	0			
6	560			3 4 5 5	40	0			
8	558			3 3 3 3	30	0			8.8 9
10	556			11 36 36 22	50	0		***Silt (ML)*** Yellowish-brown silt; non-plastic; soft; moist. ***Poorly-Graded Gravel (GP)*** Gray to dark gray gravel with rock fragments; angular; loose; dry.	11
12	554			19 50 - -	100	0		***Weathered Siltstone*** Light gray siltstone; fragmented; dry. ***Siltstone*** Gray Siltstone - no sample Water sample MW-43T collected for VOCs.	11.8
14	552			- - - -	0				15
16	550			- - - -				***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 15.8, 17.5, 17.7 and 18.6 feet; very narrow; non-cohesive sediment; partly healed; rough; dry. RQD: 51%	
18	548			- - - -	100				
20	546								20

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-11/ MW-43T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22 24	544 542			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 21.7, 22, 22.6, 22.9, and 23.9 feet; very narrow; non-cohesive sediment; partly healed; rough; dry. RQD: 50% 25	
26 28 30	540 538 536			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 25.5 and 28.3 feet; very narrow; clean; rough; dry. RQD: 53% 30	
32 34	534 532			- - - -	96			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 30.8, 31.4, 32.1, 32.5, 33.2 and 34.8 feet; very narrow; clean; smooth; dry. Vertical joint at 32.1-32.5; very narrow; clean; smooth; dry. RQD: 50% 35	
36 38 40 42 44	530 528 526 524 522							*Bottom of boring at 35 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-12/ MW-44T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/13/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 50	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 558.67
Coordinates (X/Y): 842927.9/885982.86	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 558.22

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	41 to 46	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				25 15 15 9	50	0.8		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray to dark gray gravel; some sand and silt; loose; dry becoming wet at 4 feet bgs; fill.	
2	557			13 8 8 5	40	1			
4	555			4 4 3 2	20	0			
6	553			5 50	50	0			7
8	551			- -				***Siltstone*** Gray Siltstone - no sample.	
10	549			- - - -	0				
12	547								12.5
14	545			- - - -	100			***Siltstone*** Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Fracture zone at 12.5-13.2 feet bgs; horizontal and vertical; not healed; clean; rough; dry with staining. Mechanical breaks at 13.2-16 feet bgs; horizontal; extremely narrow; not healed; clean; smooth; dry with staining. RQD: 29%	
16	543								16
18	541			- - - -	100				
20	539								

Notes:

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
								Siltstone Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry with staining. RQD: 44% *(continued)*	21
22	537			- - - -	100				
24	535							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joint at 22.8 feet; smooth, narrow, not healed; decomposed; rough; dry. RQD: 44%	26
26	533								
28	531			- - - -	100				
30	529							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Fracture zone at 26.9-27.1 feet; rough; dry with staining. Horizontal bedding plane joints at 28.7 and 30 feet; very narrow; not healed; clean; rough; dry. RQD: 60%	31
32	527								
34	525			- - - -	100				
36	523							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Vertical joint at 34.1-34.5 feet; 80 degree dip; very narrow; not healed; clean; rough; dry with staining. Horizontal bedding plane joint at 35.4 feet; narrow; not healed; clean; rough; dry. RQD: 62%	36
38	521			- - - -	100				
40	519							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints at 39.3, 39.8, 39.9 and 40 feet; narrow; not healed; cohesive sediment in fractures; rough; damp. RQD: 62%	41
42	517			- - - -	100				
44	515								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	513							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints (possibly mechanical) at 42.5, 42.7, 43, 43.7, 43.8, 45, and 45.6 feet; very narrow; not healed; clean; rough; dry to dry with staining. RQD: 60% Water sample MW-44T collected for VOCs. *(continued)*	46
48	511			- - - -	100				
50	509								50
52	507							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; fresh; competent; slightly fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 47, 48.7 and 49.7 feet; very narrow; not healed; clean; smooth; dry. RQD: 100%	
54	505								
56	503							*Bottom of boring at 50 feet.*	
58	501								
60	499								
62	497								
64	495								
66	493								
68	491								
70	489								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-13/ MW-45T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/13/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 545.92
Coordinates (X/Y): 842468.45/885373.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 545.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 15	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				5, 15, 16, 22	60	0		***Wood*** Wood - section of railroad tie.	0.5
2	544			31, 35, 21, 20	80	0		***Silty Sand with Gravel (SM)*** Black to dark gray sand; some silt, trace gravel; fill.	2
4	542			10, 5, 5, 17	30	0		***Silt (ML)*** Yellowish-brown silt; non-plastic; stiff to hard; dry; gravel and rock fragments at 4 feet bgs.	5.5
6	540			- - - -	0			***Weathered Siltstone*** Gray siltstone; highly weathered; easily broken; dry.	6
								Siltstone Gray Siltstone - no sample.	7
8	538			- - - -	95			***Siltstone*** Dark Gray (10 YR 3/1) to brownish gray siltstone; weak; discoloration due to weathering; fine-grained; laminated; moderately decomposed; moderately disintegrated; very intensely fractured.	
10	536							Fracture Classification: Fracture zone throughout sample (mechanical and natural) - predominantly horizontal; narrow to very narrow; partly healed; rough; dry with staining to damp.	11
12	534							RQD: 0%	
								Water sample MW-45T collected for VOCs.	
14	532							***Siltstone*** Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured.	
16	530							Fracture Classification: Fracture zone throughout sample (mechanical and natural) - both horizontal and vertical; narrow to extremely narrow; partly healed; rough; damp at 11 - 12.5 feet to dry with staining at 12.5 - 16 feet.	16
18	528			- - - -	100			RQD: 30%	
20	526								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-13/ MW-45T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Siltstone Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (mechanical and natural) - both horizontal and vertical; very narrow; partly healed; decomposed infilling; rough; dry with staining. RQD: 12% *(continued)*	21
22	524			-					
				-	100				
24	522			-					
				-				***Siltstone*** Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; competent; intensely fractured.	
26	520								26
				-				Fracture Classification: Fracture zone throughout sample (mechanical and natural) - predominantly horizontal; very narrow to narrow; clean to stained; rough; dry with staining. RQD: 40%	
28	518			-	100				
				-					
				-				***Siltstone*** Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; competent; intensely to moderately fractured.	
30	516								30
								Fracture Classification: Fracture zone throughout sample (predominantly mechanical) - horizontal; very narrow to narrow; clean to stained; smooth; dry with staining. RQD: 48%	
32	514								
								Bottom of boring at 30 feet.	
34	512								
36	510								
38	508								
40	506								
42	504								
44	502								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-10-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/18/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.04
Coordinates (X/Y): 843068.65/886158.34	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.82

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				30	6.4		***Fill*** Dark brown black sand; well graded; some silt; rare grave; some ash; loose; dry.	
2	561								
3	560				80	0		***Fill*** Light brown to brown clay; low plasticity; some gravel; soft; dry to moist.	
4	559								
5	558				30	2.6		***Fill*** Light gray fine to medium sand; some gravel; loose; dry.	
6	557								
7	556				40	2.5		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs.	
8	555								
9	554				60	28.6			
10	553								

Notes:

2.8

4

7

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Project Name: Former EPT | **Client:** Emerson | **Location:** Ithaca, NY | **Boring Log:** EW-10-25B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
11	552				60	27.6		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs. *(continued)*	
								11.5	
12	551							***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								12	
13	550				0	N/A		***Ithaca Siltstone*** No core recovery.	
14	549							14	
					100	1.4		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
16	547				100	N/A		Fracture: 4 mechanical (3 horizontal, 1 vertical). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.2 and 13.0 feet bgs. Very narrow; no healing; some infilling with cohesive sediment; smooth to undulating; dry.	
17	546							RQD: 18% (very poor)	
								17.8	
18	545							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
19	544							Fractures: 10 mechanical (7 horizontal, 3 vertical). 11 bedding plane joints. Extremely narrow; not healed; some with cohesive sediment fill; laminated; smooth to undulating; dry.	
20	543				100	NA		RQD: 24% (very poor)	
21	542								
22	541								
								22.8	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-10-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	540			-	100	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 4 mechanical (all horizontal) 1 bedding plane joint. Extremely narrow; not healed; clean; smooth; dry.	
				-					
24	539			-					24.2
				-	100	N/A		RQD: 58% (fair) *(continued)*	
25	538			-				***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. *Bottom of boring at 25 feet.*	25
				-					
26	537			-					
				-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-11-43C (Formerly MW-14
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/15/2011	**Drill Method:** Hollow Stem Auger/Mud R
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.80
Coordinates (X/Y): 843153/886142.06	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.07

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
2	585				0.0		***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583							
6	581							
8	579				0.0			
10	577							
12	575						12	
14	573						***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal.	
16	571							
18	569			31	2.3			
20	567			75	12.0			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-11-43C (Formerly MW-14

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				75	14.3		***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal. *(continued)*	
22	565			75	6.1			
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							
38	549							
40	547							
42	545							
44	543							
							45	
							Bottom of boring at 45 feet.	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-12-45C (Formerly EXB-02
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05
Coordinates (X/Y): 843190.49/886146.18	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.47

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
				100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
5	582			100	0			
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish-gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs. (10–12)	
15	572						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	
20	567							
25	562							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
30	557						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
35	552							
40	547							
45	542							
50	537							
55	532							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	527						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
65	522							
70	517							
75	512							
80	507						80 *Bottom of boring at 80 feet. EXB-02 converted to extraction well EW12-45C by grouting up open portion to 45 feet on 6/3/15*	
85	502							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-1-62C/EXB-05
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Timothy Huff	**Total Depth (ft):** 62	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 566.59
Coordinates (X/Y): 843159.83/886285.85	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 565.88

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
				10 9	0			***Silty Gravel (GM)*** Fill material; gravel; silt.	
				11 20 6 5	20	0			
					50	0			
				4 5 5 4	50	0			
					10	0		9.5	
				2 2 2 3				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs.	
20	547								
40	527								
60	507							62	
								Bottom of boring at 62 feet. Converted to open-borehole extraction well for DPE System.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-4-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/31/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25.5	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.04
Coordinates (X/Y): 843107.29/886221.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 562.9

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	563				40	0.0		***Fill*** Brown gray becoming dark gray sand; well graded; fine to course grained; some silt; occasional brick fragments; loose; dry.	
2	562								
3	561				40	2.0			
4	560								4
5	559				50	2.6		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
6	558				100	4.7			
7	557				N/A	N/A			
8	556								8.5
9	555								
10	554								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 6 mechanical (mainly horizontal, some at 30 degrees). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.5 and 13 feet bgs. Very narrow; not healed; clean with staining in some joints; smooth; dry. 5 fracture zones at 8.7-9.6, 10.6-11, 11.8-12.1 and 13-13.5 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 0% (very poor) *(continued)*	
12	552								
13	551							13.5	
14	550							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 24 mechanical (mainly horizontal). 8 bedding plane fractures at 13.6, 14.25, 15.8, 16.5, 17.8, 18.0 and 18.4 feet bgs. Very to extremely narrow; not healed; clean; smooth; dry. 3 fracture zones at 14.1-14.2, 17.0-17.1 and 17.6-17.7 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 13% (very poor)	
15	549			- - - -	100	N/A			
16	548								
17	547								
18	546							18.5	
19	545			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 21 mechanical (mainly horizontal, 2 at 30 degrees) 8 bedding plane joints at 19.2, 20, 21.4, 21.5, 22.6, 22.8, 19.6 and 23.4 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 18.6-18.8 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 15% (very poor)	
20	544								
21	543								
22	542								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
23	541							23.5	
24	540			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; moderately to intensely fractured. Fractures: 1 mechanical (horizontal). 2 bedding plane fractures at 24.6 and 24.8 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 23.7-23.9 feet bgs. Very narrow; not healed; clean; smooth; dry.	
25	539							25.5	
26	538							*Bottom of boring at 25.5 feet.*	
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

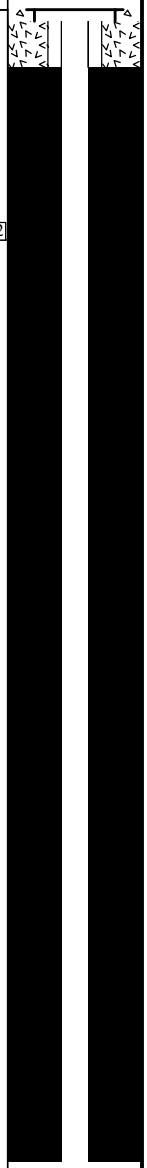
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-5-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/16/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25.2	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.49
Coordinates (X/Y): 843100.6/886196.14	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 563.37

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1	563				50	3.2		***Fill*** Dark brown black fine to medium poorly graded sand with occasional gravel and silt and pockets of clay and ash.
2	562							
3	561				50	0.0		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs.
4	560							
5	559				50	0.9		
6	558							
7	557				90	18.1		
8	556							
9	555				50	52.3		
10	554							

Notes:

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553				50	11.8		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs. *(continued)* 11 ***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
12	552				N/A	N/A		12 ***Ithaca Siltstone*** Weathered siltstone bedrock. 12.5	
13	551							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
14	550				99	N/A		Fractures: 5 Mechanical, horizontal 5 bedding plane joints at 12.6, 14.4, 15.0, 15.5 and 12.65 feet bgs. Very narrow; not healed; mainly clear; smooth; undulating; dry. 1 fracture zone from 12.8 to 12.9 feet bgs.	
15	549							RQD: 72% (Fair) 15.2	
16	548							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
17	547							Fractures: 15 mechanical mainly horizontal. 13 bedding plane joints extremely narrow; not healed; some infilled cohesive sediment; smooth to undulating; some surface oxidation; dry. 2 fracture zones at 15.2, 15.4 and 19.4-20.2 feet bgs.	
18	546				100	N/A		RQD: 0% (very poor)	
19	545								
20	544							20.2	
21	543							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
22	542				100	N/A		Fractures: 17 mechanical fractures, mainly horizontal, 2 at 30 degrees. 11 bedding plane joints; extremely narrow; not healed; some infilling with cohesive sediment; smooth to undulating; dry. 1 fracture zone at 20.2 to 20.3 feet bgs. RQD: 0% (very poor)	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	541			-					
				-					
24	540								
25	539							25.2	
								Bottom of boring at 25.2 feet.	
26	538								
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-7-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/19/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.28
Coordinates (X/Y): 843084.17/886176.33	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.76

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				10	0.0		***Fill*** Black brown sand; poorly graded; medium to fine grained; rare silt; some wood fragments; loose; moist.	
2	561								
								2.5	
3	560				60	0.0		***Lean Clay with Gravel (CL)*** Brown gray becoming gray clay; low to medium plasticity; frequent siltstone gravel; rare silt; soft; moist becoming moist to wet with hydrocarbon odor and sheen from 6 feet bgs.	
4	559								
5	558				50	15.2			
6	557								
7	556				60	49			
8	555								
9	554				20	36.4			
								9.5	
10	553				N/A	N/A		***Ithaca Siltstone***	
								10	

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Gray gravel of siltstone (weathered bedrock).	
11	552							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 5 mechanical (4 horizontal, 1 at 45 degrees) 15 horizontal bedding plane joints. Very narrow; not healed; some oxidation; mostly clear; smooth to undulating; dry. 1 30 degree joint. Very narrow; not healed; some cohesive sediment infill; undulating; dry. RQD: 44% (poor)	
12	551				100	N/A			
13	550								
14	549								
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 14 mechanical (mainly horizontal) 12 bedding plane joints. Very narrow to extremely narrow; not healed; clean; smooth to undulating; dry. 1 fracture zone at 14.5 to 14.7 feet bgs. RQD: 30% (poor)	
16	547								
17	546				100	N/A			
18	545								
19	544								
								19.5	
20	543							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 11 mechanical (mainly horizontal) 10 bedding plane joints. Extremely narrow; not healed; clean; smooth to undulating; dry. 4 joints at 20 degrees. Very narrow; not healed; clean; undulating; dry. RQD: 8% (very poor)	
21	542								
22	541				100	N/A			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	540								
24	539								
				-	N/A	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. (24.5 – 25)	
25	538			-				*Bottom of boring at 25 feet.*	
				-					
26	537			-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-9R-72C
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** HSA/Downhole Air Hamm
Logged By: Erik S. Reinert & Nathaniel Winston	**Total Depth (ft):** 79.3	**Bore Diameter (in):** 10.25/6/2/3.8	**Ground Surface (ft-msl):** 586.13
Coordinates (X/Y): 843141.55/886147.62	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	584			- - - -	0			***Well-Graded Gravel with Silt (GW-GM)*** Angular rock fragments to 1 foot in diameter, some sand and gravel, little black silt.	
4	582								
6	580			- - - -	67	1.8		***Silt with Gravel (ML)*** Brownish-yellow (10YR 6/6) silt, little sub-angular gravel to 0.5-inch in diameter, trace organics and wood debris; medium soft to stiff; dry. (5.5 – 7)	
8	578							***Well-Graded Gravel (GW)*** Dark gray (10YR 4/1) angular siltstone gravel to 1-inch in diameter; loose; dry.	
10	576			- - - -	50	8.6			
12	574			- - -	100	4		***Silt with Gravel (ML)*** Dark grayish-brown (10YR 5/2) to dark gray (10YR 4/1) silt, some angular gravel to 2-inches in diameter, few clay, medium soft to stiff; dry, becoming wet between 11 and 11.2 feet bgs, faint petroleum-like odor. (10.5 – 11.5)	
								Well-Graded Gravel (GW) Dark gray (10YR 4/1) siltstone fragments; loose; dry. (11.5 – 12.3)	
14	572							***Silt with Gravel (ML)*** Very dark gray (10YR 3/1) silt, some gravel and coarse-grained sand; medium soft; moist, faint petroleum-like odor. (12.3 – 13)	
16	570							***Well-Graded Gravel (GW)*** Grayish-brown (10YR 5/2) siltstone fragments greater than 2 inches in diameter with shaly partings, few sand and gravel; dense; dry. (13 – 13.5)	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
38	548							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
40	546								
42	544								
44	542								
46	540								
48	538								
50	536								
52	534								
54	532								
56	530			- - - -	100	-			
58	528								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	526							***Bedrock*** Siltstone; moderate to strong field strength; gray (10YR 5/1); fine grained; massive with some laminations; fresh; competent; slightly fractured. 54.5'- mechanical break 54.8'- 70 degree angle fracture; medium narrow; not healed; wet; clean; rough; some sediment. 55.0'- bedding plane fracture 56.0'- mechanical break 59.2'-60.6' 90 degree joint; very to extremely narrow; not healed; non-cohesive sediment; moderately smooth; wet with minor seepage. 61.6'- mechanical break 62.5'- mechanical break 63.4'- mechanical break 65.5'- mechanical break 66.2'- mechanical break 67.1'- mechanical break 68.1'- mechanical break 68.5'- bedding plane fracture; healed; smooth; restricted. 72.3'-72.5' 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 73.3'-74.1; 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 75.0'-75.4'- 70 degree angle joint; extremely narrow; not healed; clean; tight; moderately smooth; wet with minor seepage. 77.3'-77.6'- Multiple intersecting joint sets with discrete 70 degree angle plane of fracture; highly pulverized. *(continued)*	
62	524			- - - -	98	-			
64	522								
66	520			- - - -	98	-			
68	518								
70	516			- - - -	87	-			
72	514								
74	512								
76	510			- - - -	80	-			
78	508							79.3	
80	506							*Bottom of boring at 79.3 feet. Macro-core refusal at 13.5 feet. Augered to 14.5. Downhole Air Hammer to 54 feet.*	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-01 (Abondoned 6/2/15)
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Timothy Huff	**Total Depth (ft):** 81	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.45

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				3 6 6 7	10	0		***Lean Clay (CL)*** Dark brown silty clay, fill.	
2	585			5 5 4 4	15	0			4
4	583			3 3 3 3	15	0		***Sandy Silt (ML)*** Dark brown sandy silt; trace clay; trace gravel; some fill; black staining; saturated. Sample collected at 9-9.5 feet bgs.	
6	581			3 2 2 2	50	0			
8	579			2 2	100	0			9
10	577							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs.	
12	575								
14	573								
16	571								
18	569								
20	567								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
22	565							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							
38	549							
40	547							
42	545							
44	543							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	541							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
48	539							
50	537							
52	535							
54	533							
56	531							
58	529							
60	527							
62	525							
64	523							
66	521							
68	519							
70	517							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
72	515							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
74	513							
76	511							
78	509							
80	507							81
82	505							*Bottom of boring at 81 feet. Abandoned 6/3/15*
84	503							
86	501							
88	499							
90	497							
92	495							
94	493							
96	491							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-02
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2	585			100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
4	583							
6	581			100	0			
8	579							
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs.	10 12
12	575						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	
14	573							
16	571							
18	569							
20	567							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
22	565						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
24	563						
26	561						
28	559						
30	557						
32	555						
34	553						
36	551						
38	549						
40	547						
42	545						
44	543						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
46	541						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
48	539						
50	537						
52	535						
54	533						
56	531						
58	529						
60	527						
62	525						
64	523						
66	521						
68	519						
70	517						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
72	515						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
74	513						
76	511						
78	509						
80	507						80
							Bottom of boring at 80 feet.
82	505						
84	503						
86	501						
88	499						
90	497						
92	495						
94	493						
96	491						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-02R
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Hollow Stem Auger
Logged By: Timothy Huff	**Total Depth (ft):** 12.5	**Bore Diameter (in):** 10	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
				5 7	50	0		***Silt (ML)*** Brown and light gray clayey silt; few gravel; soft; moist becoming wet from 2 to 4 feet bgs.	
2				5 8 5 4	50	0			
4				5 7 7 6	25	0		***Gravelly Silt (ML)*** Brown and dark gray gravelly silt; coarse-grained angular siltstone gravel; soft; moist to wet.	4 6
6				5 5 4 5	25	0		***Silty Gravel (GM)*** Dark gray silty gravel; coarse-grained angular siltstone gravel; moist.	8
8				8 4 5 2	20	0		***Gravelly Silt (ML)*** Dark gray gravelly silt; siltstone gravel; soft; moist to wet; faint odor at 10 feet bgs.	
10				7 13 7 8	40	2.1			
12				50/4	0	0			12.5
								Bottom of boring at 12.5 feet.	
14									
16									
18									
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-03
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Concrete Corer
Logged By: Rachel Posner	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete Concrete; gravel from 0.5 to 0.8 feet bgs.	0.8 1.1
2					***Siltstone*** Ithaca Siltstone	
					Bottom of boring at 1.1 feet.	
4						
6						
8						
10						
12						
14						
16						
18						
20						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-04
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Topsoil.	2
2					***Silty Gravel (GM)*** Shale fragments; silt; loose; dry.	4
4					***Poorly-Graded Sand (SP)*** Sand; loose; dry.	5
					Poorly-Graded Gravel with Silt (GP-GM) Gravelly shale; some silt; loose; dry.	7
6					***Lean Clay (CL)*** Clay; hard to stiff; dry; some mottling.	8
8					***Siltstone*** Ithaca Siltstone, weathered. Soil sample EXB-4 collected from 10 to 11 feet bgs for VOCs.	11
10					*Bottom of boring at 11 feet. Refusal at 11 feet bgs.*	
12						
14						
16						
18						
20						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-05
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Timothy Huff	**Total Depth (ft):** 62	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 566.59

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				10 9	0			***Silty Gravel (GM)*** Fill material; gravel; silt.	
2	565			11 20 6 5	20	0			
4	563			4 5 5 4	50	0			
6	561			2 2 2 3	50	0			
8	559				10	0			9.5
10	557							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs.	
12	555								
14	553								
16	551								
18	549								
20	547								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
								Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs. *(continued)*
22	545							
24	543							
26	541							
28	539							
30	537							
32	535							
34	533							
36	531							
38	529							
40	527							
42	525							
44	523							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	521							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs. *(continued)*
48	519							
50	517							
52	515							
54	513							
56	511							
58	509							
60	507							
62	505							62 *Bottom of boring at 62 feet.*
64	503							
66	501							
68	499							
70	497							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-06
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Timothy Huff	**Total Depth (ft):** 61.5	**Bore Diameter (in):** 10/6	**Ground Surface (ft-msl):** 563.1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				6, 5, 4, 6	10	0		Asphalt and gravel base.	2
2	561			7, 12, 12, 15	50	0		***Gravelly Silt (ML)*** Yellowish brown gravelly silt; medium-stiff to stiff; coarse-grained siltstone gravel; dry.	4
4	559			9, 11, 9, 6	60	0		***Poorly-Graded Gravel (GP)*** Yellowish brown silty gravel; coarse-grained siltstone gravel; dry.	6
6	557			17, 13, 3, 3	60	33.1		***Gravelly Silt (ML)*** Grayish brown gravelly silt; siltstone gravel; soft; moist from 6 to 7.5 feet bgs, wet from 7.5 to 8 feet bgs, odor.	
8	555			8, 2, 2, 7	50	1.0			
10	553			9, 5, 13, 20	40	22.3			12
12	551			10, 12, 9, 7	50	102		***Silt (ML)*** Gray clayey silt; few siltstone gravel from 14 to 16 feet bgs; low plasticity; firm; moist to wet; odor.	
14	549			5, 41, 15, 50/2		64.3			15.5
16	547				0			***Siltstone*** Ithaca Siltstone (Description based on cuttings)	
18	545								
20	543								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
22	541							***Siltstone*** Ithaca Siltstone (Description based on cuttings) *(continued)*
24	539							24
26	537				93			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken joints throughout sample. Vertical Joint runs entire length of core run. RQD: 93%
28	535							
								29
30	533				100			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. Vertical joint continues from 29 to 32.5 feet bgs, cemented at 30.5 to 31 feet bgs.
32	531							
34	529							34
36	527				78			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken bedding joints throughout sample. Bedding plane joints at 36, 36.5, and 37.5 feet. Vertical Joint at 38.5 to 39 feet bgs. RQD: 78%
38	525							
								39
40	523				83			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; intensely fractured.
					83			40.5 Fracture Classification: Mechanically broken bedding plane joints throughout sample. Vertical Joint at 39 to 40 feet bgs. RQD: 0% Water sample EXB-6 collected from 39.5 feet bgs for VOCs.
42	521				94			41.5
44	519							***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; intensely fractured. Fracture Classification:
								44.5

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	517							Mechanically broken bedding plane joints throughout sample. RQD: 0%
					76			***Siltstone*** Dark gray siltstone; strong; fresh; massive; intensely fractured. Fracture Classification: No natural fractures identified. RQD: 78%
48	515							
50	513							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; intensely fractured. Fracture Classification: Mechanically broken and natural bedding plane joints throughout sample. Vertical joints at 45 to 45.5 and 47.75 to 48.75 feet bgs; mineralization on fracture surface. RQD: 50% Water sample EXB-6 collected from 46.3 feet bgs for VOCs. *(continued)*
					95			
52	511							
54	509							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; slightly to moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. RQD: 96%
56	507				100			
58	505							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; moderately fractured. Fracture Classification: Mechanically broken bedding joints throughout sample. RQD: 100%
60	503				100			
62	501							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. RQD: 100% *Bottom of boring at 61.5 feet.*
64	499							
66	497							
68	495							
70	493							

49.5

53.5

58.5

61.5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-07
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Timothy Huff	**Total Depth (ft):** 25	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 529.19

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: Physical Description	
						Ground Surface	
2, 4	527, 525					***Siltstone*** Ithaca Siltstone (Description based on cuttings)	5
6, 8	523, 521			100		***Siltstone*** Dark gray siltstone; thinly-bedded. Fracture Classification: Natural bedding plane joints at 6.8 and 7.5 feet bgs. Vertical fracture joint from 6.8 to 7.7 feet bgs..	10
10, 12, 14	519, 517, 515			92		***Siltstone*** Dark gray siltstone; thinly- to medium-bedded; thick black siltstone at 12.5 feet bgs. Fracture Classification: Natural bedding plane joints at 11.5 and 13.4 feet bgs. Water sample EXB-7 collected from 11 feet bgs for VOCs.	14.5
16, 18, 20	513, 511, 509			96		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Natural bedding plane joint at 22.3 and 23.7 feet bgs. Vertical fracture joints from 23.7 to 24.5 feet bgs; 30 degree dip; moderately decomposed calcite mineralization. Water sample EXB-7 collected from 17.5 feet bgs for VOCs.	19.75

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-07

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description
22	507			100		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Few mechanical joints sub-parallel to bedding. Partial natural joint at 22.7 feet bgs. *(continued)*
24	505					
						25
26	503					*Bottom of boring at 25 feet.*
28	501					
30	499					
32	497					
34	495					
36	493					
38	491					
40	489					
42	487					
44	485					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-08
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Timothy Huff	**Total Depth (ft):** 100	**Bore Diameter (in):** 10/6/4	**Ground Surface (ft-msl):** 587.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Sandy Silt (ML) Dark brown sandy silt; trace clay; trace gravel; fill material.	
2	586					
4	584					
6	582					
8	580					8
					Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs.	
10	578					
12	576					
14	574					
16	572					
18	570					
20	568					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
22	566				
24	564				
26	562				
28	560				
30	558				
32	556				
34	554				
36	552				
38	550				
40	548				
42	546				
44	544				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
46	542				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
48	540				
50	538				
52	536				
54	534				
56	532				
58	530				
60	528				
62	526				
64	524				
66	522				
68	520				
70	518				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
72	516				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
74	514				
76	512				
78	510				
80	508				
82	506				
84	504				
86	502				
88	500				
90	498				
92	496				
94	494				
96	492				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
98	490				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
100	488				100 *Bottom of boring at 100 feet.*
102	486				
104	484				
106	482				
108	480				
110	478				
112	476				
114	474				
116	472				
118	470				
120	468				
122	466				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-09
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/29/2008	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 565.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1	565			12, 13, 9, -	50	0.4		***FILL*** Asphalt road surface.	0.5
								FILL Grey brown gravel fill of siltstone.	2
2	564			9, 10, 21, 34	50	0.4		***FILL*** Light brown sandy gravel fill; medium dense; dry.	3
3	563							***FILL*** Grey brown sandy gravel fill with some brick fragments; dense; dry to moist.	4
4	562			- -	0	N/A		***FILL*** Concrete fill - no recovery.	5
5	561			- -				***FILL*** Brown sand fill with some concrete and siltstone fragments and rare pockets of ash; dense; dry to moist.	
6	560			8, 4	25	1.3			
7	559			2, 2	50	1.0			
8	558			4, 3					9
9	557			2, 2	10	0.2		***FILL*** Concrete fill with rebar- no recovery.	
10	556								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	555			2, 2, 2, 3	0	N/A		***FILL*** Concrete fill with rebar- no recovery. *(continued)*
12	554			5, 5, -, -	20	0.3		***Fat Clay with Gravel (CH)*** Grey brown high plasticity clay with some gravel; soft; moist.
13	553							
14	552			2, 3	40	0		***Sandy Fat Clay with Gravel (CH)*** Grey mottled orange brown high plasticity clay with some gravel of siltstone
15	551			6, 6				***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
16	550			4, 50, -, -				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
17	549							
18	548							
19	547							
20	546			-, -, -, -	N/A	N/A		
21	545							
22	544							

12

14

14.8

14.9

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	543							***Siltstone*** Ithaca Siltstone. (Description based on flush arisings). *(continued)*
24	542							
25	541							
26	540							26
27	539			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely to moderately fractured. Fracture Classification: 7 mechanical, horizontal, extremely narrow. 5 bedding plane joints at 26.2', 27.0', 27.2', 28.0' and 28.2'. horizontal, extremely to very narrow, not healed, clean, rough, dry. 2 vertical joints at 27.4' and 28.0', 25 degree dip extremely narrow, not healed, rough, dry. RQD: 25% (Very Poor)
28	538							
29	537							29
30	536			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely fractured. Fracture Classification: 6 mechanical, horizontal, extremely narrow. 9 bedding plane joints at 30.5', 30.6', 30.7', 31.0', 31.2', 32.0', 32.7', 33.0' and 33.7', horizontal, very narrow, not healed, mostly clean, dry, smooth. 2 fracture zones at 29.2' - 30.2' and 33.0' - 33.2'; very narrow, not healed, clean, rough and dry. RQD: 30% (Poor)
31	535							
32	534							
33	533							
34	532							34
35	531							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	530			-				***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; moderately fractured. Fracture Classification: 4 mechanical, 3 horizontal, 1 vertical, extremely narrow. 8 bedding plane fractures at 34.5', 36.0', 36.5', 37.0', 37.3', 38.0', 38.4' and 38.9', horizontal, very narrow, not healed, clean, dry, rough. 2 fracture zones at 34.0' - 34.1 and 35.5' - 36.5'; very narrow, not healed, clean, rough and dry. RQD: 68% (Fair) *(continued)*
				-	100	N/A		
37	529			-				
				-				
38	528							
39	527							39
40	526							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 mechanical fractures, mainly horizontal, extremely narrow. 3 bedding plane fractures at 39.2', 41.0' and 43.0', horizontal, very narrow, not healed, clean, dry, smooth. 1 vertical joint with associated fracture zone at 43.0'- 44.0'; very narrow, not healed, surface oxidation or staining, smooth and dry. RQD: 77% (Good)
				-				
41	525			-				
				-	100	N/A		
42	524			-				
43	523							
44	522							44
45	521							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 11 Mechanical fractures; mainly horizontal; 1 vertical; very narrow. 5 Bedding plane fractures at 44.5', 44.7', 44.9', 48.4 and 48.7'; horizontal; very narrow; not healed; clean; smooth; dry. RQD: 93% (Excellent)
				-				
46	520			-				
					100	N/A		
				-				
47	519			-				
48	518							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	517							49
50	516							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; mainly horizontal; 1 vertical; very to extremely narrow. 2 Bedding plane fractures at 51.2' and 52.6'; horizontal; very narrow; not healed; clean; smooth; dry. 1 Microjoint at 52.8'. 1 fracture zone at 53.1 - 53.5'; narrow; not healed; infilled with cohesive sediment of silty gravel of silt; smooth; damp. RQD: 93% (Excellent) **NOTE: Low flow groundwater sample collected at of 53.75 feet below top of casing or 53.11 fbgs on 6/12/2008.**
51	515			-	100	N/A		
52	514			-				
53	513			-				
54	512							54
55	511							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; and very narrow. 2 Bedding plane fractures at 54.4' and 55'; horizontal; narrow to moderately narrow; not healed; clean; 1 fracture zone at 54.0 - 54.2'; horizontal; moderately narrow; not healed; infilled with cohesive sediment of siltstone gravel in clay matrix; damp. RQD: 97% (Excellent)
56	510			-	97	N/A		
57	509			-				
58	508			-				
59	507							59
60	506							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent)
61	505			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	504			- -	97	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent) *(continued)*
63	503							
64	502							64
								Bottom of boring at 64 feet.
65	501							
66	500							
67	499							
68	498							
69	497							
70	496							
71	495							
72	494							
73	493							
74	492							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-10
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/23/2008	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 560.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1	559			1, 3, 3, 3	40	0		***FILL*** Grey brown gravelly well sorted medium to coarse sand; dense and moist; some siltstone fragments.
2	558			9, 10, 8, 9	50	0		
3	557							
4	556			6, 7, 11, 9	50	0		
5	555							***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor.
6	554			11, 8, 8, 6	50	.1		
7	553							
8	552			11, 8, 8, 6	50	.1		
9	551							
10	550							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				2				***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor. *(continued)*
11	549			3	25	.1		
				3				
				4				
12	548			50	100	.1		12 / 12.1 ***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
				-				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
13	547			-				
				-				
14	546							
15	545							
16	544			-				
				-				
17	543			-	N/A	N/A		
				-				
18	542							
19	541							
20	540							
21	539							
22	538			-				22
				-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	537			- -	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 4 mechanical fractures; horizontal; very narrow; 1 bedding plane fracture at 22.25'; horizontal; very narrow; not healed; clean; rough; dry. 1 fracture zone at 22.95'; horizontal; not healed; undulating, dry. RQD: 87% (Good) *(continued)*
24	536							
25	535							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 12 Bedding plane fractures at 24.2', 24.4', 25.6', 24.9', 25.1', 25.15', 25.25', 25.9', 27.0', 27.75', 27.5' and 28.4'; predominately horizontal, narrow, not healed, clean, smooth to undulating, dry. 1 Fracture zone at 25.9' - 27.25'; narrow, not healed, clean, rough, dry. RQD: 63% (Fair)
26	534			- - - -	100	N/A		
27	533							
28	532							
29	531							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 3 mechanical fractures at; horizontal, very narrow. 5 bedding plane fractures; 29.25', 30.75', 30.8', 32.1' and 33.0'; horizontal, narrow, not healed, clean, smooth, dry. 1 Fracture zone at 29.75; moderately narrow, not healed, clean, smooth, dry. RQD: 92% (Excellent)
30	530							
31	529			- - - -	100	N/A		
32	528							
33	527							
34	526							
35	525							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	524			-				***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 mechanical break; horizontal, very narrow. 4 bedding plane fractures at 34.5', 35.6', 37.0' and 37.6', horizontal, narrow, not healed, clean, smooth, dry. RQD: 98% (Excellent) *(continued)*
				-	100	N/A		
37	523			-				
				-				
38	522							
39	521							39
40	520							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 mechanical breaks; horizontal, very narrow. 4 bedding plane fractures at 39.5', 42.1', 42.75' and 43.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 94% (Excellent)
				-				
41	519			-				
					100	N/A		
				-				
42	518			-				
43	517							
44	516							44
45	515							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical break; extremely narrow. 5 bedding plane fractures at 44.5', 45.8', 46.0', 47.0' and 48.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 70% (Good) **NOTE: Low flow groundwater sample collected at 44.40 feet below top of casing or 44.67 fbgs on 6/12/2008.**
				-				
46	514			-				
					100	N/A		
				-				
47	513			-				
48	512							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	511							49
50	510							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 6 bedding plane fractures at 49.8', 50.8', 51.7', 52.2', 52.7 and 53.2', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
51	509			-	100	N/A		
52	508			-				
53	507			-				
54	506			-				54
55	505							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical, horizontal, very narrow. 4 bedding plane fractures at 55.75', 56.5', 57.75', 58.25', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
56	504			-	100	N/A		
57	503			-				
58	502			-				
59	501							59
60	500							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent)
61	499			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	498			-	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent) *(continued)*
63	497			-				
64	496							64
								Bottom of boring at 64 feet.
65	495							
66	494							
67	493							
68	492							
69	491							
70	490							
71	489							
72	488							
73	487							
74	486							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-11
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/30/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 532.82

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0		***FILL*** Asphalt road surface.	0.5
				-				***FILL*** Black sandy gravel fill; loose and dry.	0.7
1	532			-				***Siltstone*** Ithaca Siltstone; grey; weathered.	0.8
				-					
2	531							***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings)	
3	530								
4	529								
5	528								
6	527								
7	526								
8	525								
9	524								
10	523								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	522							***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
12	521			-				
				-				
13	520			-	N/A	N/A		
				-				
14	519							
15	518							
16	517							
17	516							
18	515							
19	514							
20	513							
21	512							
22	511							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	510							***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
24	509							
25	508							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 Mechanical fractures; mainly horizontal; 2 vertical; extremely narrow, 80 degree dip. 2 Bedding plane fractures at 26.1' and 29.5'; horizontal; very narrow; not healed; lower fracture slightly infilled with cohesive sediment and damp; upper fracture, smooth and dry. RQD: 100% (Excellent)
26	507							
27	506				100	N/A		
28	505							
29	504							
30	503							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 7 Mechanical fractures; 5 horizontal; 2 vertical; extremely narrow, 90 degree dip. 1 Bedding plane fractures at 32.9'; horizontal; very narrow; clean, smooth; dry. RQD: 100% (Excellent)
31	502							
32	501				100	N/A		
33	500							
34	499							
35	498							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	497							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 5 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent) *(continued)*
37	496			-				
				-	100	N/A		
38	495			-				
39	494							
40	493							40
41	492							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 42.9' - 43.2'; not healed; possibly infilled with cohesive sediment or washed out from above; rough; damp. RQD: 86% (Good)
42	491			-				
				-	92	N/A		
43	490			-				
44	489							
45	488							45
46	487							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 Mechanical fractures; horizontal; extremely narrow, 90 degree dip. 4 Bedding plane fractures at 45', 47.5', 49.1' and 49.9'; horizontal; narrow to extremely narrow; clean, smooth; dry. RQD: 97% (Excellent)
47	486			-				
				-	100	N/A		
48	485			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	484							
50	483							50
51	482							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 3 Bedding plane fractures at 51.8', 52.3' and 53.2'; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)
52	481			- - -	100	N/A		
53	480			-				
54	479							
55	478							55
56	477							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fracture at 57.5"; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)
57	476			- -	100	N/A		
58	475			- -				
59	474							
60	473							60
61	472							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	471			-	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 60.5' to 60.75'; horizontal; narrow to very narrow; clean, smooth to undulating; dry. RQD: 95% (Excellent) *(continued)*
63	470			-				
64	469			-				
65	468			-				
66	467			-	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 2 Bedding plane fractures at 65.9' and 67.9'; horizontal; extremely narrow; clean, smooth; dry. RQD: 100% (Excellent)
67	466			-				
68	465			-				
69	464			-				
70	463			-	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent)
71	462			-				
72	461			-				
73	460			-				
74	459							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
75	458							75
76	457							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fractures at 79.0'; horizontal; very narrow; clean, smooth; dry. 1 Fracture zone at 75.6' to 75.7'; horizontal; moderately narrow; clean smooth; dry. RQD: 100% (Excellent) **NOTE: Low flow groundwater sample collected at 75.20 feet below top of casing or 75.6 fbgs on 6/12/2008.**
77	456			-				
				-	100	N/A		
78	455			-				
				-				
79	454							
80	453							80
81	452							*Bottom of boring at 80 feet.*
82	451							
83	450							
84	449							
85	448							
86	447							
87	446							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-01
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 60	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.19
Coordinates (X/Y): 843339.32/886177.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.87

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

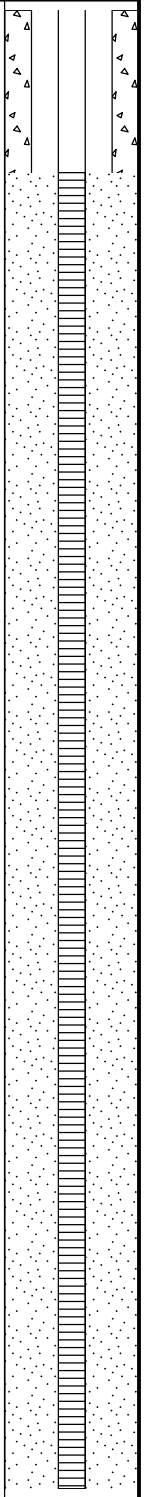
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

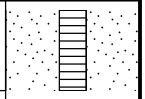
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582					
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	562					
40	560					
42	558					
44	556					
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60	540					
62	538					
64	536					
66	534					
68	532					
70	530					
72	528					
74	526					
76	524					
78	522					
80	520					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-02
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 34	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-03
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 39	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.3

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-03

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-03

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38	562				
40	560				
42	558				
44	556				
46	554				
48	552				
50	550				
52	548				
54	546				
56	544				
58	542				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-04
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-05
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-06
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.3	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-06

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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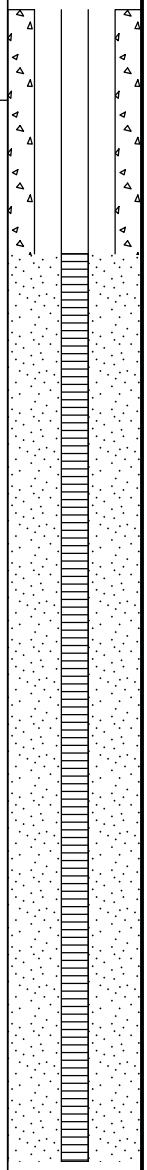
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-07
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.78
Coordinates (X/Y): 843012.82/885778.33	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.50

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598				***Siltstone***	
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** *(continued)* 18.5	
					Bottom of boring at 18.5 feet.	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

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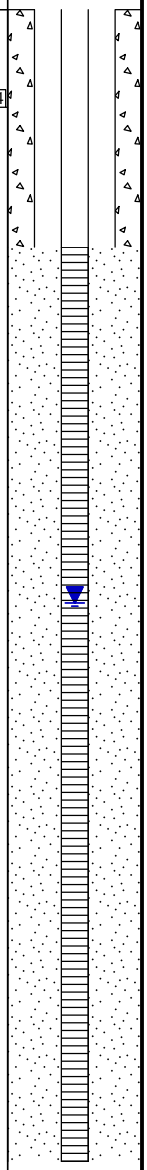
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.55
Coordinates (X/Y): 843020.84/885709.05	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 600.06

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					1.4	
2	598				***Siltstone*** Siltstone bedrock	
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-08

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** Siltstone bedrock *(continued)* 18.4	
					Bottom of boring at 18.4 feet.	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-09
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 23.6	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-09

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-10
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-10

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21.7	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-11

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 42.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-12

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-12

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 611.80

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-13

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
18	594				
20	592				
22	590				
24	588				
26	586				
28	584				
30	582				
32	580				
34	578				
36	576				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-14
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 38.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 607.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	606				
4	604				
6	602				
8	600				
10	598				
12	596				
14	594				
16	592				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-14

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	590				
20	588				
22	586				
24	584				
26	582				
28	580				
30	578				
32	576				
34	574				
36	572				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-14

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38	570				
40	568				
42	566				
44	564				
46	562				
48	560				
50	558				
52	556				
54	554				
56	552				
58	550				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-15
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 710.60

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	709				
4	707				
6	705				
8	703				
10	701				
12	699				
14	697				
16	695				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	693				
20	691				
22	689				
24	687				
26	685				
28	683				
30	681				
32	679				
34	677				
36	675				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-16
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 13.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.40
Coordinates (X/Y): 843087.33/885726.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 615.22

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	610				2.4	
4	608				***Siltstone*** Siltstone bedrock	
6	606					
8	604					
10	602					
12	600				13.1	
14	598				*Bottom of boring at 13.1 feet.*	
16	596					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.49

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-17

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	594				
20	592				
22	590				
24	588				
26	586				
28	584				
30	582				
32	580				
34	578				
36	576				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 13.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.46

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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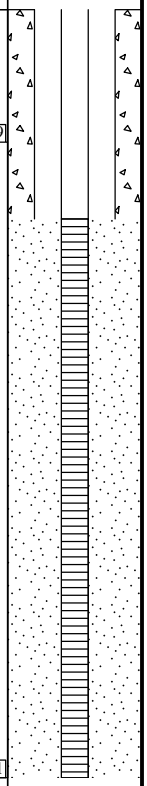
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-19
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 11	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.52
Coordinates (X/Y): 842947.77/885742.66	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 601.48

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base Fill (1.9)	
2	598				***Siltstone***	
4	596					
6	594					
8	592					
10	590				(11)	
					Bottom of boring at 11 feet.	
12	588					
14	586					
16	584					



Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-20
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 55	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-20

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-20

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-21
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 586.54

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	585				
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-21

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				
20	567				
22	565				
24	563				
26	561				
28	559				
30	557				
32	555				
34	553				
36	551				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-22
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 584.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	582				
4	580				
6	578				
8	576				
10	574				
12	572				
14	570				
16	568				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-22

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18	566				
20	564				
22	562				
24	560				
26	558				
28	556				
30	554				
32	552				
34	550				
36	548				

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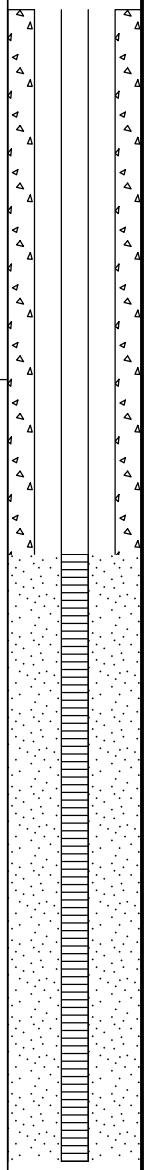
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-23
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 22.8	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 578.44
Coordinates (X/Y): 843590.27/886615.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 580.39

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	576					
4	574					
6	572				***Siltstone***	
8	570					
10	568					
12	566					
14	564					
16	562					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-23

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Siltstone *(continued)*	
18	560					
20	558					
22	556					
					23.75	
24	554				*Bottom of boring at 22.8 feet.*	
26	552					
28	550					
30	548					
32	546					
34	544					
36	542					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-24
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 57	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 595.17
Coordinates (X/Y): 843591.94/886427.84	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 594.93

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	593				***Siltstone***	
4	591					
6	589					
8	587					
10	585					
12	583					
14	581					
16	579					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-24

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone *(continued)*	
18	577					
20	575					
22	573					
24	571					
26	569					
28	567					
30	565					
32	563					
34	561					
36	559					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-24

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	557				***Siltstone*** *(continued)*	
40	555					
42	553					
44	551					
46	549					
48	547					
50	545					
52	543					
54	541					
56	539					
58	537				*Bottom of boring at 57 feet.*	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-25
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 60	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
60					
62					
64					
66					
68					
70					
72					
74					
76					
78					
80					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-26
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 581.86
Coordinates (X/Y): 842872.44/885815.25	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 581.57

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	580					
4	578					
6	576					
8	574					
10	572					
12	570					
14	568				***Siltstone***	
16	566					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone *(continued)*	
18	564					
20	562					
22	560					
24	558					
26	556					
28	554					
30	552					
32	550					
34	548					
36	546					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	544				***Siltstone*** *(continued)*	
40	542					
42	540					
44	538				*Bottom of boring at 44 feet.*	
46	536					
48	534					
50	532					
52	530					
54	528					
56	526					
58	524					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-27
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 50	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 584.86

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	583				
4	581				
6	579				
8	577				
10	575				
12	573				
14	571				
16	569				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	567				
20	565				
22	563				
24	561				
26	559				
28	557				
30	555				
32	553				
34	551				
36	549				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
38	547				
40	545				
42	543				
44	541				
46	539				
48	537				
50	535				
52	533				
54	531				
56	529				
58	527				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-28
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 45	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-29
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 50	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-30
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 566.77
Coordinates (X/Y): 843234.05/886389.37	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 566.43

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	565					
4	563					
6	561					
					6.5	
					Siltstone Siltstone Bedrock	
8	559					
10	557					
12	555					
14	553					
16	551					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-30

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	549				***Siltstone*** Siltstone Bedrock *(continued)*	
20	547					
22	545					
24	543				25	
					Bottom of boring at 25 feet.	
26	541					
28	539					
30	537					
32	535					
34	533					
36	531					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-31
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 19.8	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-31

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-32
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-32

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-33
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 14.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-34N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.63
Coordinates (X/Y): 843366.49/886275.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.35

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	586					
4	584				***Siltstone*** Siltstone bedrock RQD: 90- 100 %	4
6	582					
8	580					
10	578					
12	576					
14	574					
16	572					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34N

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	570				***Siltstone*** Siltstone bedrock RQD: 90- 100 % *(continued)*	
20	568				21	
					Bottom of boring at 21 feet.	
22	566					
24	564					
26	562					
28	560					
30	558					
32	556					
34	554					
36	552					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-34S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.58
Coordinates (X/Y): 843362.5/886270.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.23

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	586					
4	584					4
					Siltstone Siltstone bedrock RQD: 90- 100 %	
6	582					
8	580					
10	578					
12	576					
14	574					
16	572					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	570				***Siltstone*** Siltstone bedrock RQD: 90- 100 % *(continued)*	
20	568					
22	566					
24	564					
26	562					
28	560					
30	558					
32	556					
34	554					
36	552					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34S

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
38	550				***Siltstone*** Siltstone bedrock RQD: 90- 100 % *(continued)*	
40	548					
42	546					
44	544				44 *Bottom of boring at 44 feet.*	
46	542					
48	540					
50	538					
52	536					
54	534					
56	532					
58	530					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-35
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 32	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2, 4					5.1	
6					***Siltstone*** Siltstone Bedrock RQD: 72% 7	
8, 10, 12, 14, 16					***Siltstone*** Siltstone Bedrock RQD: 100%	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18					***Siltstone*** Siltstone Bedrock RQD: 100% *(continued)*	
20						
22						
24						
26						
28						
30						
32						
34						
36						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38					***Siltstone*** Siltstone Bedrock RQD: 100% *(continued)*	
40						
42						
44						
46						
48						
50						
52						
54						
56						
58						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60					***Siltstone*** Siltstone Bedrock RQD: 100% *(continued)*	
62						
64						
66						
68						
70						
72					72 *Bottom of boring at 32 feet.*	
74						
76						
78						
80						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.54
Coordinates (X/Y): 842995.33/885715.22	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.92

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594					
8	592				***Siltstone*** Siltstone bedrock RQD: 79 - 100%	
10	590					
12	588					
14	586					
16	584					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone Siltstone bedrock RQD: 79 - 100% *(continued)*	
18	582					
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
38	562				***Siltstone*** Siltstone bedrock RQD: 79 - 100% *(continued)*	
40	560					
42	558					
44	556				45	
					Bottom of boring at 35 feet.	
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					

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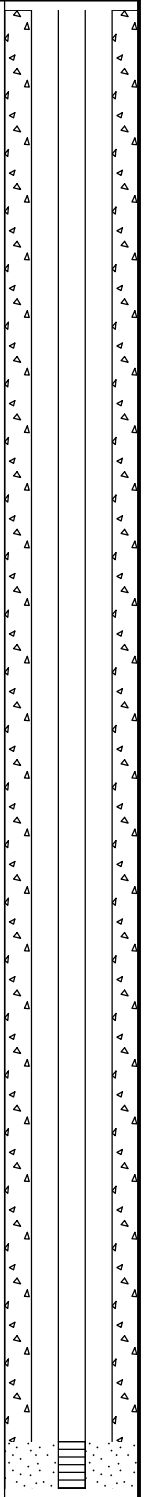
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-37
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 586.72
Coordinates (X/Y): 843331.41/886287.88	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.45

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	585					
4	583					
6	581					
8	579					
					9.5	
10	577				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 %	
12	575					
14	573					
16	571					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 % *(continued)*	
20	567					
22	565					
24	563					
26	561					
28	559					
30	557					
32	555					
34	553					
36	551					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	549				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 % *(continued)*	
40	547					
42	545					
44	543				44 *Bottom of boring at 44 feet.*	
46	541					
48	539					
50	537					
52	535					
54	533					
56	531					
58	529					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-38
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.21

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	585				
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-38

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				
20	567				
22	565				
24	563				
26	561				
28	559				
30	557				
32	555				
34	553				
36	551				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-39
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 583.06
Coordinates (X/Y): 842880.05/885810.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 582.61

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	581					
4	579					
6	577					
8	575					
10	573					
12	571					
14	569				***Siltstone*** RQD-30%	
					15.5	
16	567				***Siltstone*** RQD >79% from 15.5 to 25.5 feet below ground surface.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-39

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone RQD >79% from 15.5 to 25.5 feet below ground surface. *(continued)*	
18	565					
20	563					
22	561					
24	559				25.5	
26	557				*Bottom of boring at 25.5 feet.*	
28	555					
30	553					
32	551					
34	549					
36	547					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-40N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40N

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-40S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 57	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-41
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 594.56
Coordinates (X/Y): 843599.97/886443.42	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 594.37

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
5	590					
					Siltstone RQD-100%.	
10	585					
15	580					
20	575					
25	570				25.5	
					Bottom of boring at 25.5 feet.	
30	565					

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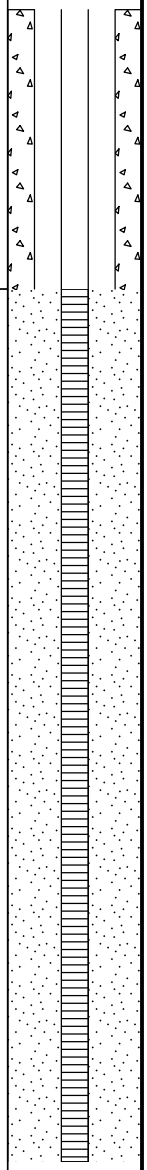
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-42N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2						
4					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8".	
6						
8						
10						
12						
14						
16						



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42N

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8". *(continued)*	
					19	
20					***Siltstone*** RQD-100% from 19.0 - 25.0 feet below ground surface.	
22						
24						
					25	
					Bottom of boring at 25 feet.	
26						
28						
30						
32						
34						
36						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-42S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 46	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2						
4					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8".	
6						
8						
10						
12						
14						
16						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8". *(continued)*	
					19	
20					***Siltstone*** RQD- at/near 100% from 19.0 - 49.0 feet below ground surface.	
22						
24						
26						
28						
30						
32						
34						
36						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42S

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
38					***Siltstone*** RQD- at/near 100% from 19.0 - 49.0 feet below ground surface. *(continued)*	
40						
42						
44						
46						
48					49	
					Bottom of boring at 46 feet.	
50						
52						
54						
56						
58						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-43N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.50
Coordinates (X/Y): 843023.26/885681.37	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 612.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	611					
4	609					
6	607					
8	605					
10	603				***Siltstone*** Siltstone bedrock: RQD 58%	
12	601					
14	599					
16	597					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43N

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
18	595				***Siltstone*** Siltstone bedrock: RQD 58% *(continued)*	
20	593					
22	591				22 ***Siltstone*** Siltstone bedrock: RQD 100%	
24	589				25	
					Bottom of boring at 25 feet.	
26	587					
28	585					
30	583					
32	581					
34	579					
36	577					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-43S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 47	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.51
Coordinates (X/Y): 843020.13/885677.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 612.23

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	611					
4	609					
6	607					
8	605					
10	603				***Siltstone*** Siltstone bedrock: RQD 58%	
12	601					
14	599					
16	597					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	595				***Siltstone*** Siltstone bedrock: RQD 58% *(continued)*	
20	593					
22	591					22
					Siltstone Siltstone bedrock: RQD 100%	
24	589					
26	587					
28	585					
30	583					
32	581					
34	579					
36	577					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	575				***Siltstone*** Siltstone bedrock: RQD 100% *(continued)*	
40	573					
42	571					
44	569					
46	567				47	
					Bottom of boring at 47 feet.	
48	565					
50	563					
52	561					
54	559					
56	557					
58	555					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-44E
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 12	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.54
Coordinates (X/Y): 842946.92/885698.99	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.14

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					5
6	594				***Siltstone*** Siltstone bedrock RQD: 88-100%	
8	592					
10	590					
12	588					12
					Bottom of boring at 12 feet.	
14	586					
16	584					

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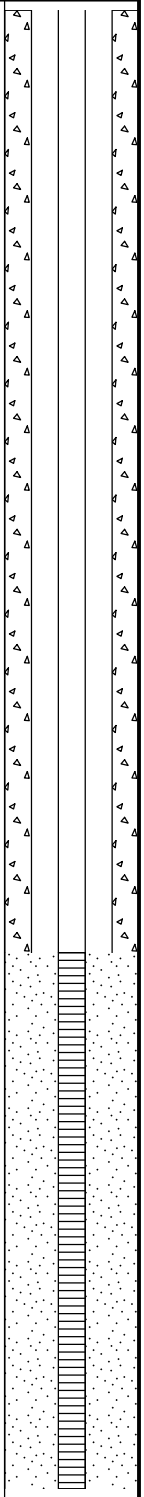
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-44W
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 40	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.55
Coordinates (X/Y): 842943.75/885702.65	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.20

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594				***Siltstone*** Siltstone bedrock RQD: 88-100%	5.8
8	592					
10	590					
12	588					
14	586					
16	584					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-44W

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** Siltstone bedrock RQD: 88-100% *(continued)*	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-44W

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	562				***Siltstone*** Siltstone bedrock RQD: 88-100% *(continued)*	
40	560				40 *Bottom of boring at 40 feet.*	
42	558					
44	556					
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 8/10/1989	**Drill Method:** Hollow Stem Auger
Logged By: K. Makeig	**Total Depth (ft):** 47	**Bore Diameter (in):** 36	**Ground Surface (ft-msl):** 622.18
Coordinates (X/Y): 843530.13/886136.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 625.81

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Overburden	7
10	612				***Siltstone***	
20	602					
30	592					
40	582					
					Bottom of boring at 47 feet.	
50	572					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-01
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil	0.3
1					100	0.0		***SILTY GRAVEL (gm)*** Silty gravel, 10YR-4/4. Dry, hard, medium density, non plastic.	
					100	(0-2) 0.0 (2-3.5) 0.0			2
2								***GRAVELLY SILT (ml)*** Grayish brown (10YR4/6) gravelly silt, some coal ash/cinders; non plastic; medium hard; dry.	
3					100	0.0		***SILTY GRAVEL (gm)*** Grayish brown (10YR4/4) silty gravel; non plastic; hard; dry.	3.5
4								*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-02
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 5.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil, some rootlets	0.3
1					50	0.0		***GRAVELLY SILT (ml)*** Dark yellowish brown (10YR4/4) gravelly silt, trace coal cinders; low plasticity; cohesive; medium dense; dry.	
2					100	(0-2) 0.0 (2-3.5) 0.0		***GRAVELLY SILT (ml)*** Gravel with silt and traces of sand and coal cinders. Hard, medium density, low plasticity, dry, 10YR-4/4	
3					75	0.0			3.5
4								***WELL-GRADED GRAVEL (gw)*** Grayish brown (10YR4/1) poorly graded gravel; loose; dry.	4.25
5								***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark yellowish brown (10YR4/4) gravel and silt, trace sand; hard; dense; moist.	5.5
6					100	(4-6) 0.0 (6-8) 0.0		*Bottom of boring at 5.5 feet. Refusal at 5.5 ft bgs.*	
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-03
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				Topsoil	0.3
				-				***SILT WITH GRAVEL (ml)*** Light brown silt with gravel. 2.5 YR-4/4, Stiff, medium density, low plasticity, dry.	
1				-	100 90	0.0 0.0			
				-				***Silt with Gravel (ML)*** Light brown (2.5 YR-4/4) silt with gravel; stiff, low plasticity, dry.	
2				-				***SILT WITH GRAVEL (ml)*** Light brown (10YR6/3) silt and gravel; medium dense; ow plasticity; cohesive; dry.	2
				-				*Bottom of boring at 2 feet. Refusal at 2.0 ft bgs.*	
3				-					
4				-					
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-07B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Timothy Huff	**Total Depth (ft):** 21	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.53
Coordinates (X/Y): 843133.8/886125.12	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.26

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				4 4 4 3	25	nm		***Asphalt*** (0.5)	
2	586			6 6 4 4	25	nm		***Poorly-Graded Sand with Gravel (SP)*** Dark olive brown sand; some gravel and siltstone fragments; loose; moist. Soil sample MW-7B collected from 6 to 8 feet bgs for VOCs.	
4	584			5 5 4 2	25	nm			
6	582			2 2 3 2	20	nm			
8	580			50/0.3	0	nm		***Siltstone*** Dark gray siltstone - no sample. (8)	
				- - -	0				
10	578			- - - -	43			***Siltstone*** Dark gray siltstone; weathered from 10 to 10.5 feet bgs; medium bedded; intensely fractured. Fracture Classification: Bedding plane joints throughout sample. RQD: 0% (10)	
12	576			- - - -					
14	574			- - - - -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Bedding plane joints with staining throughout sample. Vertical joint at 18-19 feet bgs. RQD: 17.5% (14)	
16	572								
18	570			- -				(19)	
20	568								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-07B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				- -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. 21	
22	566							Fracture Classification: Vertical joint at 19-20 feet bgs.	
								RQD: 21%	
24	564							Water sample MW-7B collected for VOCs. *(continued)*	
								Bottom of boring at 21 feet.	
26	562								
28	560								
30	558								
32	556								
34	554								
36	552								
38	550								
40	548								
42	546								
44	544								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-08B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Timothy Huff	**Total Depth (ft):** 21.3	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.12
Coordinates (X/Y): 843183.14/886137.72	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - 10 4	75	0.0		***Asphalt*** Asphalt / concrete	1
2	585			4 5 10 8	50	0.0		***Silt with Gravel (ML)*** Reddish brown silt with gravel; soft; moist.	2
4	583			5 48 15 8	25	0.0		***Poorly-Graded Sand with Gravel (SP)*** Yellowish brown silty sand with gravel and siltstone fragments; coarse-grained; wet at 2-3 feet and dry at 3-4 feet.	4
6	581			4 5 9 7	20	0.0		***Silt with Gravel (ML)*** Dark brown silt with gravel and siltstone fragments; soft; moist.	6
8	579			10 7 9 5	20	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark brown silty gravel; coarse-grained; loose; moist.	8
10	577			3 2 4 50	60	6.5		***Silt with Gravel (ML)*** Dark brown to grayish brown silt with gravel and siltstone fragments; soft; moist; petroleum odor and sheen from 10 to 12 feet bgs.	12
12	575			- - - -	0			***Siltstone*** No sample.	12.9
14	573			- - - -	100			***Siltstone*** Dark gray siltstone; thinly bedded; slightly decomposed with trace discoloration along joint surfaces; intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joints with discoloration at 13, 13.9, and 14.9 feet bgs. RQD: 57%	
16	571								
18	569			- - -	100				17.9
20	567								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-08B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				-				***Siltstone*** Dark gray siltstone; thinly bedded; breaks easily along bedding planes; intensely fractured. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joint with no discoloration at 20.6 feet bgs. RQD: 100% Product sample MW-8B-P collected for VOCs. *(continued)* *Bottom of boring at 21.3 feet.*	21.3
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

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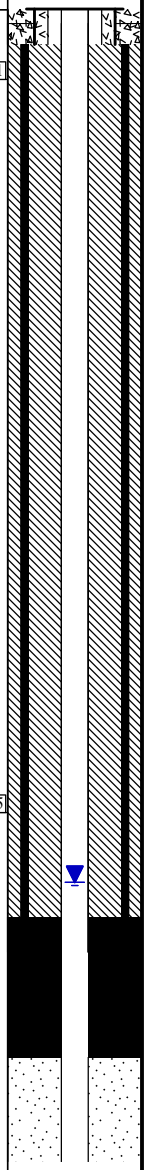
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-09B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 30.4	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.03
Coordinates (X/Y): 843126.2604/886060.5812	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.63

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Concrete	1
2	585				***Overburden*** Overburden (not sampled).	
4	583					
6	581					
8	579					
10	577					11.5
12	575				***Siltstone*** Weathered Siltstone bedrock (not sampled).	
14	573					
16	571					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-09B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone Weathered Siltstone bedrock (not sampled). *(continued)*	
18	569					
20	567					
22	565					
24	563					
26	561					
28	559					
30	557				30.4	
					Bottom of boring at 30.4 feet.	
32	555					
34	553					
36	551					

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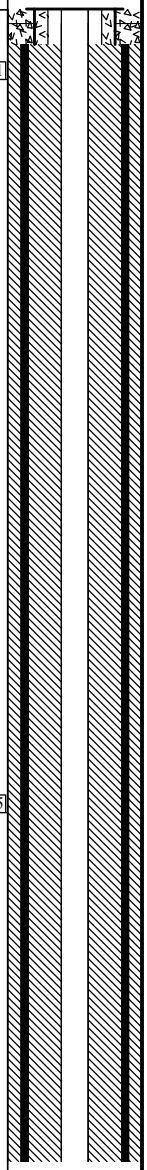
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-10B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.24
Coordinates (X/Y): 843078.791/886022.8092	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.88

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	22 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Concrete (1)	
2	585				***Overburden*** Overburden (not sampled).	
4	583					
6	581					
8	579					
10	577				(11.5)	
12	575				***Siltstone*** Weathered Siltstone bedrock (not sampled).	
14	573					
16	571					



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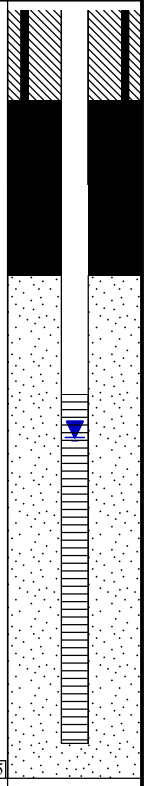
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-10B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Siltstone*** Weathered Siltstone bedrock (not sampled). *(continued)*	
20	567					
22	565					
24	563					
26	561				27.5	
28	559				*Bottom of boring at 27.5 feet.*	
30	557					
32	555					
34	553					
36	551					



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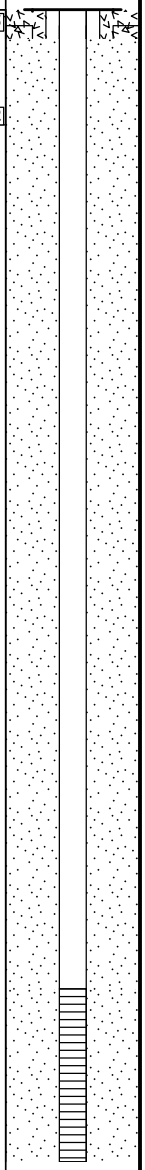
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-11B
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/17/2011	**Drill Method:** Air Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 27	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 587.07
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.73

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Asphalt 0.125
					Concrete 2
2	585				***Overburden*** Overburden (not sampled)
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				
18	569				
20	567				

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-11B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
22	565				***Overburden*** Overburden (not sampled) *(continued)*	
24	563				25.5	
26	561				***Ithaca siltstone*** Light gray siltstone; weak field strength; thinly bedded; slightly decomposed. 27	
28	559				*Bottom of boring at 27 feet.*	
30	557					
32	555					
34	553					
36	551					
38	549					
40	547					
42	545					
44	543					

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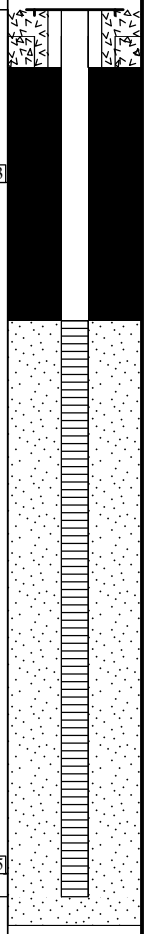
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12B
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/18/2011	**Drill Method:** Air Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 15.4	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 555.66
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 555.2

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	5.4 to 15.4	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Overburden (not sampled)
2	554				
					3
4	552				***Ithaca siltstone*** Light gray siltstone; weak field strength; thinly bedded; slightly decomposed.
6	550				
8	548				
10	546				
12	544				
14	542				
					15
16	540				*Bottom of boring at 15.4 feet.*
18	538				
20	536				

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 586.94
Coordinates (X/Y): 843198.9288/886141.733	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.35

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.3 to 29.3	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Overburden*** Overburden (not sampled).	
4	583								
6	581								
8	579								
10	577								11.5
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	13
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-12C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-13C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.13
Coordinates (X/Y): 843177.3054/886115.6846	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.62

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.8 to 29.8	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Overburden*** Overburden (not sampled).	
4	583								
6	581								
8	579								
10	577								11.5
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	13
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet.	
16	571								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-13C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

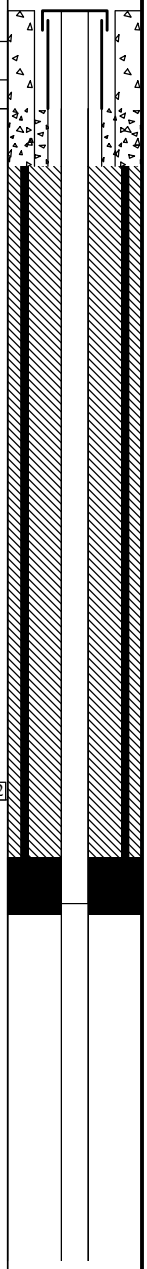
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-14C
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/15/2011	**Drill Method:** Hollow Stem Auger/Mud R
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.61
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.31

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
2	585			- - - -		0.0		***Silty Clay*** Dark brown, moist, silty clay overburden
4	583							
6	581			- - - -		0.0		
8	579							
10	577							
12	575							***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal.
14	573							
16	571							
18	569			- - - -	31	2.3		
20	567			-	75	12.0		

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-14C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				-	75	14.3		***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal. *(continued)*	
				-					
				-					
				-					
22	565			-	75	6.1			
				-					
				-					
24	563			-					
				-					
				-					
				-					
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								
								45	

Bottom of boring at 45 feet.

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-15C
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/16/2011	**Drill Method:** Hollow Stem Auger/Mud R
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.76
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.27

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 45	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	585							***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583								
6	581								
8	579								
10	577								
12	575				0	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal.	11.4
14	573								
16	571				53	0.0			
18	569								
20	567				26	0.0			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
					26	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal. *(continued)*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	541							46	
								Bottom of boring at 45 feet.	
48	539								
50	537								
52	535								
54	533								
56	531								
58	529								
60	527								
62	525								
64	523								
66	521								
68	519								
70	517								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16B/C
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Lean Clay with Gravel (CL) Gravelly clay overburden	
1	586					
2	585				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	2
3	584					
4	583					
5	582					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
12	575					
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
26	561					
27	560					
28	559					
29	558					
30	557				30 *Bottom of boring at 30 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16C
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 45	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Concrete	
1	586				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	
2	585					
3	584					
4	583					
5	582					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
12	575				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
25	562					
26	561					
27	560					
28	559					
29	558					
30	557					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
31	556				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
32	555					
33	554					
34	553					
35	552					
36	551					
37	550					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
38	549					
39	548					
40	547					
41	546					
42	545					
43	544					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
44	543				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
45	542				45 *Bottom of boring at 45 feet.*	
46	541					
47	540					
48	539					
49	538					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16C/B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 30	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Lean Clay with Gravel (CL) Gravelly clay overburden	
1	586					
2	585				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	2
3	584					
4	583					
5	582					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
12	575					
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
26	561					
27	560					
28	559					
29	558					
30	557				30 *Bottom of boring at 30 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-17B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/27/2012	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Rob Wallace	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.74
Coordinates (X/Y): 843207.0493/886117.192	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.42

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	4 to 14	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description.	
1	586					
2	585					
3	584					
4	583					
5	582					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-17B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description. *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-17B

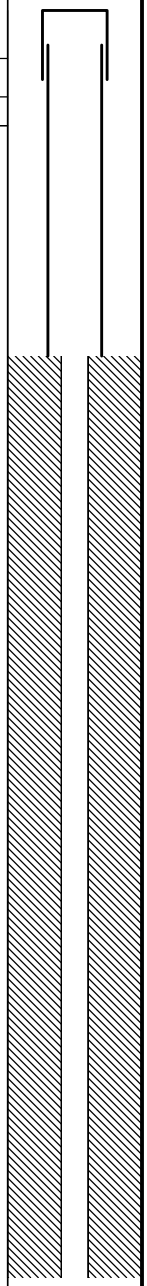
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					11.5	
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	
12	575					
13	574					
14	573				14.5	
					Bottom of boring at 14.5 feet.	
15	572					
16	571					
17	570					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-18B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/27/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 28	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.68
Coordinates (X/Y): 843109.9129/885990.5121	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.95

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 28	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description.
1	586				
2	585				
3	584				
4	583				
5	582				

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description. *(continued)*	
6	581				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs.	
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
12	575				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	[redacted]
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	
26	561					
27	560					
28	559				28 *Bottom of boring at 28 feet. Found fracture at 23', set screen to capture*	
29	558					
30	557					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-20B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/23/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 20.2	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 517.53
Coordinates (X/Y): 843121.55/886496.75	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 516.09

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base	
5	513				***Silty Clay*** Dark gray (N4) silty clay with gravel; medium stiff; nonplastic; moist.	5
10	508				***Siltstone*** Weathered Siltstone.	9
					Siltstone Gray (N5) weathered siltstone; several natural fractures; some weathering in fractures; RQD-28%.	11
15	503				***Siltstone*** Gray (N5) weathered siltstone; with approximately 4 slightly weathered natural fractures; some mechanical fractures; RQD-92%.	15
20	498				*Bottom of boring at 20.2 feet.*	20
25	493					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-22B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/31/2005	**Drill Method:** Hollow Stem Auger
Logged By: Pat Peterson and Erik Reinert	**Total Depth (ft):** 16.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 490.95
Coordinates (X/Y): 843247.83/886844.08	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 489.46

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base Gravel and sand with silty clay material.	
2	489					
4	487					4
					Silty Clay Gray silty clay with rock fragments; moist.	
6	485					
8	483					
						9
					Siltstone	
10	481					
						11
						11.5
					Siltstone RQD-0%.	
12	479					
					Siltstone Compotent; fractured every 2-4"; fine-grained; no vertical fractures; moderate yield; RQD-13%.	
14	477					
16	475					
						16.5
					Bottom of boring at 16.5 feet.	
18	473					
20	471					

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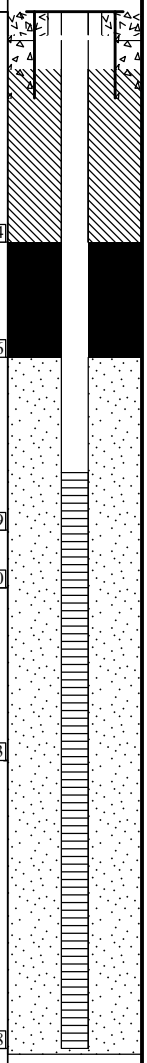
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-23B
Drilled By: Parratt Wolff, Inc./Sean and Mark	**Drill Start Date:**	**Drill End Date:** 10/30/2008	**Drill Method:** Hollow Stem Auger
Logged By: Steven Dawson	**Total Depth (ft):** 18	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	13.1 to 18.1	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
2					***Fill*** Gravelly Fill	
4					***Silty Clay*** Dark gray (N4) silty clay with gravel; black fill fragments; moist	4
6					***Clayey Silt*** Reddish brown (5 YR 5/3) clayey silt; stiff; semi-plastic; moist; trace shale fragments	6
8						9
10					***Siltstone*** Gray (N5) weathered siltstone; friable; dry to moist	10
12					***Siltstone*** Gray (N5) weathered siltstone; several natural fractures; RQD-0%	13
14					***Siltstone*** Gray (N5) weathered siltstone; slightly less weathered/fractured; becoming less weathered from 17 to 18 feet bgs; RQD-26%	
16						
18					*Bottom of boring at 18 feet.*	18
20						



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24A
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/10/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 10.1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes: Soil Boring, not a well.

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2, 4								***Concrete*** Concrete and fill.	4
4, 6				6 8 6 12	10	0.0		***Well-Graded Sand (SW)*** Olive (5Y 4/3) medium- to coarse-grained sand, some gravel, fill; loose; dry.	6
6, 8				8 13 14 11	20	0.0		***Clayey Sand with Gravel (SC)*** Olive (5Y 4/3) clayey sand with gravel; medium density; moist.	8
8, 10				11 15 50/3	25	0.0		***Well-Graded Sand with Gravel (SW)*** Olive (5Y 4/3) sand with gravel, some low plasticity clay, siltstone rock fragments in spoon; medium density; moist. Collect sample from 10 to 10.1 feet bgs: MW-24A (10-10.1').	10.1
10				50/3	100	1.3		*Bottom of boring at 10.1 feet. Refusal at 10.1 feet bgs.*	
12, 14									

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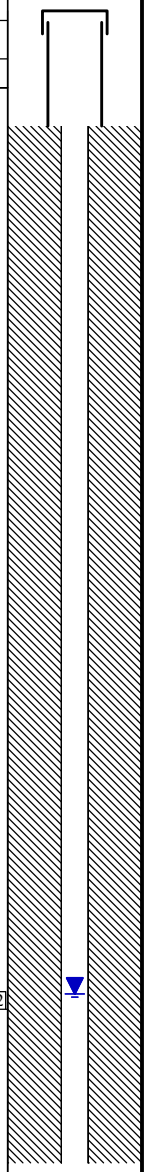
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/24/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.35
Coordinates (X/Y): 843093.037/886004.9151	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.94

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Overburden
2	584							
4	582							
6	580							
8	578							
10	576							
12	574							***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured
14	572			- - -	Very Poor	0.0		Lost water at 23' bgs

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-24B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
16	570				Very Poor	0.0		***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Lost water at 23' bgs *(continued)*	
18	568								
20	566				Very Poor	0.0			
22	564							22.6	
								Clay Dark gray (N5) lean clay in fractures 23.2	
24	562				Very Poor	0.0		***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Lost water at 23' bgs	
26	560								
28	558				Poor	0.0			
30	556							30	
								Bottom of boring at 30 feet.	
32	554								
34	552								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24B (2005)
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 2/10/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 18	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 415.42
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 415.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes: Abandoned

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
					Gravel Road Base Gravel and rock fragments placed during road replacement.	
2	413					
					3.5	
4	411				***Siltstone*** Light gray (N3) weathered siltstone; dry.	
6	409					
					7.5	
8	407				***Siltstone*** RQD-100%.	
10	405					
12	403					
					13	
14	401				***Siltstone*** RQD-80%.	
16	399					
18	397				18	
					Bottom of boring at 18 feet.	
20	395					

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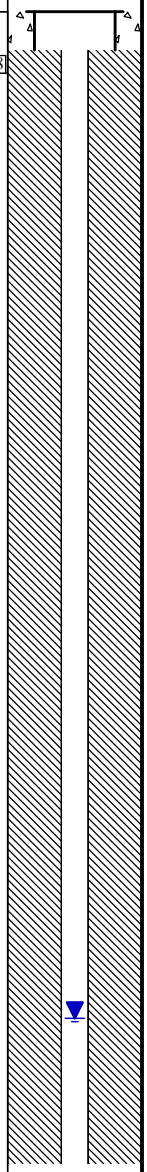
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-25B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 587.21
Coordinates (X/Y): 843088.4006/886034.1763	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.84

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	20 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
								Ground Surface
								Concrete (0.8)
								Overburden
2	585							
4	583							
6	581							
8	579							
10	577							
12	575							
14	573							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569							18 ***Ithaca Shale*** Medium gray (N4) weathered shale: fine-grained, thinly bedded, fossiliferous, slightly decomposed, competent, intensely fractured. Lost water at 24' bgs	
20	567								
22	565			- - - -	Very Poor	0.0			
24	563								
26	561			- - - -	Very Poor	0.0			
28	559								
30	557							30 *Bottom of boring at 30 feet.*	
32	555								
34	553								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26A
Drilled By: Parratt Wolff, Inc./Layne Tesh	**Drill Start Date:**	**Drill End Date:** 3/22/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 17.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 397.49
Coordinates (X/Y): 842355.88/886058.61	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 395.91

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
2	395					
4	393				***Siltstone*** Medium gray (N5) weathered siltstone bedrock; highly fractured; friable; trace fines; dry to moist.	
6	391				6	
8	389					
10	387				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet.	
12	385				12	
14	383					
16	381				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet. 15.5 ***Siltstone*** Weathered Siltstone. 17	
18	379				*Bottom of boring at 17.5 feet.*	
20	377					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.66
Coordinates (X/Y): 843068.3626/886033.4964	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	21.5 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete 0.75	
								Overburden	
2	585								
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-26B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569								
20	567								
								21.5	
22	565							***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured	
24	563			- - - -	Very Poor	0.0			
								24.7 / 24.9	
								Clay Dark Gray (N3) lean clay in fracture	
26	561			- - - -	Very Poor	0.0		***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured Lost water at 26' bgs	
28	559			- - - -	Very Poor	0.0			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								

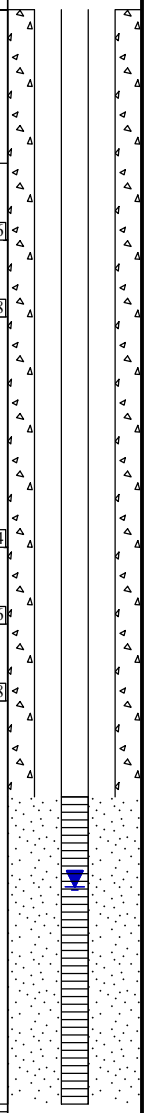
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-27B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/3/2005	**Drill Method:** Hollow Stem Auger/Roller
Logged By: Gregory J. Frisch	**Total Depth (ft):** 28.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 551.12
Coordinates (X/Y): 843399.99/886730.22	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 550.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Clayey Gravel (GC) Gray (N5) with coal and slag fragments; loose; dry; (fill).
					No recovery - rock lodged in spoon.
5	546				***Clayey Gravel (GC)*** Gray (N6) to reddish brown (5YR 5/3) with coal and shale fragments; loose; dry to moist; (fill). 6
					No recovery - rock lodged in spoon. 8
10	541				***Gravelly Lean Clay (CL)*** Gray (N6) to grayish brown (10YR 5/2) with siltstone and shale fragments; medium stiff; nonplastic; moist. 14
15	536				***Gravelly Lean Clay (CL)*** Same as above with degraded solvent odor. 16
					Lean Clay with Gravel (CL) Gray (N5) to light olive brown (2.5Y 5/3); medium stiff; semi-plastic; damp; degraded solvent odor. 18
20	531				***Siltstone*** Gray (N5) weathered; highly fractured; thinly bedded; fractures mainly along bedding with weathering; fractures mainly mechanical below 25 feet below ground surface; RQD 11% (18.5 to 23.5) and 55% (23.5 to 28.7).
25	526				
30	521				*Bottom of boring at 28.5 feet.*

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-31B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/5/2005	**Drill Method:** Hollow Stem Auger/Roller
Logged By: Gregory J. Frisch	**Total Depth (ft):** 24.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 532.52
Coordinates (X/Y): 842942.15/886296.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 533.45

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
5	528				***Silt with Gravel (ML)*** Gray (N5) to dark grayish brown (10YR 4/2); with coal and shale fragments; loose; dry; (fill).	
10	523					
15	518				***Lean Clay with Gravel (CL)*** Dark gray (N4) to dark grayish brown (10YR 4/2); medium stiff; nonplastic; moist; weathered siltstone in shoe. (14 – 14.5) ***Siltstone*** Gray (N5); weathered; highly fractured at 14.5 to 15.0 and 17.3 to 17.8 feet below ground surface; weathering in fractures; fracturing mainly along bedding with vertical fracturing in highly fractured zones; fractures mainly mechanical below 21 feet below ground surface; RQD 38% (14.5 - 19.5) and 75% (19.5 - 24.5).	
20	513					
25	508				*Bottom of boring at 24.5 feet.* (24.5)	
30	503					

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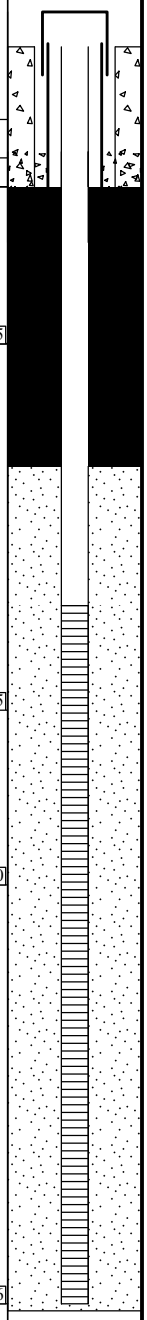
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-33B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/19/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 16	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 584.0
Coordinates (X/Y): 843156.1/886190.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.56

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	6 to 16	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
		X		4, 8, 5, 3	60	9.4		***Silt with Gravel (ML)*** Black (10YR 2/1) silt, little fine to coarse-grained sand, trace gravel and broken grass, trace organics and rootlets; loose; dry.
2	582	X		2, 7, 8, 5	75	0.5		2.25 ***Poorly-Graded Gravel (GP)*** Grayish-brown (10YR 5/2) concrete rubble and cinders; loose; dry.
4	580	X		7, 8, 18, 6	25	10.7		
6	578	X		10, 6, 12, 12	50	12.6		7.5
8	576	X		19, 12, 12, 12	10	6.1		***Silt with Gravel (ML)*** Yellowish-brown (10YR 5/6) silt, trace rootlets, little sub-angular gravel; very dense; dry.
10	574							10 ***Siltstone*** Gray siltstone.
12	572							
14	570							
16	568							16 *Bottom of boring at 16 feet.*

Well



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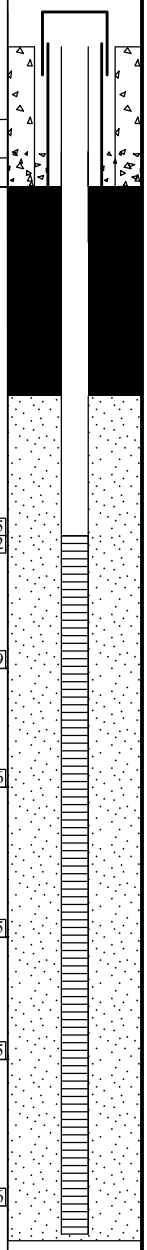
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-34B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/18/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 14.6	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 582.7
Coordinates (X/Y): 843146.8/886180.4	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 584.85

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	4.6 to 14.6	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				3, 3, 3, 5	25	0.6		***Silt with Sand (ML)*** Dark brown (10YR 3/3) silt, little fine to medium-grained sand, little organics and rootlets, little gravel; loose; dry.
2	581			5, 7, 7, 6	25	2.1		
4	579			12, 20, 17, 20	75	3.2		5
								5.2 ***Silt with Gravel (ML)*** Black (10YR 2/1) silt, little gravel, some organics; loose; dry.
6	577			14, 5, 7, 14	15	0.0		***Gravelly Silt (ML)*** Dark yellowish-brown (10YR 4/6) silt, some angular weathered bedrock fragments; loose; dry. 6.9
8	575			11, 11, 12, 25	40	0.1		***Poorly-Graded Gravel (GP)*** Brown (10YR 4/3) siltstone fragments; dry. 8.6
10	573			20, 23, 22, 16	25	0.4		***Gravelly Silt (ML)*** Grayish-brown (10YR 5/2) silt and siltstone fragments; loose; dry. 10.75
12	571			15, 10, 15, 16	50	26.4		***Silt with Gravel (ML)*** Black (10YR 2/1) and yellow (10YR 7/8) silt, little clay, little gravel; dense; moist. 12.5
14	569			8, 50/0.1	0	NA		***Gravelly Silt (ML)*** Light olive brown (2.5Y 5/4) silt, little clay, little to some gravel, soft to medium soft; wet; faint petroleum odor and sheen. 14.6
								Bottom of boring at 14.6 feet.
16	567							

Well



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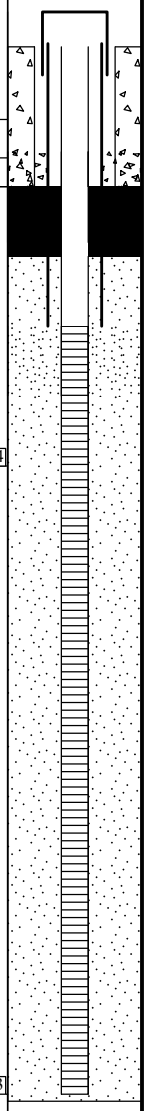
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-35B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/16/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 13	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 581.0
Coordinates (X/Y): 843139.3/886172.5	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 583.52

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	3 to 13	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
		X		1, 1, 2, 2	10	1.7		***Well-Graded Sand with Gravel (SW)*** Very dark grayish brown (10YR 3/2) to brown (10YR 4/4) fine to coarse-grained sand, little angular gravel; loose; dry.
2	579	X		8, 25, 35, 29	25	6.2		
4	577							***Siltstone*** Gray siltstone.
6	575							
8	573							
10	571							
12	569							
14	567							*Bottom of boring at 13 feet.*
16	565							

Well



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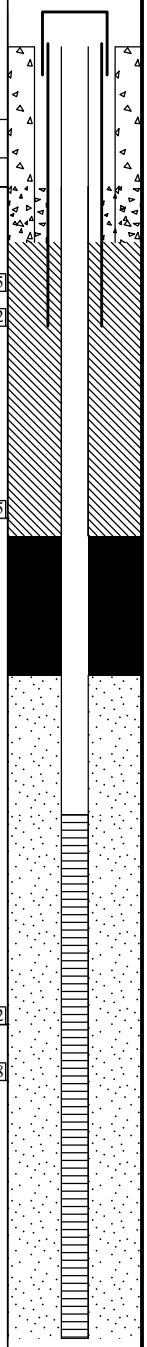
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-36B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/15/2013	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 19	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.3
Coordinates (X/Y): 843143.3/886140.7	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.78

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9 to 19	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete
								1.5
2	584			4 9 7 4	50	0.0		***Gravel*** Gravel Sub-base. 2
								Well-Graded Gravel (GW) Light brownish-gray (10YR 6/2) siltstone fragments up to 2-inches in diameter; loose; dry.
4	582			9 5 8 5	25	0.0		4.75
								Gravelly Silt (ML) Dark yellowish-brown (10YR 4/6) silt, some siltstone fragments; dense; dry.
6	580			8 11 7 6	25	0.0		
8	578			5 4 4 4	25	0.0		
10	576			4 5 6 3	25	0.0		
12	574			9 50/0.3 - -	40	120		12
								Well-Graded Gravel with Silt and Sand (GW-GM) Grayish-brown (10YR 5/2) siltstone fragments, little silt and sand; dry; oil-like substance between cobbles. 12.8
14	572							***Siltstone*** Gray siltstone (not sampled).
16	570							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-36B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Siltstone*** Gray siltstone (not sampled). *(continued)*	
								19	
								Bottom of boring at 19 feet.	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-37B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/17/2013	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 20	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.0
Coordinates (X/Y): 843158.5/886129.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.65

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 20	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete (0.8)	
								Poorly-Graded Gravel (GP) Concrete and brick rubble; loose; dry.	
2	585								
4	583			2, 2, 5, 8	25	2.6		(4.75)	
								Silt with Gravel (ML) Yellowish-brown (10YR 5/1) silt, little clay, little coarse-grained sand and gravel, some brick fragments between 6 and 8 feet; loose; dry.	
6	581			1, 4, 3, 3	15	2.0			
8	579			-, -, -, -	0	-		(9)	
								Silt (ML) Dark yellowish-brown (10YR 4/6), light brownish gray (10YR 6/2) and black (10YR 2/1) silt; dense; dry, mottled.	
10	577			2, 2, 2	95	10.5		(11.5)	
				50/0.4				(11.9) ***Silt with Sand (ML)*** Brown (10YR 9/3) silt, little clay, little coarse-grained sand and gravel; soft, wet; faint petroleum-like odor and possible petroleum sheen.	
12	575							***Siltstone*** Gray siltstone.	
14	573								
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-37B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569							***Siltstone*** Gray siltstone. *(continued)*	
20	567							20 *Bottom of boring at 20 feet.*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								

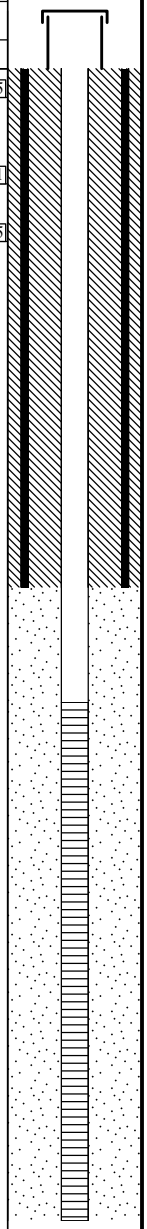
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-45B
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/3/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** ND

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description
						Ground Surface
				100		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining (0.25)
1						***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visble staining (1)
2						***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining (1.5)
3				0		***Ithaca Shale*** Dark gray (N4) fine-grained, aphanitic shale. Thinly bedded, moderately decomposed, intensely factured. Mechanical fractures throughout.
4						6.1': Bedding plane fracture, 0°, extremely narrow, partly healed, surface oxidation, smooth
						8.2', 9.8', 11.6', 11.8', 21.4', 12.8', 13.9', 14.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth
5				88		14.4-14.7': Fracture zone, dip varies, moderatly narrow, not healed, very little surface oxidation, rough
6						15.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth
						15.3': Bedding plane fracture, 5°, narrow, partly healed, surface oxidation, smooth
7						
8				100		
9						
10						

Notes:

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-45B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ithaca Shale Dark gray (N4) fine-grained, aphanitic shale. Thinly bedded, moderately decomposed, intensely factured. Mechanical fractures throughout.	
11						6.1': Bedding plane fracture, 0°, extremely narrow, partly healed, surface oxidation, smooth	
12						8.2', 9.8', 11.6', 11.8', 21.4', 12.8', 13.9', 14.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth	
13				100		14.4-14.7': Fracture zone, dip varies, moderatly narrow, not healed, very little surface oxidation, rough	
14						15.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth 15.3': Bedding plane fracture, 5°, narrow, partly healed, surface oxidation, smooth *(continued)*	
15						15.5	
16						*Bottom of boring at 15.5 feet.*	
17							
18							
19							
20							
21							
22							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-43C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/20/2017	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 50.25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.83
Coordinates (X/Y): 843149.0178/886135.4032	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.55

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Overburden Overburden	
5	582						
10	577						
15	572					15.5	
						Siltstone Not logged - air rotary	
20	567						
25	562			Total: 100%; Solid: 95%; RQD: 22.5%		25	
30	557						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-43C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 26%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; intensely fractured. Bedding plane fractures every 0.33-1.0'; tight narrow; mostly clean; trace healing; trace brachiopod fossils; smooth; damp. 26.0-26.8' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 27.4-27.7' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 30.4-30.9' vertical fracture; tight; not healed; clean; smooth; wet. 32.1-32.7' vertical to 45 degree joints; tight; not healed; clean; smooth; wet. 35.0-35.2' bedding plane fracture zone; moderately healed with silt and sand; moderately narrow; wet. 37.7-38.0' vertical fracture; tight; not healed; clean; smooth; wet. *(continued)*	
35	552			Total: 100%; Solid: 96%; RQD: 72%			
40	547			Total: 100%; Solid: 100%; RQD: 88%			
						44.2	
45	542			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 44.6-44.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough 47.0-47.3' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.15' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough	
50	537			Total: 100%; Solid: 100%; RQD: 100%			
						50.2	
						Bottom of boring at 50.25 feet.	
55	532						
60	527						
65	522						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-72C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/13/2017	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 83.8	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.04
Coordinates (X/Y): 843141.5188/886138.552	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.1

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Overburden Overburden	
5	581						
10	576						
15	571						
				Total: 100%; Solid: 85%; RQD: 12%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; slightly decomposed; slight disintegration; intensely fractured. Bedding Plane fractures every 0.1-0.33' ; very narrow to narrow; not healed to partialy healed; mostly clean with some oxidation; dry.	
20	566			Total: 100%; Solid: 98%; RQD: 38%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. Bedding plane fractures every 0.33-1.0'; very narrow to narrow; mostly clean; not healed; smooth; damp.	
25	561			Total: 100%; Solid: 100%; RQD: 28%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. 24.4-24.6' 45 degree joint; narrow; not healed; fresh; rough; wet; trace sediment. 25.2' Bedding plane fracture; narrow to moderately narrow; not healed; rough; wet.	
30	556						

15.5

18.8

23.8

28.8

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 68%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured, bedding plane fractures, not healed, tight, wet. *(continued)*	
						33.8	
35	551			Total: 100%; Solid: 100%; RQD: 46%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' verticlal joint; narrow; clean; not healed; medium rough; wet.	
						38.8	
40	546			Total: 100%; Solid: 100%; RQD: 92%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured; some brachiopod fossils. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' vertical joint; narrow; clean; not healed; medium rough; wet.	
						43.8	
45	541			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured with bedding plane fractures every 1'.	
						48.8	
50	536			Total: 96%; Solid: 96%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent.	
						53.8	
55	531			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; trace bedding plane fractures.	
60	526			Total: 100%; Solid: 100%; RQD: 100%			
65	521			Total: 96%; Solid: 96%; RQD: 96%			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
70	516			Total: 100%; Solid: 100%; RQD: 90%		68.8 — ***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 71.5-72.0' bedding plane fracture zone; very broken; moderately healed with gray plastic silt and sand; smooth to medium rough; wet; fresh. — 73.8	
75	511			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 78.0' bedding plane fracture; moderately healed; narrow; wet; smooth; wet; smooth. 82.8' bedding plane fracture; very tight; not healed.	
80	506					83.8	
85	501					*Bottom of boring at 83.8 feet.*	
90	496						
95	491						
100	486						
105	481						

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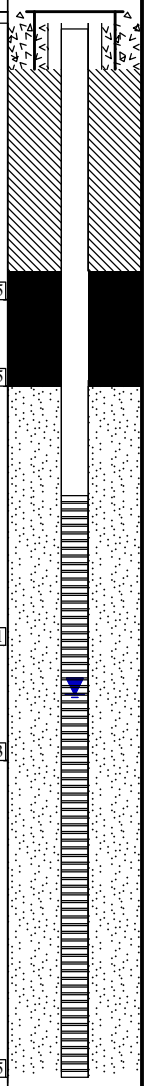
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-47A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/18/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.16
Coordinates (X/Y): 843093.8547/886037.4959	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.7

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.4 to 18.4	**Filter Pack:** 20/40 Sand	**to**
Riser: Schedule 80 PVC Riser	4	0.2 to 8.4	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
							Ground Surface
							Asphalt surface
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular medium gravel, little fine to coarse sand; loose to medium density; dry.
4	583						
							5
6	581			50	0.0		***LEAN CLAY WITH SAND (cl)*** Yellowish-brown clay, some silt, trace coarse sand and sub-angular fine gravel; soft; dry.
							6.5
8	579						***POORLY-GRADED GRAVEL (gp)*** Grayish sub-rounded medium to coarse gravel; loose; dry.
10	577			75	0.0		
							11
12	575						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular medium gravel, little silt and medium to coarse sand; loose; dry.
							13
14	573						***Lean Sandy Clay with Gravel (CL)*** Dark gray to black sandy lean clay, trace gray rounded fine gravel; medium soft; wet; strong petroleum-like odor.
16	571			75	11.9		
18	569			75	37.4		
							18.5
							Bottom of boring at 18.5 feet. Auger Refusal
20	567						

Well



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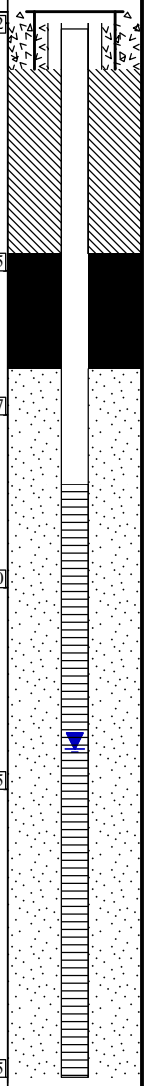
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-48A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/18/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.15
Coordinates (X/Y): 843079.7165/886022.2465	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.75

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.2 to 18.2	**Filter Pack:** 20/40 Sand	**to**
Riser: Schedule 80 PVC Riser	4	0.2 to 8.2	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
							Ground Surface	
							Asphalt surface (0.2)	
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular medium to coarse gravel, trace fine to coarse sand; loose to medium dense; dry.	
4	583						(4.5)	
6	581			40	10.8		***Lean Clay with Sand (CL)*** Yellowish-brown clay, some silt, little coarse sand and sub-rounded fine gravel; soft; dry.	
							(7)	
8	579						***Poorly-Graded Gravel (GP)*** well sorted sub-angular medium to coarse gravel; loose; dry.	
10	577						(10)	
12	575			50	8.1		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular coarse gravel, little silt and coarse sand; loose; dry.	
							(13.5)	
14	573						***Lean sandy Clay with Gravel (CL)*** Dark gray to black sandy clay, trace rounded fine to medium gravel; medium soft; moist to wet; strong petroleum-like odor.	
16	571			50	154.9			
18	569			75	116.3			
							(18.5)	
							Bottom of boring at 18.5 feet. Auger Refusal	
20	567							

Notes:



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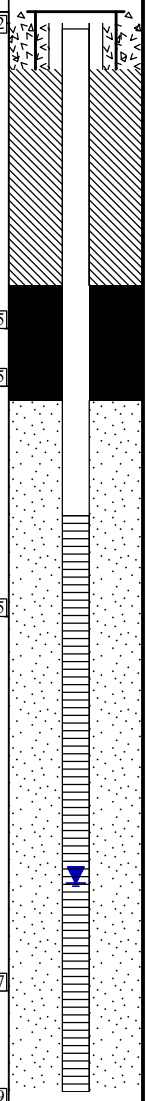
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-49A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/17/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 19	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843080.3519/886039.0726	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.74

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.75 to 18.75	**Filter Pack:** 20/40 Sand	**to**
Riser: Schedule 80 PVC Riser	4	0.2 to 8.75	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
							Ground Surface
							0.2 — ***Asphalt surface***
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular gravel, little fine to coarse sand; loose to medium dense; dry.
4	583						
							5.5
6	581			50	0.0		***LEAN CLAY WITH SAND (cl)*** Yellowish-brown clay, some silt, trace sub-angular gravel; soft; dry. — 6.5
8	579						***Poorly-Graded Gravel (GP)*** Sub-angular to sub-rounded grey medium gravel; loose; dry.
10	577						
							10.5
				50	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular medium gravel, little silt and coarse sand; loose; dry.
12	575						
14	573						
16	571			75	3.7		
							17
18	569			80	1.3		***Lean Sandy Clay with Gravel (CL)*** Dark gray clay, trace sub-rounded medium gravel; soft; moist; petroleum-like odor.
							19
20	567						*Bottom of boring at 19 feet. Auger Refusal. Designated MW-46A-AOC-1 in the field. ID was changed to prevent confusion with MW-46 cluster adjacent to firewater reservoir.*

Notes:

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-8-40
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/15/1988	**Drill Method:**
Logged By: R.T. Church	**Total Depth (ft):** 43.2	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 518.27
Coordinates (X/Y): 843130.89/886507.35	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 517.98

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description		Well
					Ground Surface		
					Gravelly Clay Brown to gray; medium stiff; dry.	6.5	
10	508				Fill	10	
					Clay Brown; some angular medium stiff to stiff, damp.	12.1	
					Siltstone RQD-0%	17.1	
20	498				***Siltstone*** RQD at/near 100% from 17.1 to 38.2 feet below ground surface.		
30	488						
						38.2	
40	478				***Siltstone*** RQD-63%		
						43.2	
					Bottom of boring at 43.2 feet.		

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-9-100
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 8/18/1989	**Drill Method:**
Logged By: R. T. Church	**Total Depth (ft):** 101	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 506.76
Coordinates (X/Y): 843064.73/886467.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 506.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Asphalt Asphalt (0.5)	
					Silty Clay Black; trace fine to coarse gravel; moist. (2.5)	
					Siltstone RQD-19% (10)	
					Siltstone RQD-78% at 10.0 - 20.0 feet below ground surface; RQD at/near 100% from 20.0 - 40.0 feet below ground surface.	
20	487					
40	467				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. (40)	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-9-100

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60	447				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. *(continued)*	
80	427					
100	407				100	
					Bottom of boring at 101 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PTW-1
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/18/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 12.25/	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843074.6292/886022.8677	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.36

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	23 to 33	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark gray silty gravel.	
4	583			- - - -	NA	NA			
6	581								
8	579								9
10	577			6 6 4 5	25	NM		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Black silty gravel, little fine to coarse-grained sand; medium dense; dry.	
12	575			7 10 6 5	35	NM		***Poorly-Graded Gravel with Silt (GP-GM)*** Gray angular siltstone fragments to 2-inches in diameter with silt, little clay; medium dense; dry.	11.75
14	573			2 5 8 6	35	NM		***Poorly-Graded Gravel with Silt (GP-GM)*** Brown (7.5 YR 4/4) gravel, little silt and clay; dry.	13.65 14.6
16	571			3 3 6	25	NM		***Poorly-Graded Gravel with Silt (GP-GM)*** Dark gray gravel, little silt and clay; moist, petroleum-like odor and sheen.	15.75

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PTW-1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				6				***Gravelly Silt (ML)*** Dark grayish-brown (10YR 4/2) silt and clay, some gravel; medium dense; dry. *(continued)*	
				6					
18	569			7	25	NM			
				12				***Poorly-Graded Gravel with Silt (GP-GM)*** Light olive brown (2.5Y 5/4) angular siltstone fragments, little silt; medium dense; dry.	
				13					
				50/0.3	100	NM			
20	567							***Siltstone***	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553							*Bottom of boring at 33 feet.*	
36	551								

17.75

19.3

33

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-1
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/18/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.17
Coordinates (X/Y): 843076.5099/886025.3325	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.07

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete	1
				56 52	100	0.1		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty gravel, little fine to coarse sand; loose to medium dense; dry.	
2	585			15 14 14 16	25	0.1			
4	583			3 4 9 9	50	9			
									5.5 5.7
6	581			9 6 5 4	50	0.4		***Lean Clay with Sand (CL)*** Yellowish-brown clay, some silt, little sand and gravel; soft; dry. ***Poorly-Graded Gravel (GP)*** Red and black cinders, little gravel; loose; dry.	
8	579			6 7 6 6	50	3.6			
10	577			4 4 3 3	15	0.0			
									10.75
								Poorly-Graded Gravel with Silt and Sand (GP-GM) Gray sub-angular grave, little silt and sand; loose; dry.	
12	575			4 4 5 6	25	0.0			
14	573			4 5 5 6	25	15			
									14.75
								Lean Clay with Gravel (CL) Dark gray clay, little silt and gravel; medium soft; moist; strong petroleum-like odor and visible sheen.	
16	571			5					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				4 3 4	75	98.3		***Lean Clay with Gravel (CL)*** Dark gray clay, little silt and gravel; medium soft; moist; strong petroleum-like odor and visible sheen. *(continued)*	
18	569			9 15 11 7	50	41.0		18.5 ***Poorly-Graded Gravel with Silt (GP-GM)*** Olive gray (2.5Y 5/4) angular siltstone fragments and silt; dense; dry; oil between shale partings and petroleum-like odor.	
20	567			6 10 40/0.4	14	NA		21.4	
22	565							***Siltstone***	
24	563								
26	561								
28	559								
30	557								
32	555							33	
34	553							*Bottom of boring at 33 feet.*	
36	551								

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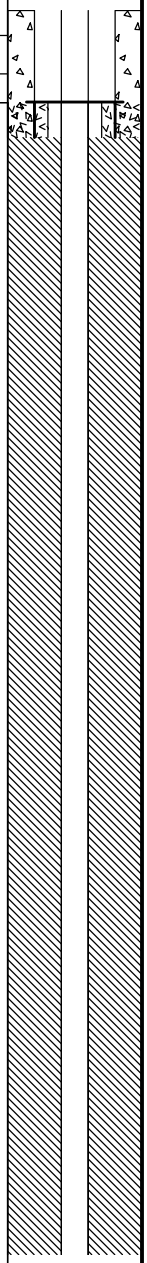
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-2
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843077.7508/886026.6735	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.51

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Silt with Sand and Gravel Overburden	
2	585					
4	583					
6	581					
8	579					
10	577					
12	575					
14	573					
16	571					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-2

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Silt with Sand and Gravel*** Overburden *(continued)*	
					18.5	
20	567				***Siltstone***	
22	565					
24	563					
26	561					
28	559					
30	557					
32	555					
					33	
34	553				*Bottom of boring at 33 feet.*	
36	551					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-3
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.2
Coordinates (X/Y): 843078.9235/886028.1182	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.67

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Sandy Silt with Gravel (ML) Overburden	
2	585						
4	583						
6	581						
8	579			- - - -			
10	577						
12	575						
14	573						
16	571						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-3

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
						Sandy Silt with Gravel (ML) Overburden *(continued)*	
18	569					***Siltstone***	
20	567						
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
						Bottom of boring at 33 feet.	
34	553						
36	551						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-4
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/20/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.18
Coordinates (X/Y): 843081.2842/886030.2202	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.66

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Sandy Silt with Gravel (ML) Overburden	
2	585						
4	583						
6	581						
8	579			-			
				-			
				-			
10	577			-			
12	575						
14	573						
16	571						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-4

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description	Well
18	569					***Sandy Silt with Gravel (ML)*** Overburden *(continued)*	
						18.5	
20	567					***Siltstone***	
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
						33	
34	553					*Bottom of boring at 33 feet.*	
36	551						

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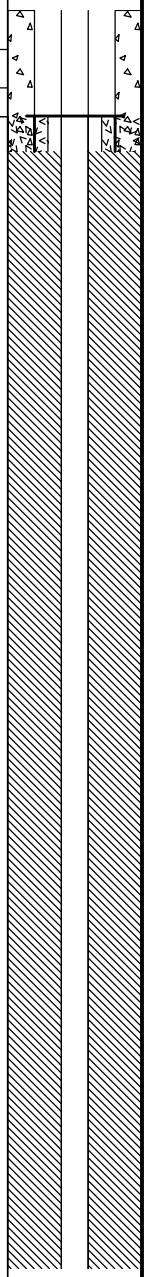
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-5
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.78
Coordinates (X/Y): 843069.7234/886028.1167	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.3

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description
						Ground Surface
						Gravelly Silt with Sand (ML) Overburden
2	585					
4	583					
6	581					
8	579					
				-		
				-		
				-		
10	577			-		
12	575					
14	573					
16	571					

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-5

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
18	569					***Gravelly Silt with Sand (ML)*** Overburden *(continued)* 19	
20	567					***Siltstone***	
22	565						
24	563						
26	561						
28	559						
30	557						
32	555					33	
34	553					*Bottom of boring at 33 feet.*	
36	551						

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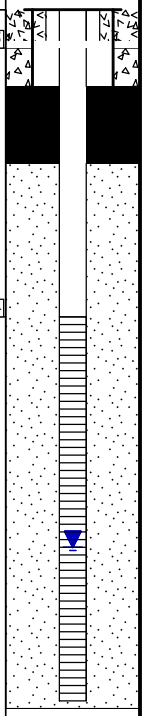
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-04b/SB-04b Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/11/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 9.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 599.56
Coordinates (X/Y): 842888.94/885583.1	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.06

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete (0.5)
					10	0.0		***Well-Graded Sand (SW)*** Dark olive gray (5Y 3/2) medium- to fine-grained sand, few gravel, few clay; medium density; moist; trace metal fragments.
2	598			7, 13, 8, 9	75	0.5		
4	596			9, 9, 8, 6	15	0.2		***Well-Graded Gravel (GW)*** Olive (5Y 5/3) siltstone fragments, coarse-grained sand from 6 to 7 feet bgs; dry to moist becoming wet at 7 feet bgs; oily sheen and petroleum odor at 7 feet bgs; free product at 8 feet bgs. Collect sample from 6 to 7 feet bgs: SB-4b (6-7'). Collect sample from 8 to 9.8 feet bgs: SB-4b (8-9.8'). (4)
6	594			3, 3, 4, 3	15	4.3, 22.0		
8	592			1, 12, 40, 50/3	10	23.0		(9.8)
10	590							*Bottom of boring at 9.8 feet. Refusal at 9.8 feet bgs.*
12	588							
14	586							

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-15/SB-15 - Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 25.4	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.67
Coordinates (X/Y): 843047.95/886006.04	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.36

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete Concrete	1
2	585							***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) medium- to coarse-grained sand, loose; some gravel; rock chips from 4 to 6 feet bgs; moist, some gray (10YR 6/1) and brownish-yellow (10YR 6/6) mottling from 8 to 10 feet bgs.	
		X		3 2		0.2			
4	583	X		3 1 2 2	15	0.6			
6	581	X		2 2 3 5	15	0.0			
8	579	X		3 4 5 4	15	0.0			
10	577	X		5 1 1 1	10	2.9		***Well-Graded Sand (SW)*** Very dark grayish-brown (2.5Y 3/2) fine- to medium-grained sand, loose; few gravel; moist.	10
12	575	X		10 4 5 7	15	1.8		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; moist. Collect sample from 12 to 14 feet bgs: SB-15 (12-14')	12
14	573	X		9 6					14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: RW-15/SB-15 - Redrilled

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				4, 4	20	12.4		***Well-Graded Sand with Gravel (SW)*** Very dark grayish-brown (2.5Y 3/2) medium- to coarse-grained sand and gravel; high metal content; very moist. *(continued)*	
16	571			5, 3, 3, 3	25	3.5		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; wet.	16
18	569			5, 6, 6, 5	0.01	1.4		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) clay, low plasticity; rock fragments; wet. No recovery.	18
20	567			2, 2, 2, 3	60	38.4 - 41.2		***Well-Graded Sand with Clay (SW)*** Black (10YR 2/1) sand; some clay; some gravel from 22 to 24 feet bgs; wet to very wet; product/sludge - petroleum odor, oily sheen. Collect sample from 24 to 25.4 feet bgs: SB-15 (24-25.4').	20
22	565			5, 6, 5, 4	60	48.0			
24	563			9, 16, 50/4	50	59.0			25.4
26	561							*Bottom of boring at 25.4 feet. Refusal at 25.4 feet bgs.*	
28	559								
30	557								
32	555								
34	553								

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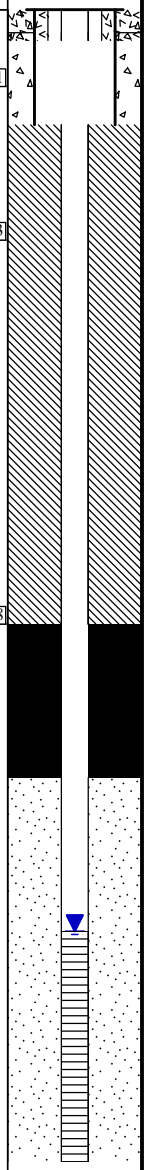
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-15a/SB-15a
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 22.4	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 586.66
Coordinates (X/Y): 843065.92/886029.61	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete
						0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark brown (10YR 2/2) sand with gravel; loose; moist, some yellowish-brown (10YR 5/6) mottling.
2	585					0.0		
					10	0.5		***Poorly-Graded Sand with Gravel (SP)*** Very dark grayish-brown (10YR 3/2) coarse-grained sand, loose; some gravel, large fragments at 6 feet bgs; some clay from 3 - 6 feet bgs; some black (10YR 2/1) shale fragments at 6 feet bgs; moist.
4	583			4 3 1 1	10	0.5		
6	581				20	0.6		
8	579			18 6 4 3	20	3.5		***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish-brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4').
10	577			2 5 6 2	50	3.9		
12	575			2 4 6 9	50	8.1		
14	573			2 3				

Notes:

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: RW-15a/SB-15a

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				2, 2	0			***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish-brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4'). *(continued)*	
16	571			3, 4, 4, 5	50	3.6			
18	569			6, 8, 3, 5	75	15.5			
20	567			4, 2, 6, 14	20	525			
22	565				100	240		22.4	
								Bottom of boring at 22.4 feet. Refusal at 22.4 feet bgs.	
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								

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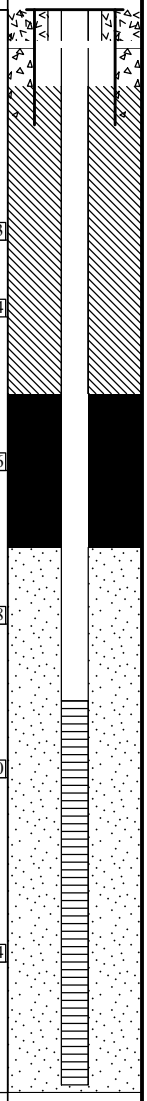
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-24b/SB-24
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 14.1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 587.17
Coordinates (X/Y): 843170/886124.39	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.76

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	585							***Concrete*** Concrete and fill.	
					40	5.2		***Silty Sand (SM)*** Very dark grayish-brown (2.5Y 3/2) to dark olive brown (2.5Y 3/3) silty sand, some gravel; loose; dry.	
4	583			7 8 10 13	50	1.0		***Lean Clay with Gravel (CL)*** Olive brown (2.5Y 4/4) silty clay with gravel; large siltstone fragments; dry to moist.	
6	581			16 8 9 8	10	0.2		***Lean Clay (CL)*** Dark grayish-brown (2.5Y 4/3) low plasticity clay, some gravel and siltstone fragments; moist to dry.	
8	579			5 5 2 3	15	0.0		***Well-Graded Sand (SW)*** Olive brown (2.5Y 4/3) medium- to coarse-grained sand, some clay, trace gravel; loose; dry. Collect sample from 8 to 10 feet bgs: MW-24B (8-10')	
10	577			2 2 2 2	80	43.6		***Lean Clay (CL)*** Olive brown (2.5Y 4/4) low plasticity clay, some silt; soft; wet; oily sheen at 12 feet bgs. Collect sample from 12 to 12.4 feet bgs: MW-24B (12-12.4').	
12	575			50/4	30	31.2			
14	573							*Bottom of boring at 14.1 feet.*	



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01a
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
					4.0		***Concrete***	0.5
							Sandy Silt (ML) Dark brown (10YR 3/3) sandy silt; some dark gray (10YR 4/1) weathered shale fragments; moist.	1
2				70	0.0		***Elastic Silt (MH)*** Dark greenish gray (GLEY1 4/5G) to yellowish brown (10YR 5/4) clayey silt; some dark gray (10YR 4/1) weathered shale fragments; medium soft to stiff; dry to moist.	
4								4
							Sandy Silt (ML) Very dark gray (10YR 3/1) sandy silt; some angular shale fragments; few dark greenish gray (GLEY1 4/5G) mottling; dry.	
6				65	0.0			6
							Lean Clay (CL) Yellowish brown (10YR 5/4) medium plasticity clay; some dark greenish gray (GLEY1 4/5G) mottling; some very dark gray (10YR 3/1) shale fragments; soft; moist.	
8								8
							Lean Clay (CL) Very dark grayish brown (10YR 3/2) silty clay with brownish yellow (10YR 6/8) to olive (5Y 5/3) mottling; stiff; moist. Soil sample SB-1a collected from 8 to 10 feet bgs for VOCs, TAL Metals. Water sample SB-1a collected for VOCs.	
10				80	0.0			10
							Lean Clay (CL) Gray (2.5Y 5/1) medium plasticity clay with some shale fragments; solvent odor; shiny luster; soft; wet.	
12				100	NM			
								13.5
14							*Bottom of boring at 13.5 feet. Refusal at 13.5 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01b
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
							Shale Dark gray (2.5Y 4/1) shale; dry.	1
2				30	0.0		***Sandy Silt (ML)*** Very dark grayish brown (2.5Y 3/2) sandy silt; some angular shale fragments; white (2.5Y 8/1) mottling at 3.5 feet bgs; wet.	
4								4
6				25	0.0		***Silt (ML)*** Dark gray (10YR 4/1) silt with gray (10YR 6/1) mottling; some very dark brown (10YR 2/2) rock fragments; wet.	
8								8
10				50	0.0		***Shale*** Grayish brown (2.5Y 5/2) shale fragments; dry. Soil sample SB-1b collected from 12 to 13.3 feet bgs for VOCs, TAL Metals.	
12				90	NM			13.2
14							*Bottom of boring at 13.2 feet. Refusal at 13.2 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01c
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.7
2				50	0.0		***Shale*** Very dark grayish brown (10YR 3/2) to very dark gray (10YR 3/1) shale; few fossil fragments; black (10YR 2/1) staining and solvent odor from 2 to 5 feet bgs; dry.	
4								5
6				75	0.0		***Lean Clay (CL)*** Brown (10YR 4/3) medium plasticity clay; very soft to medium soft; some very dark gray (10YR 3/1) angular shale fragments; trace mottling; moist.	8
8					3.7		***Shale*** Dark grayish brown (10YR 4/2) highly weathered shale; dry. Soil sample SB-1c collected from 8 to 9 feet bgs for VOCs, TAL Metals.	
10				75	0.0 0.0 0.0		***Lean Clay (CL)*** Brown (10YR 4/3) to yellowish brown (10YR 5/6) medium plasticity clay; very soft; some very dark gray (10YR 3/1) angular shale fragments; moist to wet.	10
12				95	0.0			13
14							*Bottom of boring at 13 feet. Refusal at 13 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01d
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 14.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
							Well-Graded Sand (SW) Very dark grayish brown (10YR 3/2) medium- to coarse-grained sand; loose; dry.	1
2				50	0.0		***Silt with Gravel (ML)*** Dark gray (10YR 4/1) silt with gravel and highly weathered shale fragments; little brownish yellow (10YR 6/6) mottling; dry.	
4								
6				50	0.0			
8								
					0.0			
10				80				10
					12.0		***Lean Clay (CL)*** Dark yellowish brown (10YR 4/6) silty clay; soft; solvent odor at 12 to 14.2 feet bgs; moist to wet. Soil sample SB-1d collected from 11 to 12 feet bgs for VOCs, TAL Metals. Water sample SB-1d collected for VOCs.	
12					3.0			
				100	10.0			
14					22.0			14.2
							Bottom of boring at 14.2 feet. Refusal at 14.2 feet bgs.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01e
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mickey Folb	**Drill Start Date:**	**Drill End Date:** 6/3/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 12.5	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
					25	0.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (10YR 4/2) medium-grained sand, trace to some gravel, fill; medium dense; moist.	
2					25	0.0			
4				4 4 8 8	25	0.0		***Well-Graded Gravel (GW)*** Dark grayish brown (10YR 4/2) fine- to coarse-grained gravel, few clay, trace medium-grained sand; moist, becoming wet at 8 feet bgs; oily sheen and petroleum odor from 8 - 10 feet bgs. Collect sample from 8 to 10 feet bgs: SB-1e (8-10')	4
6					10	0.0			
8					30	0.0			
10				2 3 5 50/4	25	32.0		***Elastic Silt (MH)*** Dark gray (2.5Y 4/1) silty clay; medium stiffness; wet, mottling; petroleum odor, oily sheen. Collect sample from 10 to 12 feet bgs: SB-1e (10-12')	10
12								***Bedrock*** Bedrock *Bottom of boring at 12.5 feet. Refusal at 12.5 feet bgs.*	12 12.5
14									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-01f
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	Drill Start Date:	Drill End Date: 6/3/2008	Drill Method: Hollow Stem Auger
Logged By: Rachel Posner	Total Depth (ft): 12.6	Bore Diameter (in): 4	Ground Surface (ft-msl): Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				2.5, 2.5, 8, 8	15	0.0		***Well-Graded Sand (SW)*** Olive Brown (2.5Y 4/3) medium- to fine-grained sand, some gravel, fill; loose; moist.	2
2				8, 8, 5, 5	15	0.0		***Poorly-Graded Sand (SP)*** Brown (10YR 4/3) fine-grained sand with few clay, few gravel; dense; moist, some dark yellowish brown (10YR 4/6) mottling.	4
4				7.5, 7.5, 5.5, 5.5	50	0.0		***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) fine- to medium-grained sand, some gravel; medium dense; moist, some yellowish brown (10YR 5/6) mottling.	
6				3.5, 3.5, 4, 4	10	0.0			8
8				3, 3, 4, 4	80	36.0		***Elastic Silt (MH)*** Olive brown (2.5Y 4/3) and grayish brown (2.5YR 5/2) silty clay, medium plasticity, medium hardness becoming soft at 11.5 feet bgs; trace sand; moist becoming wet at 11.5 feet bgs, yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor.	
10				4, 4, 5.5, 5.5	85	7.5		Collect sample from 8 to 10 feet bgs: SB-1f (8-10'). Collect sample from 12 to 12.6 feet bgs: SB-1f (12-12.6').	
12				6, 50/1	100	7.0			12.6
14								*Bottom of boring at 12.6 feet. Refusal at 12.6 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-02a
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1				45	0.0		***Poorly-Graded Sand (SP)*** Very dark brown (10YR 2/2) coarse-grained sand; some strong brown (10YR 5/8) staining; medium dense; wet. Soil sample SB-2a collected from 1.2 to 1.5 feet bgs for VOCs, TAL Metals.	1.5
2							*Bottom of boring at 1.5 feet.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-02b
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1							***Poorly-Graded Sand (SP)*** Very dark gray (10YR 3/1) coarse-grained sand; petroleum odor; dense; dry.	2
2				20	0.0		***Siltstone*** Grayish brown (10YR 4/2) pulverized siltstone; dry. Soil sample SB-2b collected from 3 to 4 feet bgs for VOCs, TAL Metals.	4.2
3								
4							*Bottom of boring at 4.2 feet. Refusal in bedrock at 4.2 feet bgs.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03a
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	1.5
2				50	0.0		***Lean Clay (CL)*** Light olive brown (2.5Y 5/4) silty clay; some very dark gray (2.5Y 3/1) mottling; stiff; dry.	4
4				40	0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark gray (10YR 3/1) coarse-grained sand with gravel; medium dense; moist. Soil samples SB-3a (4.5 to 5.5 feet bgs) and SB-3a (6 to 7 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	7
6								
8							*Bottom of boring at 7 feet. Refusal at 7 feet bgs.*	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03b
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.2
2				70	0.0		***Poorly-Graded Sand (SP)*** Brown (10YR 4/3) and black (10YR 2/1) medium-grained sandy fill; some gravel; loose; dry to moist.	2.5
							Concrete	4
4							***Lean Clay (CL)*** Yellowish brown (10YR 5/4) silty clay; some gravel; some dark yellowish brown (10YR 4/4) mottling; soft to stiff; moist. Soil samples SB-3b (7 to 8 feet bgs) and SB-3b (10 to 11 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	
6				90	0.0			
8				100	0.0			
10								
12							*Bottom of boring at 11 feet. Refusal at 11 feet bgs.*	
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03c
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 12	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2				50	0.0		***Silt with Gravel (ML)*** Very dark gray (2.5Y 3/1) silt with gray (2.5Y 6/1) gravel; dry.	
4				60	0.0 4.4		***Lean Clay (CL)*** Olive brown (2.5Y 4/4) silty clay with some olive brown (2.5Y 4/3) mottling; some gravel; stiff; dry. Soil samples SB-3c (7 to 8 feet bgs) and SB-3c (11 to 12 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	4
6								
8				95	0.0			
10								
12							*Bottom of boring at 12 feet. Refusal in concrete at 12 feet bgs.*	12
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04a
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.3
				10	0.0		***Poorly-Graded Sand (SP)*** Dark gray (10YR 4/1) coarse-grained sand; dense; dry. Soil sample SB-4a collected from 0.5 to 1 feet bgs for VOCs, SVOCs, TAL Metals, PCBs.	1
1							*Bottom of boring at 1 feet. Refusal in bedrock at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04b
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 10	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
2				100	0.0		***Poorly-Graded Sand (SP)*** Grayish brown (2.5Y 5/2) medium-grained sand; some clay; some coarse gravel; petroleum odor from 4 to 10 feet bgs; liquid product at 8 to 10 feet bgs; moist to wet. Soil sample SB-4b collected from 7 to 8 feet bgs for VOCs, SVOCs, TAL Metals, PCBs. Water sample SB-4b collected for VOCs.	
4								
6				40	0.0			
8				50	0.0			
10								10
							Bottom of boring at 10 feet. Refusal in bedrock at 10 feet bgs.	
12								
14								

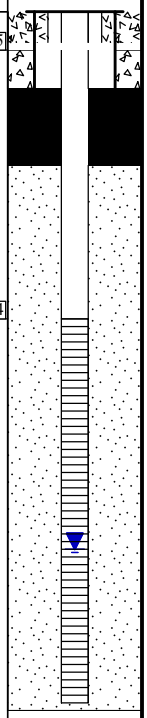
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04b Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/11/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 9.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete (0.5)
					10	0.0		***Well-Graded Sand (SW)*** Dark olive gray (5Y 3/2) medium- to fine-grained sand, few gravel, few clay; medium density; moist; trace metal fragments.
2				7 13 8 9	75	0.5		
4				9 9 8 6	15	0.2		***Well-Graded Gravel (GW)*** Olive (5Y 5/3) siltstone fragments, coarse-grained sand from 6 to 7 feet bgs; dry to moist becoming wet at 7 feet bgs; oily sheen and petroleum odor at 7 feet bgs; free product at 8 feet bgs. (4)
6				3 3 4 3	15	4.3, 22.0		Collect sample from 6 to 7 feet bgs: SB-4b (6-7'). Collect sample from 8 to 9.8 feet bgs: SB-4b (8-9.8').
8				1 12 40 50/3	10	23.0		(9.8)
10								*Bottom of boring at 9.8 feet. Refusal at 9.8 feet bgs.*
12								
14								

Notes:

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04c
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/12/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***FILL*** Concrete hard standing	0.6
		X		-	10	0		***FILL*** Black (5Y 2.5/1) gravel of coal fill with some sand Sample collected: SB-04C (0.5-1.0'). Analysis: VOCs (8260B).	1
1				-				*Bottom of boring at 1 feet. Refusal at 1.0 foot bgs in Siltstone bedrock.*	
				-					
2				50/3"					
				-					
3				-					
				-					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04d
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/12/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 1.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-			***FILL*** Concrete hard standing	0.5
1				-	0.1		***Silty Sand with Gravel (SM)*** Dark olive grey 5Y 3/2 medium sand with silt and some rock fragments of siltstone; loose to dense; dry. Sample collected: SB-04D (0.5-1.8'). Analysis: VOCs (8260B).	1.8
2				12			*Bottom of boring at 1.8 feet. Refusal at 3.9 feet bgs in Siltstone bedrock.*	
3				3				
4				50/3"				
5				-				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04e
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/12/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 3.9	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***FILL*** Concrete hard standing	0.5
1				-	5	0.2		***FILL*** Olive (5Y 4/3) low plasticity clay with some coarse sand and gravel and fragments of siltstone; moist.	1
				-				***FILL*** Buried concrete block	1.5
2				-				***Poorly-Graded Sand with Gravel (SP)*** Olive (5Y 4/3) medium sand with gravel; loose; dry. Sample collected: SB-04E (3.0-3.9'). Analysis; VOCs (8260B).	
				50/3"	15	0.2			
3				-					
				-	10	0.3			3.9
4				-				*Bottom of boring at 3.9 feet. Refusal at 1.8 feet bgs in Siltstone bedrock.*	
5				-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-04e

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				
				-				
6								
				35				
				40				
7								
				25				
				15				
8								
				50/4"				
				-				
9								
				-				
				-				
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05a
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
2				60	0.0		***Poorly-Graded Sand with Gravel (SP)*** Brown (10YR 4/3) medium- to coarse-grained sand with white (10YR 8/1) shale fragments and gravel; loose; dry to moist.	
4								
6				50	0.0			
8								9
10				50	0.0		***Silty Gravel with Sand (GM)*** Dark gray (10YR 4/1) to very dark gray (10YR 3/1) shaley gravel with silt and some fine-grained sand; loose; dry to moist.	
12				100	0.0			13
14							***Lean Clay (CL)*** Yellowish brown (10YR 5/4) low plasticity clay, trace mottling; little gravel; very soft; moist. Soil sample SB-5a collected from 13 to 13.5 feet bgs for STARS VOCs, PAHs. *Bottom of boring at 13.5 feet. Refusal at 13.5 feet bgs.*	13.5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05b
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1							***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry.	
2				60	0.0		***Well-Graded Sand (SW)*** Very dark gray (2.5Y 3/1) fine- to medium-grained sand; some silt; some olive yellow (2.5Y 6/6) mottling; loose; dry. Soil sample SB-5b collected from 3 to 4 feet bgs for STARS VOCs, PAHs.	2
3								
4							*Bottom of boring at 4 feet. Refusal at 4 feet bgs.*	4
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05c
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1							***Silty Sand (SM)*** Grayish brown (2.5Y 5/2) fine-grained sand and silt; loose; dry. Soil sample SB-5c collected from 3.5 to 4.5 feet bgs for STARS VOCs, PAHs.	
2				90	0.0			
3								
4				100	0.0			4.5
							Bottom of boring at 4.5 feet. Refusal at 4.5 feet bgs.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-06
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
							Silty Sand with Gravel (SM) Grayish brown (10YR 5/2) silty sand with gravel; loose; dry.	1
2				85	0.6		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) medium- to coarse-grained sand; some gravel; some reddish yellow (5YR 6/8) mottling at 4 to 8 feet bgs; few tree roots at 8 to 9 feet bgs; loose; dry. Soil sample SB-6 collected from 7 to 8 feet bgs for STARS VOCs, PAHs.	
4					0.0			
					0.0			
6				80				
					0.0			
					26.0			
8								9
10				80	0.0		***Lean Clay (CL)*** Very dark gray (5YR 3/1) medium plasticity clay; some brown (10YR 4/3) interbedded shale fragments at 10 to 11 feet bgs; soft; moist.	11
12							***Fat Clay (CH)*** Grayish brown (10YR 5/2) medium to high plasticity clay; some yellow (10YR 7/8) mottling; moist becoming wet.	
				100	0.0			13
14							*Bottom of boring at 13 feet. Refusal at 13 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07c
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				70	0.6		***Poorly-Graded Sand (SP)*** Dark olive brown (2.5Y 3/3) medium-grained sand; medium dense; some light yellowish brown (2.5Y 6/3) mottling; dry to moist. Soil sample SB-7c collected from 1 to 2 feet bgs for cyanide, TAL Metals.	
2							*Bottom of boring at 2 feet. Refusal at 2 feet bgs.*	2
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07d
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
1				70	0.8		***Concrete*** Grayish brown (2.5Y 5/2) concrete fragments; dry.	
2					2.7			
3					16.0		***Lean Clay (CL)*** Light olive brown (2.5Y 5/4) medium plasticity clay; some gravel; hard; moist. Soil sample SB-7d collected from 3 to 4 feet bgs for cyanide, TAL Metals.	3
4				100	2.2		***Poorly-Graded Sand (SP)*** Very dark grayish brown (2.5Y 3/2) fine-grained sand; little clay; little gravel; medium dense; some olive yellow (2.5Y 6/6) mottling; moist.	4
5							*Bottom of boring at 5 feet. Refusal at 5 feet bgs.*	5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07e
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
1, 2				20	2.5		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) to light gray (2.5Y 7/2) coarse-grained sand and broken up concrete; loose; dry.	2.5
3, 4							***Sandy Lean Clay (CL)*** Light olive brown (2.5Y 5/3) sandy clay; soft; moist.	4
5				100	7.2		***Silt with Sand (ML)*** Dark grayish brown (2.5Y 4/2) shaley silt and sand; some gravel; loose; dry. Soil sample SB-7e collected from 4 to 5 feet bgs for cyanide, TAL Metals.	5
							Bottom of boring at 5 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07g
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1							***Concrete***	1.5
2				80	0.0		***Sandy Silt (ML)*** Black (2.5Y 2.5/1) sandy silt; loose; moist. Soil sample SB-7g collected from 2.5 to 3 feet bgs for cyanide, TAL Metals.	3
3							***Shale*** Dark gray (2.5Y 4/1) shale fragments; dry.	4
4							*Bottom of boring at 4 feet.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-08
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	1
1								
				100	0.0		***Silty Sand (SM)*** Dark yellowish brown (10YR 4/4) silty sand; little clay; dense; some yellowish brown (10YR 5/8) mottling; moist.	2.5
2								
							Poorly-Graded Gravel (GP) Gray (10YR 6/1) gravelly shale fragments; dense; dry to moist. Soil sample SB-8 collected from 3 to 3.5 feet bgs for STARS VOCs, PAHs.	3.5
3								
							Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-09
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 6	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
2				80	0.0		***Sandy Silt with Gravel (ML)*** Olive brown (2.5Y 4/4) sandy silt with gravel; dense; dry.	4
4				100	NM		***Elastic Silt (MH)*** Light olive brown (2.5Y 5/4) clayey silt; some gravel; some gray (2.5Y 5/1) mottling; moist. Soil sample SB-9 collected from 5 to 6 feet bgs for STARS VOCs, PAHs.	6
6							*Bottom of boring at 6 feet. Refusal in shale/concrete at 6 feet bgs.*	
8								
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-10
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 9/5/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 0.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Notes: Physical Description	
						Ground Surface	
				0.0		***Topsoil*** Dark grayish brown (2.5Y 4/2) topsoil with shale fragments; loose; dry. Samples collected from 0 to 0.5 feet bgs (SB-10a through SB-10e) for VOCs, SVOCs, TAL Metals, PCBs.	0.5
						Bottom of boring at 0.5 feet. Refusal at 0.5 feet bgs.	
1							
2							
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-100
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Robert J. Wallace	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown topsoil.	0.5
2				- - - -	100	0		***Lean Clay (CL)*** Light brown silty clay, soft, moist, grading to stiff and dark brown with depth. Refusal @ 4.5 feet bgs.	
4									4.5
								Bottom of boring at 4.5 feet.	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.2
								Clayey Sand with Gravel (SC) Brown clayey sand, some gravel, moist.	
2								Refusal @ 2 feet bgs.	2
								Bottom of boring at 2 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-1
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	45-300		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-2
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	46.8		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	40.9		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-3
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	0.0		
							Bottom of boring at 14.5 feet. Refusal in bedrock 14.5' bgs
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-4
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
				- - - -	1.0		
14							*Bottom of boring at 13.2 feet. Refusal in bedrock 13.2' bgs*
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-5
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 12.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
							Bottom of boring at 12.3 feet. Refusal in bedrock 12.3' bgs
14							
16							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-6
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	130		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-7
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	2.0		
12							
14				- - - -	8.0		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-102
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
2				- - - -	100	0		***Clayey Sand with Gravel (SC)*** Grayish brown clayey sand, some gravel, moist. Refusal @ 7 feet bgs.	
4									
6				- - - -	100	0			
									7
								Bottom of boring at 7 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-103
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Robert J. Wallace	**Total Depth (ft):** 6.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.5
2								***Shale*** Gray to dark brown weathered shale.	
4								Refusal @ 6.5 feet bgs.	
6				- - - -	100	0			6.5
								Bottom of boring at 6.5 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-104
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown topsoil.	0.3
2				- - - -	100	0		***Well-Graded Sand with Silt (SW-SM)*** Brown well-graded sand with silt, dry, loose.	
4									4
								Well-Graded Sand with Silt and Gravel (SW-SM) Brown well-graded sand with silt, dry, loose, some gravel. Refusal @ 7.5 feet bgs.	
6				- - - -	100	0			
									7.5
8								*Bottom of boring at 7.5 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-105
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
								Poorly-Graded Sand with Gravel (SP) Black sand, poorly-graded, some gravel, loose.	1
2				- - - -	100	0		***Shale*** Gray to dark gray weathered shale. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-106
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand (SW) Black sand, well-graded, loose.	0.8
2				- - - -	100	0		***Shale*** Gray weathered shale. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-107
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
								Poorly-Graded Sand with Gravel (SP) Black sand, poorly-graded, some gravel, loose.	1
2				- - - -	100	0		***Shale*** Brown to dark brown weathered shale. Refusal @ 5 feet bgs.	
4									5
								Bottom of boring at 5 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-108
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
								Well-Graded Sand with Gravel (SW) Black sand, well-graded, some gravel, loose.	2
2								***Shale*** Gray weathered shale.	3
								Refusal @ 3 feet bgs.	
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-109
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
2				- - - -	100	0		***Well-Graded Sand with Gravel (SW)*** Black sand, well-graded, some gravel, loose.	2.5
								Shale Gray to brown weathered shale.	
4								Refusal @ 4 feet bgs.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-111
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
2 4				- - - -	100	0		***Shale*** Gray to brown weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6 8 10 12 14 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-112
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand with Gravel (SW) Black sand, well-graded, some gravel, loose.	0.8
2				- - - -	100	0		***Shale*** Gray to dark gray weathered shale, some clay infilling. Refusal @ 4.5 feet bgs.	
4									4.5
								Bottom of boring at 4.5 feet.	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-113
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
2 4				- - - -	100	0		***Shale*** Gray to dark gray weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6 8 10 12 14 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-114
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
				-					0.7
				-	100	0		***Well-Graded Sand with Gravel (SW)*** Dark gray sand, well-graded, some gravel, loose.	
2				-				***Shale*** Gray weathered shale, some clay infilling.	
				-					3
								Refusal @ 3 feet bgs.	
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-115
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.2
								Shale Gray weathered shale.	
2								Refusal @ 2 feet bgs.	2
								Bottom of boring at 2 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-116
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
2				- - - -	100	0		***Shale*** Gray weathered shale, some clay infilling. Refusal @ 4.5 feet bgs.	
4									4.5
								Bottom of boring at 4.5 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-117
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3 / 0.6
								Well-Graded Sand with Gravel (SW) Dark gray sand, Well-graded, some gravel, loose.	
2				- - - -	100	0		***Shale*** Gray to brown weathered shale. some clay infilling. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-118
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand (SW) Black sand, well-graded, loose.	0.8
2				- - - -	100	0		***Shale*** Gray weathered shale, some clay infilling. Refusal @ 8 feet bgs.	
4									
6				- - - -	100	0			
8									8
								Bottom of boring at 8 feet.	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-119
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale. Refusal @ 3 feet bgs.	3
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-120
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale. Refusal @ 3 feet bgs.	3
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-121
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale, some clay infilling. Refusal @ 2.5 feet bgs.	2.5
								Bottom of boring at 2.5 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-122
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Topsoil*** Dark brown topsoil.	0.5
2, 4								***Shale*** Brown weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6, 8, 10, 12, 14, 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-123
Drilled By: ADT Inc./Richard Donnely	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 19	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
								Clayey Gravel (GC) Gravel backfill, gray, some clay, some poorly-sorted sand, trace ash.	
2				- - - -	100	0			
4									
6				- - - -	100	0			
8									
10				- - - -	100	0			
12									
14									
16				-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-123

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18				- - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray, some clay, some poorly-sorted sand, trace ash. *(continued)*
								18.5
								19 ***Shale*** Gray weathered shale. Refusal @ 19 feet bgs.
20								*Bottom of boring at 19 feet.*
22								
24								
26								
28								
30								
32								
34								
36								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-124
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale, some clay infilling. Refusal @ 2.5 feet bgs.	2.5
								Bottom of boring at 2.5 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-125
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
2				- - - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash.	
4									
6				- - - -	100	0			
8									
10				- - - -	60	0			11
12								***Shale*** Gray weathered shale, some clay infilling.	12
14								***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash.	
16									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-125

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18				- - - -	60	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash. *(continued)* 18.5
20								***Shale*** Gray weathered shale, some clay infilling. 20
								Bottom of boring at 18.5 feet.
22								
24								
26								
28								
30								
32								
34								
36								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-126
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
2				- - - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash.	3
4								***Shale*** Brown weathered shale.	4
								Refusal @ 4 feet bgs.	
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-127
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
2				- - - -	100	0		***Shale*** Gray to brown weathered shale. Refusal @ 4 feet bgs.	
4								*Bottom of boring at 4 feet.*	4
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-128
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.5
2								***Shale*** Gray to brown weathered shale, some clay infilling. Refusal @ 4 feet bgs.	
4								*Bottom of boring at 4 feet.*	4
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-12a
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1				80	0.0		***Lean Clay (CL)*** Olive brown (2.5Y 4/3) silty clay with gravel; some olive yellow (2.5Y 6/6) mottling.	2
2							***Poorly-Graded Sand (SP)*** Black (10YR 2/1) fine- to medium-grained sand; petroleum odor and oily sheen; moist to dry. Soil sample SB-12a collected from 2 to 3.5 feet bgs for VOCs, PAHs, PCBs.	3.8
3								
4							*Bottom of boring at 3.8 feet. Refusal in bedrock at 3.8 feet bgs.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-12b
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
2				45	0.0		***Poorly-Graded Sand with Gravel (SP)*** Olive brown (2.5Y 4/3) and dark gray (2.5Y 4/1) coarse-grained sand; little clay; some reddish brown (5YR 4/4) gravels; loose; petroleum odor from 5 to 14.5 feet bgs; dry becoming wet at 5 feet bgs. Soil sample SB-12b collected from 3.5 to 4.5 feet bgs for VOCs, PAHs, PCBs. Water sample SB-12b collected for VOCs.	
4								
6				60	0.0			
8								
10				60	0.0			
12								
14				100	NM			
								14.5
							Bottom of boring at 14.5 feet. Refusal at 14.5 feet bgs.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-13
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	0.5
							Poorly-Graded Sand with Gravel (SP) Dark grayish brown (2.5Y 4/2) sand with gravel; medium dense; dry.	
2				100	0.0			2
							Lean Clay (CL) Light olive brown (2.5Y 5/4) silty clay with gravel; hard; some gray (2.5Y 6/1) mottling; dry to moist. Soil sample SB-13 collected from 6.5 to 7.5 feet bgs for STARS VOCs, PAHs.	
4								
6				100	NM			7.5
8							*Bottom of boring at 7.5 feet. Refusal in shale at 7.5 feet bgs.*	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-14
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11.6	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	1
2				80	0.0		***Poorly-Graded Gravel with Sand (GP)*** Black (2.5Y 2.5/1) shaley gravel with sand; loose; dry to moist. Soil sample SB-14 collected from 10 to 11.6 feet bgs for STARS VOCs, PAHs.	
4								
6				60	0.0			
8								
10				100	0.3			11.6
12							*Bottom of boring at 11.6 feet. Refusal in concrete and wood at 11.6 feet bgs.*	
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 26	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
2				60	0.0		***Well-Graded Sand with Gravel (SW)*** Grayish brown (2.5Y 5/2) and very dark grayish brown (2.5Y 3/2) coarse-grained sand with gravel; loose; some olive yellow (2.5Y 6/6) mottling; dry to moist.	
4								
6				50	0.0			
								7
							Shale Black (5YR 2.5/1) shale fragments; some yellowish red (5YR 5/8) staining; dry.	
8								8
							Fuel Ash Conglomerate Black (10YR 2/1) medium- to coarse-grained sand and gravel; dry to moist.	
10				60	0.0			
12								
14				50	0.0			14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
16							***Lean Clay (CL)*** Yellowish brown (10YR 5/4) low plasticity silty clay with gray (10YR 5/1) shale fragments; soft to medium soft; moist. Soil sample SB-15 collected from 14 to 20 feet bgs for STARS VOCs, lead. *(continued)*
18				60	0.0		
20							20
22				50	0.0		***Weathered Shale*** Dark brown (10YR 3/3) weathered shale with heavy petroleum staining and petroleum odor; black (5Y 2.5/2) liquid product encountered between 20 to 26 feet bgs; wet.
24				100	0.0		
26							26 *Bottom of boring at 26 feet. Refusal at 26 feet bgs.*
28							
30							
32							
34							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15 - Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 25.4	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete Concrete	1
2								***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) medium- to coarse-grained sand, loose; some gravel; rock chips from 4 to 6 feet bgs; moist, some gray (10YR 6/1) and brownish yellow (10YR 6/6) mottling from 8 to 10 feet bgs.	
		X		3 2		0.2			
4		X		3 1 2 2	15	0.6			
6		X		2 2 3 5	15	0.0			
8		X		3 4 5 4	15	0.0			
10		X		5 1 1 1	10	2.9		***Well-Graded Sand (SW)*** Very dark grayish brown (2.5Y 3/2) fine- to medium-grained sand, loose; few gravel; moist.	10
12		X		10 4 5 7	15	1.8		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; moist. Collect sample from 12 to 14 feet bgs: SB-15 (12-14')	12
14		X		9 6					14

Notes:

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15 - Redrilled

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
				4, 4	20	12.4		***Well-Graded Sand with Gravel (SW)*** Very dark grayish brown (2.5Y 3/2) medium- to coarse-grained sand and gravel; high metal content; very moist. *(continued)*	
16				5, 3, 3, 3	25	3.5		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; wet.	16
18				5, 6, 6, 5	0.01	1.4		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) clay, low plasticity; rock fragments; wet. No recovery.	18
20				2, 2, 2, 3	60	38.4 - 41.2		***Well-Graded Sand with Clay (SW)*** Black (10YR 2/1) sand; some clay; some gravel from 22 to 24 feet bgs; wet to very wet; product/sludge - petroleum odor, oily sheen. Collect sample from 24 to 25.4 feet bgs: SB-15 (24-25.4').	20
22				5, 6, 5, 4	60	48.0			
24				9, 16, 50/4	50	59.0			25.4
26								*Bottom of boring at 25.4 feet. Refusal at 25.4 feet bgs.*	
28									
30									
32									
34									

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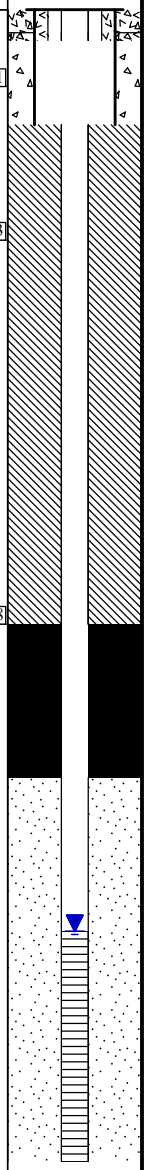
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15a
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 22.4	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete
						0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark brown (10YR 2/2) sand with gravel; loose; moist, some yellowish brown (10YR 5/6) mottling.
2						0.0		
					10	0.5		***Poorly-Graded Sand with Gravel (SP)*** Very dark grayish brown (10YR 3/2) coarse-grained sand, loose; some gravel, large fragments at 6 feet bgs; some clay from 3 - 6 feet bgs; some black (10YR 2/1) shale fragments at 6 feet bgs; moist.
4				4 3 1 1	10	0.5		
6					20	0.6		
8				18 6 4 3	20	3.5		***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4').
10				2 5 6 2	50	3.9		
12				2 4 6 9	50	8.1		
14				2 3				

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15a

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				2, 2	0			***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4'). *(continued)*	
16				3, 4, 4, 5	50	3.6			
18				6, 8, 3, 5	75	15.5			
20				4, 2, 6, 14	20	525			
22					100	240		22.4	
								Bottom of boring at 22.4 feet. Refusal at 22.4 feet bgs.	
24									
26									
28									
30									
32									
34									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15b
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 19.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2								***Well-Graded Sand with Clay (SW)*** Very dark grayish brown (2.5Y 3/2) medium- to coarse-grained sand, loose, with dark yellowish brown (10YR 4/6) low plasticity clay from 4 to 6 feet bgs, medium stiffness; moist.	
				3 3	10	0.4			
4				2 6	25	0.8			
				3 4					
6				3 3	10	0.6			
				2 2					
8				4 4	25	2.3		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) coarse-grained sand, loose; some gravel and red (2.5YR 4/8) fill from 10 to 12 feet bgs; moist, some gray (10YR 6/1) mottling.	8
				2 2					
10				2 4	30	2.3			
				5 7					
12				16 9	10	3.1			
				4 5					
14				5 4				***Lean Clay (CL)*** Brown (10YR 4/3) clay with sand, low plasticity, medium stiffness; moist.	14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15b

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				4, 4	5	1.1		***Lean Clay (CL)*** Brown (10YR 4/3) clay with sand, low plasticity, medium stiffness; moist. *(continued)* 16
16				3, 2	20	0.0		***Lean Clay (CL)*** Yellowish brown (10YR 5/6) clay, low plasticity, medium stiffness; some gravel; moist. Collect sample from 16 to 18 feet bgs: SB-15b (16-18').
				4, 7, 50/3				19.8
18								
20								*Bottom of boring at 19.8 feet. Refusal at 19.8 feet bgs.*
22								
24								
26								
28								
30								
32								
34								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15c
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/9/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 14	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2								***Concrete*** Concrete and fill.	4
4				9 7 11 10	60	0.0		***Silty Sand (SM)*** Olive brown (2.5Y 4/4) silty sand, some clay, few gravel; dense; moist.	6
6				10 10 11 15	0.0	0.0		***Well-Graded Sand (SW)*** Olive brown (2.5Y 4/3) fine- to medium-grained sand, some silt, some gravel; loose; dry becoming wet at 12 feet bgs; petroleum odor from 12 to 14 feet bgs. Collect sample from 12 to 14 feet bgs: SB-15c (12-14').	
8				15 21 9 14	30	0.0			
10					20	0.0			
12					40	3.5			
14								*Bottom of boring at 14 feet. Refusal at 14 feet bgs.*	14

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-16a
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1, 2				100	0.0		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) coarse-grained sand; some dark yellowish brown (10YR 4/6) mottling; dense; moist.	2
2, 3							***Lean Clay (CL)*** Gray (10YR 5/1) medium plasticity clay; hard; moist. Soil samples SB-16a (2 feet bgs) and SB-16a (3 feet bgs) collected for pH.	3
3							***Shale*** Dark grayish brown (10YR 4/2) shale fragments; dry.	3.5
4, 5							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-16b
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Poorly-Graded Sand (SP) Very dark gray (2.5Y 3/1) sand; medium dense; moist.	1
1				100	0.0		***Sandy Lean Clay (CL)*** Grayish brown (2.5Y 5/2) sandy clay with olive yellow (2.5Y 6/6) mottling; moist.	2
2							***Lean Clay (CL)*** Light yellowish brown (2.5Y 6/3) medium plasticity clay; soft; moist. Soil samples SB-16b (2 feet bgs) and SB-16b (3 feet bgs) collected for pH.	3
3							*Bottom of boring at 3 feet.*	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-17
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1 2 3 4				NA	0.0		***Fill Material*** Soil sample SB-17 collected from 3.3 to 4 feet bgs with hand auger for STARS VOCs, PAHs.	4
5							*Bottom of boring at 4 feet. Refusal at 4 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19a
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil and Plant Roots	1
1								
							Silt (ML) Light olive brown (2.5Y 5/3) silt with highly weathered shale fragments; dry. Soil sample SB-19a collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
2				80	0.0			
3								
4								4
							Bottom of boring at 4 feet.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19b
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil and Plant Roots	0.5
1				85	0.0		***Poorly-Graded Sand with Gravel (SP)*** Black (2.5Y 2.5/1) medium- to coarse-grained sand with gravel; medium dense; wet.	2
2							***Lean Clay (CL)*** Grayish brown (2.5Y 5/2) low plasticity clay with large shale fragments; solvent odor; hard; dry. Soil sample SB-19b collected from 2.5 to 3.5 feet bgs for STARS VOCs, PAHs, PCBs.	3.5
3								
4							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.*	
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19c
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1							***Topsoil***	1.5
2				95	0.0		***Silt (ML)*** Light olive brown (2.5Y 5/4) silt with highly weathered shale fragments; dry. Soil sample SB-19c collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
3								
4								4
							Bottom of boring at 4 feet.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19d
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	1
1							***Silt (ML)*** Olive brown (2.5Y 4/3) silt with highly weathered shale fragments; loose; dry. Soil sample SB-19d collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
2				90	0.0			
3								
4								4
							Bottom of boring at 4 feet.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19e
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	1
1							***Poorly-Graded Sand with Gravel (SP)*** Black (2.5Y 2.5/1) coarse-grained sand with gravel; medium dense; wet.	2
2				75	0.0		***Silt (ML)*** Dark gray (2.5Y 4/1) silt with weathered shale; slight petroleum odor; dry. Soil sample SB-19e collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	4
3								
4							*Bottom of boring at 4 feet.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-1G
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/26/2012	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	75	1.1		***Well-Graded Gravel with Sand (GW)*** Dark Yellowish-Brown (10YR 3/4), dry gravel with sand Sample SB-1G-(2-5) collected for VOC analysis
2								
3				- - - -		0.7		
4								
5								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1G

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay (CL)*** Light Brown (7.5 YR 6/4) lean clay 5.3
				-	62	1.1		***Well-Graded Gravel (GW)*** Gray (7.5YR 5/1), dry gravel
6				-				
				-				
7						1.1		
				-				
				-				
8								
				-				
				-				
9					100	0.9		9 ***Lean Clay with Gravel (CL)*** Yellowish Red (5YR 5/8), moist lean clay with gravel.
				-				
				-				
10								10 ***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), moist lean clay with gravel. Very slight odor.
				-				
				-				
11						2.5		

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1G

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), moist lean clay with gravel. Very slight odor. *(continued)*
12								12
				-				***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), wet lean clay with gravel
				-	100	4.2		
13				-				13.2
								Lean Clay with Gravel (CL) Light Yellowish Brown (2.5YR 6/3), dry clay with gravel
								13.5
				-				Sample SB-1G-(12-13.5) collected for VOC analysis
								Bottom of boring at 13.5 feet. Refusal in bedrock at 13.5 feet bgs.
14				-				
				-				
15				-				
16								
17								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-1H
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/26/2012	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 14	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	37	0.4		***Well-Graded Gravel with Sand (GW)*** Dark Reddish-Brown (5YR 3/4), dry well-graded gravel with sand Sample SB-1H-(5-6) collected for VOC analysis
2								
3								
4				- -				
5								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1H

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
					62	0.3		***Well-Graded Gravel with Sand (GW)*** Dark Reddish-Brown (5YR 3/4), dry well-graded gravel with sand Sample SB-1H-(5-6) collected for VOC analysis *(continued)*
6								6
						0.8		***Lean Clay with Gravel (CL)*** Brown (7.5YR 4/4), dry lean clay with gravel
7								
8								
9					62	0.5		
								9.3
								Lean Clay with Gravel (CL) Brownish-yellow (10YR 6/8), moist lean clay with gravel
10								10.2
						0.7		***Well-Graded Gravel with Clay (GW-GC)*** Strong Brown (7.5YR 4/6). wet gravel with clay
								10.5
								Lean Clay with Gravel (CL) Olive yellow (2.5 YR 6/6), very wet clay with gravel. Noticeable odor. Sample SB-1H-(12-14) collected for VOC analysis
11								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1H

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay with Gravel (CL)*** Olive yellow (2.5 YR 6/6), very wet clay with gravel. Noticeable odor. Sample SB-1H-(12-14) collected for VOC analysis *(continued)*
12								
				-				
				-				
13					100	15.8		
				-				
				-				
14								14
								Bottom of boring at 14 feet. Refusal in bedrock at 14'
15								
16								
17								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20a
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	NM		***Silty Sand with Gravel (SM)*** Gray (10YR 5/1) silty sand and gravel; some highly weathered shale fragments; loose; dry. Soil sample SB-20a collected from 1 to 1.5 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5 feet bgs.*	
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20b
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark yellowish brown (10YR 4/4) coarse-grained sand and gravel; some weathered shale fragments; loose; dry. Soil sample SB-20b collected from 0.5 to 1.3 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.3
2							*Bottom of boring at 1.3 feet. Refusal at 1.3 feet bgs.*	
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20c
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.25	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	0.0		***Silt (ML)*** Light olive brown (2.5Y 5/3) silt and highly weathered shale; dry. Soil sample SB-20c collected from 0.8 to 1.25 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.25
2							*Bottom of boring at 1.25 feet. Refusal at 1.25 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20d
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				80	0.0		***Sandy Silt (ML)*** Brown (10YR 4/3) sandy silt with clay; hard; dry. Soil sample SB-20d collected from 0.5 to 1.5 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21a
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Asphalt***	0.5
							Silt (ML) Light olive brown (2.5Y 5/3) silt and weathered shale fragments; dry. Soil sample SB-21a collected from 0.5 to 1.5 feet for VOCs, PAHs, PCBs, cyanide.	1
1							*Bottom of boring at 1 feet. Refusal at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21b
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	0.5
1 2				100	0.0		***Silt (ML)*** Very dark grayish brown (2.5Y 3/2) to black (2.5Y 2.5/1) silt and highly weathered shale fragments; little olive yellow (2.5Y 6/8) staining and petroleum odor at 2 to 2.3 feet bgs; dry. Soil sample SB-21b collected from 1.5 to 2.3 feet bgs for VOCs, PAHs, PCBs, cyanide.	2.3
3 4 5							*Bottom of boring at 2.3 feet. Refusal at 2.3 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21c
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
							Shale Grayish brown (2.5Y 5/2) shale fragments; dry.	1
2				100	0.0		***Poorly-Graded Sand (SP)*** Black (2.5Y 2.5/1) to dark brown (7.5YR 3/4) coarse-grained sand; loose; dry.	1.7
							Silt (ML) Strong brown (7.5YR 4/6) and grayish brown (2.5Y 5/2) silt and gravelly shale; some pale yellow (2.5Y 8/4) and yellow (2.5Y 7/8) mottling; dry.	4
4								
							Well-Graded Sand (SW) Very dark gray (2.5Y 3/1) fine- to medium-grained sand with silt; some gravel; little clay; some strong brown (7YR 5/8) mottling; dry to moist. Soil sample SB-21c collected from 5 to 7 feet bgs for VOCs, PAHs, PCBs, cyanide.	
6				70	0.0			
8								8
							Bottom of boring at 8 feet.	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21d
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
2				75	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark olive brown (2.5Y 3/3) medium- to coarse-grained sand; some gravel; some olive yellow (5Y 6/6) cobbles; loose; dry.	
4								4
				50	0.0		***Poorly-Graded Gravel (GP)*** Gray (2.5Y 6/1) gravelly shale fragments; loose; dry. Soil sample SB-21d collected from 4 to 6 feet bgs for VOCs, PAHs, PCBs, cyanide.	
6								6
							Poorly-Graded Sand (SP) Dark yellowish brown (10YR 3/6) coarse-grained sand; loose; dry.	
8								8
							Bottom of boring at 8 feet.	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-22a
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
1 2 3 4				100	0.0		***Lean Clay with Gravel (CL)*** Dark gray (7.5YR 4/1) low plasticity clay with gravel; hard; some reddish yellow (7.5YR 6/6) and gray (7.5YR 6/1) mottling; dry to moist. Soil sample SB-22a collected from 3 to 4 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	4.2
5							*Bottom of boring at 4.2 feet. Refusal at 4.2 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-22b
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1 2				100	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark gray (7.5YR 4/1) coarse-grained sand and gravel; loose; some weathered shale fragments; fuel odor at 3 feet; moist to wet. Soil sample SB-22b collected from 2.5 to 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	3
3 4 5							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23a
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.9	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100			***Concrete***	0.7
1				NA	0.2		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) low plasticity clay; some silt; some gravel; soft; moist. Soil sample SB-23a collected from 1 to 1.7 feet bgs for VOCs, SVOCs, TAL Metals, PCBs.	1.9
2							*Bottom of boring at 1.9 feet. Refusal in shale at 1.9 feet bgs.*	
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23b
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	NM		***Concrete***	0.7
1				NA	0.0		***Poorly-Graded Gravel with Sand (GP)*** Dark grayish brown (2.5Y 4/2) gravel and sand fill; dry.	1.4
							Lean Clay with Gravel (CL) Dark grayish brown (2.5Y 4/2) silty clay with gravel; medium soft; dry.	1.9
2							***Elastic Silt with Gravel (MH)*** Dark grayish brown (2.5Y 4/2) clayey silt with gravel; moist. Soil sample SB-23d collected from 1 to 2.4 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	2.4
							Bottom of boring at 2.4 feet. Refusal in hard rock at 2.4 feet bgs.	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23c
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1 2				90	0.0		***Shale*** Light yellowish brown (2.5Y 6/3) to grayish brown (2.5Y 5/2) weathered shale; loose; dry. Soil sample SB-23c collected from 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	
3								3
4 5							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23d
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1				50	0.0		***Silt (ML)*** Olive brown (2.5Y 4/4) silt and weathered shale; dry.	2
2							***Concrete*** Gray (2.5Y 6/1) concrete with medium- to coarse-grained angular rock fragments; dry. Soil sample SB-23d collected from 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	3
3							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23e
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Concrete***	0.8
1							***Siltstone*** Pulverized siltstone; dry.	1.25
							Bottom of boring at 1.2 feet. Refusal in bedrock at 1.2 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-1
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.2
				100	0.0		***Elastic Silt (MH)*** Olive brown (2.5Y 4/3) silt with little clay; soft; damp.	0.6
							Silt (ML) Grayish brown (2.5Y 5/2) silt; dry.	
1							Soil sample SB-25a-1 collected from 1 foot bgs for VOCs.	1
							Bottom of boring at 1 feet. Refusal at 1 foot bgs.	
2								
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-2
Drilled By: Zebra Environmental Corporation/Dominick Pirill	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1 2				80	0.0		***Silt (ML)*** Light yellowish brown (2.5Y 6/3) silt and highly weathered shale; dry. Soil sample SB-25a-2 collected from 2.5 feet bgs for VOCs.	2.5
3 4 5							*Bottom of boring at 2.5 feet. Refusal at 2.5 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-3
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				95	0.0		***Concrete***	0.5
							Silt (ML) Grayish brown (2.5Y 5/2) to dark grayish brown (2.5Y 4/2) silt and weathered shale; dry. Soil sample SB-25a-3 collected from 1 foot bgs for VOCs.	1
1							*Bottom of boring at 1 feet. Refusal at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-1
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				90	0.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) sand and pulverized siltstone; loose; dry. Soil sample SB-25b-1 collected from 0.8 to 1.4 feet bgs for VOCs.	1.4
2							*Bottom of boring at 1.4 feet. Refusal in bedrock at 1.4 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-2
Drilled By: Zebra Environmental Corporation/Dominick Prill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				10	0.6		***Concrete*** Broken up concrete and shale fragments.	
2							*Bottom of boring at 2 feet. Refusal at 2 feet bgs.*	2
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-3
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				80	NM		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) medium-grained sand; some large gravels and siltstone fragments; loose; dry. Soil sample SB-25b-3 collected from 0.75 to 1.2 feet bgs for VOCs.	1.3
							Bottom of boring at 1.3 feet. Refusal in bedrock at 1.3 feet bgs.	
2								
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-4
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	NM		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-4 collected from 0.5 to 1.2 feet bgs for VOCs.	1.2
							Bottom of boring at 1.2 feet. Refusal at 1.2 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-5
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	NM		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-5 collected from 0.8 to 1.5 feet bgs for VOCs.	1.5
2							*Bottom of boring at 1.5 feet. Refusal in shale at 1.5 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-6
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	0.0		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-6 collected from 0.5 to 1.2 feet bgs for VOCs.	1.2
							Bottom of boring at 1.2 feet. Refusal in shale at 1.2 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-1
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
							Poorly-Graded Sand (SP) Grayish brown (2.5Y 5/2) medium-grained sand with siltstone gravel; loose; dry.	1
1				80	1.0		***Silty Gravel (GM)*** Dark grayish brown (2.5Y 4/2) silty gravel and pulverized siltstone; loose; dry. Soil sample SB-25c-1 collected from 1 to 2 feet bgs for VOCs, TAL Metals, cyanide.	2
2							*Bottom of boring at 2 feet. Refusal in bedrock at 2 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-2
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				10	0.0		***Concrete***	0.5
							Poorly-Graded Sand with Gravel (SP) Grayish brown (2.5Y 5/2) coarse-grained sand and gravel.	1
1							*Bottom of boring at 1 feet.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-3
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1				100	3.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) coarse-grained sand; some gravel; pulverized siltstone; black (2.5Y 2.5/1) staining and petroleum odor at 1.5 to 1.7 feet bgs. Soil sample SB-25c-3 collected from 1.2 to 1.7 feet bgs for VOCs, TAL Metals, cyanide.	1.7
2							*Bottom of boring at 1.7 feet.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25d-1
Drilled By: Zebra Environmental Corporation/Dominick Drill	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	0.0		***Lean Clay with Gravel (CL)*** Pale brown (10YR 6/3) medium plasticity clay with gravel; some sand; soft; some brownish yellow (10YR 6/6) mottling; moist to wet. Soil sample SB-25d-1 collected from 1.5 to 2 feet bgs for VOCs.	
2								2
							Bottom of boring at 2 feet. Refusal at 2 feet bgs.	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25d-2
Drilled By: Zebra Environmental Corporation/Dominick Pirri	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1 2				100	0.0		***Lean Clay (CL)*** Grayish brown (10YR 5/2) medium plasticity clay; some gravel; some yellowish brown (10YR 5/6) mottling; stiff; wet. Soil sample SB-25d-2 collected from 2 to 3 feet bgs for VOCs.	3
3							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	
4 5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-617
Drilled By: Parratt Wolff, Inc./Jolaan Price	**Drill Start Date:**	**Drill End Date:** 4/30/2014	**Drill Method:** Direct Push
Logged By: Martha E. Fleming	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2				- - - -	88	0.0		***FILL*** Fill material. Brown to mottled tan silt; small angular gravel; brick, wet at 4.8'.	
4									5.2
6				- - - -	38	0.0		Not logged.	
8									8
10				- - - -	38	0.0		***FILL*** Fill material. Medium brown with mottled subangular gravel; medium- to coarse-grained sand; brick; trace slag; wet.	
12									12
								Bottom of boring at 12 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-641
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description	
					Ground Surface	
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel, silt, and fine to medium sand. Wet. No odor. PID = 0	0.75
1					***Shale*** Gray; shale chips and sand. Dry.	1
					Bottom of boring at 1 feet. Refusal at 1 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-642
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Asphalt	0.4
1					***Well-Graded Gravel with Sand (GW)*** Dark gray; fine to medium gravel, fine sand, some clay. Damp. No odor. PID = 0	1.4
					Shale Gray; shale fragments and sand. Dry.	1.9
2					*Bottom of boring at 1.9 feet. Refusal at 1.9 ft bgs*	
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-643
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Asphalt	0.6
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel, fine sand, some silt. Dry. No odor. PID = 0	0.9
1					***Shale*** Gray; shale fragments and sand. Dry.	1.5
					Bottom of boring at 1.5 feet. Refusal at 1.5 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-644
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.25	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Concrete	0.2
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel and sand. Wet. Asphalt odor. PID = 0	1
1					***Asphalt***	1.25
					Bottom of boring at 1.25 feet. Refusal at 1.25 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-645
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Asphalt	0.6
1					***Well-Graded Gravel with Sand (GW)*** Dark gray; very coarse sand, fine gravel, trace clay. Wet. No odor. PID = 0	2
2					***Shale*** Gray; shale fragments and sand. Dry.	2.5
					Bottom of boring at 2.5 feet. Refusal at 2.5 ft bgs	
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-646
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Topsoil Brown fine sand and loam with roots.	0.5
1 2					***Well-Graded Gravel with Sand (GW)*** Brown; fine sand and rock fragments (fine to coarse gravel). Dry. Asphalt odor. PID = 0	2
3					***Shale*** Gray; shale fragments and sand. Dry.	3
4 5					*Bottom of boring at 3 feet. Refusal at 3 ft bgs*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-01
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.75
6	581			- - - -	17	(6-8) 0.0		***SILT (ml)*** Dark brown (7.5 YR 3/4) silt, trace coal fragments; dry; soft.	
8	579								9
10	577			- - - -	50	(10-12) 0.0		***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Dark brown (10YR 3/2) to black (7.5YR 2.5/1) coarse-grained sand, some silt, some angular gravel; loose; well graded; dry.	10.75
								WELL-GRADED GRAVEL (gw) Gray (10YR 4/1) gravel, trace coarse-grained sand, trace silt; loose; well graded; dry.	
12	575								12.75
14	573			- - - -	62.5	(12-14) 0.0 (14-16) 15.8		***WELL-GRADED SAND WITH GRAVEL (sw)*** Reddish-brown (5YR 5/4) coarse-grained sand, some sub-angular gravel; some staining; loose; dry.	14.25
								LEAN CLAY WITH GRAVEL (cl) Gray (10YR 4/1) Clay with sub-angular fractured shale, some silt; staining; strong odor; oily sheen; wet.	15.5
16	571							***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) angular gravel, some saturated oily silt; strong odor; visibly saturated with oil	15.8

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								like product; loose; wet. PID > 250 ppm	16.58
18	569			- - - -	71	(16-18) 0.4		***LEAN CLAY (cl)*** Gray (10YR 4/1) Clay, some silt, trace sub-angular fractured shale; soft; some odor; some staining; soft; wet. *(continued)*	17.5
								SILT WITH GRAVEL (ml) Dark gray (10YR 4/1) silt and sub angular gravel, some clay; some staining; slight odor; medium dense; dry.	18.5
20	567							***LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 6/1) clay, some angular shale fragments, trace silt; soft; wet.	19.5
								SILTSTONE Light gray (10YR 7/1) highly weathered shale, some silt, trace very fine sand; loose becoming medium dense at 19.10 ft; dry.	
22	565							*Bottom of boring at 19.5 feet. Refusal at 19.5 feet.*	
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-02
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.5
6	581			- - - -	67	(6-8) 0.0		***SILT (ml)*** Brown (10 YR 5/3) silt, some clay, some sub-angular gravel; well graded; soft; moist.	6.75
								WELL-GRADED SAND (sw) Dark brown (7.5YR 3/4) to white (10YR 8/1) coarse-grained sand with coal fragments and ash; loose; dry.	7.5
8	579							***SANDY ELASTIC SILT WITH GRAVEL (mh)*** Brown (10YR 5/3) silt, some clay and sub-angular gravel; some coarse-grained sand; well graded; medium hard; dry.	
10	577			- - - -	50	(10-12) 0.0			11.25
12	575							***WELL-GRADED SAND WITH GRAVEL (sw)*** Reddish-brown (5YR 3/4) to black (5YR 2.5/1) coarse-grained sand with slag fragments and coal ash; loose; dry; oxidized.	
14	573			- - - -	12.5	(14-16) 12.8			15.5
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	32	-		***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) angular gravel, some saturated silt; thick oil-like saturation; 100% saturated; strong odor; loose; wet at 15.5 ft. *(continued)*
								18.5
								18.9
								SILTSTONE Dark gray (10YR 4/1) highly weathered siltstone, some silt, some clay, trace very fine-grained sand; some odor; medium dense; dry.
20	567							*Bottom of boring at 18.5 feet. Refusal at 18.5 feet.*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-03
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								4.75
6	581			- - - -	50	(6-8) 0.3		***WELL-GRADED SAND WITH GRAVEL (sw)*** Dark reddish-brown (5YR 3/3) coarse-grained sand, some sub-angular gravel; well graded; loose; moist.	7.5
8	579							***WELL-GRADED SAND (sw)*** Black (5YR 2.5/1) coarse to medium fine-grained sand; well graded; medium dense; moist.	9.25
10	577			- - - -	37.5	(10-12) 0.0		***WELL-GRADED GRAVEL (gw)*** Brown (10YR 4/3) sub-angular gravel, some silt; well graded; dry; loose, trace roolets.	
12	575								12.75
								POORLY-GRADED SAND (sp) Brownish-yellow (10YR 6/8) coarse-grained sand; poorly graded; medium dense; dry.	13.7
14	573			- - - -	62.5	(12-14) 16.8 (14-16) 2.7		***WELL-GRADED GRAVEL (gw)*** Black (5YR 2.5/1) angular gravel, trace silt; medium dense; saturated with oil like product; strong odor; thick sheen.	15
16	571							***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay, some sub-angular gravel; trace silt; medium plasticity; soft; moist, becoming wet at 15.8 ft.	16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	(16-18) 0.0		***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay with sub-angular fractured siltstone; medium coarse-grained sand; soft, becoming medium dense at 17.5; wet; slight odor. *(continued)* 18.5
								Bottom of boring at 18.5 feet. Refusal at 18.5 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-04
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.79

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.7
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								5.5
6	581			- - - -	25	(6-8) 0.7		***WELL-GRADED GRAVEL (gw)*** Dark brown (7.5YR 3/3) sub-angular gravel, some coarse-grained sand, little silt; moist; loose.	
8	579								9.25
10	577			- - - -	37.5	(10-12) 0.0		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) to light brown (7.5YR 6/3) sub-angular gravel, trace coarse-grained sand, trace silt; moist; loose.	11.8
12	575							***GRAVELLY LEAN CLAY (cl)*** Brown (7.5YR 4/2) clay;, some sub-angular gravel, trace silt; medium to low plasticity; soft; moist.	12.75
14	573			- - - -	62.5	(12-14) 37.6 (14-16) 34.9		***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay, some sub-angular gravel; trace fine-grained sand; low plasticity; soft; moist, becoming wet at 13.7 ft, black staining, strong petroleum like odor, and oily sheen from 13.7 to 14.1 feet, and from 15.5 to 17.5 feet.	
16	571			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	(16-18) 1.2		17.5
18	569							18 ***SILTSTONE*** Dark gray (10YR 4/1) weathered siltstone; thinly bedded; dense; trace clay; wet.
								Bottom of boring at 18 feet. Refusal at 18.0 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-05
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	25	(6-8) 0.0			6.1
								GRAVELLY SILT WITH SAND (ml) Brown (10YR 4/3) Silt, some sand, some sub-angular gravel; well graded; medium dense; dry.	
8	579								
10	577			- - - -	37.5	(10-12) 0.0			11.25
								WELL-GRADED GRAVEL (gw) Dark grayish-brown (10YR 4/2) angular gravel, trace silt, trace fine-grained sand; well graded; loose; dry.	
12	575								
14	573			- - - -	62.5	(12-14) 2.5 (14-16) 28.1			14
								LEAN CLAY WITH GRAVEL (cl) Gray (10YR 5/1) clay, some silt, some angular shale fragments; black staining; strong odor; medium plasticity; wet.	
16	571								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	100	(16-18) 88.5 (18-18.5) 11.0		***GRAVELLY LEAN CLAY WITH SAND (cl)*** Gray (10YR 5/1) clay with silt and weathered shale fragments, trace very fine-grained sand; moist; medium dense; slight staining at 16.5 ft.; slight odor; medium plasticity. *(continued)*
18	569							18
								18.5 ***SILTSTONE*** Gray (10YR 4/1) highly weathered siltstone; trace very fine-grained sand and silt; dense; dry.
								Bottom of boring at 18.5 feet. Refusal at 18.5 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	33	(6-8) 0.0			6
								WELL-GRADED GRAVEL (gw) Very dark grayish-brown (10YR 3/2) angular gravel, some silt, some coarse-grained sand; moist; loose; trace rootlets.	
8	579								
10	577			- - - -	25	(10-12) 0.0			
12	575								
14	573			- - - -	37.5	(14-16) 68.5			13.75
								LEAN CLAY WITH GRAVEL (cl) Dark yellowish-brown (10YR 4/4) clay, some silt, trace gravel; soft; moist; low to medium plasticity, slight odor.	15
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1) gravel, some saturated silt; thick oil-like saturation; strong odor; wet; loose; 100% oil-like saturation	15.5
16	571								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	100	(16-18) 333.8 (18-19) 88.5		***LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 6/1) clay, some angular gravel, trace silt, trace very fine-grained sand; soft; moist to wet; strong odor; some staining.
18	569							***SANDY LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 3/2) sandy silt and clay, some angular gravel; strong odor; heavy staining; moist to wet; medium soft; low plasticity. *(continued)*
20	567							***SILTSTONE*** Very dark gray (10YR 3/1) highly weathered siltstone, some very fine-grained sandy silt; some staining; some odor; loose, becoming dense at 18.75 ft.
22	565							*Bottom of boring at 19 feet. Refusal at 19.0 feet.*
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

18

19

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-07
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	17	(6-8) 0.0			6.25
								WELL-GRADED GRAVEL (gw) Brown (7.5YR 4/2) angular gravel, some silt, trace coarse-grained sand; well graded; loose, becoming medium dense at 11.0 ft.; dry.	
8	579								
10	577			- - - -	50	(10-12) 0.0			
12	575								12.75
								WELL-GRADED SAND WITH SILT (sw-sm) Brown (10YR 4/3) coarse-grained sand and silt, some gravel; strong odor; some staining; loose; well graded.	14
14	573			- - - -	62.5	(12-14) 46.1 (14-16) 198.1			14.4
								WELL-GRADED GRAVEL (gw) Very dark brown (10YR 2/1) to Black (10YR 2/2) angular gravel with heavy oily staining, some thick free floating oily sheen; few silt; loose; well graded; wet.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-07

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	(16-18) 28.9		***LEAN CLAY (cl)*** Gray (10YR 4/1) clay, some angular shale fragments, few very fine-grained sand; medium plasticity; some staining 14.4 - 15.75 ft; wet; some odor. *(continued)* 17.7
								SILTSTONE Gray (10YR 5/1) to brownish-yellow (10YR 6/8) highly weathered siltstone, some silt and clay, few very fine-grained sand; loose, becoming hard at 18.5 ft. 19.7
20	567							*Bottom of boring at 19.7 feet. Refusal at 19.7 feet.*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-08
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 21.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.5
6	581			- - - -	66	(5-6) 0.0 (6-8) 0.0		***WELL-GRADED GRAVEL (gw)*** Gray (10YR 6/1) becoming brownish-yellow (10YR 6/6) at 7.5 ft. angular gravel, some fine-grained sand, trace silt; well graded; loose; dry.	
8	579								
10	577			- - - -	50	(10-12) 0.2			
									10.5
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Brownish-yellow (10YR 6/8) silt and angular gravel, trace fine-grained sand; medium dense; moist; trace rootlets.	11
									11.5
12	575							***SILT WITH SAND (ml)*** Brown (10YR 4/3) medium coarse-grained sandy silt, some angular gravel; medium dense; moist.	
14	573			- - - -	62.5	(12-14) 1.8 (14-16) 3.3		***WELL-GRADED GRAVEL (gw)*** Olive brown (2.5YR 4/3) angular gravel, some silt; strong oil like odor; loose; well graded; wet; visible staining.	13.9
								LEAN CLAY WITH GRAVEL (cl) Dark gray (2.5YR 4/1) clayey silt, some angular gravel, trace fine-grained sand; wet; strong odor; medium soft; staining; low plasticity.	14.5
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	75	(16-18) 102.3 (18-20) 9.2		***SILT WITH GRAVEL (ml)*** Gray (2.5YR6/1) silt with shale fragments, some clay, trace very fine-grained sand; medium dense; dry, becoming wet at 15.0 ft, becoming moist from 17.0-19.0ft.; strong odor. *(continued)* 19
20	567							***LEAN CLAY (cl)*** Gray (2.5YR 6/1) clay and silt, trace very fine-grained sand; medium dense; dry. 20
				- - - -	100	7.8		***SILT (ml)*** Gray (2.5YR 6/1) silt, some very fine-grained sand, trace gravel, trace clay; occasional yellow (2.5YR 6/8) mottling; moderately cohesive; wet. 21.5
22	565							*Bottom of boring at 21.5 feet. Refusal at 21.5 feet.*
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-09
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
2	585							***WELL-GRADED GRAVEL (gw)*** Very dark brown (10YR 2/2) angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt, trace coarse-grained sand; loose; dry.	
4	583								
6	581			- - - -	50	2.3			
8	579								9
10	577			- - - -	50	1.4		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt, trace coarse-grained sand; loose; dry.	10.5
								WELL-GRADED GRAVEL (gw) Dark yellowish-brown (10YR 4/4) angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt, trace coarse-grained sand; moist.	11
12	575			- - - -	100	2.9		***SILT (ml)*** Dark brown (10YR 3/3) silt, few gravel ranging in size from 0.5 to 1.5 inches in diameter; soft; wet.	12 12.5 13
14	573							***SILT (ml)*** Yellowish-brown (10YR 5/6) silt, little angular gravel ranging in size from 0.2 to 0.8 inches in diameter; possible staining; soft; wet.	
								SILTSTONE Gray (10YR 5/1) weathered siltstone; loose; dry.	
16	571							*Bottom of boring at 13 feet. Refusal at 13 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 18.8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1) gravel with size ranging from 0.5 to 1.5 inches in diameter, trace sand, trace silt; moist.	
2	585								
4	583								
6	581			- - - -	33	7.5			
									7.25
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Dark yellowish-brown (10YR 3/4) gravel ranging from 0.2 to 2 inches in diameter, few silt; moist.	7.75
8	579							***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	
10	577			- - - -	38	3.9			
12	575								
									13.25
14	573			- - - -	26.7	26.7		***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, few to little gravel ranging in size from 0.2 to 1.5 inches in diameter, trace coarse-grained sand; soft; wet.	
									15.25
16	571							***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10 YR 4/2) silt, little to some gravel ranging in size from 0.2 to 1.5 inches in diameter; soft; wet.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	68	71		16.65 ***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR 4/2) silt, little sub-angular gravel ranging in size from 0.2 to 2 inches in diameter. 17.8
18	569							18 ***WELL-GRADED GRAVEL (gw)*** Dark grayish-brown (10YR 4/2) sub-angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt; loose; moist. 18.8
20	567							***SILT (ml)*** Dark grayish-brown (10YR 4.2) silt, trace gravel; soft; wet.
								Bottom of boring at 18.8 feet. Refusal at 18.8 feet.
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.75
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Grayish-brown (10YR 5/2) angular siltstone gravel ranging from 0.2 to 2 inches in diameter, little yellowish-brown (10YR 5/6) silt, few fine-grained sand; dense; dry, becoming moist at 11.8 feet.	
2	585								
4	583								
6	581			- - - -	66	3.7			
8	579								
10	577			- - - -	50	2.5			
12	575								
14	573			- - - -	20	4.3			13.6
								SILTY GRAVEL (gm) Very dark gray (10YR 3/1) angular gravel ranging from 0.2 to 2 inches in diameter, trace to few silt; dense; wet; oil-like staining; odor.	
16	571								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	6.7		***SILT WITH GRAVEL (ml)*** Dark gray (10YR 4/1) and brownish-yellow (10YR 6/8) silt, few subrounded gravel ranging from 0.1 to 2.5 inches in diameter; soft to 16.5 feet, very stiff below; wet to 16.5 feet, dry to moist below. *(continued)* 18.2
								Bottom of boring at 18.2 feet. Refusal at 18.2 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 14.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.2

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.75
2	585							***SILTY GRAVEL (gm)*** Very dark grayish-brown (10YR 3/3) angular gravel ranging in size from 0.5 to 2 inches in diameter, little silt; dry.	
4	583								
6	581			- - - -	66	5.8			6.5
								SILT WITH GRAVEL (ml) Dark grayish-brown (10YR 4/2) silt, little angular gravel ranging in size from 0.2 to 1.5 inches in diameter; medium density; rust staining; dry.	7.5
8	579							***WELL-GRADED GRAVEL (gw)*** Very dark grayish-brown (10YR 3/2) to dark yellowish-brown (10YR 3/4) angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	
10	577			- - - -	38	9.1			11.5
12	575			- - - -	45	4.1		***SILTY GRAVEL (gm)*** Dark brown (10YR 3/3) angular gravel, some silt; loose; dry; becoming wet with oil-like liquid at 11.8, petroleum-like odor odor.	13.7
14	573							***SILTSTONE*** Gray (10YR 5/1) extremely weathered siltstone, trace silt; loose; dry.	14.2
								Bottom of boring at 14.2 feet. Refusal at 14.2 feet.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-13
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 6/1/2015	Drill Method: Direct Push
Logged By: Erik S. Reinert and Molly M. Long	Total Depth (ft): 11.5	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 586.65

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								WELL-GRADED SAND (sw) Light yellowish-brown (10YR 6/4) fine-grained sand, trace coarse-grained sand; very loose; dry.	1
2	585			- - - - -	100	(0-2) 0.0 (2-4) 0.0		***WELL-GRADED SAND WITH GRAVEL (sw)*** Dark grayish-brown (10YR 4/2) fine to coarse-grained sand, some angular gravel to 2 inches in diameter; very loose; dry.	1.8
								WELL-GRADED GRAVEL (gw) Pale brown (10YR 6/3) sub-angular gravel up to 2 inches in diameter, little fine-grained sand, trace coarse-grained sand; loose; dry.	
4	583								4.5
								WELL-GRADED GRAVEL (gw) Dark brown (10YR 3/3) angular gravel, trace to few coarse-grained sand; dry; loose.	
6	581			- - - - -	75	(4-6) 0.0 (6-8) 0.0			7
								WELL-GRADED GRAVEL (gw) Pale brown (10YR 6/3) angular gravel, trace coarse-grained sand, trace clay; loose; dry.	7.8
8	579							***LEAN CLAY (cl)*** Clay seam.	8.25
10	577			- - - - -	86	(8-10) 0.0 (10-11.5) 0.0)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark yellowish-brown (10YR 4/4) angular gravel, little silt, few clay; dense; dry.	10.5
								LEAN CLAY (cl) Brown (10YR 5/3) clay, few angular gravel; medium plasticity; moist to wet.	11
12	575							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark gray (10YR 4/1) angular gravel, few silt, few fine to coarse-grained sand; dry to moist.	11.5
								Bottom of boring at 11.5 feet. Refusal at 11.5 feet.	
14	573								
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-14
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 11.9	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.65

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	585			- - - -	50	(2-4) 0.0		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Light yellowish-brown (10YR 6/5) fine-grained sand, some angular gravel (0.2-2.0 inches in diameter); very loose; dry.	
4	583								4.75
6	581			- - - -	62.5	(4-6) 0.0 (6-8) 0.0		***SANDY SILT WITH GRAVEL (ml)*** Light yellowish-brown (10YR 6/5) to brown (10YR 4/4) fine-grained sandy silt, angular gravel (0.2-2.0'); medium dense; well graded, dry.	
8	579								
10	577			- - - -	64	(8-10) 0.4 (10-11.9) 0.0)			10.4
								SANDY SILT WITH GRAVEL (ml) Very dark grayish-brown (10YR 3/2) fine-grained sandy silt with sub-angular gravel (0.2 to 0.5 inches in diameter); moist, becoming wet at 10.9 ft.; medium dense; well graded; slight odor.	11.4 11.7 11.9
12	575							***SANDY SILT WITH GRAVEL (ml)*** Brownish-gray (10YR 5/2) fine-grained sandy silt, some sub-angular gravel (0.2 to 0.5 inches in diameter); wet; soft; well-graded; slight odor.	
14	573							***SILTSTONE*** Dark gray (10YR 4/1) highly weathered siltstone, trace clay; thinly bedded; very dense; wet.	
								Bottom of boring at 11.9 feet. Refusal at 11.9 feet.	
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 11.1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	584			- - - -	75	(0-2) 0.6 (2-4) 0.2		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark yellowish-brown (10YR 4/4) fine-grained sand, some angular gravel ranging in size from 0.2 to 2 inches in diameter; loose; dry.	
4	582								4.75
6	580			- - - -	63	(4-6) 0.2 (6-8) 0.6		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark brown (10YR 3/3) fine-grained sand and angular gravel ranging in size from 0.2 to 2 inches in diameter; loose; dry. Possible staining at 7 feet.	
8	578								8.8
10	576			- - - -	50	(8-10) 0.1		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark brown (10YR 3/3) fine-grained sand, some gravel ranging from 0.2 to 1.5 inches in diameter, trace silt; loose; dry, becoming wet between 10.2 and 10.5 feet; slight odor.	10.5
								SILTSTONE Dark gray (10YR 4/1) to very dark gray (10YR 4/1) highly weathered siltstone, trace clay; dense; wet; odor.	11.1
12	574							*Bottom of boring at 11.1 feet. Refusal at 11.1 feet.*	
14	572								
16	570								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 10.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.61

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	(0-2) 8.2 (2-4) 1.9		***SILTY GRAVEL (gm)*** Black (10YR 2/1) angular gravel ranging from 0.2 to 1.5 inches in diameter, some silt; loose; dry.	1.5
2	585							***WELL-GRADED SAND WITH GRAVEL (sw)*** Light gray (10YR 7/1) fine-grained sand, some gravel ranging from 0.2 to 1.5 inches in diameter, trace silt; loose; dry.	
4	583			- - - -	25	(4-8) 0.0			5.5
6	581							***SANDY SILT (ml)*** Yellow darkish-brown (10YR 4/6) silt, some fine-grained sand, little gravel ranging from 0.2 to 0.7 inches in diameter, trace clay; dense; dry.	7.5
8	579			- - - -	30	(8-10.5) 0.4		***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3) silt and fine- to coarse-grained sand, few gravel; medium dense; moist at 7.8 feet.	8.875
10	577							***SANDY SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR 4/2) silt and coarse-grained sand, some gravel ranging from 0.2 to 2 inches in diameter; dry. Moist at 9.75 feet. Wet at 10.0 feet.	10.2
								SILTSTONE Dark gray (10YR 4/1) highly weathered siltstone, trace clay.	10.5
								Bottom of boring at 10.5 feet. Refusal at 10.5 feet.	
12	575								
14	573								
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-17
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.53

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	585				50	4.9		***Well Graded Sand with Gravel (SW)*** Grayish-brown (10YR 5/2) fine to coarse-grained sand, some angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	3.5
4	583							***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 2 inches in diameter, few sand, trace silt; loose; dry.	5.5
6	581				25	1.6		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 2 inches in diameter, few sand, trace silt; loose; dry.	9
8	579								
10	577				50	1.4		***SILTY GRAVEL (gm)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 1.5 inches in diameter, little to some silt, trace sand; moist.	11.5
12	575				83	0.6		***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) angular gravel ranging in size from 0.2 to 2 inches in diameter, little silt; wet with oil like substance.	12.1
14	573							***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) angular gravel ranging in size from 0.2 to 2 inches in diameter, little silt; wet with oil like substance.	13 / 13.2
								SILTSTONE Gray (10YR 5/1) weather siltstone; loose; dry.	
16	571							*Bottom of boring at 13.2 feet. Refusal at 13.2 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-18
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	18.5 (0-2)		***Concrete*** Concrete	0.5
								POORLY-GRADED SAND (sp) Black (7.5YR 2.5/1) fine- to medium-grained sand, trace coarse-grained sand, trace gravel; loose; dry. Some cinders between 0.5 and 0.65 feet.	1.9
2	585							***SILT WITH SAND (ml)*** Yellowish-brown (10YR 5/0) silt, little coarse sand, little coarse gravel; soft; dry.	2
								Bottom of boring at 2 feet.	
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								
16	571								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-19
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	19.3 (0-2)		***Concrete*** Concrete	0.5
								WELL-GRADED GRAVEL (gw) Yellowish-brown (10YR 5/4) fine- to coarse-grained sand, trace gravel; loose; dry.	2
2	585							*Bottom of boring at 2 feet.*	
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-20
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	
2	585				100	14 (2-4)			2
								POORLY-GRADED SAND (sp) Black (10YR 2/1) medium- to coarse-grained sand, some cinders, trace silt; loose; dry.	2.5
4	583							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark grayish-brown (10YR 4/2) to dark yellowish-brown (10YR 4/6) angular gravel ranging from 0.2 to 2 inches in diameter, little silt, little fine- to coarse-grained sand; dense; dry.	5
6	581				50	15 (6-8)		***GRAVELLY SILT (ml)*** Yellowish-brown (10YR 5/8) silt, some angular gravel ranging from 0.2 to greater than 2 inches in diameter; stiff; dry.	
8	579								9.25
10	577				37	19 (10-12)		***GRAVELLY SILT (ml)*** Black (10YR 2/1) and gray (10YR 5/1) silt, some gravel; medium stiff; wet; strong petroleum-like odor; visible petroleum-like sheen.	
12	575								12
								GRAVELLY SILT (ml) Black (10YR 2/1) and gray (10YR 5/1) silt, some gravel; loose; wet.	13
14	573				100	25 (12-14) 19 (14-16)		***ELASTIC SILT WITH GRAVEL (mh)*** Dark gray (10YR 4/1) silt, little clay, little angular gravel; soft to medium stiff; wet.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-20

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	75	17 (16-18)		16.75 ***ELASTIC SILT (mh)*** Gray (10YR 5/1) and yellowish-brown (10YR 5/8) silt, little clay, few gravel; medium stiff; wet. 18
18	569							*Bottom of boring at 18 feet. Refusal at 18 feet.*
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-21
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 20	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	16.4 (0-4)		***Concrete*** Concrete	2
								WELL-GRADED SAND (sw) Dark yellowish-brown (10YR 4/4) fine- to coarse-grained sand, little angular gravel ranging from 0.2 to 1 inch in diameter, trace silt; loose; dry.	
5	582			- - - -	50	11.0 (4-8)		***WELL-GRADED GRAVEL (gw)*** Dark yellowish-brown (10YR 4/4) angular gravel ranging from 0.2 to 2 inches in diameter, little fine- to coarse-grained sand; dense; dry.	5
10	577			- - - -	0				11
				- - - -	50	>50.0 (12-16)		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Very dark gray (10YR 3/2) coarse-grained sand and gravel, little fine-grained sand; medium dense; dry to moist.	
15	572							***WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm)*** Very dark gray (10YR 4/1) angular gravel ranging from 0.2 to 2 inches in diameter, little silt, little fine- to coarse-grained sand; dense; moist. Becomes wet at 15.5 feet. Strong petroleum-like odor and oil-like substance in water.	15 16
				- - - -	100	43.0 (16-18) 1.5 (18-20)		***LEAN CLAY WITH GRAVEL (cl)*** Black (10YR 2/1) clay and silt, little angular gravel; stiff; wet.	19
20	567							***SILTSTONE*** Grayish-brown (10YR 5/6) siltstone fragments, trace silt; very dense; dry.	20

Bottom of boring at 20 feet. Refusal at 20 feet.

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-22
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 19	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	584			- - - - -	100	19.5 (0-4)		***Concrete*** Concrete	2
4	582							***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) cinders ranging from 0.1 to 0.25 inches in diameter; loose; dry.	
6	580			- - - - -	50	20.9 (4-8)			7.5
8	578							***SILT (ml)*** Yellowish-brown (10YR 5/8) silt, little gravel; medium stiff; dry.	9
10	576			- - - - -	50	9.1 (8-12)		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 4/8) to grayish-brown (10YR 4/2) silt, some gravel; medium stiff; wet. Carbon pellet (1-inch by 0.5-inch cylinder) at 11 feet.	
12	574								13
14	572			- - - - -	50	29.2 (12-16)		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 4/8) to grayish-brown (10YR 4/2) silt, some gravel; medium stiff; wet.	
16	570								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	568			- - - -	100	13.2 (16-19)		***Silt*** Grayish-brown (10YR 5/2) silt, trace to few gravel; medium stiff; wet. Gravel increasing to some between 18.5 and 19 feet with shaley partings visible. *(continued)* 19
20	566							*Bottom of boring at 19 feet. Refusal at 19 feet.*
22	564							
24	562							
26	560							
28	558							
30	556							
32	554							
34	552							
36	550							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-23
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/5/2015	**Drill Method:** Direct Push/Slide Hammer
Logged By: Erik S. Reinert	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 579.98

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				- - - -	100	11.9 (0-2)		***WELL-GRADED SAND (sw)*** Black (7.5YR 2.5/1) fine- to coarse-grained sand, little angular gravel, trace silt, brick fragments, cinders, plant fibers; loose; dry.
2	578			- - - -	100	3.3 (2-4)		
4	576			- - - -	100	5.8 (4-5)		5
6	574							*Bottom of boring at 5 feet. Refusal at 5 feet due to limitation of drilling method (i.e., bedrock interface may be deeper).*
8	572							
10	570							
12	568							
14	566							
16	564							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-24
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/5/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 1.17	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.55

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete	
						1 (1.17)
					Gravelly silt (not logged).	
2	585				*Bottom of boring at 1.17 feet.*	
4	583					
6	581					
8	579					
10	577					
12	575					
14	573					
16	571					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-25
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.73

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2	585			- - - -	100	0.0 (0-2) 0.0 (2-4)		***WELL-GRADED SAND (sw)*** Brown (10YR 4/3) fine- to coarse-grained sand, trace gravel; loose; dry; trace rootlets.	2
								Concrete Concrete rubble.	2.4 3
4	583							***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) cinders.	
6	581			- - - -	50	0.0 (4-8)		***WELL-GRADED SAND (sw)*** Dark brown (10YR 3/3) fine- to coarse-grained sand, few gravel; loose, becoming medium dense between 5 and 9 feet bgs; dry.	
8	579								9
10	577			- - - -	50	0.4 (8-12)		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) and reddish-brown (2.5YR 4/3) gravel, cinders; medium dense; dry, becoming wet at 11.5 feet and 17 feet, becoming dry between 17 and 21 feet bgs.	
12	575								
14	573			- - - -	50	0.0 (12-16)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	33.7 (16-20)		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) and reddish-brown (2.5YR 4/3) gravel, cinders; medium dense; dry, becoming wet at 11.5 feet and 17 feet, becoming dry between 17 and 21 feet bgs. *(continued)*
20	567							21
22	565			- - - -	50	14.6 (20-24)		***GRAVELLY SILT (ml)*** Yellowish-brown (10 YR 5/6) silt, some gravel; soft; wet.
								22.5
								22.7 ***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark gray (10YR 4/1) gravel, few silt, few clay; dense; wet.
								23.5
24	563							***SILT (ml)*** Dark gray (10YR 4/1) silt, few gravel, little clay; soft; wet. Petroleum-like sheen and odor.
								25 ***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) gravel; wet. Petroleum-like sheen and odor.
26	561			- - - -	57	31.2 (24-27.5)		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Very dark gray (10YR 3/1) and brown (10YR 3/6) highly weathered gravel, few silt; loose; wet. Free petroleum-like substance in water.
								27.5
28	559							*Bottom of boring at 27.5 feet. Refusal at 27.5 feet.*
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-26
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 20	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.67
								POORLY-GRADED SAND (sp) Black (10YR 2/1) coarse-grained sand, cinders; loose; dry.	2
2	585			- - - -	100	0.3 (0-2) 6.4 (2-4)		***WELL-GRADED SAND WITH GRAVEL (sw)*** Yellowish-brown (10YR 5/4) fine- to coarse-grained sand, little gravel; loose; dry.	2.2 2.4
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1) fine- to coarse-grained sand, cinders; loose; moist.	3.5
4	583							***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) gravel, few fine- to coarse-grained sand, cinders; dense; dry.	5
6	581			- - - -	50	1.4 (4-8)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Yellowish-brown (10YR 5/6) angular coarse gravel, few silt, few fine- to coarse-grained sand; dense; dry.	
								POORLY-GRADED SAND (sp) Very dark grayish-brown (10YR 2/2) coarse-grained sand, cinders; loose; dry.	
8	579								
10	577			- - - -	50	0.4 (10-12)			10.5
								POORLY-GRADED GRAVEL WITH SILT AND SAND (gp-gm) Dark gray (10YR 4/1) gravel, little coarse-grained sand; little silt; medium dense; dry, becoming moist at 11.5 feet.	
12	575								13
14	573			- - - -	50	12.1 (12-16)		***SILTY GRAVEL WITH SAND (gm)*** Brownish-yellow (10YR 5/8) and very dark gray (10YR 3/1) gravel, some silt, few fine- to coarse-grained; dense; wet, becoming dry between 17 and 19.5 feet.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	9.5 (16-20)		***SILTY GRAVEL WITH SAND (gm)*** Brownish-yellow (10YR 5/8) and very dark gray (10YR 3/1) gravel, some silt, few fine- to coarse-grained; dense; wet, becoming dry between 17 and 19.5 feet. *(continued)*
								19.5
20	567							***SILT WITH GRAVEL (ml)*** Dark gray (10YR 4/1) silt, little clay, little gravel; medium stiff; wet; oily-like sheen and odor. 20
								Bottom of boring at 20 feet. Refusal at 20 feet.
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-27
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.67
2	585			- - - -	100	3.2 (0-2) 3.8 (2-4)		***WELL-GRADED GRAVEL WITH SAND (gw)*** Reddish-brown (2.5YR 5/4) to reddish-black (2.5YR 2.5/1) gravel and cinders, little fine- to coarse-grained sand; loose; dry.	2
								WELL-GRADED GRAVEL (gw) Dark grayish-brown (10YR 4/2) sub-rounded gravel ranging from 0.1 to 1 inch in diameter, trace to few coarse-grained sand; medium dense; dry.	
4	583								
6	581			- - - -	50	3.6 (6-8)			
									7
								POORLY-GRADED GRAVEL WITH SAND (gp) Dark gray (7.5YR 4/1) coarse gravel, little fine- to coarse-grained sand; loose; dry.	
8	579								
									9
10	577			- - - -	50	2.2 (8-10) 14.9 (10-12)		***SILTY GRAVEL (gm)*** Yellowish-brown (7.5YR 5/8) angular gravel ranging from 0.25 to 2 inches in diameter, some silt; dense; wet. Petroleum-like sheen, black staining, faint odor between 10 and 11 feet.	
12	575								
									12.5
14	573			- - - -	75	4.4 (12-14) 7.4 (7.4)		***GRAVELLY SILT (ml)*** Brownish-yellow silt, some gravel ranging from 0.1 to 1 inch in diameter; dense; moist.	
16	571			-					16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	36 (16-18)		***GRAVELLY SILT (ml)*** Dark gray (10YR 4/1) silt, some gravel ranging from 0.1 to 2 inches in diameter with shaley partings; medium dense; dry. Petroleum-like staining and a strong odor between 16 and 17 feet. *(continued)*
18	569							18
								Bottom of boring at 18 feet. Refusal at 18 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.8

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.2 (0-0.8)		***Concrete*** Concrete.	0.4 0.8
				-				
				-			***SILTY GRAVEL (gm)*** Brown (10YR 4/3) gravel ranging from 0.5 to 2 in diameter, angular, little silt.	
				-				
2	606						*Bottom of boring at 0.8 feet. Refusal at 0.8 feet*	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.77

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-1.4)		***Concrete*** Concrete.	0.5
2	606						***SILT WITH GRAVEL (ml)*** Dark yellowish-brown (10YR 4/4) silt, little gravel ranging from 0.5 to 2 in diameter, sub-angular, trace clay; dry.	1.4
							Bottom of boring at 1.4 feet. Refusal at 1.4 feet	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.4)		***Concrete*** Concrete.	0.3 0.4
2	606						***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) gravel ranging from 0.2 to 1 in diameter, sub-angular, trace silt.	
							Bottom of boring at 0.4 feet. Refusal at 0.4 feet	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.4 (0-0.5)		***Concrete*** Concrete.	0.4 0.5
				-				
				-			***WELL-GRADED GRAVEL (gw)*** Black (10YR 3/1) gravel ranging from 0.2 to 1.5 in diameter, sub-angular, trace silt.	
				-				
2	606						*Bottom of boring at 0.5 feet. Refusal at 0.5 feet*	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.66

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0.1 (0.6-1.2) 5.4 (1.2-1.8)		***Concrete*** Concrete.	0.6
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Gray (10YR 6/1) gravel ranging from 0.5 to 2 in diameter, angular, few silt; loose; dry.	1.2
2	596							***SILT WITH GRAVEL (ml)*** Dark gray (5YR 4/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; petroleum-like odor; sheen present.	2
4	594							*Bottom of boring at 2 feet. Refusal at 2 feet*	
6	592								
8	590								
10	588								
12	586								
14	584								
16	582								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-06
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.45

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	85	0.2 (0-0.3) 0.2 (0.3-1.3) 0.2 (1.3-2)		***Asphalt*** Asphalt.	0.3
2	595							***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) gravel ranging from 0.2 to 2 in diameter, angular, some silt; loose; dry.	2
								Bottom of boring at 2 feet. Refusal at 2 feet	
4	593								
6	591								
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.96

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	93	0.0 (0-0.8) 0.0 (0.8-1.5)		***Concrete*** Concrete.	0.8
								SILT WITH GRAVEL (ml) Very dark gray (10YR 3/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; loose; moist.	1.5
2	595								
								Bottom of boring at 1.5 feet. Refusal at 1.5 feet	
4	593								
6	591								
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.96

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.0 (0-1.1) 0.1 (1.1-2.5)		***Asphalt*** Asphalt.	0.6
								SILT WITH GRAVEL (ml) Yellowish-brown (10YR 5/4) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; moist. Dry from 1.1 to 2' bgs.	1.1
2	595								2
								SILT WITH GRAVEL (ml) Dark grayish brown (10YR 4/2) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; dry.	2.5
4	593							***LEAN CLAY (cl)*** Yellowish brown (10YR 5/6) clay, medium plasticity, few gravel less than 0.5 in diameter, angular.	
								Bottom of boring at 2.5 feet. End boring at 2.5 feet	
6	591								
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.33

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		-	100	0.1 (0-1.3)		***Asphalt*** Asphalt.	0.7
				-		0.1 (1.3-1.7)		***SILTY GRAVEL (gm)*** Gray (10YR 6/1) gravel ranging from 0.1 to 1 in diameter, some silt; loose; dry.	1.3
2	594			-		0.1 (1.7-2.5)		***Slag*** Fill: slag and ash.	1.7
								Silt Dark brown (10YR 3/3) silt, few gravel less than 0.5 in diameter, rounded; moist.	2.5
4	592							*Bottom of boring at 2.5 feet. End boring at 2.5 feet*	
6	590								
8	588								
10	586								
12	584								
14	582								
16	580								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 595.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	88	0.2 (0-0.2) 0.2 (0.2-1) 0.2 (1-2.5)		***Asphalt*** Asphalt	0.2
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Light gray (10YR 7/1) gravel less than 0.5 in diameter, angular, few silt; loose; dry.	1
2	593							***Slag*** Fill: slag, ash, red brick.	2.5
								Bottom of boring at 2.5 feet. End boring at 2.5 feet	
4	591								
6	589								
8	587								
10	585								
12	583								
14	581								
16	579								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-11
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 594.67

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.3 (0-1) 0.3 (1-1.8) 0.3 (1.8-2)		***Asphalt*** Asphalt, road gravel base.	1
								Slag Fill: slag, ash, trace red brick.	1.8
2	593							***SILTSTONE*** Light brownish gray (10YR 6/2) siltstone; highly fractured.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	591								
6	589								
8	587								
10	585								
12	583								
14	581								
16	579								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-12
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 594.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	95		***Asphalt*** Asphalt, road gravel base.	1.3
2	592						***Silt*** Brown (10YR 4/3) silt, low plasticity, little gravel less than 0.5 in diameter, sub-rounded; moist at 1.7' bgs.	2
							Bottom of boring at 2 feet. End boring at 2 feet	
4	590							
6	588							
8	586							
10	584							
12	582							
14	580							
16	578							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 615.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	613			- - - -	60	(0-2) 0.0 (2-4) 0.0		***SILT WITH GRAVEL (ml)*** Brownish-gray (10YR6/8) silt and gravel, some ash and coal cinders; medium hard; dense; dry.	2.5
4	611			-	100	0.0		***GRAVELLY SILT (ml)*** Brown (10YR4/6) gravelly silt; medium dense; hard; moist.	4.5
6	609			- - - -				*Bottom of boring at 4.5 feet. Refusal at 4.5 ft bgs.*	
8	607								
10	605								
12	603								
14	601								
16	599								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	(0-2) 0.0 (2-3.5) 0.0		***WELL-GRADED GRAVEL (gw)*** Fill: gray siltstone gravel (0.25-1.0") and concrete debris	1.5
2	597							***SILT WITH SAND (ml)*** Dark brown (10YR4/6) silt and sand, some black staining; medium dense; medium plasticity; moist, becoming wet at 3.0'.	3.5
4	595							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
6	593								
8	591								
10	589								
12	587								
14	585								
16	583								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-17
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 598.67

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	597			- - - -	60	(0-2) 0.4 (2-3.5) 0.8		***SILTY GRAVEL (gm)*** Brown (10YR6/6) silty gravel fill, some ash, trace discoloration; loose; dry.	2.5
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Brown (10YR5/6) silt and gravel, trace discoloration; plastic; cohesive; medium dense; wet.	3.5
4	595							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
6	593								
8	591								
10	589								
12	587								
14	585								
16	583								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-18
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 593.44

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								WELL-GRADED GRAVEL (gw) Gravel (0.2-2.0) fill	1
2	591			- - - -	60	(0-2) 0.0 (2-4) 0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (10YR4/6) silt and gravel, some discoloration; dense; medium plasticity; cohesive; moist.	
4	589								4
								Bottom of boring at 4 feet. Refusal at 4.0 ft bgs.	
6	587								
8	585								
10	583								
12	581								
14	579								
16	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-19
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 592.93

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0.9		***WELL-GRADED GRAVEL (gw)*** Fill: coarse gravel (0.2 to 2.0 inches in diameter) and concrete debris, some coal cinders; trace silt; loose; dry.	1.5
2	591							*Bottom of boring at 1.5 feet. Refusal at 1.5 ft bgs.*	
4	589								
6	587								
8	585								
10	583								
12	581								
14	579								
16	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC27-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.73

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	30	1.3 (1-1.3) 5.4 (1.3-1.7)		***Concrete*** Concrete.	1.3
2	611							***WELL-GRADED GRAVEL (gw)*** Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.	1.7
								Bottom of boring at 1.7 feet. Refusal at 1.7 feet	
4	609								
6	607								
8	605								
10	603								
12	601								
14	599								
16	597								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC27-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.73

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	33		***Concrete*** Concrete.	0.8
							WELL-GRADED GRAVEL (gw) Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.	1.2
2	611						*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
4	609							
6	607							
8	605							
10	603							
12	601							
14	599							
16	597							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.38

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, roots; dry.	0.2
2	605			- - - -	75	0.1 (0-0.2) 0.1 (0.2-3)		***Slag*** Fill: slag, fire brick, red rock, coal fragments, bedrock fill. Roots present from 3.5 to 9.1' bgs.	
4	603								
6	601			- - - -	75	0.1 (4-7)			
8	599								
10	597			- - - -	65	0.1 (8-9.1) 0.6 (9.1-10.4)		***GRAVELLY SILT (ml)*** Grayish brown (2.5Y 5/2) silt, gravel less than 0.25 in diameter, flat, round, medium plasticity; no odor.	9.1 11.4
12	595			- - - -	100	1.4 (12-13.6)		***Slag*** Fill: slag, fire brick, red brick, coal fragments.	13.6
14	593							***Silt*** Dark grayish brown (2.5Y 4/2) silt, stiff, medium plasticity; wet.	14.5
								Bottom of boring at 14.5 feet. Refusal at 14.5 feet	
16	591								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 609.66

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, roots.	0.2
2	608			- - - -	65	0 (0-0.2) 0.1 (0.2-2) 0.6 (2-2.7)		***Slag*** Fill: bedrock fragments, slag, fire brick, red brick; no odor; dry.	
4	606								
6	604			- - - -	53	0.1 (4-4.3) 0.4 (4.3-6.1)			
8	602								
									9
10	600			- - - -	100	0 (8-10) 0.2 (10-12)		***Silt*** Dark grayish brown (2.5Y 4/2) silt, sitff to very stiff, medium plasticity; no odor; wet.	
12	598								12
				- - - -	100	0.2 (12-13.2) 0.2 (13.2-14)		***Slag*** Fill: slag, coal fragments, red brick; dry.	
									13.2
14	596							***SILTY GRAVEL WITH SAND (gm)*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; wet.	14
								Bottom of boring at 14 feet. Refusal at 14 feet	
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 609.7

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	74	0.1 (0-1.8) 0.1 (1.8-2.4) 0.1 (2.4-2.8)		***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, coal fragments; no odor; dry.	1.8
2	608							***Silt*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; no odor; dry.	2.4
								SILTSTONE Siltstone, pulverized.	3.8
4	606							*Bottom of boring at 3.8 feet. Refusal at 3.8 feet*	
6	604								
8	602								
10	600								
12	598								
14	596								
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 610.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	40	0.1 (0-0.6) 0.7 (0.6-1.6)		***Topsoil*** Topsoil, slag, organics; dry.	0.6
2	609							***SILTSTONE*** Siltstone, highly fractured.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	607								
6	605								
8	603								
10	601								
12	599								
14	597								
16	595								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 611.25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.5) 0.2 (0.5-2)		***Topsoil*** Topsoil, organics.	0.5
2	609							***SILTSTONE*** Siltstone, weathered.	2
								Bottom of boring at 2 feet. Refusal at 2 feet	
4	607								
6	605								
8	603								
10	601								
12	599								
14	597								
16	595								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 609.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	608			- - - - -	63	0 (0-0.2) 0 (0.2-2.5)		***Slag*** Fill: slag, red brick, fire brick, coal fragments; dry.	
4	606								
6	604			- - - - -	55	0 (4-5.5) 0 (5.5-6.2)		***SILT WITH GRAVEL (ml)*** Light yellowish brown (2.5Y 6/3) silt, few gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.	5.5 7.1
8	602							***Slag*** Slag, fire brick, red brick, coal fragments.	9
10	600			- - - - -	73	0 (8-9) 0 (10-10.9)		***SILT WITH GRAVEL (ml)*** Light yellowish brown (2.5Y 6/3) silt, few small gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.	10
								Silt Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.	11.4
12	598			- - - - -	63	0 (12-13.5) 0 (13.5-13.8) 0 (13.8-14)		***Slag*** Fill: slag.	13.5 13.8
14	596							***Silt*** Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.	14
								SILTSTONE Light brownish gray (10YR 6/2) siltstone; highly fractured.	
16	594							*Bottom of boring at 14 feet. Refusal at 14 feet*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 613.2

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	611			- - - -	58	0 (0-0.2) 0 (0.2-3.5)		***Asphalt*** Asphalt.	0.2
								Slag Fill: slag, red brick, fire brick, coal fragments, bedrock fill; dry.	3.5
4	609							*Bottom of boring at 3.5 feet. Refusal at 3.3 feet*	
6	607								
8	605								
10	603								
12	601								
14	599								
16	597								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 18	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 608.85

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	607			- - - -	87	0 (0-0.2) 0 (0.2-3.5)		***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag; dry.	
									3.75
4	605							***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Wet from 9.3 to 14.5' bgs and 17 to 18' bgs.	
6	603			- - - -	75	0 (4-7)			
8	601								
10	599			- - - -	65	0 (8-10.6)			
12	597								
14	595			- - - -	65	0 (12-14.5)			
16	593			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	0 (16-18)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Wet from 9.3 to 14.5' bgs and 17 to 18' bgs. *(continued)* 18
18	591							*Bottom of boring at 18 feet. Refusal at 18 feet*
20	589							
22	587							
24	585							
26	583							
28	581							
30	579							
32	577							
34	575							
36	573							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 610.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	608			- - - -	65	0 (0-0.2) 0 (0.2-2.6)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Moist to wet beginning at 5.5' bgs.	
4	606								
6	604			- - - -	73	0 (4-6.9)			
8	602								
10	600			- - - -	75	0.1 (8-10) 0 (10-11)			10
								Silt Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet. Few bedrock fragments at bottom.	
12	598			- - - -	100	0 (12-14)			
14	596								14
								Bottom of boring at 14 feet. Refusal at 14 feet	
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 11	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 610.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, bedrock fill.	0.2
2	608			- - - -	65	0 (0-0.2) 0 (0.2-2.5)		***Slag*** Fill: slag, bedrock fill, coal fragments, red brick, fire brick.	3.25
4	606							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, fire brick, red brick, organics.	
6	604			- - - -	58	0 (4-6.3)			7.1
8	602							***Slag*** Fill: slag, fire brick, red brick; dry.	9.5
10	600			- - - -	77	0 (8-9.5)		***GRAVELLY SILT (ml)*** Light yellowish brown (2.5Y 6/3) silt, some bedrock fragments, stiff, medium plasticity; moist to wet. Siltstone present at bottom.	11
12	598							*Bottom of boring at 11 feet. Refusal at 11 feet*	
14	596								
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	610			- - - -	57	0 (0-0.2) 0 (0.2-1.8) 0 (1.8-2)		***WELL-GRADED GRAVEL (gw)*** Fill: cobble.	0.2
								Slag Fill: slag, fire brick, bedrock fragments, few silt.	1.8
								SILTSTONE Siltstone, silt.	3.5
4	608							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet*	
6	606								
8	604								
10	602								
12	600								
14	598								
16	596								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 616.12

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - - -	0.6	0 (0-0.2) 0 (0.2-2.4)		***Topsoil*** Topsoil, bedrock fill; dry.	0.2
2	614							***Slag*** Fill: bedrock fragments, slag, fire brick, red brick, organics, few silt; moist to wet.	3.2
4	612			- - - -	100	0 (4-5) 0 (5-6)		***GRAVELLY SILT (ml)*** Bedrock fill; dry.	5
6	610							***Slag*** Fill: slag, silt, bedrock fragments; wet.	6
								Bottom of boring at 6 feet. Refusal at 6 feet	
8	608								
10	606								
12	604								
14	602								
16	600								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-13
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 616.18

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Tosoil Topsoil, organics; moist.	0.3
2	614			- - - -	47	0 (0-0.3) 0 (0.3-1.9)		***Slag*** Fill: slag, coal fragments, wood debris, red brick, large root; dry.	3
4	612							***Slag*** Fill: fire brick, slag, red brick, large root; moist to wet.	4.3
6	610			- - - -	80	0.1 (4-4.3) 0 (4.3-4.8)		***SILTSTONE*** Siltstone fragments, few silt; dry.	7.5
8	608							*Bottom of boring at 7.5 feet. Refusal at 7.5 feet*	
10	606								
12	604								
14	602								
16	600								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-14
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 12	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 608.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Fill	1
2	606			- - - -	75	(0-2) 0.0 (2-4) 0.0		***SILT (ml)*** Brownish-red (7.5YR4/6) silt with some cinders and ash fill; medium dense; moist.	2
4	604							***SANDY SILT WITH GRAVEL (ml)*** Dark yellow (2.5YR5/6) sandy silt with gravel, trace ash; hard; very dense; dry.	
6	602			- - - -	75	(4-6) 0.0 (6-8) 0.0			6
								SANDY SILT (ml) Brown (10YR4/8) Sandy silt; soft; wet; cohesive; low plasticity; wet.	7.5
8	600							***WELL-GRADED SAND (sw)*** Yellow(10YR6/8) sand, some gravel; dry; firm.	9
10	598			- - - -	40	(8-10) 0.0 (10-12) 0.4		***SANDY SILT (ml)*** Brown (10YR4/6) sandy silt, trace ash and coal cinders; wet; non cohesive; medium dense.	
12	596								12
								Bottom of boring at 12 feet. Refusal at 12.0 ft bgs.	
14	594								
16	592								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 3/1/2016	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 9.5	Bore Diameter (in):	Ground Surface (ft-msl): 599.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								WELL-GRADED GRAVEL (gw) Fill: gravel, concrete and crushed rock.	1.25
2	598				90	(0-2) 0.0 (2-4) 0.4		***SANDY SILT (ml)*** Brown (10YR5/8) sandy silt, some gravel, trace ash and coal cinders; medium dense to dense; non cohesive; dry.	
4	596								
6	594				70	(4-6) 0.4 (6-8) 0.6			6
								SILT (ml) Brown (10YR5/8) silt, some ash and coal cinders; trace wood fragments; medium dense; dry.	
8	592				75	(8-9.5) 0.0			9.5
10	590							*Bottom of boring at 9.5 feet. Refusal at 9.5 ft bgs.*	
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 598.23

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2	596			- - - -	90	(0-2) 0.0 (2-2.5) 0.0		***WELL-GRADED SAND WITH GRAVEL (sw)*** Light brown (2.5YR4/4) coarse sand, some gravel, trace silt; soft; dry.	2.5
								Bottom of boring at 2.5 feet. Refusal at 2.5 ft bgs.	
4	594								
6	592								
8	590								
10	588								
12	586								
14	584								
16	582								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 619.37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- - - -	100	0.0		***GRAVELLY SILT (ml)*** Bedded siltstone fragments with black silt and loam, trace fine sand; moist; soft.
2	617							*Bottom of boring at 2 feet. Refusal at 2.0 ft.*
4	615							
6	613							
8	611							
10	609							
12	607							
14	605							
16	603							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 626.27

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					GRAVELLY SILT (ml) Siltstone fragments with silt and organics, trace fine sand, trace clay; moist; black to dark brown.	2
2	624				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	
4	622					
6	620					
8	618					
10	616					
12	614					
14	612					
16	610					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.4) 0.2 (0.4-2)		***Topsoil*** Topsoil, orgaincs; moist.	0.4
2	647							***GRAVELLY SILT (ml)*** Very dark brown (10YR 2/2) silt, some gravel less than 1 in diameter, angular, medium soft to stiff, low plasticity; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.4) 0 (0.4-2)		***Topsoil*** Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.	0.4
2	647							***SILT WITH GRAVEL (ml)*** Very dark brown (10YR 2/2) silt, few gravel less than 1 in diameter, angular, medium soft to stiff; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.64

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0.1 (0.4-2)		***GRAVELLY SILT (ml)*** Bedrock fill.	0.2 0.4
								Topsoil Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.	
2	647							***SILT WITH GRAVEL (ml)*** Fill: very dark brown (10YR 2/2) silt, few gravel less than 0.5 in diameter, few coal fragments, medium soft to stiff, low plasticity; dry.	2
4	645							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-0.6) 0.1 (0.6-2)		***GRAVELLY SILT (ml)*** Fill: siltstone fragments; very broken; dry.	0.2 0.6
2	647							***GRAVELLY SILT (ml)*** Fill: very dark grayish-brown (10YR 3/2) silt, some gravel less than 0.5 in diameter, medium soft, low plasticity; dry.	2
								SILTY GRAVEL (gm) Dark brown (10YR 3/3) gravel less than 1.5 in diameter, angular, few silt, trace coal fragments; dry.	
4	645							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.1 (0-0.3)		***Topsoil*** Black (10YR 2/1) topsoil, roots, organics, silt, soft, low plasticity; moist.	0.3
				-		0.1 (0.3-1.5)		***SILT WITH GRAVEL (ml)*** Very dark grayish-brown (10YR 3/2) silt, few gravel less than 0.25 in diameter, angular; dry. Coal fragments present.	1.5
				-		0.1 (1.5-2)		***GRAVELLY SILT (ml)*** Very dark brown (7.5YR 2.5/2) silt, some gravel, less than 2 in diameter, angular, blocky.	2
2	647							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 650.77

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0 (0-0.4) 0 (0.4-1.5) 0.1 (1.5-2)		***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, some gravel less than 0.25 in diameter, medium soft; moist.	0.4
								WELL-GRADED GRAVEL (gw) Light gray (10YR 7/1) gravel less than 1.5 in diameter, angular.	1.5
2	649							***Slag*** Fill: black (10YR 2/1) slag with coal fragments.	2
4	647							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	645								
8	643								
10	641								
12	639								
14	637								
16	635								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 651.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.1 (0-0.4)		***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, roots, gravel.	0.4
				-		0.1 (0.4-0.8)		***Silt*** Very dark brown (10YR 2/2) silt, medium soft, low plasticity; dry.	0.8
				-		0.1 (0.8-2)		***Slag*** Fill: slag, coal fragments. Porous texture. Less dense.	2
2	650			-				*Bottom of boring at 2 feet. End boring at 2 feet*	
4	648								
6	646								
8	644								
10	642								
12	640								
14	638								
16	636								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.6) 0.1 (0.6-0.8) 0.1 (0.8-2)		***Asphalt*** Asphalt.	0.6 0.8
2	646							***Silt*** Very dark gray (10YR 3/1) silt, trace gravel less than 0.25 in diameter, sub-angular, medium soft, low plasticity; dry.	2
								GRAVELLY SILT (ml) Dark gray (10YR 4/1) silt, some gravel less than 1.5 in diameter, sub-angular to sub-rounded, medium soft to stiff; dry.	
4	644							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	642								
8	640								
10	638								
12	636								
14	634								
16	632								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-09
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 653.36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light brownish-gray (10YR5/6) sandy silt and siltstone gravel, trace coal fragments and cinders; non plastic; hard; dry.	2
2	651							*Bottom of boring at 2 feet. End of boring at 2.0*	
4	649								
6	647								
8	645								
10	643								
12	641								
14	639								
16	637								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 645.3

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***GRAVELLY SILT WITH SAND (ml)*** Brownish-gray (10YR6/8) gravelly silt with sand; firm; non plastic; medium density; dry.	1.25
2	643							Siltstone fragments; very broken; dry.	2
								Bottom of boring at 2 feet. End of boring at 2.0	
4	641								
6	639								
8	637								
10	635								
12	633								
14	631								
16	629								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 645.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Not logged.
2	643				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	641				
6	639				
8	637				
10	635				
12	633				
14	631				
16	629				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 648.9

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not logged.
2	647				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	645				
6	643				
8	641				
10	639				
12	637				
14	635				
16	633				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 657.74

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not logged.
2	656				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	654				
6	652				
8	650				
10	648				
12	646				
14	644				
16	642				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 24	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 608.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil.	0.2 0.8
						0 (0-0.2) 0 (0.2-0.8) 0.5 (0.8-2) 0 (2-2.5)		***SILTSTONE*** Fill: Siltstone, highly fractured.	
2	606				63			***GRAVELLY SILT (ml)*** Very dark brown (10YR 2/2) silt, some gravel less than 0.25 in diameter, sub-rounded, medium soft, low plasticity; dry. Slag present. Faint petroleum-like odor around 1' bgs.	2 3.25
4	604							***WELL-GRADED GRAVEL (gw)*** Fill: highly fractured rock fill.	
								WELL-GRADED SAND WITH GRAVEL (sw) Fill: red brick, sand, rounded gravel.	5.5
6	602				75	0.1 (4-5.5) 0.0 (5.5-7)		***Slag*** Fill: slag material, angular gravel, coal fragments.	
8	600								
10	598				50	0.1 (8-10)			
12	596								12
14	594				75	0.1 (12-14.7) 0.2 (14.7-15)		***Slag*** Fill: slag, fractured bedrock fill, fire brick.	14.7
								Silt Brown (10YR 4/3) silt, stiff, low plasticity; wet.	15.5
16	592								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	100	0 (16-18) 0.1 (18-20)		***Slag*** Fill: slag, red brick, fire brick, fractured bedrock; dry. *(continued)* 18
								Slag Fill: very dark gray (10YR 3/1) slag, few silt, stiff; wet. Transitions to black slag near bottom. 20
20	588							
				- - - -	100	0.1 (20-22) 0 (22-24)		***Slag*** Fill: slag, fire brick, coal fragments; moist to wet. 22
22	586							
								SILTSTONE Highly fractured siltstone. 24
24	584							
								Bottom of boring at 24 feet. Refusal at 24 feet
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 22	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 608.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics.	0.1
				- - - -	75	0 (0-0.1) 1.5 (0.1-2) 0.5 (2-3)		***GRAVELLY SILT (ml)*** Fill: siltstone fragments; very broken; dry.	2
2	606							***Slag*** Fill: slag, fire brick, coal fragments, red brick. Wet starting at 15.4' bgs.	
4	604			- - - -	75	0.1 (4-7)			
6	602								
8	600			- - - -	50	0.5 (8-10)			
10	598								
12	596			- - - -	50	0.7 (12-14)			
14	594								15
16	592							***SILTSTONE*** Siltstone, some slag.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	38	0.6 (16-17.5)		***SILTSTONE*** Siltstone, some slag. *(continued)*
20	588			- - - -				
22	586							22
								Bottom of boring at 22 feet. Refusal at 22 feet
24	584							
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 25	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, some roots, some leaves.	0.2
2	606			- - - -	63	0.1 (0-0.2) 1.4 (0.2-2.5)		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs.	
4	604								
6	602			- - - -	50	0.8 (4-6)			
8	600								
10	598			- - - -	50	0.5 (8-10)			
12	596								
14	594			- - - -	43	0.3 (12-13.7)			
16	592								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	50	1.6 (16-18)		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs. *(continued)*
20	588							
22	586			- - - -	43	0.2 (20-21.6)		
24	584			- - - -				25
26	582							*Bottom of boring at 25 feet. Refusal at 25 feet*
28	580							
30	578							
32	576							
34	574							
36	572							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 606.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, roots; moist.	0.2
2	605			- - - - -	40	0 (0-0.2)		***Slag*** Fill: slag, fire brick, red brick, fill, few coal fragments; dry. Wet from 13.5 to 14.4' bgs.	
4	603								
6	601			- - - - -	63	0.2 (4-6.5)			
8	599								
10	597			- - - - -	45	0.1 (8-9.8)			
12	595								
14	593			- - - - -	55	5.9 (12-14.2)			
									15.2
16	591							***GRAVELLY SILT (ml)*** Bedrock fill; dry.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	589			- - - -	63	0.6 (16-16.6) 0 (16.6-18.6)		16.6 ***Slag*** Fill: slag, fire brick, coal fragments; dry. 18.8
20	587							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, fire brick, red brick. Dry from 20 to 21.5' bgs. Wet from 21.5 to 23' bgs.
22	585			- - - -	75	0.1 (20-23)		23.5
24	583							***Slag*** Fill: slag, fire brick, red brick, bedrock fill, coal fragments.
26	581			- - - -	66	0.1 (24-26.3)		27.5
28	579							*Bottom of boring at 27.5 feet. Refusal at 27.5 feet*
30	577							
32	575							
34	573							
36	571							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 17	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 608.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, roots; moist.	0.3
								GRAVELLY SILT (ml) Bedrock fill; dry.	1.5
2	606			- - - -	75	0.1 (0-0.3) 0.1 (0.3-1.5) 3.5 (1.5-3)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; no odor; dry.	3.5
4	604							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, coal fragments, fire brick, red brick; dry. Bedrock at 15.4' bgs.	
6	602			- - - -	75	0.2 (4-7)			
8	600								
10	598			- - - -	100				
12	596								
14	594			- - - -	100	1.1 (12016)			
16	592			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				17
				-				*Bottom of boring at 17 feet. Refusal at 17 feet*
				-				
18	590							
20	588							
22	586							
24	584							
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.18

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0.6 (0.2-2)		***Topsoil*** Topsoil, organics; moist.	0.2
2	605							***Slag*** Fill: slag, coal fragments, fire brick, red brick; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	603								
6	601								
8	599								
10	597								
12	595								
14	593								
16	591								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Surveyed

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.1) 6.3 (0.1-2)		***Topsoil*** Topsoil, roots, organics; moist.	0.1
2								***GRAVELLY SILT (ml)*** Fill: bedrock fragments, fire brick, red brick, coal fragments; no odor; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 607.94

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Not Logged.	
2	606				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	2
4	604					
6	602					
8	600					
10	598					
12	596					
14	594					
16	592					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 716.96

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt Asphalt.	0.6
2	715			50	0 (0-4)		***WELL-GRADED GRAVEL (gw)*** Black (7.5YR 2.5/1) gravel, sub-angular to sub-rounded, poorly sorted, trace silt; dry.	1.8
							WELL-GRADED GRAVEL (gw) Very dark brown (7.5YR 2.5/2) gravel less than 0.25 in diameter, trace silt, medium soft, low plasticity; wet.	3
4	713						***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (7.5YR 4/3) gravel less than 0.25 in diameter, few silt, medium soft, low plasticity; wet.	5.5
6	711			50	0 (4-8)		***WELL-GRADED GRAVEL (gw)*** Pinkish gray (7.5YR 6/2) gravel less than 1.5 in diameter, sub-angular to angular; dry.	7
8	709						***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Gravel less than 1.5 in diameter, poorly sorted, few silt, medium soft to stiff, low plasticity; wet.	10
10	707			75	0 (10-11)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, poorly sorted, trace silt, stiff; dry.	12
12	705						*Bottom of boring at 12 feet. Refusal at 12 feet*	
14	703							
16	701							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 712.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt and road base.	0.4 0.6
								Topsoil Topsoil, organics; moist.	1
2	710			- - - - -	63	0.1 (0-4)		***SILTY GRAVEL (gm)*** Dark brown (7.5YR 3/2) gravel less than 0.5 in diameter, sub-rounded, few silt, trace medium-grained sand; moist.	3.25
4	708			- - - - -	40	0.1 (4-5.5)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1 in diameter, angular, trace silt; dry. ***SILTSTONE*** Highly fractured siltstone; dry.	5.5
6	706							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	704								
10	702								
12	700								
14	698								
16	696								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.92

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	708			- - - -	15	0.2 (0-0.6)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, weathered; dry.	
4	706								
6	704			- - - -	50	0.2 (4-6.5)			
8	702								
10	700			- - - -	25	3.3 (8-9)			
12	698								
				- - - -	100	0.3 (12-13) 0.3 (13-14.5)			13
14	696							***Silt*** Brown (7.5YR4/4) silt, trace fine- to medium-grained sand, soft to stiff, low plasticity; wet.	14.5
								Bottom of boring at 14.5 feet. Refusal at 14.5 feet	
16	694								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.48

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2	707			- - - -	100	0.3 (0-4)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, highly weathered; dry.	4
4	705			- - - -	100	0.1 (4-6) 0.1 (6-7.5)		***SILT WITH GRAVEL (ml)*** Brown (7.5YR 4/4) silt, few gravel less than 0.25 in diameter, sub-angular, medium soft to stiff, low plasticity; wet.	6
6	703							***SILTSTONE*** Light gray (7.5YR 7/1) siltstone; dry.	7.5
8	701							*Bottom of boring at 7.5 feet. Refusal at 7.5 feet*	
10	699								
12	697								
14	695								
16	693								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.78

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								SILT WITH GRAVEL (ml) Dark reddish-brown (5YR 3/2) silt, few gravel less than 0.25 in diameter, angular, medium soft, low plasticity; dry.	0.6
2	708			- - - -	75	0.2 (0-0.6) 0.1 (0.6-3)		***WELL-GRADED GRAVEL (gw)*** Light gray (7.5YR 7/1) gravel less than 1.5 in diameter, angular; dry.	3.5
4	706			- - - -	50	0.2 (4-6)		***SILTSTONE*** Light gray (7.5YR 7/1) siltstone less than 2 in diameter, angular, fractured; dry.	7
6	704								
8	702							*Bottom of boring at 7 feet. Refusal at 7 feet*	
10	700								
12	698								
14	696								
16	694								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 709.19

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
		X		- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Fill material, siltstone fragments, brick fragments; some silt and coal ash; medium dense; dry.
2	707							*Bottom of boring at 2 feet. End of boring at 2.0*
4	705							
6	703							
8	701							
10	699							
12	697							
14	695							
16	693							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	90	0.1 (0-0.5) 0.1 (0.5-1.2) 0.1 (1.2-2)		***Topsoil*** Very dark grayish-brown (10YR 3/2) topsoil, roots present.	0.5
								GRAVELLY SILT (ml) Very dark gray (10YR 3/1) silt, some gravel ranging from 0.2 to 1.0 in diameter, angular; loose; dry.	1.2
2	568							***Slag*** Fill: slag, ash, coal fragments, few small gravel. Siltstone rock present at 1.8' bgs.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	566								
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.87

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.5) 0.1 (0.5-1.7) 0.1 (1.7-2)		***Topsoil*** Topsoil, roots present.	0.5
								Slag Fill: slag, coal, ash, trace brick, trace glass.	1.7
2	569							***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, little gravel ranging from 0.5 to 1 in diameter, angular; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	567								
6	565								
8	563								
10	561								
12	559								
14	557								
16	555								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 569.5

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	0.2 (0-0.4) 0.2 (0.4-1.2) 0.2 (1.2-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present.	0.4
								Slag Fill: slag, few gravel, angular, trace coal; dry.	1.2
2	568							***SILTSTONE*** Siltstone.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	566								
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	60	0.2 (0-0.4) 0.2 (0.4-1) 0.2 (1-1.2)		***Topsoil*** Very dark gray (10 YR 3/1) topsoil, roots present.	0.4
								Slag Fill: slag, trace brick, trace coal; dry.	1
2	565							***WELL-GRADED GRAVEL (gw)*** Gravel ranging from 0.8 to 1.5 in diameter, angular; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	563								
6	561								
8	559								
10	557								
12	555								
14	553								
16	551								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.3 (0-1.2) 178.4 (1.2-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil.	0.4
								Silt Very dark grayish-brown (10YR 3/2) silt, few gravel ranging from 0.2 to 0.8 in diameter, angular; loose; dry. Tree roots from 0.9 to 1.2 bgs.	1.2
2	568							***Slag*** Fill: dark gray (10YR 4/1) slag, coal, ash, little gravel, angular; dry.	2
4	566							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-06
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.52

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.2 (0-0.17)		***Topsoil*** Black (7.5YR 2.5/1) topsoil, trace gravel less than 1.5 in diameter, angular.	0.17
				-	0.3 (0.17-1.4)		***Silt*** Black (7.5YR 2.5/1) silt, few gravel ranging from 0.2 to 2.5 in diameter, angular, moist. Becoming wet at bottom.	1.4
				-			*Bottom of boring at 1.4 feet. Refusal at 1.4 feet*	
2	569							
4	567							
6	565							
8	563							
10	561							
12	559							
14	557							
16	555							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 567.11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.17) 0.7 (0.17-1.1)		***Topsoil*** Very dark brown (7.5YR 2.5/2) topsoil, few gravel less than 1 in diameter, sub-angular, few roots, trace brick; loose; dry.	1.1
2	565						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	563							
6	561							
8	559							
10	557							
12	555							
14	553							
16	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.3		***WELL-GRADED GRAVEL (gw)*** Very dark gray (7.5YR 3/1) gravel less than 1.2 in diameter, angular, trace silt, trace roots; loose; dry.	0.17
				-	(0-0.17)			
				-	0.3 (0.17-1.7)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Black (7.5YR 2.5/1) gravel less than 1.5 in diameter, angular, few silt; loose; dry.	1.7
				-				
2	564						*Bottom of boring at 1.7 feet. Refusal at 1.7 feet*	
4	562							
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.81

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.2 (0-0.17) 0.3 (0.17-1.1)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, trace large gravel, trace organics, trace roots.	0.17
2	564						***SILT WITH GRAVEL (ml)*** Dark brown (7.5YR 3/3) silt, little gravel less than 1.5 in diameter, sub-angular, trace clay, trace fine-grained sand, trace roots; moist.	1.1
							Bottom of boring at 1.1 feet. Refusal at 1.1 feet	
4	562							
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.82

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3		***Topsoil*** Topsoil, roots, organics, trace gravel less than 1.5 in diameter; loose; dry.	0.9
							Bottom of boring at 0.9 feet. Refusal at 0.9 feet	
2	564							
4	562							
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC33-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 23.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 586.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.3
								Concrete Road base.	0.5
2	585			- - - -	57	0 (0-0.3) 0 (0.3-0.5) 0 (0.5-1.5) 0 (1.5-2.3)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling present from 1.5 to 3.1' bgs.	3.1
4	583							***Slag*** Fill: slag, coal fragments, red brick, fire brick; wet.	
6	581			- - - -	25	0.1 (4-5)			6.5
								SILTY GRAVEL (gm) Fill: bedrock fragments, slag, few silt; wet at 9.5' bgs.	
8	579								
10	577			- - - -	50	0.1 (8-10)			
12	575								
14	573			- - - -	57	0.2 (12-14.3)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	53	0.1 (16-18.1)		***SILTY GRAVEL (gm)*** Fill: bedrock fragments, slag, few silt; wet at 9.5' bgs. *(continued)* 19
20	567							***WELL-GRADED GRAVEL (gw)*** Gravel, coarse, LNAPL present; saturated.
22	565			- - - -	53	3.5 (20-22)		23.8
24	563							*Bottom of boring at 23.8 feet. Refusal at 23.8 feet*
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC33-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 23.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 586.7

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	585			- - - - -	50	0 (0-0.2)		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs.	
4	583								
6	581			- - - - -	45	0.3 (4-5.8)			
8	579								
10	577			- - - - -	65	3.5 (8-10.7)			
12	575								
14	573			- - - - -	53	0.6 (12-14.1)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	0.6 (16-18)		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs. *(continued)*
20	567							
22	565			- - - -	65	1.4 (20-21.7) 3.7 (21.7-22.4)		23.7
24	563							*Bottom of boring at 23.7 feet. Refusal at 23.7*
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC33-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 19.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt. Road base.	0.2
								GRAVELLY SILT (ml) Rock fill.	0.8
2	585			- - - - -	73	0 (0-0.2) 0.2 (0.2-0.8) 0.2 (0.8-2.9)		***Slag*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling, light orange and pale brown in color, present from 1.5 to 3.1' bgs.	3.5
4	583							***Slag*** Fill: slag, coal fragments, red brick, gravel, angular; moist. Little silt from 5.9 to 6.5' bgs.	
6	581			- - - - -	63	0.2 (4-6.5)			7.25
8	579							***Slag*** Fill: slag, coal fragments, red brick, gravel, angular. Sub-angular gravel present from 9.5 to 10.3' bgs.	
10	577			- - - - -	67	0.3 (8-10.3)			11.2
12	575							***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating at 13.5' bgs.	
14	573			- - - - -	77	0.2 (12-14.5)			15.25
16	571							***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating near bottom. Odor present.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	88	2.5 (16-19.1)		***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating near bottom. Odor present. *(continued)* ***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock with a brownish yellowish coating near bottom. Odor present. *(continued)* 19.5
20	567							*Bottom of boring at 19.5 feet. Refusal at 19.5 feet*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.98

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.6
2	627			- - - - -	85	0 (0-0.2) 0 (0.2-0.6) 0.2 (0.6-3.4)		***Slag*** Slag, bedrock fill, coal fragments, red brick, fire brick. Light olive brown (2.5Y 5/4) few silt from 3.7 to 5.5' bgs. Siltstone at bottom of boring.	
4	625			- - - - -	86	0.2 (4-5.3)			5.5
6	623							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	621								
10	619								
12	617								
14	615								
16	613								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 6.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.22

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, bedrock fill.	0.3
2	626			- - - -	35	0.2 (0-0.3)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Gravel, angular, little very dark grayish-brown (2.5Y 3/2) silt.	1.4
								GRAVELLY SILT (ml) Fill: bedrock fragments, highly factured, gravel, angular; dry.	
4	624								
6	622			- - - -	96	0.2 (4-6.5)			6.5
								Bottom of boring at 6.5 feet. Refusal at 6.5 feet	
8	620								
10	618								
12	616								
14	614								
16	612								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.7

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete.	0.167 0.333
2	629			- - - -	75	0.1 (0-4)		***Topsoil*** Topsoil.	1.5
								Topsoil Topsoil.	2.8
4	627			- - - -	60	0 (4-5)		***WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm)*** Very dark grayish brown (10YR 3/2) gravel ranging from 0.2 to 1.5 in diameter, some fine-grained sand, few silt; loose; dry.	
								LEAN CLAY WITH GRAVEL (cl) Dark yellowish brown (10YR 3/4) clay, low plasticity, little gravel ranging from 0.5 to 1 in diameter; dry.	5
6	625							***SILTSTONE*** Light brownish gray (10YR 6/2) siltstone; highly fractured.	
								Bottom of boring at 5 feet. Refusal at 5 feet	
8	623								
10	621								
12	619								
14	617								
16	615								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.94

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Topsoil*** Topsoil.	0.5
				-					1
				-	67	0.3		***WELL-GRADED SAND WITH GRAVEL (sw)*** Dark brown (10YR 3/3) fine to semi- coarse-grained sand, little gravel ranging from 0.2 to 0.8 in diameter, few silt; loose; dry.	1.5
2	629			-					
								GRAVELLY SILT (ml) Dark yellowish brown (10YR 4/6) silt, low plasticity, some gravel ranging from 0.5 to 2 in diameter; loose; dry.	3
4	627							***SILTSTONE*** Light gray (10YR 7/2) siltstone; fractured; weathered; loose; dry.	
								Bottom of boring at 3 feet. Refusal at 3 feet	
6	625								
8	623								
10	621								
12	619								
14	617								
16	615								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 629.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete.
								Topsoil Topsoil.
2	628			- - - -	63	0.1 (0-4)		***SILT WITH GRAVEL (ml)*** Very dark grayish brown (10YR 3/2) silt, little gravel ranging from 0.2 to 0.8 in diameter; loose; dry.
4	626			- - - -	50	0.1 (4-6)		***Slag*** Fill: slag; coal fragments.
								LEAN CLAY (cl) Dark yellowish brown (10YR 3/4) clay, medium plasticity; loose; dry. Few gravel ranging from 0.2 to 1.0 in diameter present from 1.2 to 1.8' bgs.
6	624							***FAT CLAY (ch)*** Dark yellowish brown (10YR 3/4) clay; high plasticity; moist.
								SILTSTONE Siltstone; weathered.
8	622							*Bottom of boring at 6 feet. Refusal at 6 feet*
10	620							
12	618							
14	616							
16	614							

0.2
0.5
1
1.2
3.25
4.7
6

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 634.37

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					SILTY GRAVEL (gm) Grayish-brown (10YR5/2) siltstone fragments and silt; dry; loose.	2
2	632				*Bottom of boring at 2 feet. End of boring at 2.0*	
4	630					
6	628					
8	626					
10	624					
12	622					
14	620					
16	618					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-07
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 629.79

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.2		***WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm)*** Grayish-brown (0YR5/6) gravel with sandy silt, fill; hard; non plastic; noncohesive; dry.	1.5
2	628							***SILTY GRAVEL (gm)*** Light brown (10YR3/6) silty gravel, some coal fragments; hard; dry.	2
								Bottom of boring at 2 feet. End of boring at 2.0	
4	626								
6	624								
8	622								
10	620								
12	618								
14	616								
16	614								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 680.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0 (0-0.1)		***SILT WITH SAND (ml)*** Black (5YR 2.5/1) silt, some fine-grained sand, soft to medium stiff, low plasticity; moist.	0.1
				-		0 (1-1.5)			
				-		0 (1.5-1.8)		***POORLY-GRADED GRAVEL (gp)*** Light gray (5YR 7/1) gravel less than 1.5 in diameter; dry.	1.5 1.8
2	679			-		0 (1.8-2.3)		***GRAVELLY SILT (ml)*** Black (5YR 2.5/1) silt, some gravel less than 0.5 in diameter, angular, trace fine-grained sand, stiff; dry.	2.3
						0 (2.3-3)			3
4	677							***POORLY-GRADED SAND WITH GRAVEL (sp)*** Yellowish-red (5YR 5/8) medium coarsed-grained sand, some gravel, angular, loose; dry.	
								POORLY-GRADED SAND WITH GRAVEL (sp) Black (5YR 2.5/1) medium coarsed-grained sand, some gravel less than 0.5 in diameter, angular, medium dense; moist.	
6	675							*Bottom of boring at 3 feet. End boring at 3 feet*	
8	673								
10	671								
12	669								
14	667								
16	665								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 679.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.4) 0 (0.4-0.6) 0 (0.6-2)		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.	0.4 0.6
								POORLY-GRADED GRAVEL (gp) Gray (5YR 6/1) gravel less than 1.5 in diameter, angular; dry.	
2	677							***SILTY GRAVEL WITH SAND (gm)*** Dark reddish-brown (5YR 2.5/2) gravel less than 1 in diameter, sub-rounded, few silt, few fine-grained sand; dry.	2
4	675							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	673								
8	671								
10	669								
12	667								
14	665								
16	663								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 681.68

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-	100	0 (0-0.3)		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.	0.3
				-		0 (0.3-1.4)		***POORLY-GRADED GRAVEL WITH SAND (gp)*** Gravel less than 1 in diameter, sub-rounded, few fine- to medium-grained sand, trace silt.	1.4
				-		0 (1.4-1.6)		***POORLY-GRADED GRAVEL (gp)*** Gray (5YR 6/1) gravel less than 1.5 in diameter.	1.6
2	680			-		0 (1.6-2)		***SILTY SAND (sm)*** Black (5YR 2.5/1) medium-grained sand, some silt, loose; wet.	2
4	678							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	676								
8	674								
10	672								
12	670								
14	668								
16	666								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 578.68

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-2)		***Asphalt*** Asphalt.	0.2
								SILTY GRAVEL (gm) Gravel, angular to sub-angular, some fines, trace brick; moist.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 579.19

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-2)		***Asphalt*** Asphalt.	0.2
								SILTY GRAVEL (gm) Gravel, angular to sub-angular, some fines, trace brick; moist.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 578.77

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-0.4) 0 (0.3-2)		***Asphalt*** Asphalt.	0.2
								Concrete Road base, trace coal.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	75	0.1 (0-0.2) 0.1 (0.2-0.8) 0.1 (0.8-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil; dry.	0.2
								Concrete Concrete, road base; dry.	0.8
2	564							***GRAVELLY SILT (ml)*** Brown (10YR 4/3) silt, some gravel ranging from 0.2 to 1.5 in diameter; loose; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0.1 (0-0.5) 0.1 (0.5-1.3) 0.1 (1.3-2)		***Asphalt*** Asphalt, road base.	0.5
								Slag Fill: gravel, angular to sub-angular, some fines, trace brick; moist.	1.3
2	564							***WELL-GRADED GRAVEL WITH CLAY (gw-gc)*** Brown (10YR 5/3) gravel, few clay. high plasticity; moist.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.85

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	95	0.2 (0-0.2) 0.2 (0.2-0.9) 0.2 (0.9-1.5) 0.2 (1.5-2)		***Asphalt*** Asphalt, road base.	0.2
								SILTY GRAVEL (gm) Yellowish-brown (10YR 5/4) gravel ranging from 0.2 to 0.8 in diameter, little silt; loose; dry.	0.9
2	564							***Slag*** Fill: slag, little gravel, trace coal.	1.5
								WELL-GRADED GRAVEL WITH CLAY (gw-gc) Brown (10YR 5/3) gravel, few clay, high plasticity; moist.	2
4	562							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 683.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-1.1)		***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present; dry.	0.17
2	682							***Topsoil*** Dark grayish-brown (10YR 4/2) topsoil, silt, little gravel ranging from 0.5 to 1.1 in diameter, sub-angular, few wood present; dry.	1.1
								Bottom of boring at 1.1 feet. Refusal at 1.1 feet	
4	680								
6	678								
8	676								
10	674								
12	672								
14	670								
16	668								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-11
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 684.25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-1.1)		***Topsoil*** Very dark gray (10YR 3/1) topsoil with roots, little gravel less than 1 in diameter, angular; dry.	0.17
								SILT WITH GRAVEL (ml) Dark grayish-brown (10YR 4/2) silt, little gravel less than 1 in diameter, sub-angular, little roots; dry.	1.1
2	682							*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	680								
6	678								
8	676								
10	674								
12	672								
14	670								
16	668								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-12
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 677.62

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0.1 (0.17-0.8)		***Topsoil*** Very dark gray (10YR 3.1) topsoil, little gravel ranging from 0.2 to 1 in diameter, angular thin slabs of gravel, roots present; dry.	0.8
2	676							*Bottom of boring at 0.8 feet. Refusal at 0.8 feet*	
4	674								
6	672								
8	670								
10	668								
12	666								
14	664								
16	662								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-13
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-0.8)		***Topsoil*** Very dark grayish-brown (10YR 3/2) topsoil, roots present; dry.	0.17
								SILT WITH GRAVEL (ml) Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 0.5 in diameter, sub-angular, trace roots; dry.	0.8
2	628							*Bottom of boring at 0.8 feet. Refusal at 0.8 feet*	
4	626								
6	624								
8	622								
10	620								
12	618								
14	616								
16	614								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-14
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.21

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.17) 0.1 (0.17-0.9)		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel ranging from 0.2 to 1 in diameter, sub-angular, roots; dry.	0.17
								SILT WITH GRAVEL (ml) Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1.5 in diameter, angular, trace roots; dry.	0.9
2	626							*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	624								
6	622								
8	620								
10	618								
12	616								
14	614								
16	612								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-15
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 627.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.17) 0.1 (0.17-0.75)		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel, sub-angular, roots; dry.	0.17
								SILT WITH GRAVEL (ml) Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1 in diameter, angular, trace roots; dry.	0.75
2	626							*Bottom of boring at 0.75 feet. Refusal at 0.75 feet*	
4	624								
6	622								
8	620								
10	618								
12	616								
14	614								
16	612								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-16
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Concrete Concrete.	0.3
2	598			- - - -	60	0.1 (0-0.3) 0.5 (0.3-1.2) 0.2 (1.2-2.4)		***SILT WITH GRAVEL (ml)*** Black (7.5YR 2.5/1) silt, low palsticity, little gravel less than 1 in diameter, angular; loose; dry.	1.2
								SILTY GRAVEL (gm) Dark brown (7.5YR 3/2) gravel ranging from 0.2 to 2 in diameter, angular, little silt, non-plastic; loose; dry. Only angular rock present from 1.2 to 1.4' bgs. More silt is present from 2.1 to 2.4' bgs.	3.2
4	596			- - - -	40	o.2 (4-4.6)		***SILT WITH GRAVEL (ml)*** Dark gray (7.5YR 4/1) silt, non-plastic, little gravel ranging from 0.2 to 1 in diameter, sub-angular; loose; dry.	5.5
6	594							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-17
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.58

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, roots, little gravel less than 2 in diameter, sub-angular; loose; dry.	0.9
2	530						*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	528							
6	526							
8	524							
10	522							
12	520							
14	518							
16	516							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-18
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.41

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.3 (0-0.17)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, little gravel less than 1.5 in diameter, sub-angular, trace roots; loose; dry.	0.17
				-	0.3 (0.17-1.3)			1.3
				-			***Silt*** Black (7.5YR 2.5/1) silt, little slag, few gravel less than 0.8 in diameter, trace red brick, trace glass; dry.	
				-			*Bottom of boring at 1.3 feet. Refusal at 1.3 feet*	
2	529							
4	527							
6	525							
8	523							
10	521							
12	519							
14	517							
16	515							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-19
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.17) 0.4 (0.17-1.1)		***Topsoil*** Black (7.5YR 2.5/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular to angular, litle slag; loose; dry.	1.1
2	529						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	527							
6	525							
8	523							
10	521							
12	519							
14	517							
16	515							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-20
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 541.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, roots present; dry.	0.17
				-	0 (0.17-1)			1
				-			***Topsoil*** Dark brown (7.5YR 3.2) topsoil, little gravel less than 1.2 in diameter, sub-angular, few organics; dry. Few clay from 0.8 to 1' bgs.	
2	539			-				
							Bottom of boring at 1 feet. Refusal at 1 foot	
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-21
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 541.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; dry.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 1 in diameter, sub-angular; wet starting at 1 foot bgs.	1.2
				-			*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
2	539			-				
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-22
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 536.5

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.2		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.	0.17
2	535						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angualr; loose; dry.	0.8
							Bottom of boring at 0.8 feet. Refusal at 0.8 feet	
4	533							
6	531							
8	529							
10	527							
12	525							
14	523							
16	521							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-23
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 546.6

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics; loose; dry.	0.17
				-	0 (0.17-0.9)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry.	0.9
				-				
				-				
2	545						*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	543							
6	541							
8	539							
10	537							
12	535							
14	533							
16	531							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-24
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 540.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular; loose; dry.	1.2
				-			*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
2	539			-				
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-25
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 540.61

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel less than 0.8 in diameter, sub-angular.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.2 in diameter, sub-angular; loose; dry.	1.2
				-			*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
2	539							
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-26
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 547.18

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.1		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.17
							Topsoil Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1 in diameter, sub-angular; loose; dry.	0.9
2	545						*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	543							
6	541							
8	539							
10	537							
12	535							
14	533							
16	531							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-27
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 548.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 2.5 in diameter, sub-angular; loose; dry.	0.7
							Bottom of boring at 0.7 feet. Refusal at 0.7 feet	
2	546							
4	544							
6	542							
8	540							
10	538							
12	536							
14	534							
16	532							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-28
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 548.98

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) to very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.7
2	547						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	545							
6	543							
8	541							
10	539							
12	537							
14	535							
16	533							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-29
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 550.57

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel.	0.17
				-				0.7
				-			***Topsoil*** Brown (7.5YR 4/3) topsoil, few gravel less than 1 in diameter, sub-angular, trace organics.	
				-				
2	549						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	547							
6	545							
8	543							
10	541							
12	539							
14	537							
16	535							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-30
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 586.38

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics, few gravel less than 0.5 in diameter, sub-angular; loose; dry.	0.17
							SILT WITH GRAVEL (ml) Very dark gray (7.5YR 3/1) silt, organics, little gravel less than 1.5 in diameter; loose; dry.	1.1
2	584						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	582							
6	580							
8	578							
10	576							
12	574							
14	572							
16	570							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-31
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 573.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.9
							Bottom of boring at 0.9 feet. Refusal at 0.9 feet	
2	572							
4	570							
6	568							
8	566							
10	564							
12	562							
14	560							
16	558							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-32
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 576.85

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.0		***SILT WITH SAND (ml)*** Very dark gray (7.5YR 3/1) topsoil, silt, little fine-grained sand, little organics; loose; dry.	0.17
							GRAVELLY SILT (ml) Black (7.5YR 2.5/21) silt, some gravel ranging from 0.25 to 3.5 in diameter with flat platey appearance, trace to little organics; loose; dry.	0.7
2	575						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	573							
6	571							
8	569							
10	567							
12	565							
14	563							
16	561							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-33
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SAND (gw)*** Dark gray (2Y4/2) fill: gravel with coarse sand, trace ash fill; medium hard; dry.	2
2	564							*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-34
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 563.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.0		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry.	0.3
2	562							***Well-Graded Gravel with Silt and Sand (GW-GM)*** Dark gray (2.5YR4/1) gravel with silty sand; medium dense; moist.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	560								
6	558								
8	556								
10	554								
12	552								
14	550								
16	548								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-35
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 564.32

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not Logged.
2	562				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*
4	560				
6	558				
8	556				
10	554				
12	552				
14	550				
16	548				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 585.07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not Logged.
2	583				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	581				
6	579				
8	577				
10	575				
12	573				
14	571				
16	569				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-37
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.92

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
					Not Logged.
					Bottom of boring at 0.75 feet. Refusal at 0.75 ft.
2	596				
4	594				
6	592				
8	590				
10	588				
12	586				
14	584				
16	582				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-38
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.27

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	75	0.0		***Silt (ML)*** Brown (10YR4/6) silt with coarse sand; medium dense; dry.	0.4
2	598							***Silty Gravel (GM)*** Brown (10YR4/6) siltstone fragments with some silt; dense; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-39
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.29

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	50	0.1		***SILTY GRAVEL (gm)*** Brown (10YR4/6) silty gravel, some coarse sand; hard; medium dense; moist.	1
								Bottom of boring at 1 feet. Refusal at 1.0 ft.	
2	598								
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-40
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.29

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	50	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark brown (10YR4/8) silty gravel, trace coarse sand; loose; dry.	1
								Bottom of boring at 1 feet. Refusal at 1.0 ft.	
2	598								
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-41
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	90	0.0		***SANDY SILT (ml)*** Fill: brown (10YR4/6 silt with some coarse sand, some ash and coal cinders, trace brick fragments, trace black discoloration; hard; dry.	1.5
2	598							Siltstone fragments and gravel; weathered; very broken; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-100
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 679.84

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	678				
4	676				
6	674				
8	672				
10	670				
12	668				
14	666				
16	664				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-101
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 545.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	544				
4	542				
6	540				
8	538				
10	536				
12	534				
14	532				
16	530				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-102
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 669.82

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	668				
4	666				
6	664				
8	662				
10	660				
12	658				
14	656				
16	654				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-103
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 531.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	529				
4	527				
6	525				
8	523				
10	521				
12	519				
14	517				
16	515				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-104
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 521.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	520				
4	518				
6	516				
8	514				
10	512				
12	510				
14	508				
16	506				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-106
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 545.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	543				
4	541				
6	539				
8	537				
10	535				
12	533				
14	531				
16	529				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.89

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt, trace rootlets; dry; loose.	0.3
1	799			-	100	(0-2) 0.0 (2-2.5) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/6) silt, trace subangular gravel, trace oxidized mottled zones; medium hard; moist.	1.75
2	798			-				***Siltstone*** Siltstone gravel with some gray (10YR5/1) silt; loose; dry.	2.5
3	797							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.59

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; moist; soft; non cohesive.	0.4
1	800			-				***Silt (ML)*** Yellowish-brown (10YR5/4) clayey silt; moist; soft; low plasticity; cohesive.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	799			-					
				-					
3	798								3.25
								Siltstone Highly weather silstone, some gray (10YR5/1) silt; loose; moist.	3.5
4	797							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; dry; soft; non cohesive.	0.4
1	800			-				***Silt with Gravel (ML)*** Dark grayish-brown (10YR4/2) silt with subangular gravel (0.2-1.5in); dry; medium hard; non cohesive.	1
2	799			-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some angular gravel (0.2-2.0); dry; medium hard; non cohesive.	
3	798			-					3.75
4	797			-				***Siltstone*** Highly weathered siltstone and gray (10YR5/1) silt; loose; dry.	4
								Bottom of boring at 4 feet. Refusal at 4.0 ft. bgs.	
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; dry; soft; non cohesive.	0.3
								Poorly-Graded Gravel (GP) Angular gravel; loose; dry.	0.75
1	801			-					
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some angular gravel (0.2-1.5in); dry; soft to medium hard; non cohesive.	
2	800			-					
				-					
3	799								3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.	
4	798								
5	797								
6	796								
7	795								
8	794								
9	793								
10	792								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) to black (7.5YR2.5/1) silt, some rootlets and organics; dry; soft; low plasticity.	0.5
1	799			-				***Silt (ML)*** Brown (7.5YR4/3) silt, some clay, trace rootlets; moist; soft; low plasticity.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	798			-					
				-					2.75
3	797							***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light brown (7.5YR6/3) subangular gravel (0.2-2.0in) and sandy silt; dry; loose.	3.5
4	796							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets and organics; loose; soft; dry.	0.3
								Poorly-Graded Gravel (GP) Gray (10YR5/1) gravel (0.4-2.0in); loose; dry.	0.75
1	801			-					
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt with Gravel (ML)*** Grayish-brown (10YR5/2) silt with subangular gravel (0.2-2.0in); loose; dry.	
2	800			-					
				-					
3	799								3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.	
4	798								
5	797								
6	796								
7	795								
8	794								
9	793								
10	792								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.87

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) silt, trace rootlets; dry; loose.	0.3 0.5
1	799			-	100	(0-2) 0.0 (2-2.5) 0.0		***Poorly-Graded Gravel (GP)*** Subangular gravel (0.2-2.0); loose; dry.	
				-				***Silt (ML)*** Brown (10YR4/3) silt, some subangular gravel; medium dense; dry.	
2	798			-					2
								Siltstone Highly weathered siltstone with trace silt; loose; dry.	2.5
3	797							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Very dark brown (10YR2/2) silt with rootlets and organics; loose; dry.	0.3 0.5
1	799			-	100	(0-2) 0.0		***Poorly-Graded Gravel (GP)*** Siltstone gravel.	
				-				***Silt (ML)*** Light yellowish-brown (10YR6/4) silt, trace sub angular gravel and roolets; loose; dry.	1.8
				-					
2	798							***Siltstone*** Fractured siltstone.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	797								
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Black (10YR2/1) silt, some rootlets, trace sub angular gravel; loose; soft; dry.	0.5
1	800			- - -	100	(0-2) 0.0		***Silt (ML)*** Light yellowish-brown (10YR6/4) silt, trace gravel (0.2-1.0in); loose; dry.	
2	799								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	798								
4	797								
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-7
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.16

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10YR3/3)) silt, trace rootlets; loose; soft; dry.	0.3
1	798			-	100	(0-1.5) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/6) silt and angular gravel; medium soft; dry; non cohesive.	
				-					1.5
				-				*Bottom of boring at 1.5 feet. Refusal at 1.5 ft. bgs.*	
2	797								
3	796								
4	795								
5	794								
6	793								
7	792								
8	791								
9	790								
10	789								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-8
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.47

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1	798			- - - -	100	(0-2) 0.0		***Silt with Gravel (ML)*** Very dark brown (10YR2/2) silt with subangular gravel, some rootlets; loose; moist.	1
								Silt with Gravel (ML) Grayish-brown (10YR5/2) silt and subangular gravel (0.2-2.0in); loose; dry.	2
2	797							*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	
3	796								
4	795								
5	794								
6	793								
7	792								
8	791								
9	790								
10	789								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-9
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.97

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.5
1	799			- - -	100	(0-2) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some subangular shale gravel (0.2-1.5in), trace rootlets; moist; soft; low plasticity; non cohesive.	1.75
2	798							***Siltstone*** Gray (10YR5/1) siltstone, some silt; very fractured; loose; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	797								
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 739.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; moist.	0.2
1	738			-				***Silt with Gravel (ML)*** Grayish-brown (10YR5/3) silt with subangular gravel; medium dense; non cohesive; dry.	
				-	100	(0-2) 0.0 (2-3.0) 0.0			
2	737			-					
				-					2.5
								Siltstone Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	3
3	736							*Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.*	
4	735								
5	734								
6	733								
7	732								
8	731								
9	730								
10	729								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 740.55

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.2
1	740			-				***Silt with Gravel (ML)*** Grayish-brown (10YR5/3) silt with subangular gravel; medium dense; cohesive; low plasticity; moist.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	739			-					2
				-				***Siltstone*** Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	
3	738								3.5
4	737							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	736								
6	735								
7	734								
8	733								
9	732								
10	731								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.25	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 743.46

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
1	742			-	100	(0-2) 0.0 (2-2.25) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/4) silt, some siltstone gravel; loose to medium dense; non cohesive; dry.	
				-					
2	741			-					2.25
								Bottom of boring at 2.25 feet. Refusal at 2.25 ft. bgs.	
3	740								
4	739								
5	738								
6	737								
7	736								
8	735								
9	734								
10	733								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 745.89

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.4
1	745			-	100	(0-2) 0.0 (2-2.5) 0.0		***Silt (ML)*** Brown (10YR4/3) silt, some subangular gravel; medium dense; non cohesive; dry.	1.8
2	744			-				***Siltstone*** Highly weathered siltstone with trace silt; loose; dry.	2.5
3	743							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	742								
5	741								
6	740								
7	739								
8	738								
9	737								
10	736								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.54

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
1	741			-	100	(0-2) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/4) silt and siltstone gravel; loose to medium dense; non cohesive; dry.	
				-					
				-					
2	740								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	739								
4	738								
5	737								
6	736								
7	735								
8	734								
9	733								
10	732								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 743.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
								Poorly-Graded Gravel (GP) Siltstone gravel; loose; dry.	0.6
1	742			-					
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Brown (10YR4/4) silt, some subangular gravel (0.2-1.5in); medium dense; low-plasticity; cohesive; dry.	
2	741			-					
				-					2.8
3	740							***Siltstone*** Siltstone fragments with some gray (10YR3/1) silt; loose; dry.	3.5
4	739							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	738								
6	737								
7	736								
8	735								
9	734								
10	733								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 735.2

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1	734			-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
2	733			- - -	33	(2-3.0) 0.0		***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose; dry.	
3	732								3
								Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.	
4	731								
5	730								
6	729								
7	728								
8	727								
9	726								
10	725								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 738.41

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1	737			-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
2	736			- - -	66	(1.0-2.0) 0.0 (2-3.0) 0.0		***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose to medium dense; non cohesive; moist, becoming dry at 1.75'.	
3	735								3
								Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.	
4	734								
5	733								
6	732								
7	731								
8	730								
9	729								
10	728								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.84

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.3
1	741			-				***Silt (ML)*** Light brownish-yellow (10YR5/4) silt; medium soft; dry; non cohesive.	
				-	100	(0.0-2.0) 0.0 (2-3.0) 0.0			
2	740			-					2.4
				-				***Siltstone*** Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	3
3	739							*Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.*	
4	738								
5	737								
6	736								
7	735								
8	734								
9	733								
10	732								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-7
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 732.9

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1	732			- - - -	60	(1.5-2.5) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1.5
2	731							***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose; dry.	2.5
3	730							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	729								
5	728								
6	727								
7	726								
8	725								
9	724								
10	723								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-8
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 736.11

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1	735			- - - -	100	(0-2) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with leaf litter, trace subangular gravel; moist; soft. ***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose to very dense; dry.	0.3
2	734							*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	733								
4	732								
5	731								
6	730								
7	729								
8	728								
9	727								
10	726								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-9
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with leaf litter, trace subangular gravel; moist; soft.	0.3
1	740			-	100	(0-2) 0.0		***Siltstone*** Light gray (10YR7/2) highly weathered siltstone and silt; loose to very dense; dry.	
				-					
				-					
2	739								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	738								
4	737								
5	736								
6	735								
7	734								
8	733								
9	732								
10	731								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.6
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visble staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
							Bottom of boring at 3 feet. Refusal at 3'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.8
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2.5 feet. Refusal at 2.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.8
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	2.5
6							*Bottom of boring at 2.5 feet. Refusal at 2.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.7
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	2.5
6							*Bottom of boring at 2.5 feet. Refusal at 2.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.7
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.4
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	0.9
2				100	0.0			
							Ithaca Shale Saprolite Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
4							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/4) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.75
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
6							*Bottom of boring at 3 feet. Refusal at 3'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.6
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.1
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.2
2							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
4							*Bottom of boring at 3 feet. Refusal at 3'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.9
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
							Bottom of boring at 3 feet. Refusal at 3'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/4) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
8								
10								
12								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.8 2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
6								
8								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.3
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
8								
10								
12								
14								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.5 1
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
8								
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12								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-1
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3.6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1 2 3				0.0		***Silt (ML)*** Silt and clay.	3.6
4 5						*Bottom of boring at 3.6 feet. Refusal at 3.6 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-10
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 9.6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
				5.0		***Silt (ML)*** Silt and clay.	
2							2
						Silt (ML) Silt and clay.	
4							
				2.0			
6							
8							8
				-		***Silt (ML)*** Silt and clay.	
							9.6
10						*Bottom of boring at 9.6 feet. Refusal at 9.6 ft bgs, bedrock.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-11
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
1						***Silt (ML)*** Silt and clay.	
2							
3				-			
4							
5							
6							6
						Bottom of boring at 6 feet. Refusal at 6 ft bgs, bedrock.	
7							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-12
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 9	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
				0.6		Concrete slab.	0.5
1						***Well-Graded Sand (SW)***	
2							
3							
4							
5							
6							
7							
8							
9							9
						Bottom of boring at 9 feet. Refusal at 9 ft bgs, bedrock.	
10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-2
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3.55	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1 2 3				0.0		***Silt (ML)*** Silt and clay.	3.55
4 5						*Bottom of boring at 3.55 feet. Refusal at 3.55 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-3
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 2.9	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Notes: Physical Description	
						Ground Surface	
1 2				0.0		***Silt (ML)*** Silt and clay.	2.9
3 4 5						*Bottom of boring at 2.9 feet. Refusal at 2.9 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-4
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/23/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 7.8	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1, 2, 3, 4, 5				-		***Silt (ML)*** Silt and clay.	
6				1.2		***Silt (ML)*** Silt and clay. Oil/water mixture on top of bedrock.	6
7				-		***Silt (ML)*** Silt and clay.	7
8						*Bottom of boring at 7.8 feet. Refusal at 7.8 ft bgs, bedrock.*	7.8
9, 10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-5
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/23/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 7.8	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1, 2, 3, 4, 5				-		***Silt (ML)*** Silt and clay.	
6				1.2		***Silt (ML)*** Silt and clay. Oil/water mixture on top of bedrock.	6
7				-		***Silt (ML)*** Silt and clay.	7
8						*Bottom of boring at 7.8 feet. Refusal at 7.8 ft bgs, bedrock.*	7.8
9, 10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-6
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/1/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	3
3					*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-7
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	3
3					*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-8
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	3
3					*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-9
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavato
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
1 2				3.3		***Silt (ML)*** Silt and clay.	3
3 4 5						*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/4) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
6							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
8								
10								
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14								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 4/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/6) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.8
		X		100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3.5
5							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
10								
15								
20								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/6) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
								1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
8								
10								
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16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.5
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
5							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
10								
15								
20								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 727.77

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; wet.	1
2	726							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, trace sub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; wet becoming dry @ 2.3 ft.	2.5
								Elastic Silt (MH) Dark yellowish-brown (10YR4/4) clayey silt, trace sub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; wet becoming dry @ 2.3 ft.	3
4	724							***Siltstone*** Weathered siltstone, trace silt; wet.	
								Bottom of boring at 3 feet. Refusal at 3 feet	
6	722								
8	720								
10	718								
12	716								
14	714								
16	712								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 727.52

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	66	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; wet.	1
2	726							***Elastic Silt (MH)*** Brownish-yellow (10YR6/6) clayey silt, trace sub-angular siltstone gravel; medium dense; cohesive; medium plasticity; moist.	3
4	724							*Bottom of boring at 3 feet. Refusal at 3 feet*	
6	722								
8	720								
10	718								
12	716								
14	714								
16	712								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.16

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; moist.	0.3
2	727							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, somesub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; moist becoming dry @ 2.5 ft.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	725								
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
2	727			- - - -	75	(0-2) 0.0 (2-4) 0.0		***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, some sub-angular gravel, trace rootlets; cohesive; medium plasticity; wet; soft.	
4	725			- - - -	100	(4-4.5) 0.0			4.3 4.5
								Siltstone Weathered siltstone, trace silt; wet.	
6	723							*Bottom of boring at 4.5 feet. Refusal at 4.5 feet*	
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.16

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	(0-2) 0.0 (2-3) 0.0		***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt; medium dense; cohesive; medium plasticity; moist.	1
2	727							***Elastic Silt with Gravel (MH)*** Brownish-yellow (10YR6/6) clayey silt and siltstone fragments; medium dense; moist, becoming dry @2.70ft.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	725								
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3.5) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
2	727							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, some sub-angular gravel, trace rootlets; soft; cohesive; medium plasticity; moist.	1.75
								Elastic Silt (MH) Brownish-yellow (10YR6/6) clayey silt, some gravel (0.2-2.0 in); medium dense; cohesive; medium plasticity; moist.	3
4	725							***Siltstone*** Weathered siltstone, trace silt; loose; dry.	3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 feet	
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-01B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 11/25/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 25.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 566.59

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				10 10 12 35	100	0.2		Asphalt.	0.3
								WELL-GRADED SAND (sw) Black (10YR2/1) angular coarse sand with slag and cinders, some gravel (0.25-0.75in); loose; dry.	1
2	565							***SILT (ml)*** Dark yellowish-brown (10YR4/4) silt, some angular siltstone gravel >2.0in in diameter; relict bedding; medium dense; dry.	2
4	563							***SILTSTONE*** Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures	
6	561								
8	559				Total: 100% Solid: 98% RQD: 0%				
10	557								
12	555				Total: 100% Solid: 90% RQD: 14%				
14	553								
16	551								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-01B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	549				Total: 100% Solid: 96% RQD: 30%			***SILTSTONE*** Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures *(continued)*
20	547							
22	545				Total: 100% Solid: 74% RQD: 58%			
24	543							25.5
26	541							*Bottom of boring at 25.5 feet. End of boring at 25.5 ft. bgs.*
28	539							
30	537							
32	535							
34	533							
36	531							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-02B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 35.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 578.58

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				12 5 6 6	100	2.5		Asphalt.	0.5
2	577			8 6 3 2	25	2.3		***SILT WITH GRAVEL (ml)*** Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	3
4	575			3 2 2 6	50	14		***SILT (ml)*** Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
6	573			5 6 6 7	50	11.1			
8	571			18 20 10 8	25	2.6			
10	569			10 6 6 8	12.5	0.5			11.7
12	567			6 7 4 6	25	0.4		***SILT (ml)*** Dark grayish-brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	13
14	565			8 50 50/2 -	50	3		***SILT WITH GRAVEL (ml)*** Grayish-brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16	563								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								17
18	561				Total: 100% Solid: 74% RQD: 58%			***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'.
20	559							20.5
22	557				Total: 100% Solid: 89% RQD: 8%			***SILTSTONE*** Siltstone; dark gray; moderate to strong field strength; aphanitic; uniform structure with possible laminations; fresh to slightly decomposed; competent; intensely fractured; fractures appear parallel to bedding every 1-3' ranging from extremely narrow to very narrow in aperture (0-3mm); not healed; clean; rough; stepped. 20.6-21.1' High angle fracture; very narrow; clean; rough; stepped. 27.2-28.3' Near vertical fractures; extremely narrow; not healed; smooth; clean. 29.1-30.65' Near vertical fractures; extremely narrow; not healed; smooth; clean.
24	555							
26	553				Total: 96% Solid: 42% RQD: 7%			
28	551							
30	549							
32	547				Total: 100% Solid: 92% RQD: 36%			
34	545							35.5
36	543							*Bottom of boring at 35.5 feet. End of boring at 35.5 ft. bgs.*

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-02C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 66	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 579.23

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				12, 5, 6, 6	100	2.5		Asphalt.	0.75
								WELL-GRADED GRAVEL (gw) Angular gravel fill; loose.	1.3
2	577			8, 6, 3, 2	25	2.3		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Black (10YR2/2) to yellowish-brown silty coal cinders with angular gravel (0.2-2.0in), trace coarse sand; loose; dry.	
4	575			3, 2, 2, 6	50	14			5.4
6	573			5, 6, 6, 7	50	11.1		***SILTY GRAVEL (gm)*** Gray (10YR5/1) sub-angular gravel (0.2-2.0in), some silt, some coal cinders, trace medium sand; loose; dry.	
8	571			18, 20, 10, 8	25	2.6			
10	569			10, 6, 6, 8	12.5	0.5			
12	567			6, 7, 4, 6	25	0.4			
14	565			8, 50, 50/2	50	3			14.6
								LEAN CLAY (cl) Gray (10YR5/1) silty clay, some sub angular gravel (0.2-1.5in); cohesive; medium plasticity; wet; soft.	14.9
16	563			- - - - -				Fractured siltstone bedrock, trace silt; loose; wet.	15.2
18	561				Total: 93% Solid: 60%				
20	559								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
					RQD: 11%			
22	557				Total: 100% Solid: 68% RQD: 8%			Siltstone; strong; gray with occasional dark brown oxidized zones; aphanitic; massive with occasional banding; fresh to slightly decomposed; slight disintegration; intensely fractured. 21 18.3-18.55' Bedding plane fracture zone; wide; healed with cohesive clay sediment; rough; dry to moist. 18.7' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.1' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.4' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.8' 70° joint; narrow; slightly healed; surface oxidation; smooth; dry. 20.0-21.0' fracture zone; not healed; very broken; rough to smooth; dry. *(continued)*
24	555							
26	553				Total: 100% Solid: 88% RQD: 26%			Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; intensely fractured, bedding plane fractures and vertical joint sets every 1-4, slight healing, some surface oxidation; rough to smooth. 36.4-39.6' Bedding plane fracture zone; narrow to medium wide; healed to clean; cohesive sediment; stepped; wet. 39.8-39.95' Bedding plane fracture; wide; healed; cohesive sediment; wet.
28	551							
30	549							
32	547				Total: 98% Solid: 65% RQD: 8%			
34	545							
36	543				Total: 100% Solid: 95% RQD: 36%	13.5 ppm 39.8-39.95'		
38	541							
40	539							
42	537				Total: 26% Solid: 22% RQD: 0%			
44	535							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	533							46
48	531				Total: 98% Solid: 98% RQD: 64%			Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; fractured. 46.25' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 46.95' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 47.3-47.6' 75° Joint; narrow to medium wide; clean; not healed; smooth; wet. 48.2' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 48.55' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 48.9' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 49.15' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 50.3' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped.
50	529							
52	527				Total: 100% Solid: 84% RQD: 69%			50.3-50.8' 90° Joint; medium narrow; clean; not healed; smooth; wet. 51-51.3' Fracture zone; very broken; narrow to moderately wide; medium healed; cohesive sediment; stepped; wet. 51.75' Mechanical break 52.15' Mechanical break 52.55' Mechanical break 53.15' Mechanical break 53.6' Mechanical break 52.9-53.55' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.1-55.2' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.5-56.0' Broken; possible fracture zone, possible mechanical break; some cohesive sediment; 60° fracture plane at 55.8'
54	525							
56	523				Total: 92% Solid: 86% RQD: 76%			55.6' Mechanical break 58.25' Mechanical break 59.15' Mechanical break 57.0-57.3 Fracture zone; very broken; narrow to moderately wide; clean; stepped; wet. 59.5-60.6 60-90° Joint set; wide to medium narrow; some healing; cohesive sediment; stepped; wet. 62.6' Mechanical break 63.2' Mechanical break 63.6-63.8 70° Joint; wide; healed; cohesive sediment; wet; stepped. 64.9' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.1' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.6-66.0' Fracture zone; very wide; healed; cohesive sediment; dry; stepped.
58	521							
60	519							
62	517				Total: 100% Solid: 92% RQD: 88%			
64	515							
66	513							66
68	511							*Bottom of boring at 66 feet. End of boring at 66.0 ft. bgs.*
70	509							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-03B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/8/2016	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Overburden, not logged.	
2	585					
4	583					
6	581					
8	579					
10	577					
12	575					13
14	573				Bluish-gray siltstone; strong; aphanitic; massive; fresh; competent; intensely fractured; fractures are primarily horizontal bedding plane fractures; smooth to slightly rough; no infilling; extremely narrow to tight. Recovery: Total: 100%, Solid: 65%, RQD: 15%	
16	571					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-03B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				18
					SAA; intensely fractured to 22', moderately fractured below Recovery: Total: 100%, Solid: 93%, RQD: 22%
20	567				
22	565				23
					SAA; fossiliferous between 26.6' and 27.0'. Possible fracture zone from 23.33-23.75' w solid core recovery between fractures; Horizontal bedding plane fractures at 23.95', 24.0', 24.2', 24.5', 24.75', 24.9', 25.1', 25.25', 25.65', 25.8', 26.1', 26.55', 26.0', and 27.2'. Recovery: Total: 100%, Solid: 95%, RQD: 60%
24	563				
26	561				27.5
28	559				*Bottom of boring at 27.5 feet. End of boring at 27.5 ft. bgs.*
30	557				
32	555				
34	553				
36	551				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-04B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 41.2	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 593.57

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt and gravel debris	1.25
2	592			- - - -	69	(0-2) 1.7 (2-4) 3.0		***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR4/2) silt and subangular gravel; moist; medium dense; non cohesive; nonplastic.	
4	590								
6	588			- - - -	63	(4-6) 2.6 (6-8) 3.7			6
								SILT (ml) Dark reddish-brown (10YR2/1) silt, some sub-angular gravel; loose; dry; non cohesive; nonplastic.	
8	586								8.75
10	584			- - - -	63	(8-10) 2.3 (10-12) 4.9		***WELL-GRADED GRAVEL (gw)*** Fill: black (10YE2/1) to dark red (2.5YR3/6) coal ash and brick fragments, some angular coal fragments; loose; dry; non cohesive; odorless.	
12	582								
14	580			- - - -	63	(12-14) 10.3 (14-16) 4.1			
16	578								
18	576			- - - -	75	(16-18) 6.9 (18-20) 3.4			18.5
								WELL-GRADED GRAVEL (gw) White fragmented sandstone fill.	18.8
20	574								20

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-04B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- -	100	(20-21) 0.1		***WELL-GRADED GRAVEL (gw)*** Fill: red (2.5YR3/6) brick fragments, trace coal; loose; dry. 21
22	572			- -				***SILT (ml)*** Grayish-brown (10YR5/2) silt, trace brick and coal fragments; wet; soft.
24	570				Total: 100% Solid: 60% RQD: 27%			Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°. 26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break
26	568							27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet. 28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break
28	566				Total: 100% Solid: 81% RQD: 18%			29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp; 30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft. 31.9' Mechanical break
30	564							32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break
32	562				Total: 82% Solid: 65% RQD: 13%			33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break
34	560							35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.8' Mechanical break
36	558							37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break 38.05' Mechanical break 38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet.
38	556				Total: 100% Solid: 100% RQD: 62%			39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet.
40	554							Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°. 41.2
42	552							26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break
44	550							27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet. 28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break 29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp;

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-04B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	548							30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft. 31.9' Mechanical break 32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break 33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break 35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.8' Mechanical break 37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break 38.05' Mechanical break 38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet. 39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet. *Bottom of boring at 41.2 feet. End of boring at 41.2 ft. bgs.*
48	546							
50	544							
52	542							
54	540							
56	538							
58	536							
60	534							
62	532							
64	530							
66	528							
68	526							
70	524							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-05B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 712.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				17 22 34 22	100	2.7		Asphalt.	0.5
2	710			18 19 50/2 -	100	1.4		***SILTY GRAVEL (gm)*** Brown (10YR4/5) silty sub angular gravel; loose to medium dense; dry.	3.2
4	708							Not logged, augered down to set casing.	
6	706								6.3
8	704				Total: 98% Solid: 82% RQD: 8%			Siltstone; strong gray; dark; aphanitic; massive with possible laminations; fresh; competent; intensely fractured. 6.3-6.6' broken; 6.7' horizontal bedding plane; 6.85' horizontal bedding plane; 7-7.1' broken; 7.3' horizontal bedding plane; 7.5-7.55' horizontal bedding plane; 7.7, 7.8, 7.9, 8.1, 8.3, 8.5, 8.75, 8.9, 9.1, 9.25, 9.4, 9.8, 10, 10.2, 10.5' horizontal bedding plane fractures; 10.7-11.2' broken. Fractures are extremely narrow; not healed; clean; rough; stepped with visible water flow.	
10	702								11.3
12	700				Total: 98% Solid: 82% RQD: 8%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-4 with horizontal bedding plane fractures; clean; rough; stepped. Vertical fracture between 15.2-15.8'	
14	698								
16	696								16.3

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-05B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	694				Total: 100% Solid: 9% RQD: 28%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-3 with horizontal bedding plane fractures; clean; rough; stepped. Highest fracture density between 22.4 and 23.1'. *(continued)*
20	692							
								21.3
22	690				Total: 65% Solid: 65% RQD: 42%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured. Horizontal bedding plane fractures at 21.8, 21.9, 22.1, 22.4, 22.9, 23.3, 23.8, 24.2, 24.4'. Fractures are clean; rough; stepped with narrow aperatures. High angle fracture between 24.0 and 24.2.
24	688							
26	686							
								26.3
								Bottom of boring at 25 feet. End of boring at 25.0 ft. bgs.
28	684							
30	682							
32	680							
34	678							
36	676							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-06C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 66	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 584.72

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				13, 20, 10, 11	100	0.7		Asphalt.	0.5
2	583			17, 18, 16, 13	75	1.9		***SILT WITH GRAVEL (ml)*** Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	3
4	581			7, 9, 6, 6	50	1.7		***SILT (ml)*** Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
6	579			7, 6, 5, 4	0	-			
8	577			2, 3, 4, 4	25	1.8			
10	575			3, 4, 4, 3	15	1.6			11.7
12	573			6, 7, 3, 3	50	2		***SILT (ml)*** Dark grayish-brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	13
14	571			3, 4, 6, 3	25	1.4		***SILT WITH GRAVEL (ml)*** Grayish-brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16	569			21, 3, 5, 4	62.5	1.2			17
18	567			15, 6, 6, 3	50	1.4		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'.	
20	565								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				6 3 3 6	20	0.8		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'. *(continued)*
22	563			6 7 7 8	15	1.8		
24	561			10 7 5 8	50	3.3		
26	559			7 7 6 13	15	3.8		
28	557			6 13 40 52	100	3		28.3 – 28.7: Light brownish-gray (2.5YR6/2) siltstone fragments, trace silt; broken; loose.
30	555							
32	553				Total: 84% Solid: 68% RQD: 23%			
34	551							
36	549				Total: 100% Solid: 100% RQD: 44%			
38	547							
40	545							
42	543				Total: 100% Solid: 100% RQD: 56%	PID 2.2 ppm at 39.4'		
44	541							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log
46	539				Total: 100% Solid: 100% RQD: 68%		
48	537						
50	535						
52	533				Total: 100% Solid: 92% RQD: 60%	PID 1.7 ppm at 54.3'; PID 2.3 ppm at 55.4'	
54	531						
56	529				Total: 71% Solid: 71% RQD: 71%		
58	527						
60	525						
62	523				Total: 60% Solid: 100% RQD: 90%	PID 5.6 ppm at 62.4'	
64	521						
66	519						
68	517						
70	515						

Physical Description

Siltstone, strong dark gray; aphanitic; massive with occasional bedding; fresh to slightly decomposed; competent to moderately disintegrated; some very intense fracturing.

31.3' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet.
31.4' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet.
31.6' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet.
31.7' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet.
32.2-32.5' Mechanical break
32.5-33.05' Bedding plane fracture zone; moderately narrow to wide; healed cohesive sediment; some sand; stepped; wet.
33.1-33.3' 90° Joint; narrow; not healed; clean; stepped; wet.
33.5' Mechanical break
33.7' Mechanical break
34.5' Mechanical break
35.0' Mechanical break
35.95' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet.
36.2' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet.
36.4' Bedding plane fracture; moderately narrow; not healed; stepped; wet.
36.65-36.70' 30° Joint; narrow; not healed; clean; smooth; wet.
37.0' Mechanical break
37.25-37.30' 20° Joint; narrow; not healed; clean; smooth; wet.
37.7' Mechanical break
37.8' Mechanical break
38.15' Mechanical break
38.25' Bedding plane fracture; narrow; not healed; stepped; wet.
39.1' Bedding plane fracture; medium wide; not healed; stepped; wet.
39.2' Mechanical break
39.4-39.55' Bedding plane fracture; wide; healed; cohesive clay with sand; wet.
39.7-39.8' 45° Joint; narrow; not healed; clean; stepped; wet.
40.2' Mechanical break
40.3' Mechanical break
40.95' Mechanical break
41.3' Bedding plane fracture; narrow; medium healed; smooth; wet
41.80' Bedding plane fracture; medium narrow; medium healed; some cohesive clay and sand sediment; wet.
42.0' Mechanical break
42.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
42.65' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
43.5' 20° Joint; narrow; some healed; cohesive sediment; smooth; wet.
43.70' Mechanical break
44.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
44.50' Mechanical break
45.1' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
45.2' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
45.45' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
46.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
47.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
47.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
48.1' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
48.9' Mechanical break
49.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
49.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
50.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
50.2' Mechanical break
50.8-51.6 90° joint; narrow to moderately narrow; medium healed; cohesive sediment; stepped; wet.
52.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.
52.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet.

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
72	513							53.1' Mechanical break 53.4' Bedding plane fracture; narrow; medium healed; some cohesive clay; wet. 53.8-54.0' Bedding plane fracture; wide; clean; stepped; wet. 54.3' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet. 55.4' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet. 55.6' Mechanical break 55.7-57.0 Joint set; 70-90°; extremely narrow; medium healed; stepped; wet; 57-59' core loss, driller notes that the bit dropped during drilling. A void/cavity likely present. 59.8' Mechanical break 61.0' Mechanical break 61.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 62.1' Mechanical break 62.4-62.8' Fracture zone; very wide; healed; cohesive sediment and coarse gravel; rough and stepped; wet. 63.6' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.9' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 65.4-65.8' Mechanical break *(continued)*
74	511							
76	509							
78	507							
80	505							*Bottom of boring at 66 feet. End of boring at 66.0 ft. bgs.*
82	503							
84	501							
86	499							
88	497							
90	495							
92	493							
94	491							
96	489							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-07B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/7/2016	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 23.1	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 599.67

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2	598						Not logged.	
4	596							
6	594							7.5
8	592			- - - -	Total: 100%; Solid: 59%; RQD: 0%		Siltstone; blueish-gray (10B 5/1); moderate strong; fossiliferous; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; horizontal bedding plane fractures.	9.8
10	590			- - - -	Total: 100%, Solid: 83%, RQD: 0%		SAA; fractures are horizontal bedding plane fractures; extremely narrow; rough; tight; some CaCO3 recrystallization. Fracture bedding begins to dip to 10° at 19.0'.	
12	588							
14	586							14.8
16	584						SAA, intensely fractured with horizontal bedding plane fractures from 19.8' to 21.5'; extremely narrow; not healed; clean; smooth to rough.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
18	582			- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA, intensely fractured with horizontal bedding plane fractures from 19.8' to 21.5'; extremely narrow; not healed; clean; smooth to rough. *(continued)* 19.8
20	580			- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA 23.1
22	578						
24	576						*Bottom of boring at 23.1 feet. End of boring at 23.10 ft. bgs.*
26	574						
28	572						
30	570						
32	568						
34	566						
36	564						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-07C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/6/2016	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 47.25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 599.84

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2	598						Not logged.	
4	596							
6	594							
								7
8	592			- - - -	Total: 43%; Solid: 19%; RQD: 0%		Siltstone; gray; strong; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; fracture surfaces have yellow to red ironoxide staining. Horizontal fractures at 8.5', 8.6', 8.9'; vertical fractures from 8.5'-8.9'	
							Recovery: Total: 43%; Solid: 19%; RQD: 0%	9
10	590			- - - -	Total: 100%; Solid: 90%; RQD: 19%		Siltstone; gray; strong; aphanitic; massive, some laminations; fresh to slightly decomposed; competent; intensely fractured from 9-12' with fracture density decreasing between 12-14'; fractures are mostly horizontal bedding plane fractures and extremely narrow; not healed; clean rough; stepped.	
12	588							
14	586							14
16	584			- - - -	Total: 100%; Solid: 92%; RQD: 20%		SAA, intensely fractured with horizontal bedding plane fractures; extremely narrow; not healed; clean; smooth to rough.	
18	582							18.25
20	580			-	Total: 100%;		SAA	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
				- - -	Solid: 98%; RQD: 40%		SAA *(continued)*
22	578						SAA *(continued)* — 22.25
				- - - -	Total: 100%; Solid: 98%; RQD: 28%		SAA SAA
24	576						
26	574						27.25
28	572			- - - -	Total: 100%; Solid: 97%; RQD: 63%		SAA SAA
30	570						
32	568						32.25
34	566			- - - -	Total: 100%; Solid: 97.5%; RQD: 97.5%		SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow. SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow.
36	564						
							37.25
38	562			- - - -	Total: 100%; Solid: 100%; RQD: 100%		SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow
40	560						
42	558						42.25
44	556			- - - -	Total: 100%; Solid: 100%; RQD: 100%		SAA, core recovered entirely intact.

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
46	554						SAA, core recovered entirely intact. *(continued)*
48	552						SAA, core recovered entirely intact.
							SAA, core recovered entirely intact. *(continued)*
50	550						*Bottom of boring at 47.25 feet. End of boring at 47.25 ft. bgs.*
52	548						
54	546						
56	544						
58	542						
60	540						
62	538						
64	536						
66	534						
68	532						
70	530						

47.25

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-08B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/9/2015	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Erik S. Reinert	**Total Depth (ft):** 21	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 536.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				7 12 50/2.5		0		***WELL-GRADED GRAVEL (gw)*** Black gravel, little fine grained sand, little silt; dry; medium dense.	1
								SILT (ml) Light brown silt, trace coarse sand and gravel; dry.	1.7
2	535							Not logged, augered down to set casing.	
4	533								
									5
6	531				Total: 40% Solid: 35% RQD: 35%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	6
8	529				Total: 98% Solid: 66% RQD: 0%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	
10	527								
									11
12	525				Total: 100% Solid: 75% RQD: 15%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean; Vertical fracture from 21.1 to 12.4' and from 14.8-15.1'.	
14	523								
16	521								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-08B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	519				Total: 100% Solid: 70% RQD: 8%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean. Vertical fracture between 16.2 and 16.7'; smooth; narrow; clean. *(continued)*
20	517							21
22	515				Total: 100% Solid: 92% RQD: 98%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures ever 2 to 1'; extremely narrow to very narrow; rough stepped; clean.
24	513							24
								Bottom of boring at 21 feet. End of boring at 21.0 ft. bgs.
26	511							
28	509							
30	507							
32	505							
34	503							
36	501							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-500
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 10.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 584.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.4		***Asphalt*** Asphalt.	0.3
2	582						***GRAVELLY SILT WITH SAND (ml)*** Brown (10YR4/3) silt, with ~25% angular, poorly graded, gravel and traces of fine, soft sands; medium dense; low plasticity, dry.	
4	580							
6	578							6
							WELL-GRADED GRAVEL WITH SILT (gw-gm) gray and tan (10YR6/4) well graded, sub angular, coarse gravel with weathered siltstone and some brown, non plastic, stiff silt. Very hard, high density and dry.	
8	576			- - - -	2.1			8.5
							GRAVELLY SILT WITH SAND (ml) Light brown silt (10YR4/4) with coarse gravel, trace fine sand and weathered siltstone; firm, medium dense; wet.	
10	574							10.5
							Bottom of boring at 10.5 feet. Refusal at 10.5 ft. bgs.	
12	572							
14	570							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-501
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.32

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.2		***Concrete*** Concrete slab	0.5
2	585						***GRAVELLY SILT WITH SAND (ml)*** Brown (7.5YR4/4) Silt with ~15% well graded, angular, medium gravel, trace fine, soft sand; firm, medium density and dry.	
4	583							
6	581							6.5
				- - - -	0.2			
8	579						*Bottom of boring at 8 feet. Refusal at 8.0 ft. bgs.*	
10	577							
12	575							
14	573							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-502
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.3		***Concrete*** Concrete slab	0.5
1	586			-	0		***Fill Material*** Fill material of brownish-gray (7.5 YR5/4) poorly graded, sub angular, medium-coarse gravel, ash and fine, soft sand;medium density; dry.	1.5
2	585			-			***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Light brown (10YR6/8) well graded, angular gravel with silt, some weathered shale; hard; dry.	2
3	584			-			*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	
4	583			-				
5	582							
6	581							
7	580							
8	579							
9	578							
10	577							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-503
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0		***Concrete*** Concrete slab	0.5
1	586			-			***POORLY-GRADED GRAVEL (gp)*** Fill: dark black (10YR3/2) poorly graded, sub angular, medium gravel, with silt and some coarse sand; medium density; dry. Some weather siltstone at bottom 2 of core.	1
				-			*Bottom of boring at 1 feet. Refusal at 1.0 ft. bgs.*	
				-				
2	585							
3	584							
4	583							
5	582							
6	581							
7	580							
8	579							
9	578							
10	577							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-504
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.37

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.2		***Concrete*** Concrete slab	0.5
1	586			-			***POORLY-GRADED GRAVEL WITH SAND (gp)*** Fill: gray to tan (7.5YR6/3) well graded, sub angular, fine-medium gravel; fine sands with ash and broken up siltstone; hard, medium density; dry.	
				-				
2	585			-				
3	584							3
							WELL-GRADED SAND WITH GRAVEL (sw) Brownish-tan (10YR6/6) well graded angular gravelly sand ; hard; very dense; dry.	3.5
4	583						***SANDY SILT WITH GRAVEL (ml)*** Brown (7.5YR4/6) fine grained sandy silt with poorly graded, angular, medium gravel; medium density; moist to wet with increasing depths.	
5	582			-	11.9			
				-				
6	581			-			*Bottom of boring at 6 feet. Refusal at 6.0 ft. bgs.*	6
				-				
7	580							
8	579							
9	578							
10	577							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-505
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Concrete*** Concrete slab	0.8
2	585						***Fill*** Fill: Dark brown to black (10YR3/2) poorly graded sandy, sub angular gravel and ash; medium-coarse; about 50% gravel with increasing presence of gravel further down the core run; hard; medium density; dry. Sand was fine grained.	
4	583							
6	581							6
				- - - -	1.4		***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR3/4) silt with fine, firm sand and ~20% sub angular, poorly graded, medium-coarse gravel; very dense; dry.	
8	579							8.5
							Shale/ siltstone Broken up and weathered shale and siltstone.	9
10	577						*Bottom of boring at 9 feet. Refusal at 9.0 ft. bgs.*	
12	575							
14	573							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-506
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -				***Concrete*** Concrete slab	0.5
2	585							Fill: brownish-gray (10YR5/3) poorly sorted, sub angular gravel, coarse sand and ash, over 50% grave/ and all gravel from 4-5'; hard; low density; dry.,	
4	583								
				- - - -	75	0.6			
6	581								6.5
8	579							***SANDY SILT WITH GRAVEL (ml)*** Light brown (7.5YR4/6) moderately fine sandy silt with ~10% well graded, angular gravel; medium density; moist.	9
10	577							*Bottom of boring at 9 feet. Refusal at 9.0 ft. bgs.*	
12	575								
14	573								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-507
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	40	0.3		Concrete slab	0.5
1	586			-				Fill: gray and brownish-yellow (10YR6/4) well graded, angular gravel with fine sand, trace coarse ash and concrete; hard; medium density; dry. .	
				-					
2	585			-					
3	584								
4	583								
5	582								
6	581			-	90	0.3		***ELASTIC SILT WITH GRAVEL (mh)*** Light brown (10YR3/4) elastic silt with ~20% well graded, angular gravel; dense.	6
7	580			-				*Bottom of boring at 7 feet. Refusal at 7.0 ft. bgs.*	7
				-					
8	579								
9	578								
10	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-508
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	25	0.4		Concrete slab	0.5
1	586			-				Fill: brownish-gray (10YR5/4) well graded, sub rounded gravel with mixture of coarse and fine sands, trace non plastic silt; medium density; dry.	
				-					
2	585			-					
3	584								3
								Brownish-gray (10YR-5/3) poorly graded, sub rounded, medium gravel, with dark, coarse ash fill; very hard, and much denser than the above fill material; dry.	
4	583								
				-					
5	582			-	50				5
								SANDY ELASTIC SILT WITH GRAVEL (mh) Dark brown (10YR2/2) fine grained sandy silt with ~10% well-graded, sub-rounded gravel; medium density; moist.	5.5
				-					
6	581			-				*Bottom of boring at 5.5 feet. Refusal at 5.5 ft. bgs.*	
7	580								
8	579								
9	578								
10	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-509
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 599.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.6		***Concrete*** Concrete slab	0.5
1	599			- -	100	1.7		***WELL-GRADED GRAVEL WITH SAND (gw)*** Yellow and gray (10YR6/6) sandy well graded, sub angular, coarse gravel with weathered siltstone and broken up shale, trace coarse, poorly graded fill ash material; hard, very dense; dry.	
2	598			-				*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	597			- -					
4	596			-					
5	595								
6	594								
7	593								
8	592								
9	591								
10	590								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-510
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 599.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	90	0.7		***Concrete*** Concrete slab	0.5
1	599			-	90	8.1		***WELL-GRADED GRAVEL (gw)*** gray to brown (10YR5/2) well graded, angular medium-coarse gravel with weathered siltstone, trace coarse, poorly graded sand and broken up shale at bottom 3 of borehole; very hard; dense; dry.	
2	598			-				*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	597			-					
4	596			-					
5	595								
6	594								
7	593								
8	592								
9	591								
10	590								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-12/ MW-44T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/13/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Jerome D. McSorley	**Total Depth (ft):** 50	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 558.67
Coordinates (X/Y): 842927.9/885982.86	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 558.22

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	41 to 46	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				25 15 15 9	50	0.8		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray to dark gray gravel; some sand and silt; loose; dry becoming wet at 4 feet bgs; fill.	
2	557			13 8 8 5	40	1			
4	555			4 4 3 2	20	0			
6	553			5 50	50	0			7
8	551			- -				***Siltstone*** Gray Siltstone - no sample.	
10	549			- - - -	0				
12	547								12.5
14	545			- - - -	100			***Siltstone*** Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Fracture zone at 12.5-13.2 feet bgs; horizontal and vertical; not healed; clean; rough; dry with staining. Mechanical breaks at 13.2-16 feet bgs; horizontal; extremely narrow; not healed; clean; smooth; dry with staining. RQD: 29%	
16	543								16
18	541			- - - -	100				
20	539								

Notes:

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
								Siltstone Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry with staining. RQD: 44% *(continued)*	21
22	537			- - - -	100				
24	535							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joint at 22.8 feet; smooth, narrow, not healed; decomposed; rough; dry. RQD: 44%	26
26	533								
28	531			- - - -	100				
30	529							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Fracture zone at 26.9-27.1 feet; rough; dry with staining. Horizontal bedding plane joints at 28.7 and 30 feet; very narrow; not healed; clean; rough; dry. RQD: 60%	31
32	527								
34	525			- - - -	100				
36	523							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Vertical joint at 34.1-34.5 feet; 80 degree dip; very narrow; not healed; clean; rough; dry with staining. Horizontal bedding plane joint at 35.4 feet; narrow; not healed; clean; rough; dry. RQD: 62%	36
38	521			- - - -	100				
40	519							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints at 39.3, 39.8, 39.9 and 40 feet; narrow; not healed; cohesive sediment in fractures; rough; damp. RQD: 62%	41
42	517			- - - -	100				
44	515								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	513							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints (possibly mechanical) at 42.5, 42.7, 43, 43.7, 43.8, 45, and 45.6 feet; very narrow; not healed; clean; rough; dry to dry with staining. RQD: 60% Water sample MW-44T collected for VOCs. *(continued)*	46
48	511			- - - -	100				
50	509								50
52	507							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; fresh; competent; slightly fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 47, 48.7 and 49.7 feet; very narrow; not healed; clean; smooth; dry. RQD: 100%	
54	505								
56	503							*Bottom of boring at 50 feet.*	
58	501								
60	499								
62	497								
64	495								
66	493								
68	491								
70	489								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-10-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/18/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.04
Coordinates (X/Y): 843068.65/886158.34	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.82

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				30	6.4		***Fill*** Dark brown black sand; well graded; some silt; rare grave; some ash; loose; dry.	
2	561								
3	560				80	0		***Fill*** Light brown to brown clay; low plasticity; some gravel; soft; dry to moist.	
4	559								
5	558				30	2.6		***Fill*** Light gray fine to medium sand; some gravel; loose; dry.	
6	557								
7	556				40	2.5		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs.	
8	555								
9	554				60	28.6			
10	553								

Notes:

2.8

4

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Project Name: Former EPT | **Client:** Emerson | **Location:** Ithaca, NY | **Boring Log:** EW-10-25B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
11	552				60	27.6		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs. *(continued)*	
								11.5	
12	551							***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								12	
13	550				0	N/A		***Ithaca Siltstone*** No core recovery.	
14	549							14	
					100	1.4		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
16	547				100	N/A		Fracture: 4 mechanical (3 horizontal, 1 vertical). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.2 and 13.0 feet bgs. Very narrow; no healing; some infilling with cohesive sediment; smooth to undulating; dry.	
17	546							RQD: 18% (very poor)	
								17.8	
18	545							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
19	544							Fractures: 10 mechanical (7 horizontal, 3 vertical). 11 bedding plane joints. Extremely narrow; not healed; some with cohesive sediment fill; laminated; smooth to undulating; dry.	
20	543				100	NA		RQD: 24% (very poor)	
21	542								
22	541								
								22.8	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-10-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	540			-	100	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 4 mechanical (all horizontal) 1 bedding plane joint. Extremely narrow; not healed; clean; smooth; dry.	
				-					
24	539			-					24.2
				-	100	N/A		RQD: 58% (fair) *(continued)*	
25	538			-				***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. *Bottom of boring at 25 feet.*	25
				-					
26	537			-					
				-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-11-43C (Formerly MW-14
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/15/2011	**Drill Method:** Hollow Stem Auger/Mud R
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.80
Coordinates (X/Y): 843153/886142.06	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.07

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
2	585				0.0		***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583							
6	581							
8	579				0.0			
10	577							
12	575						12	
14	573						***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal.	
16	571							
18	569			31	2.3			
20	567			75	12.0			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-11-43C (Formerly MW-14

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				75	14.3		***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal. *(continued)*	
22	565			75	6.1			
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							
38	549							
40	547							
42	545							
44	543							
							45	
							Bottom of boring at 45 feet.	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-12-45C (Formerly EXB-02
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05
Coordinates (X/Y): 843190.49/886146.18	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.47

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
				100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
5	582			100	0			
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish-gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs. (10–12)	
15	572						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	
20	567							
25	562							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
30	557						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
35	552							
40	547							
45	542							
50	537							
55	532							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	527						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
65	522							
70	517							
75	512							
80	507						80 *Bottom of boring at 80 feet. EXB-02 converted to extraction well EW12-45C by grouting up open portion to 45 feet on 6/3/15*	
85	502							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-1-62C/EXB-05
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Timothy Huff	**Total Depth (ft):** 62	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 566.59
Coordinates (X/Y): 843159.83/886285.85	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 565.88

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
				10 9	0			***Silty Gravel (GM)*** Fill material; gravel; silt.	
				11 20 6 5	20	0			
					50	0			
				4 5 5 4	50	0			
					10	0		9.5	
				2 2 2 3				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs.	
20	547								
40	527								
60	507							62	
								Bottom of boring at 62 feet. Converted to open-borehole extraction well for DPE System.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-4-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/31/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25.5	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.04
Coordinates (X/Y): 843107.29/886221.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 562.9

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	563				40	0.0		***Fill*** Brown gray becoming dark gray sand; well graded; fine to course grained; some silt; occasional brick fragments; loose; dry.	
2	562								
3	561				40	2.0			
4	560								4
5	559				50	2.6		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
6	558				100	4.7			
7	557				N/A	N/A			
8	556								8.5
9	555								
10	554								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 6 mechanical (mainly horizontal, some at 30 degrees). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.5 and 13 feet bgs. Very narrow; not healed; clean with staining in some joints; smooth; dry. 5 fracture zones at 8.7-9.6, 10.6-11, 11.8-12.1 and 13-13.5 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 0% (very poor) *(continued)*	
12	552								
13	551							13.5	
14	550							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 24 mechanical (mainly horizontal). 8 bedding plane fractures at 13.6, 14.25, 15.8, 16.5, 17.8, 18.0 and 18.4 feet bgs. Very to extremely narrow; not healed; clean; smooth; dry. 3 fracture zones at 14.1-14.2, 17.0-17.1 and 17.6-17.7 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 13% (very poor)	
15	549			- - - -	100	N/A			
16	548								
17	547								
18	546							18.5	
19	545			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 21 mechanical (mainly horizontal, 2 at 30 degrees) 8 bedding plane joints at 19.2, 20, 21.4, 21.5, 22.6, 22.8, 19.6 and 23.4 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 18.6-18.8 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 15% (very poor)	
20	544								
21	543								
22	542								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
23	541							23.5	
24	540			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; moderately to intensely fractured. Fractures: 1 mechanical (horizontal). 2 bedding plane fractures at 24.6 and 24.8 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 23.7-23.9 feet bgs. Very narrow; not healed; clean; smooth; dry.	
25	539							25.5	
26	538							*Bottom of boring at 25.5 feet.*	
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

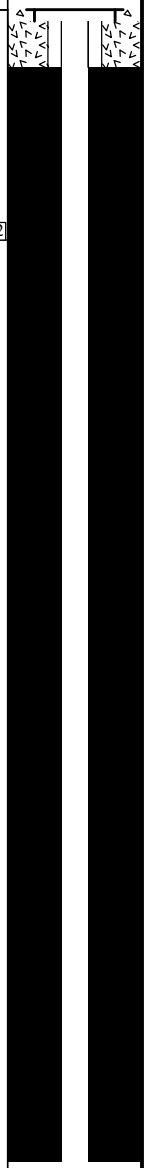
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-5-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/16/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25.2	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.49
Coordinates (X/Y): 843100.6/886196.14	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 563.37

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1	563				50	3.2		***Fill*** Dark brown black fine to medium poorly graded sand with occasional gravel and silt and pockets of clay and ash.
2	562							
3	561				50	0.0		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs.
4	560							
5	559				50	0.9		
6	558							
7	557				90	18.1		
8	556							
9	555				50	52.3		
10	554							

Notes:

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553				50	11.8		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs. *(continued)* 11 ***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
12	552				N/A	N/A		12 ***Ithaca Siltstone*** Weathered siltstone bedrock. 12.5	
13	551							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
14	550				99	N/A		Fractures: 5 Mechanical, horizontal 5 bedding plane joints at 12.6, 14.4, 15.0, 15.5 and 12.65 feet bgs. Very narrow; not healed; mainly clear; smooth; undulating; dry. 1 fracture zone from 12.8 to 12.9 feet bgs.	
15	549							RQD: 72% (Fair) 15.2	
16	548							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
17	547							Fractures: 15 mechanical mainly horizontal. 13 bedding plane joints extremely narrow; not healed; some infilled cohesive sediment; smooth to undulating; some surface oxidation; dry. 2 fracture zones at 15.2, 15.4 and 19.4-20.2 feet bgs.	
18	546				100	N/A		RQD: 0% (very poor)	
19	545								
20	544							20.2	
21	543							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured.	
22	542				100	N/A		Fractures: 17 mechanical fractures, mainly horizontal, 2 at 30 degrees. 11 bedding plane joints; extremely narrow; not healed; some infilling with cohesive sediment; smooth to undulating; dry. 1 fracture zone at 20.2 to 20.3 feet bgs. RQD: 0% (very poor)	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	541			-					
				-					
24	540								
25	539							25.2	
								Bottom of boring at 25.2 feet.	
26	538								
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-7-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/19/2008	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.28
Coordinates (X/Y): 843084.17/886176.33	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.76

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				10	0.0		***Fill*** Black brown sand; poorly graded; medium to fine grained; rare silt; some wood fragments; loose; moist.	
2	561								
								2.5	
3	560				60	0.0		***Lean Clay with Gravel (CL)*** Brown gray becoming gray clay; low to medium plasticity; frequent siltstone gravel; rare silt; soft; moist becoming moist to wet with hydrocarbon odor and sheen from 6 feet bgs.	
4	559								
5	558				50	15.2			
6	557								
7	556				60	49			
8	555								
9	554				20	36.4			
								9.5	
10	553				N/A	N/A		***Ithaca Siltstone***	
								10	

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Gray gravel of siltstone (weathered bedrock).	
11	552							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 5 mechanical (4 horizontal, 1 at 45 degrees) 15 horizontal bedding plane joints. Very narrow; not healed; some oxidation; mostly clear; smooth to undulating; dry. 1 30 degree joint. Very narrow; not healed; some cohesive sediment infill; undulating; dry. RQD: 44% (poor)	
12	551				100	N/A			
13	550								
14	549								
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 14 mechanical (mainly horizontal) 12 bedding plane joints. Very narrow to extremely narrow; not healed; clean; smooth to undulating; dry. 1 fracture zone at 14.5 to 14.7 feet bgs. RQD: 30% (poor)	
16	547								
17	546				100	N/A			
18	545								
19	544								
								19.5	
20	543							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 11 mechanical (mainly horizontal) 10 bedding plane joints. Extremely narrow; not healed; clean; smooth to undulating; dry. 4 joints at 20 degrees. Very narrow; not healed; clean; undulating; dry. RQD: 8% (very poor)	
21	542								
22	541				100	N/A			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	540								
24	539								
				-	N/A	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. (24.5 – 25)	
25	538			-				*Bottom of boring at 25 feet.*	
				-					
26	537			-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-9R-72C
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** HSA/Downhole Air Hamm
Logged By: Erik S. Reinert & Nathaniel Winston	**Total Depth (ft):** 79.3	**Bore Diameter (in):** 10.25/6/2/3.8	**Ground Surface (ft-msl):** 586.13
Coordinates (X/Y): 843141.55/886147.62	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	584			- - - -	0			***Well-Graded Gravel with Silt (GW-GM)*** Angular rock fragments to 1 foot in diameter, some sand and gravel, little black silt.	
4	582								
6	580			- - - -	67	1.8		***Silt with Gravel (ML)*** Brownish-yellow (10YR 6/6) silt, little sub-angular gravel to 0.5-inch in diameter, trace organics and wood debris; medium soft to stiff; dry. (5.5 – 7)	
8	578							***Well-Graded Gravel (GW)*** Dark gray (10YR 4/1) angular siltstone gravel to 1-inch in diameter; loose; dry.	
10	576			- - - -	50	8.6			
12	574			- - -	100	4		***Silt with Gravel (ML)*** Dark grayish-brown (10YR 5/2) to dark gray (10YR 4/1) silt, some angular gravel to 2-inches in diameter, few clay, medium soft to stiff; dry, becoming wet between 11 and 11.2 feet bgs, faint petroleum-like odor. (10.5 – 11.5)	
								Well-Graded Gravel (GW) Dark gray (10YR 4/1) siltstone fragments; loose; dry. (11.5 – 12.3)	
14	572							***Silt with Gravel (ML)*** Very dark gray (10YR 3/1) silt, some gravel and coarse-grained sand; medium soft; moist, faint petroleum-like odor. (12.3 – 13)	
16	570							***Well-Graded Gravel (GW)*** Grayish-brown (10YR 5/2) siltstone fragments greater than 2 inches in diameter with shaly partings, few sand and gravel; dense; dry. (13 – 13.5)	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
38	548							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
40	546								
42	544								
44	542								
46	540								
48	538								
50	536								
52	534								
54	532								
56	530			- - - -	100	-			
58	528								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	526							***Bedrock*** Siltstone; moderate to strong field strength; gray (10YR 5/1); fine grained; massive with some laminations; fresh; competent; slightly fractured. 54.5'- mechanical break 54.8'- 70 degree angle fracture; medium narrow; not healed; wet; clean; rough; some sediment. 55.0'- bedding plane fracture 56.0'- mechanical break 59.2'-60.6' 90 degree joint; very to extremely narrow; not healed; non-cohesive sediment; moderately smooth; wet with minor seepage. 61.6'- mechanical break 62.5'- mechanical break 63.4'- mechanical break 65.5'- mechanical break 66.2'- mechanical break 67.1'- mechanical break 68.1'- mechanical break 68.5'- bedding plane fracture; healed; smooth; restricted. 72.3'-72.5' 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 73.3'-74.1; 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 75.0'-75.4'- 70 degree angle joint; extremely narrow; not healed; clean; tight; moderately smooth; wet with minor seepage. 77.3'-77.6'- Multiple intersecting joint sets with discrete 70 degree angle plane of fracture; highly pulverized. *(continued)*	
62	524			- - - -	98	-			
64	522								
66	520			- - - -	98	-			
68	518								
70	516			- - - -	87	-			
72	514								
74	512								
76	510			- - - -	80	-			
78	508							79.3	
80	506							*Bottom of boring at 79.3 feet. Macro-core refusal at 13.5 feet. Augered to 14.5. Downhole Air Hammer to 54 feet.*	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-02
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Ha
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2	585			100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
4	583							
6	581			100	0			
8	579							
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs.	10 12
12	575						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	
14	573							
16	571							
18	569							
20	567							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
22	565						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
24	563						
26	561						
28	559						
30	557						
32	555						
34	553						
36	551						
38	549						
40	547						
42	545						
44	543						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
46	541						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
48	539						
50	537						
52	535						
54	533						
56	531						
58	529						
60	527						
62	525						
64	523						
66	521						
68	519						
70	517						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
72	515						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
74	513						
76	511						
78	509						
80	507						80
							Bottom of boring at 80 feet.
82	505						
84	503						
86	501						
88	499						
90	497						
92	495						
94	493						
96	491						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-07
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Timothy Huff	**Total Depth (ft):** 25	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 529.19

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: Physical Description	
						Ground Surface	
2, 4	527, 525					***Siltstone*** Ithaca Siltstone (Description based on cuttings)	5
6, 8	523, 521			100		***Siltstone*** Dark gray siltstone; thinly-bedded. Fracture Classification: Natural bedding plane joints at 6.8 and 7.5 feet bgs. Vertical fracture joint from 6.8 to 7.7 feet bgs..	10
10, 12, 14	519, 517, 515			92		***Siltstone*** Dark gray siltstone; thinly- to medium-bedded; thick black siltstone at 12.5 feet bgs. Fracture Classification: Natural bedding plane joints at 11.5 and 13.4 feet bgs. Water sample EXB-7 collected from 11 feet bgs for VOCs.	14.5
16, 18, 20	513, 511, 509			96		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Natural bedding plane joint at 22.3 and 23.7 feet bgs. Vertical fracture joints from 23.7 to 24.5 feet bgs; 30 degree dip; moderately decomposed calcite mineralization. Water sample EXB-7 collected from 17.5 feet bgs for VOCs.	19.75

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-07

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description
22	507			100		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Few mechanical joints sub-parallel to bedding. Partial natural joint at 22.7 feet bgs. *(continued)*
24	505					
						25
26	503					*Bottom of boring at 25 feet.*
28	501					
30	499					
32	497					
34	495					
36	493					
38	491					
40	489					
42	487					
44	485					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-09
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/29/2008	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 565.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1	565			12, 13, 9, -	50	0.4		***FILL*** Asphalt road surface.	0.5
								FILL Grey brown gravel fill of siltstone.	2
2	564			9, 10, 21, 34	50	0.4		***FILL*** Light brown sandy gravel fill; medium dense; dry.	3
3	563							***FILL*** Grey brown sandy gravel fill with some brick fragments; dense; dry to moist.	4
4	562			- -	0	N/A		***FILL*** Concrete fill - no recovery.	5
5	561			- -				***FILL*** Brown sand fill with some concrete and siltstone fragments and rare pockets of ash; dense; dry to moist.	
6	560			8, 4	25	1.3			
7	559			2, 2	50	1.0			
8	558			4, 3					9
9	557			2, 2	10	0.2		***FILL*** Concrete fill with rebar- no recovery.	
10	556								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	555			2, 2, 2, 3	0	N/A		***FILL*** Concrete fill with rebar- no recovery. *(continued)*
12	554			5, 5, -, -	20	0.3		***Fat Clay with Gravel (CH)*** Grey brown high plasticity clay with some gravel; soft; moist.
13	553							
14	552			2, 3	40	0		***Sandy Fat Clay with Gravel (CH)*** Grey mottled orange brown high plasticity clay with some gravel of siltstone
15	551			6, 6				***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
16	550			4, 50, -, -				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
17	549							
18	548							
19	547							
20	546			-, -, -, -	N/A	N/A		
21	545							
22	544							

12

14

14.8

14.9

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	543							***Siltstone*** Ithaca Siltstone. (Description based on flush arisings). *(continued)*
24	542							
25	541							
26	540							26
27	539			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely to moderately fractured. Fracture Classification: 7 mechanical, horizontal, extremely narrow. 5 bedding plane joints at 26.2', 27.0', 27.2', 28.0' and 28.2'. horizontal, extremely to very narrow, not healed, clean, rough, dry. 2 vertical joints at 27.4' and 28.0', 25 degree dip extremely narrow, not healed, rough, dry. RQD: 25% (Very Poor)
28	538							
29	537							29
30	536			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely fractured. Fracture Classification: 6 mechanical, horizontal, extremely narrow. 9 bedding plane joints at 30.5', 30.6', 30.7', 31.0', 31.2', 32.0', 32.7', 33.0' and 33.7', horizontal, very narrow, not healed, mostly clean, dry, smooth. 2 fracture zones at 29.2' - 30.2' and 33.0' - 33.2'; very narrow, not healed, clean, rough and dry. RQD: 30% (Poor)
31	535							
32	534							
33	533							
34	532							34
35	531							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	530			-				***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; moderately fractured. Fracture Classification: 4 mechanical, 3 horizontal, 1 vertical, extremely narrow. 8 bedding plane fractures at 34.5', 36.0', 36.5', 37.0', 37.3', 38.0', 38.4' and 38.9', horizontal, very narrow, not healed, clean, dry, rough. 2 fracture zones at 34.0' - 34.1 and 35.5' - 36.5'; very narrow, not healed, clean, rough and dry. RQD: 68% (Fair) *(continued)*
				-	100	N/A		
37	529			-				
				-				
38	528							
39	527							39
40	526							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 mechanical fractures, mainly horizontal, extremely narrow. 3 bedding plane fractures at 39.2', 41.0' and 43.0', horizontal, very narrow, not healed, clean, dry, smooth. 1 vertical joint with associated fracture zone at 43.0'- 44.0'; very narrow, not healed, surface oxidation or staining, smooth and dry. RQD: 77% (Good)
				-				
41	525			-				
				-	100	N/A		
42	524			-				
43	523							
44	522							44
45	521							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 11 Mechanical fractures; mainly horizontal; 1 vertical; very narrow. 5 Bedding plane fractures at 44.5', 44.7', 44.9', 48.4 and 48.7'; horizontal; very narrow; not healed; clean; smooth; dry. RQD: 93% (Excellent)
				-				
46	520			-				
					100	N/A		
				-				
47	519			-				
48	518							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	517							49
50	516							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; mainly horizontal; 1 vertical; very to extremely narrow. 2 Bedding plane fractures at 51.2' and 52.6'; horizontal; very narrow; not healed; clean; smooth; dry. 1 Microjoint at 52.8'. 1 fracture zone at 53.1 - 53.5'; narrow; not healed; infilled with cohesive sediment of silty gravel of silt; smooth; damp. RQD: 93% (Excellent) **NOTE: Low flow groundwater sample collected at of 53.75 feet below top of casing or 53.11 fbgs on 6/12/2008.**
51	515			-	100	N/A		
52	514			-				
53	513			-				
54	512							54
55	511							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; and very narrow. 2 Bedding plane fractures at 54.4' and 55'; horizontal; narrow to moderately narrow; not healed; clean; 1 fracture zone at 54.0 - 54.2'; horizontal; moderately narrow; not healed; infilled with cohesive sediment of siltstone gravel in clay matrix; damp. RQD: 97% (Excellent)
56	510			-	97	N/A		
57	509			-				
58	508			-				
59	507							59
60	506							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent)
61	505			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	504			- -	97	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent) *(continued)*
63	503							
64	502							64
								Bottom of boring at 64 feet.
65	501							
66	500							
67	499							
68	498							
69	497							
70	496							
71	495							
72	494							
73	493							
74	492							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-10
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/23/2008	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 560.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1	559			1, 3, 3, 3	40	0		***FILL*** Grey brown gravelly well sorted medium to coarse sand; dense and moist; some siltstone fragments.
2	558			9, 10, 8, 9	50	0		
3	557							
4	556			6, 7, 11, 9	50	0		
5	555							***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor.
6	554			11, 8, 8, 6	50	.1		
7	553							
8	552			11, 8, 8, 6	50	.1		
9	551							
10	550							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				2				***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor. *(continued)*
11	549			3	25	.1		
				3				
				4				
12	548			50	100	.1		12 / 12.1 ***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
				-				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
13	547			-				
				-				
14	546							
15	545							
16	544			-				
				-				
17	543			-	N/A	N/A		
				-				
18	542							
19	541							
20	540							
21	539							
22	538			-				22
				-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	537			- -	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 4 mechanical fractures; horizontal; very narrow; 1 bedding plane fracture at 22.25'; horizontal; very narrow; not healed; clean; rough; dry. 1 fracture zone at 22.95'; horizontal; not healed; undulating, dry. RQD: 87% (Good) *(continued)*
24	536							
25	535							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 12 Bedding plane fractures at 24.2', 24.4', 25.6', 24.9', 25.1', 25.15', 25.25', 25.9', 27.0', 27.75', 27.5' and 28.4'; predominately horizontal, narrow, not healed, clean, smooth to undulating, dry. 1 Fracture zone at 25.9' - 27.25'; narrow, not healed, clean, rough, dry. RQD: 63% (Fair)
26	534			- - - -	100	N/A		
27	533							
28	532							
29	531							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 3 mechanical fractures at; horizontal, very narrow. 5 bedding plane fractures; 29.25', 30.75', 30.8', 32.1' and 33.0'; horizontal, narrow, not healed, clean, smooth, dry. 1 Fracture zone at 29.75; moderately narrow, not healed, clean, smooth, dry. RQD: 92% (Excellent)
30	530							
31	529			- - - -	100	N/A		
32	528							
33	527							
34	526							
35	525							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	524			-				***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 mechanical break; horizontal, very narrow. 4 bedding plane fractures at 34.5', 35.6', 37.0' and 37.6', horizontal, narrow, not healed, clean, smooth, dry. RQD: 98% (Excellent) *(continued)*
				-	100	N/A		
37	523			-				
				-				
38	522							
39	521							39
40	520							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 mechanical breaks; horizontal, very narrow. 4 bedding plane fractures at 39.5', 42.1', 42.75' and 43.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 94% (Excellent)
				-				
41	519			-				
					100	N/A		
				-				
42	518			-				
43	517							
44	516							44
45	515							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical break; extremely narrow. 5 bedding plane fractures at 44.5', 45.8', 46.0', 47.0' and 48.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 70% (Good) **NOTE: Low flow groundwater sample collected at 44.40 feet below top of casing or 44.67 fbgs on 6/12/2008.**
				-				
46	514			-				
					100	N/A		
				-				
47	513			-				
48	512							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	511							49
50	510							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 6 bedding plane fractures at 49.8', 50.8', 51.7', 52.2', 52.7 and 53.2', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
51	509			-	100	N/A		
52	508			-				
53	507			-				
54	506			-				54
55	505							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical, horizontal, very narrow. 4 bedding plane fractures at 55.75', 56.5', 57.75', 58.25', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
56	504			-	100	N/A		
57	503			-				
58	502			-				
59	501							59
60	500							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent)
61	499			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	498			-	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent) *(continued)*
63	497			-				
64	496							64
								Bottom of boring at 64 feet.
65	495							
66	494							
67	493							
68	492							
69	491							
70	490							
71	489							
72	488							
73	487							
74	486							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-07B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Timothy Huff	**Total Depth (ft):** 21	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.53
Coordinates (X/Y): 843133.8/886125.12	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.26

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				4 4 4 3	25	nm		***Asphalt*** (0.5)	
2	586			6 6 4 4	25	nm		***Poorly-Graded Sand with Gravel (SP)*** Dark olive brown sand; some gravel and siltstone fragments; loose; moist. Soil sample MW-7B collected from 6 to 8 feet bgs for VOCs.	
4	584			5 5 4 2	25	nm			
6	582			2 2 3 2	20	nm			
8	580			50/0.3	0	nm		***Siltstone*** Dark gray siltstone - no sample. (8)	
				- - -	0				
10	578			- - - -	43			***Siltstone*** Dark gray siltstone; weathered from 10 to 10.5 feet bgs; medium bedded; intensely fractured. Fracture Classification: Bedding plane joints throughout sample. RQD: 0% (10)	
12	576			- - - -					
14	574			- - - - -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Bedding plane joints with staining throughout sample. Vertical joint at 18-19 feet bgs. RQD: 17.5% (14)	
16	572								
18	570			- -				(19)	
20	568								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-07B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				- -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. 21	
22	566							Fracture Classification: Vertical joint at 19-20 feet bgs.	
								RQD: 21%	
24	564							Water sample MW-7B collected for VOCs. *(continued)*	
								Bottom of boring at 21 feet.	
26	562								
28	560								
30	558								
32	556								
34	554								
36	552								
38	550								
40	548								
42	546								
44	544								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-08B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Hollow Stem Auger/ Rock
Logged By: Timothy Huff	**Total Depth (ft):** 21.3	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.12
Coordinates (X/Y): 843183.14/886137.72	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - 10 4	75	0.0		***Asphalt*** Asphalt / concrete	1
2	585			4 5 10 8	50	0.0		***Silt with Gravel (ML)*** Reddish brown silt with gravel; soft; moist.	2
4	583			5 48 15 8	25	0.0		***Poorly-Graded Sand with Gravel (SP)*** Yellowish brown silty sand with gravel and siltstone fragments; coarse-grained; wet at 2-3 feet and dry at 3-4 feet.	4
6	581			4 5 9 7	20	0.0		***Silt with Gravel (ML)*** Dark brown silt with gravel and siltstone fragments; soft; moist.	6
8	579			10 7 9 5	20	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark brown silty gravel; coarse-grained; loose; moist.	8
10	577			3 2 4 50	60	6.5		***Silt with Gravel (ML)*** Dark brown to grayish brown silt with gravel and siltstone fragments; soft; moist; petroleum odor and sheen from 10 to 12 feet bgs.	12
12	575			- - - -	0			***Siltstone*** No sample.	12.9
14	573			- - - -	100			***Siltstone*** Dark gray siltstone; thinly bedded; slightly decomposed with trace discoloration along joint surfaces; intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joints with discoloration at 13, 13.9, and 14.9 feet bgs. RQD: 57%	
16	571								
18	569			- - -	100				17.9
20	567								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-08B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				-				***Siltstone*** Dark gray siltstone; thinly bedded; breaks easily along bedding planes; intensely fractured. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joint with no discoloration at 20.6 feet bgs. RQD: 100% Product sample MW-8B-P collected for VOCs. *(continued)* *Bottom of boring at 21.3 feet.*	21.3
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

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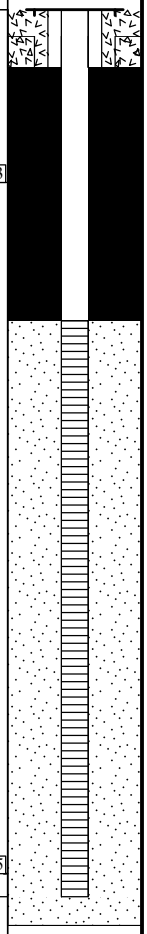
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12B
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/18/2011	**Drill Method:** Air Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 15.4	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 555.66
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 555.2

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	5.4 to 15.4	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Overburden (not sampled)
2	554				
					3
4	552				***Ithaca siltstone*** Light gray siltstone; weak field strength; thinly bedded; slightly decomposed.
6	550				
8	548				
10	546				
12	544				
14	542				
					15
16	540				*Bottom of boring at 15.4 feet.*
18	538				
20	536				

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 586.94
Coordinates (X/Y): 843198.9288/886141.733	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.35

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.3 to 29.3	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Overburden*** Overburden (not sampled).	
4	583								
6	581								
8	579								
10	577								11.5
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	13
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-12C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-13C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.13
Coordinates (X/Y): 843177.3054/886115.6846	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.62

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.8 to 29.8	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Overburden*** Overburden (not sampled).	
4	583								
6	581								
8	579								
10	577								11.5
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	13
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet.	
16	571								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-13C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-15C
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/16/2011	**Drill Method:** Hollow Stem Auger/Mud R
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.76
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.27

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 45	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	585							***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583								
6	581								
8	579								
10	577								
12	575				0	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal.	11.4
14	573								
16	571				53	0.0			
18	569								
20	567				26	0.0			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
					26	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal. *(continued)*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	541							46	
								Bottom of boring at 45 feet.	
48	539								
50	537								
52	535								
54	533								
56	531								
58	529								
60	527								
62	525								
64	523								
66	521								
68	519								
70	517								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-20B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/23/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 20.2	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 517.53
Coordinates (X/Y): 843121.55/886496.75	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 516.09

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base	
5	513				***Silty Clay*** Dark gray (N4) silty clay with gravel; medium stiff; nonplastic; moist.	5
10	508				***Siltstone*** Weathered Siltstone.	9
					Siltstone Gray (N5) weathered siltstone; several natural fractures; some weathering in fractures; RQD-28%.	11
15	503				***Siltstone*** Gray (N5) weathered siltstone; with approximately 4 slightly weathered natural fractures; some mechanical fractures; RQD-92%.	15
20	498				*Bottom of boring at 20.2 feet.*	20
25	493					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-22B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/31/2005	**Drill Method:** Hollow Stem Auger
Logged By: Pat Peterson and Erik Reinert	**Total Depth (ft):** 16.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 490.95
Coordinates (X/Y): 843247.83/886844.08	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 489.46

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base Gravel and sand with silty clay material.	
2	489					
4	487					4
					Silty Clay Gray silty clay with rock fragments; moist.	
6	485					
8	483					
						9
					Siltstone	
10	481					
						11
						11.5
					Siltstone RQD-0%.	
12	479					
					Siltstone Compotent; fractured every 2-4"; fine-grained; no vertical fractures; moderate yield; RQD-13%.	
14	477					
16	475					
						16.5
					Bottom of boring at 16.5 feet.	
18	473					
20	471					

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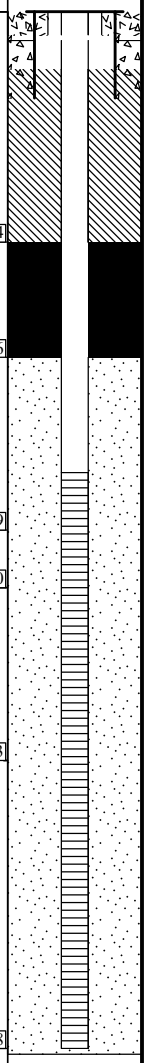
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-23B
Drilled By: Parratt Wolff, Inc./Sean and Mark	**Drill Start Date:**	**Drill End Date:** 10/30/2008	**Drill Method:** Hollow Stem Auger
Logged By: Steven Dawson	**Total Depth (ft):** 18	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	13.1 to 18.1	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
2					***Fill*** Gravelly Fill	
4					***Silty Clay*** Dark gray (N4) silty clay with gravel; black fill fragments; moist	4
6					***Clayey Silt*** Reddish brown (5 YR 5/3) clayey silt; stiff; semi-plastic; moist; trace shale fragments	6
8						9
10					***Siltstone*** Gray (N5) weathered siltstone; friable; dry to moist	10
12					***Siltstone*** Gray (N5) weathered siltstone; several natural fractures; RQD-0%	13
14					***Siltstone*** Gray (N5) weathered siltstone; slightly less weathered/fractured; becoming less weathered from 17 to 18 feet bgs; RQD-26%	
16						
18					*Bottom of boring at 18 feet.*	18
20						



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24A
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/10/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 10.1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes: Soil Boring, not a well.

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2, 4								***Concrete*** Concrete and fill.	4
4, 6				6 8 6 12	10	0.0		***Well-Graded Sand (SW)*** Olive (5Y 4/3) medium- to coarse-grained sand, some gravel, fill; loose; dry.	6
6, 8				8 13 14 11	20	0.0		***Clayey Sand with Gravel (SC)*** Olive (5Y 4/3) clayey sand with gravel; medium density; moist.	8
8, 10				11 15 50/3	25	0.0		***Well-Graded Sand with Gravel (SW)*** Olive (5Y 4/3) sand with gravel, some low plasticity clay, siltstone rock fragments in spoon; medium density; moist. Collect sample from 10 to 10.1 feet bgs: MW-24A (10-10.1').	10.1
10				50/3	100	1.3		*Bottom of boring at 10.1 feet. Refusal at 10.1 feet bgs.*	
12, 14									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24B (2005)
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 2/10/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 18	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 415.42
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 415.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes: Abandoned

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
					Gravel Road Base Gravel and rock fragments placed during road replacement.	
2	413					
					3.5	
4	411				***Siltstone*** Light gray (N3) weathered siltstone; dry.	
6	409					
					7.5	
8	407				***Siltstone*** RQD-100%.	
10	405					
12	403					
					13	
14	401				***Siltstone*** RQD-80%.	
16	399					
18	397				18	
					Bottom of boring at 18 feet.	
20	395					

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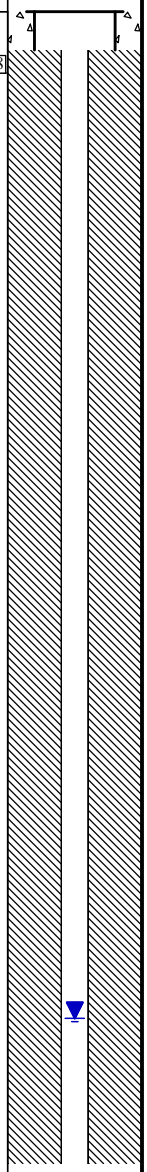
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-25B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 587.21
Coordinates (X/Y): 843088.4006/886034.1763	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.84

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	20 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
								Ground Surface
								Concrete (0.8)
								Overburden
2	585							
4	583							
6	581							
8	579							
10	577							
12	575							
14	573							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569							18 ***Ithaca Shale*** Medium gray (N4) weathered shale: fine-grained, thinly bedded, fossiliferous, slightly decomposed, competent, intensely fractured. Lost water at 24' bgs	
20	567								
22	565			- - - -	Very Poor	0.0			
24	563								
26	561			- - - -	Very Poor	0.0			
28	559								
30	557							30 *Bottom of boring at 30 feet.*	
32	555								
34	553								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26A
Drilled By: Parratt Wolff, Inc./Layne Tesh	**Drill Start Date:**	**Drill End Date:** 3/22/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 17.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 397.49
Coordinates (X/Y): 842355.88/886058.61	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 395.91

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
2	395					
4	393				***Siltstone*** Medium gray (N5) weathered siltstone bedrock; highly fractured; friable; trace fines; dry to moist.	
6	391				6	
8	389					
10	387				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet.	
12	385				12	
14	383					
16	381				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet. 15.5 ***Siltstone*** Weathered Siltstone. 17	
18	379				*Bottom of boring at 17.5 feet.*	
20	377					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.66
Coordinates (X/Y): 843068.3626/886033.4964	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	21.5 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete 0.75	
								Overburden	
2	585								
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-26B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569								
20	567								
								21.5	
22	565							***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured	
24	563			- - - -	Very Poor	0.0			
								24.7 / 24.9	
								Clay Dark Gray (N3) lean clay in fracture	
26	561			- - - -	Very Poor	0.0		***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured Lost water at 26' bgs	
28	559			- - - -	Very Poor	0.0			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								

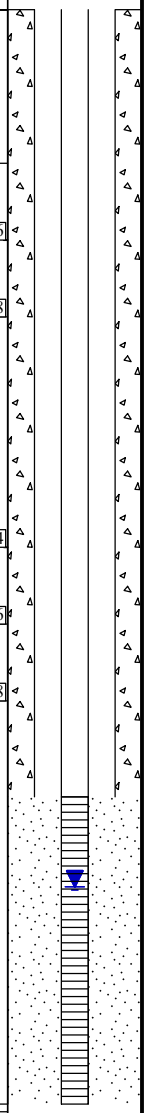
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-27B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/3/2005	**Drill Method:** Hollow Stem Auger/Roller
Logged By: Gregory J. Frisch	**Total Depth (ft):** 28.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 551.12
Coordinates (X/Y): 843399.99/886730.22	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 550.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Clayey Gravel (GC) Gray (N5) with coal and slag fragments; loose; dry; (fill).
					No recovery - rock lodged in spoon.
5	546				***Clayey Gravel (GC)*** Gray (N6) to reddish brown (5YR 5/3) with coal and shale fragments; loose; dry to moist; (fill). 6
					No recovery - rock lodged in spoon. 8
10	541				***Gravelly Lean Clay (CL)*** Gray (N6) to grayish brown (10YR 5/2) with siltstone and shale fragments; medium stiff; nonplastic; moist. 14
15	536				***Gravelly Lean Clay (CL)*** Same as above with degraded solvent odor. 16
					Lean Clay with Gravel (CL) Gray (N5) to light olive brown (2.5Y 5/3); medium stiff; semi-plastic; damp; degraded solvent odor. 18
20	531				***Siltstone*** Gray (N5) weathered; highly fractured; thinly bedded; fractures mainly along bedding with weathering; fractures mainly mechanical below 25 feet below ground surface; RQD 11% (18.5 to 23.5) and 55% (23.5 to 28.7).
25	526				
30	521				*Bottom of boring at 28.5 feet.*

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-31B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/5/2005	**Drill Method:** Hollow Stem Auger/Roller
Logged By: Gregory J. Frisch	**Total Depth (ft):** 24.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 532.52
Coordinates (X/Y): 842942.15/886296.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 533.45

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
5	528				***Silt with Gravel (ML)*** Gray (N5) to dark grayish brown (10YR 4/2); with coal and shale fragments; loose; dry; (fill).	
10	523					
15	518				***Lean Clay with Gravel (CL)*** Dark gray (N4) to dark grayish brown (10YR 4/2); medium stiff; nonplastic; moist; weathered siltstone in shoe. (14 – 14.5) ***Siltstone*** Gray (N5); weathered; highly fractured at 14.5 to 15.0 and 17.3 to 17.8 feet below ground surface; weathering in fractures; fracturing mainly along bedding with vertical fracturing in highly fractured zones; fractures mainly mechanical below 21 feet below ground surface; RQD 38% (14.5 - 19.5) and 75% (19.5 - 24.5).	
20	513					
25	508				*Bottom of boring at 24.5 feet.* (24.5)	
30	503					

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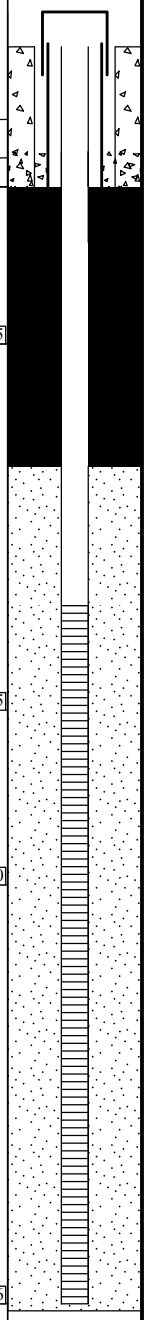
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-33B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/19/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 16	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 584.0
Coordinates (X/Y): 843156.1/886190.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.56

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	6 to 16	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
		X		4, 8, 5, 3	60	9.4		***Silt with Gravel (ML)*** Black (10YR 2/1) silt, little fine to coarse-grained sand, trace gravel and broken grass, trace organics and rootlets; loose; dry.
2	582	X		2, 7, 8, 5	75	0.5		2.25 ***Poorly-Graded Gravel (GP)*** Grayish-brown (10YR 5/2) concrete rubble and cinders; loose; dry.
4	580	X		7, 8, 18, 6	25	10.7		
6	578	X		10, 6, 12, 12	50	12.6		7.5
8	576	X		19, 12, 12, 12	10	6.1		***Silt with Gravel (ML)*** Yellowish-brown (10YR 5/6) silt, trace rootlets, little sub-angular gravel; very dense; dry.
10	574							10 ***Siltstone*** Gray siltstone.
12	572							
14	570							
16	568							16 *Bottom of boring at 16 feet.*

Well



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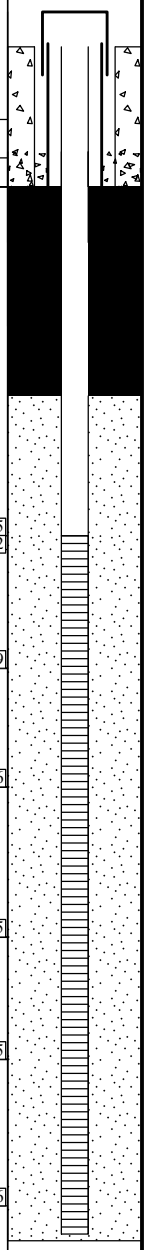
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-34B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/18/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 14.6	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 582.7
Coordinates (X/Y): 843146.8/886180.4	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 584.85

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	4.6 to 14.6	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				3, 3, 3, 5	25	0.6		***Silt with Sand (ML)*** Dark brown (10YR 3/3) silt, little fine to medium-grained sand, little organics and rootlets, little gravel; loose; dry.
2	581			5, 7, 7, 6	25	2.1		
4	579			12, 20, 17, 20	75	3.2		5
								5.2 ***Silt with Gravel (ML)*** Black (10YR 2/1) silt, little gravel, some organics; loose; dry.
6	577			14, 5, 7, 14	15	0.0		***Gravelly Silt (ML)*** Dark yellowish-brown (10YR 4/6) silt, some angular weathered bedrock fragments; loose; dry. 6.9
8	575			11, 11, 12, 25	40	0.1		***Poorly-Graded Gravel (GP)*** Brown (10YR 4/3) siltstone fragments; dry. 8.6
								Gravelly Silt (ML) Grayish-brown (10YR 5/2) silt and siltstone fragments; loose; dry.
10	573			20, 23, 22, 16	25	0.4		10.75
								Silt with Gravel (ML) Black (10YR 2/1) and yellow (10YR 7/8) silt, little clay, little gravel; dense; moist.
12	571			15, 10, 15, 16	50	26.4		12.5
								Gravelly Silt (ML) Light olive brown (2.5Y 5/4) silt, little clay, little to some gravel, soft to medium soft; wet; faint petroleum odor and sheen.
14	569			8, 50/0.1	0	NA		14.6
								Bottom of boring at 14.6 feet.
16	567							

Well



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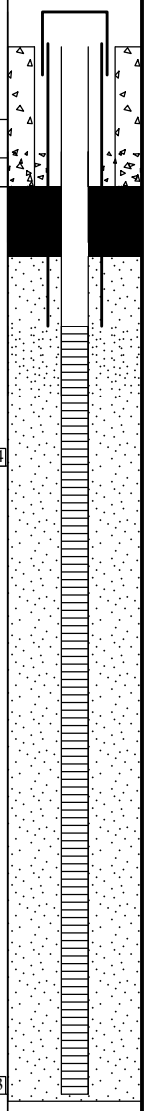
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-35B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/16/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 13	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 581.0
Coordinates (X/Y): 843139.3/886172.5	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 583.52

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	3 to 13	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
		X		1, 1, 2, 2	10	1.7		***Well-Graded Sand with Gravel (SW)*** Very dark grayish brown (10YR 3/2) to brown (10YR 4/4) fine to coarse-grained sand, little angular gravel; loose; dry.
2	579	X		8, 25, 35, 29	25	6.2		
4	577							***Siltstone*** Gray siltstone.
6	575							
8	573							
10	571							
12	569							
14	567							*Bottom of boring at 13 feet.*
16	565							

Well



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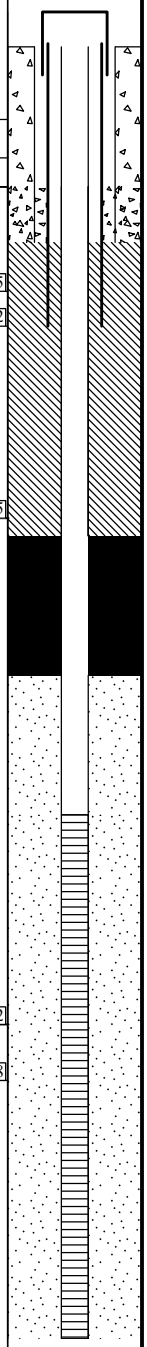
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-36B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/15/2013	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 19	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.3
Coordinates (X/Y): 843143.3/886140.7	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.78

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9 to 19	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete
								1.5
2	584			4 9 7 4	50	0.0		***Gravel*** Gravel Sub-base. 2
								Well-Graded Gravel (GW) Light brownish-gray (10YR 6/2) siltstone fragments up to 2-inches in diameter; loose; dry.
4	582			9 5 8 5	25	0.0		4.75
								Gravelly Silt (ML) Dark yellowish-brown (10YR 4/6) silt, some siltstone fragments; dense; dry.
6	580			8 11 7 6	25	0.0		
8	578			5 4 4 4	25	0.0		
10	576			4 5 6 3	25	0.0		
12	574			9 50/0.3 - -	40	120		12
								Well-Graded Gravel with Silt and Sand (GW-GM) Grayish-brown (10YR 5/2) siltstone fragments, little silt and sand; dry; oil-like substance between cobbles. 12.8
14	572							***Siltstone*** Gray siltstone (not sampled).
16	570							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-36B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Siltstone*** Gray siltstone (not sampled). *(continued)*	
								19	
								Bottom of boring at 19 feet.	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-37B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/17/2013	**Drill Method:** Hollow Stem Auger/Air Ro
Logged By: Erik S. Reinert	**Total Depth (ft):** 20	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.0
Coordinates (X/Y): 843158.5/886129.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.65

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 20	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete (0.8)	
								Poorly-Graded Gravel (GP) Concrete and brick rubble; loose; dry.	
2	585								
4	583			2, 2, 5, 8	25	2.6		(4.75)	
								Silt with Gravel (ML) Yellowish-brown (10YR 5/1) silt, little clay, little coarse-grained sand and gravel, some brick fragments between 6 and 8 feet; loose; dry.	
6	581			1, 4, 3, 3	15	2.0			
8	579			-, -, -, -	0	-		(9)	
								Silt (ML) Dark yellowish-brown (10YR 4/6), light brownish gray (10YR 6/2) and black (10YR 2/1) silt; dense; dry, mottled.	
10	577			2, 2, 2	95	10.5		(11.5)	
				50/0.4				(11.9) ***Silt with Sand (ML)*** Brown (10YR 9/3) silt, little clay, little coarse-grained sand and gravel; soft, wet; faint petroleum-like odor and possible petroleum sheen.	
12	575							***Siltstone*** Gray siltstone.	
14	573								
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-37B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569							***Siltstone*** Gray siltstone. *(continued)*	
20	567							20 *Bottom of boring at 20 feet.*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-43C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/20/2017	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 50.25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.83
Coordinates (X/Y): 843149.0178/886135.4032	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.55

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Overburden Overburden	
5	582						
10	577						
15	572					15.5	
						Siltstone Not logged - air rotary	
20	567						
25	562			Total: 100%; Solid: 95%; RQD: 22.5%		25	
30	557						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-43C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 26%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; intensely fractured. Bedding plane fractures every 0.33-1.0'; tight narrow; mostly clean; trace healing; trace brachiopod fossils; smooth; damp. 26.0-26.8' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 27.4-27.7' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 30.4-30.9' vertical fracture; tight; not healed; clean; smooth; wet. 32.1-32.7' vertical to 45 degree joints; tight; not healed; clean; smooth; wet. 35.0-35.2' bedding plane fracture zone; moderately healed with silt and sand; moderately narrow; wet. 37.7-38.0' vertical fracture; tight; not healed; clean; smooth; wet. *(continued)*	
35	552			Total: 100%; Solid: 96%; RQD: 72%			
40	547			Total: 100%; Solid: 100%; RQD: 88%			
						44.2	
45	542			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 44.6-44.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough 47.0-47.3' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.15' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough	
50	537			Total: 100%; Solid: 100%; RQD: 100%			
						50.2	
						Bottom of boring at 50.25 feet.	
55	532						
60	527						
65	522						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-72C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/13/2017	**Drill Method:** Hollow Stem Auger/Core B
Logged By: Nathaniel Winston	**Total Depth (ft):** 83.8	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.04
Coordinates (X/Y): 843141.5188/886138.552	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.1

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Overburden Overburden	
5	581						
10	576						
15	571						
				Total: 100%; Solid: 85%; RQD: 12%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; slightly decomposed; slight disintegration; intensely fractured. Bedding Plane fractures every 0.1-0.33' ; very narrow to narrow; not healed to partialy healed; mostly clean with some oxidation; dry.	
20	566			Total: 100%; Solid: 98%; RQD: 38%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. Bedding plane fractures every 0.33-1.0'; very narrow to narrow; mostly clean; not healed; smooth; damp.	
25	561			Total: 100%; Solid: 100%; RQD: 28%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. 24.4-24.6' 45 degree joint; narrow; not healed; fresh; rough; wet; trace sediment. 25.2' Bedding plane fracture; narrow to moderately narrow; not healed; rough; wet.	
30	556						

15.5

18.8

23.8

28.8

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 68%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured, bedding plane fractures, not healed, tight, wet. *(continued)*	
						33.8	
35	551			Total: 100%; Solid: 100%; RQD: 46%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' verticlal joint; narrow; clean; not healed; medium rough; wet.	
						38.8	
40	546			Total: 100%; Solid: 100%; RQD: 92%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured; some brachiopod fossils. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' vertical joint; narrow; clean; not healed; medium rough; wet.	
						43.8	
45	541			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured with bedding plane fractures every 1'.	
						48.8	
50	536			Total: 96%; Solid: 96%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent.	
						53.8	
55	531			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; trace bedding plane fractures.	
60	526			Total: 100%; Solid: 100%; RQD: 100%			
65	521			Total: 96%; Solid: 96%; RQD: 96%			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
70	516			Total: 100%; Solid: 100%; RQD: 90%		68.8 — ***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 71.5-72.0' bedding plane fracture zone; very broken; moderately healed with gray plastic silt and sand; smooth to medium rough; wet; fresh. — 73.8	
75	511			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 78.0' bedding plane fracture; moderately healed; narrow; wet; smooth; wet; smooth. 82.8' bedding plane fracture; very tight; not healed.	
80	506					83.8	
85	501					*Bottom of boring at 83.8 feet.*	
90	496						
95	491						
100	486						
105	481						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-8-40
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/15/1988	**Drill Method:**
Logged By: R.T. Church	**Total Depth (ft):** 43.2	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 518.27
Coordinates (X/Y): 843130.89/886507.35	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 517.98

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description		Well
					Ground Surface		
					Gravelly Clay Brown to gray; medium stiff; dry.	6.5	
10	508				Fill	10	
					Clay Brown; some angular medium stiff to stiff, damp.	12.1	
					Siltstone RQD-0%	17.1	
20	498				***Siltstone*** RQD at/near 100% from 17.1 to 38.2 feet below ground surface.		
30	488						
						38.2	
40	478				***Siltstone*** RQD-63%		
						43.2	
					Bottom of boring at 43.2 feet.		

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-9-100
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 8/18/1989	**Drill Method:**
Logged By: R. T. Church	**Total Depth (ft):** 101	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 506.76
Coordinates (X/Y): 843064.73/886467.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 506.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Asphalt Asphalt (0.5)	
					Silty Clay Black; trace fine to coarse gravel; moist. (2.5)	
					Siltstone RQD-19% (10)	
					Siltstone RQD-78% at 10.0 - 20.0 feet below ground surface; RQD at/near 100% from 20.0 - 40.0 feet below ground surface.	
20	487					
40	467				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. (40)	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-9-100

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60	447				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. *(continued)*	
80	427					
100	407				100	
					Bottom of boring at 101 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC 34-06
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
					0.0		Broken up, weathered shale and some silt.	
1					0.0			
2							*Bottom of boring at 2 feet. Hand augered to 2' bgs. Samples collected at 0-2" and 2"-2'.*	2
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC 34-07
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
					100	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Greyish brown gravel with coarse sand and silt, 10YR-5/6, Hard, non plastic, dense and dry.	
1					100	0.0			1.5
								Gravelly Silt (ML) Light brown gravelly silt with some coal cinders and slight black discoloration, 10YR-3/6, very hard and dry.	2
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-15
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel (GP)*** Fill material of dark ash, coal cinders and poorly graded gravel. Very hard and very dense.	
1					60	0.0			
2									2.5
								Silt with Gravel (ML) Brown silt with poorly graded gravel. 10YR-4/6, Stiff, medium density, moist.	
3					60	0.0			
4					60	0.0			4.5
								Bottom of boring at 4.5 feet. Boring terminated at 4.5' bgs due to bedrock refusal.	
5									
6									
7									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-26-15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
8								
9								
10								
11								
12								
13								
14								
15								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-16
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	75	0.0		***Concrete*** Concrete and gravel fill material.	1.5
2				- - - -	75	0.0		***Sandy Elastic Silt (MH)*** Dark brown elastic silt with traces of coarse sand. 10YR-4/6, medium density and plasticity, dry until 3-3.5' where it gets very wet. Some black staning throughout, but no odor.	3.5
3								*Bottom of boring at 3.5 feet. Boring terminated at 3.5' bgs due to bedrock refusal.*	
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-17
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel (GP)*** Fill material of ash, sediment and poorly graded gravel. Some dark discoloration but no odor.	
1					60	0.8			
2									2.5
					60	.4		***Elastic Silt with Gravel (MH)*** Brown cohesive silt with gravel. 10YR-5/6, medium plasticity, medium density, wet, some dark discoloration but no odor.	
3									3.5
								Bottom of boring at 3.5 feet. Boring terminated at 3.5' bgs due to bedrock refusal.	
4									
5									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-26-17

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				
				-				
6								
7								
8								
9								
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-18
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	60	0.0		***Poorly-Graded Gravel (GP)*** Coarse gravel fill material	1
2				- - - -	60	0.0		***Elastic Silt with Gravel (MH)*** Brown elastic silt with coarse gravel. 10YR-4/6, dense, medium plasticity, moist, some dark discoloration throughout but no odor.	
4								*Bottom of boring at 4 feet. Boring terminated at 4' bgs due to bedrock refusal.*	4
5									
6									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-26-19
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Fill material*** Fill Material of ash, poorly graded gravel and concrete. No native soil encountered in the boring.	
1					90	0.9			1.5
								Bottom of boring at 1.5 feet. Boring terminated at 1.5' bgs due to bedrock refusal.	
2									
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-14
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Fill*** Concrete and fill ash	1
					75	0.0		***Sandy Silt (ML)*** Broenish red sandy silt with some ash fill material. 7.5YR-4/6, Stiff, medium density, moist	2
2					75	0.0		***Sandy Silt with Gravel (ML)*** Dark yellow sandy silt with some gravel and traces of ash. 2.5YR-5/6. Stiff, very dense and dry.	
4					90	0.0			
6					90	0.0		***Elastic Silt (MH)*** Brown elastic silt with some fill ash. 10YR-4/8, wet, soft, med plasticity	6 7.5
8								***Poorly-Graded Sand with Silt (SP-SM)*** Poorly graded yellow sand with silt. 10TY-6/8, firm, dry, low density.	9
10					40	0.4		***Sandy Silt (ML)*** Brown sandy silt with ahs and gravel fill material. 10YR-4/6, wet and soft	12
12								*Bottom of boring at 12 feet. Boring terminated at 12' bgs due to bedrock refusal*	
14									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-15
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0			
					90	0.0		***Fill*** Fill consisting of gravel concrete and crushed brick	1.25
2					90	0.4		***Sandy Silt with Gravel (ML)*** Brown sandy silt with gravel and traces of fill materials such as ash and coal cinders. 10YR-5/8, hard, dense and dry.	
4					70	0.4			
6					75	0.6		***Fill*** Mostly fill materials consisting of ash, wood and coal. Traces of brown, medium density, soft silt.	6
8					75	0.0			
10								*Bottom of boring at 9.5 feet. Boring terminated at 9.5' bgs due to bedrock refusal*	9.5
12									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-16
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Sand with Gravel (SP)*** Light brown coarse sand with traces of gravel. 2.5YR-4/4, soft, non plastic, dry, low density.	
1					90	0.0			
2					90	0.0			2.5
								Bottom of boring at 2.5 feet. Boring terminated at 2.5' bgs due to bedrock refusal	
3									
4									
5									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: AOC-28-16

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
				-				
				-				
6								
7								
8								
9								
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	
						Ground Surface	
1						***Silt (ML)*** Bedded siltstone with black silt and loam, moist, soft, traces of fine sand.	
2						*Bottom of boring at 2 feet. Hand auger to 2' bgs. Samples collected from 0-2" and 2"-2'.*	2
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-28-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description
						Ground Surface
				- - - -		***Silt (ML)*** Siltstone fragments with silt and organics. Some trace sand and clay, moist, black to dark brown.
1						
2				- - - -		*Bottom of boring at 2 feet. Hand auger to bedrock refusal at 2' bgs. Samples collected from 0-2" and from 2"-2'.*
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-09
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
						0.0		***Sandy Silt with Gravel (ML)*** Light brownish grey sandy silt with gravel and traces of siltstone fragments as well as coal. Hard, dry, non plastic, 10YR-5/6
1				- - - -	100	0.0		
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*
3				- - - -				
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-10
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Gravelly Silt with Sand (ML)*** Gravelly silt with fine sands, 10YR-6/8, stiff, dry, non plastic, medium density.	
1					100	0.0			1.25
								Siltstone Fragments of siltstone	
2									2
								Bottom of boring at 2 feet. Boring terminated at 2' bgs	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-29-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description	
						Ground Surface	
1						***Silt with Gravel (ML)*** Dark Brown silt with sub angular gravel.	
2						*Bottom of boring at 2 feet. Hand Auger to 2' bgs. Samples collected 0-2" and 2"-2'.*	2
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-30-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-31-06
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Fill material*** Fill material of coal ash and crushed brick.	
1					100	0.0			
									1.5
								Siltstone Broken up fragments of siltstone	
2									2
								Bottom of boring at 2 feet. Boring terminated at 2' bgs	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P1
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P10
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***SILT (ml)*** Yellowish-brown (10YR 5/4).
1				- - -	100	0.0		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Yellowish-brown (10YR 5/4).
2				-				***SILT (ml)*** Gray (10YR 5/1).
3 4 5								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				- - - -	100	(0-2) 0.0		***SILTY GRAVEL (gm)*** Brown (10YR 4/3).	
								SILTY GRAVEL (gm) Black (10YR 2/1).	
2								*Bottom of boring at 2 feet. End of boring at 2' bgs.*	
3									
4									
5									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1).
				-				Olive yellow (2.5Y 6/8).
1					100	0.0		
				-				Light gray (10R 7/1).
				-				
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***WELL-GRADED GRAVEL (gw)*** Reddish-black (2.5YR 2.5/1).
				-				Olive yellow (2.5Y 6/8).
1					100	0.0		
				-				Light reddish-gray (2.5YR 7/1).
				-				
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL (gm)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***SILT (ml)*** Brown (10YR 5/3).	
1				-	100	0.0		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1).	
				-					
				-					
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P7
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***SILT (ml)*** Brown (10YR 5/3).
1				- - -	100	0.0		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P8
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SAND (gw)*** Very dark gray (10YR 3/1).
2								***SILT (ml)*** Dark gray (10YR 4/1).
3								*Bottom of boring at 2 feet. End of boring at 2.0'bgs*
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-P9
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				- - - -	100	0.0		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/4).
1								***WELL-GRADED SAND WITH GRAVEL (sw)*** Very dark gray (10YR 3/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL (gm)*** Brown (10YR 4/3).
								SILTY GRAVEL (gm) Dark yellowish-brown (10YR 4/6).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILT WITH GRAVEL (ml)*** Brown (10YR 5/3).
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				- - - -	75	0.0		***SILT (ml)*** Brown (10YR 5/3).
1								***SILT (ml)*** Black (10YR 2/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	75	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (10YR 5/3).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***SILTY GRAVEL (gm)*** Brown (10YR 5/3).
				-				
1					100	0.0		***SILT (ml)*** Dark brown (10YR 3/3).
				-				
				-				***SILT (ml)*** Brownish-yellow (10YR 6/8).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC32-S6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- -				***SILT WITH GRAVEL (ml)*** Very dark gray (10YR 3/1).
1					100	0.0		
				- -				***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/4).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***ORGANIC SOIL (ol/oh)*** Dark brown (10YR 3/3).
				-				***ORGANIC SOIL WITH GRAVEL (ol/oh)*** Dark yellowish-brown (10YR 4/6).
1				-	100	0.0		***SILTY GRAVEL (gm)***
				-				***WEATHERED BEDROCK*** Very dark gray (10YR 3/1).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***Asphalt***
				-				***SILT WITH GRAVEL (ml)***
1					100	0.1		
				-				
				-				***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3).
2								*Bottom of boring at 2 feet. End of boring at 2.0'bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-P4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***SILTY GRAVEL WITH SAND (gm)*** Dark grayish-brown (10YR 4/2).
2								*Bottom of boring at 2 feet. End of boring at 2' bgs*
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S1
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- -				***SILT WITH GRAVEL (ml)*** Very dark gray (10YR 3/1).
1				- -	100	0.0		***SILT WITH GRAVEL (ml)*** Dark yellowish-brown (10YR 3/6).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S2
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				-				***ORGANIC SOIL (ol/oh)*** Dark grayish-brown (10YR 4/2).
				-				***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/6).
1					100	0.0		
				-				
				-				***SILT WITH GRAVEL (ml)***
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S3
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***Asphalt***
				-				***SILT WITH GRAVEL (ml)***
1				-	100	0.0		
				-				***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S4
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1				- - - -	100	0.0		
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S5
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	100	0.0		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark grayish-brown (10YR 4/2).
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs.*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC34-S6
Drilled By: Parratt Wolff/Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				-				***SILT (ml)*** Dark brown (10YR 3/3).
				-				***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark gray (10YR 4/1).
1					100	0.5		
				-				
				-				
2								*Bottom of boring at 2 feet. End of boring at 2.0' bgs*
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-33
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
						0.0		***Poorly-Graded Gravel with Sand (GP)*** Dark grey poorly graded gravel with coarse sand and traces of ash. 2.5Y-4/2, low density and dry.	
1				- - - -	100	0.0			
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	2
3				- - - -					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-34
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
				- - - -	0.0 0.0		
2				- - - -			
4							
6							
8							
10							
12							
14							
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-35
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
						0.0		***Topsoil*** Topsoil	0.4
1					100	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark grey poorly graded gravel with silty sand. 5YR-4/1, firm, low density and moist.	2
2								*Bottom of boring at 2 feet. Boring terminated at 2' bgs*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: Physical Description
						Ground Surface
1						
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-39
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- -	50	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Silty gravel with coarse sand, medium density, hard and moist.	
1				- -				*Bottom of boring at 1 feet. Boring terminated at 1' bgs due to bedrock refusal.*	
2									
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-40
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- -	50	0.0		***Poorly-Graded Gravel with Silt (GP-GM)*** Dark Brown to grey silty gravel with traces of coarse sand. 1-YR-4/8, Dry, soft, low density, non plastic.	
1				- -				*Bottom of boring at 1 feet. Boring terminated at 1' bgs due to bedrock refusal.*	
2									
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC-35-41
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-	90	0.0		***Fill*** Fill material of coarse sand, ash and crushed brick. Hard and dry with dark discoloration.	
1				-	90	0.0			
				-					1.5
				-				***Siltstone*** Broken up fragments of siltstone.	
2									2
				-				*Bottom of boring at 2 feet. Boring terminated at 2' bgs due to bedrock refusal.*	
3				-					
				-					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1								***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
2 3				- - - -	75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; moist, becoming wet @3.5' bgs.; loose.	4
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 7.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.4
2				- - - -	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	4.4
3									
4									
5				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry.	6.5
6				- - -	95	(4-6) 0.0 (6-7.8) 0.0			
7								***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.5' bgs; medium dense to dense; moist. Refusal at 7.8' bgs.	7.8
8								*Bottom of boring at 7.8 feet.*	
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.3
2				- - -	93.75	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2.9
3								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	4
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
1				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
2				-	93.75	(0-2) 0.0 (2-4) 0.0			
				-					2.9
3								***Ash, Slag, and Sand*** Fill: White sandy ash, and slag; dry; loose.	3.6
4								***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose.	4
								Bottom of boring at 4 feet.	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-P5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	87.5	(0-2) 0 (2-4) 0.7		***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
								Well-Graded Gravel (gw) Gravel, trace brown (10YR4/4) silt; dense; dry.	1.75
2								***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3									
4									4.5
5				- - - -	100	(4-7) 0.2		***Silt with Gravel (ml)*** Yellowish brown (10yr5/4) silt, some gravel (0-2"); medium dense becoming soft at 6.5' bgs; cohesive; non-plastic; moist, becoming wet @ 6.5' bgs. Refusal at 7.0' bgs.	
6									
7									7
								Bottom of boring at 7 feet.	
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	0.75
1								***Well-Graded Gravel with Silt (gw-gm)*** Dark yellowish brown (10YR4/4) silt and gravel (0.2-2.0"); moist; soft.	1.25
								Ash, Slag, and Sand Fill: Dark black ash, sand, and slag; dry; loose.	1.6
2				- - - -	87.5	0.0 (0-2) 0.0 (2-4)		***Silty Gravel (gm)*** Gravel (0.2-2.0"), some dark yellowish brown (10YR4/4) silt; soft to medium dense; moist.	2.8
3								***Silt (ml)*** Brown (10YR4/3) silt; soft to stiff; moist.	
4				- -	100	0.0 (4-5)			4.75
5				- -				***Bedrock*** Weathered bedrock fragments with trace silt; dry; loose. Refusal at 5.0' bgs.	5
								Bottom of boring at 5 feet.	
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S10
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Topsoil Topsoil, trace rootlets; moist; soft. PID readings in top 2" of soil.	0.5
								Silt (ml) Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	0.75
1				-					
				-		1.8 (0-2) 0.0 (2-4)		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
2					87.5				
				-					
				-					2.8
3								***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.	
4									4
								Bottom of boring at 4 feet.	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.5
1				- -	100	(0-2) 0.0		***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.5
2				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-	100	(0-2) 0.0		***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.3
				-				***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
2				-					
									2.9
3								***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-rounded gravel (0.2-2.0"); medium dense; cohesive; non-plastic; moist.	
4									4
								Bottom of boring at 4 feet.	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.5 0.75
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.5
2				-	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
4				-					4
								Bottom of boring at 4 feet.	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	
2				-	100	(0-2) 0.0 (2-4) 0.0			1.9
3				-				***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
4				-					4
								Bottom of boring at 4 feet.	
5									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S6
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1								***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1
2				- - - -	75	(1-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	2.5
3								***Sandy Silt with Gravel (ml)*** Yellowish brown (10YR5/4) silt and gravel; dense; dry.	4
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S7
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				-				***Silt (ml)*** Dark yellowish brown (10YR4/4) silt, trace rootlets; moist; soft.	1.25
2				-	75	(1-2) 4.8 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-					
4				-					4
5								*Bottom of boring at 4 feet.*	
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S8
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.3
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	0.85
2				-	100	(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	
3				-					3.5
4								***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5""); medium dense; cohesive; non-plastic; dry, becoming soft and moist @6.75' bgs.	
5				-					
6				-	100	(4-6) 0.0 (6-8) 0.0			
7				-					7.3
8								***Silty Gravel (gm)*** Light brown (7.5YR6/3) silt and weathered bedrock fragments, becoming only bedrock fragments at 7.6' bgs; medium dense to dense; moist. Refusal at 8.0' bgs.	8
								Bottom of boring at 8 feet.	
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35A-S9
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/2/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Silt (ml) Topsoil, brown (7.5YR4/4) silt, trace gravel, trace fine sand, trace rootlets; soft; non-cohesive; moist.	0.4
1				-				***Silt with Gravel (ml)*** Light brown (7.5YR6/3) silt and sub-angular gravel (0.2-2.0"); medium dense; non-cohesive; dry.	1.2
				-		(0-2) 0.0 (2-4) 0.0		***Ash, Slag, and Sand*** Fill: Dark black ash, sand, and slag; dry; loose.	1.5
2				-	100			***Silt (ml)*** Light brown (7.5YR6/3) silt, trace sub-rounded gravel (0.2-0.5"); medium dense; cohesive; non-plastic; moist.	
3				-					
4									4
								Bottom of boring at 4 feet.	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-P1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.6
				-				***Well-Graded Gravel (gw)*** Well graded gravel fill (0.2-2.0"), some brown (10YR5/3) silt; medium dense; dry.	1
1				-	100	(0-2) 0.0		***Well-Graded Gravel with Silt and Sand (gw-gm)*** Brown (10YR5/3) to black (10YR2/1) gravel, silt, and sand, some dark black staining; medium dense; moist.	2
2				-				*Bottom of boring at 2 feet.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S1
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.2
1				-	100	(0-2) 0.0		***Well-Graded Gravel with Silt (gw-gm)*** Gray (10YR3/1) to dark brown (10YR3/3) gravel fill (0.2-2.0"), some silt, trace coarse sand, trace coal fragments, some staining at 0.9' bgs.; medium dense; dry.	
				-					
				-					
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S2
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	100	(0.25-2) 0.0		***Well-Graded Gravel with Silt (gw-gm)*** Dark gray (10YR4/1) to black (10YR2/1) gravel fill (0.2-2.0"), some silt, trace coarse sand,, moderate to heavy staining from 0.6-1.0' bgs.; loose to medium dense; dry.	2
2								*Bottom of boring at 2 feet.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S3
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Silt (ml)*** Topsoil.	0.2
								Well-Graded Gravel with Silt (gw-gm) Brown (10YR5/3) gravel and silt; medium dense; moist.	0.6
1				-	100	(0-2) 0.0		***Well-Graded Gravel with Silt (gw-gm)*** Brown (10YR5/3) to black (10YR2/1) gravel fill (0.2-2.0"), some silt, some coal asphalt debris, trace coarse sand, heavy staining at 1.5' bgs.; loose to medium dense; dry.	
				-					
				-					
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S4
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -				***Poorly-Graded Gravel with Sand (gp)*** Gravel (0.2-2.0") and brown (10YR5/3) coarse to fine sand; loose; dry.	0.75
1					100	(0-2) 0.0		***Slag, ash, and debris*** Black (10YR3/1) to strong brown (10YR5/6) slag, fine ash, and coal debris, trace oily black debris; loose; dry.	
2								*Bottom of boring at 2 feet.*	2
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S5
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Poorly-Graded Gravel with Sand (gp)*** Gravel (0.2-2.0") and brown (10YR5/3) coarse to fine sand; loose; dry.	0.75
1				-	100	(0-2) 0.0		***Slag, ash, and debris*** Black (10YR3/1) to strong brown (10YR5/6) slag, fine ash, and coal debris, trace oily black debris; loose; dry.	
				-					
				-					2
2								*Bottom of boring at 2 feet.*	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** AOC35H-S6
Drilled By: Parratt Wolff, Inc./Matt Carnie	**Drill Start Date:**	**Drill End Date:** 4/1/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Silty Gravel with Sand (gm)*** Very dark brown (7.5YR2.5/3) leaf litter, asphalt debris, gravel, trace sand; medium dense; moist	0.25
				-				***Ash and Slag*** Black (10YR3/1) to reddish yellow (7.5YR7/8) fine ash, some multicolored slag, trace black staining; loose; dry.	
1					100	(0-2) 0.0			
				-					
				-					
2									2
								Bottom of boring at 2 feet.	
3									
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark brown (7.5 YR 3/2) organic silt with trace gravel, soft, moist, trace rootlets	0.5
2				80	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt, dry, medium dense, some fine sand	3.4
4							***Lean Clay (CL)*** Gray (7.5 YR 4/1) clay, trace sand, medium plasticity, moist	3.6
							Bottom of boring at 3.6 feet. Refusal at 3.6'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark brown (7.5 YR 3/2) organic silt with trace clay, loose, soft, dry, trace rootlets	0.75
2				80	0.0		***Silt with Gravel (ML)*** Dark brown (10 YR 3/3) silt with some gravel (0.2"-0.5"), dense, dry	3.25
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2)highly weathered shale, dry, bedded, trace clay, very dense	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Well-Graded Gravel (GW) Dark gray (10 YR 4/1) weathered shale with organic soil and gravel (0.2" to 0.5"), loose, moist	0.5
2				80	0.0		***Lean Clay (CL)*** Yellowish brown (10 YR 5/4) clay, low plasticity, moist, dense	3.25
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2) to brownish yellow (10 YR 6/6) highly weathered shale, dry, slight bedding, some clay, very dense	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				80	0.0		***Organic Soil (OL/OH)*** Dark grayish brown (10 YR 4/2) organic soil with rootlets, some gravel (0.2" to 0.5"), moist	0.5
2							***Lean Clay (CL)*** Yellowish brown (10 YR 5/4) clay, low plasticity, moist, dense	2.75
4							***Ithaca Shale Saprolite*** Very dark grayish brown (10 YR 3/2) to brownish yellow (10 YR 6/6) highly weathered shale, dry, slight bedding, some clay, dense	3
6							*Bottom of boring at 3 feet. Refusal at 3'*	
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-05 (log missing)
Drilled By: /	**Drill Start Date:**	**Drill End Date:**	**Drill Method:**
Logged By: Erik S. Reinert	**Total Depth (ft):**	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 677.15

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
2	675					
4	673					
6	671					
8	669					
10	667					
12	665					
14	663					
16	661					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt with organics, loose, soft, trace rootlets	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5'*	
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BA-SB-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Silt (ML)*** Brown (7.5 YR 4/4) silt with organics, loose, soft, trace rootlets	0.75
							Bottom of boring at 0.75 feet. Refusal at 0.75'	
2								
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BD17-SB-1
Drilled By: Parratt Wolff, Inc./Mark Eaves	**Drill Start Date:**	**Drill End Date:** 8/6/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 16	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.8
2				- - - -	25	0.4 (3-4)		***Void***	
									3
4								***Slag*** Brown (10YR5/3); trace ash; loose; dry; faint odor; slighlty oily; fill.	
6				- - - -	25	0.2 (7-8)			6
								Silty Gravel (gm) Dark reddish brown (5YR3/3); fine- to coarse-grained gravel; loose to medium dense; dry; no odor; slightly oily; fill.	
8									
									9
10				- - - -	50	0.0 (10-12)		***Silty Gravel (gm)*** Dark gray (7.5YR 4/1; medium dense; moist, becoming wet at 14' bgs; odor; oily; fill.	
12									
14				- - - -	50	0.0 (12-16)			
									15.75
16									16
								SILTSTONE Dark gray (7.5YR 4/1), trace bluish (5B5/1) staining; wet; weathered bedrock.	
								Bottom of boring at 16 feet. Refusal at 16.0' bgs	
18									
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** BD17-SB-2
Drilled By: Parratt Wolff, Inc./Mark Eaves	**Drill Start Date:**	**Drill End Date:** 8/6/2019	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 10	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	37.5	0.0 (2.5-4)		***Concrete*** Concrete	0.8
2								***Void***	
4				- - - -	75	0.0 (5-6) 0.0 (6-8)		***Well Graded Gravel (gw)*** Dark gray (7.5YR 4/1), trace black staining at 7.25' bgs; trace silt; loose; dry; no odor; fill.	
6									
8				- - - -	100	0.0 (8-10)			8.5
								Silty Gravel (gm) Dark gray (7.5YR 4/1); loose; wet; faint odor; slightly oily.	10
10								*Bottom of boring at 10 feet. Refusal at 10.0' bgs*	
12									
14									
16									
18									
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-01
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete and Asphalt	1
2				- - - -	75	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark brown (10YR 3/3) gravelly sand with some silt and siltstone fragments; sand is medium- to coarse-grained; gravel is subangular to rounded; moist at 2 ft bgs.	4
4				- - - -	50	0.0		***Siltstone*** Brown (10YR 4/3) siltstone with some silt; dry; bedrock refusal.	6.2
6								*Bottom of boring at 6.2 feet.*	
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-02
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2				- - - - -	50	0.0		***Clayey Silt (ML)*** Dark olive brown (10YR 3/3) clayey silt with some siltstone fragments.	
4				- - - -	50	0.0		***Siltstone*** Siltstone fragments with some yellowish brown (10YR 5/6) silt; dry to slightly moist.	4
6								***Poorly-Graded Sand with Gravel (SP)*** Dark yellowish brown (10YR 3/4) gravelly sand; sand is fine- to medium-grained; gravel is fine-grained and subangular; moist to wet.	6
8								*Bottom of boring at 6.6 feet.*	6.6
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-03
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Clayey Silt (ML) Dark olive brown (10YR 3/3) clayey silt; rootlets common; slightly moist.	0.5
2				- - - -	50	0.0		***Gravelly Silt (ML)*** Dark yellowish brown (10YR 3/4) gravelly silt with some siltstone fragments; moist.	3
4								***Clayey Silt (ML)*** Yellowish brown (10YR 5/6) clayey silt with some gravel; gravel is fine-grained and subangular; moist.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-04
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
								Gravelly Silt (ML) Yellowish brown (10YR 5/6) gravelly silt; gravel is fine-grained and subrounded; dry.	1 1.5
2				- - - -	100	0.0		***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry.	
								Clayey Silt (ML) Dark yellowish brown (10YR 4/6) clayey silt with some gravel; gravel is fine-grained and rounded to subangular; many woody organics; moist.	3
4								***Siltstone*** Dark gray (10YR 4/1) siltstone.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-05
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Asphalt***	0.5
				-	100	0.212		***Gravelly Silt (ML)*** Dark gray (7.5YR 4/1) gravelly silt with some siltstone fragments.	
2				-					2
				-					2.2
								Clayey Silt (ML) Brown (7.5YR 4/2) clayey silt with trace coarse-grained sand and fine-grained gravel; both are subrounded to subangular; moist.	2.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	
								Bottom of boring at 2.5 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-06
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	90	0.002, 0.031		***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt with some siltstone fragments; slightly moist.	
									3.5
4				- - - -	100	0.860		***Clayey Silt (ML)*** Yellowish brown (10YR 5/6) clayey silt with little coarse-grained gravel; gravel is subangular; moist.	4
								Sandy Silt (ML) Grayish brown (10YR 5/2) sandy silt with yellowish brown (10YR 5/8) mottling; sand is fine- to medium-grained; moist.	4.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	6.1
								Bottom of boring at 6.1 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-07
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	95	0.019, 0.017		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; gravel is fine-grained and subrounded; moist.	3.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-08
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Clayey Silt (ML) Dark brown (7.5YR 3/3) clayey silt; rootlets common; moist.	1
2				- - - -	75	0.002, 0.048		***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt and some siltstone fragments; gravel is coarse-grained and subangular; moist.	4
4				- - - -	100			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	5.6
6								*Bottom of boring at 5.6 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-09
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	60	0.0		***Sandy Silt (ML)*** Dark brown (10YR 3/3) sandy silt with some gravel; sand is subrounded; gravel is fine- to coarse-grained and rounded to subrounded; moist.	3.5
4				- - - -	25	0.0		***Gravelly Silt (ML)*** Brown (7.5YR 4/3) gravelly silt with some coarse-grained sand; trace siltstone fragments; gravel is coarse-grained and subangular.	4
6								***Clayey Silt (ML) to Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) clayey silt to gravelly silt; gravel is coarse-grained and subangular; moist to wet.	6
								Bottom of boring at 6 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-10
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2				- - - -	25	0.836 (2-4)		***No Recovery***	2
4								***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt and siltstone rock fragments; gravel is fine-grained and subangular; moist; increased clay content from 4-5 ft bgs.	5
6				- - - -	75	1.8, 1.2		***Gravelly Silt (ML)*** Dark yellowish brown (10YR 3/4) gravelly silt with some siltstone rock fragments; moist; wet from 7.5-8 ft bgs.	8
8								*Bottom of boring at 8 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-11
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - - -	75	1.6, 1.2		***Clayey Silt (ML)*** Dark brown (10YR 3/3) clayey silt with some coarse-grained sand; sand is subrounded; moist.	0.5
								Asphalt gravel	1
2								***Gravelly Silt (ML)*** Dark yellowish brown (10YR 4/4) gravelly silt with some siltstone fragments; moist.	
									3.5
4								***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; refusal.	3.8
								Bottom of boring at 3.8 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-12
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 7.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	75	1.4, 2.1		***Gravelly Silt (ML)*** Very dark brown (10YR 2/2) gravelly silt; gravel is fine- to coarse-grained and subangular; slightly moist.	1
2								***Gravelly Silt (ML)*** Dark grayish brown (10YR 4/2) gravelly silt with some clay and trace brick fragments; gravel is fine-grained and subangular; moist.	3.5
4				- - - -	100	1.7, 0.834		***Clayey Silt (ML)*** Dark yellowish brown (10YR 4/6) clayey silt with some siltstone fragments and little coarse-grained subangular gravel; moist.	5.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone; bedrock refusal.	7.7
8								*Bottom of boring at 7.7 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-13
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1				- - - -	100	0.0		***Concrete and Asphalt***	2
2								***Siltstone*** Brown (10YR 4/3) siltstone; some silt present; dry.	4
3									
4								*Bottom of boring at 4 feet.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-14
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-			***Asphalt***	0.5
				-	0.0		***Clayey Silt (ML)*** Light olive brown (2.5Y 5/4) clayey silt with angular fine-grained gravel; dry to slightly moist.	1.5
2				-			***Poorly-Graded Gravel with Silt (GP-GM)*** Dark yellowish brown (10YR 4/6) clayey silt to silty gravel with coarse-grained (>75mm) siltstone fragments; gravel is fine- to coarse-grained and subrounded; moist; refusal.	3
							Bottom of boring at 3 feet.	
4								
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-15
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/6/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
				- - - -	75	0.0		***Gravelly Silt (ML) to Silty Gravel (GM)*** Strong brown (7.5 YR 5/6) silty gravel to gravelly silt; gravel is fine- to coarse-grained and subangular; dry.	2
2								***Gravelly Silt (ML) to Silty Gravel (GM)*** Strong brown (7.5 YR 5/6) silty gravel to gravelly silt with siltstone fragments; gravel is fine- to coarse-grained and subangular; moist.	
4				- - - -	50	0.0		***Silty Gravel (GM)*** Dark yellowish brown (10YR 4/4) silty gravel; gravel is fine-grained and subrounded; moist to wet; saturated from 5-5.5 ft bgs.	4
									5.5
6								***Siltstone*** Dark gray (10YR 4/1) siltstone; moist to dry; wet from 5.7-6.0 ft bgs; bedrock refusal.	6
								Bottom of boring at 6 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-17
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	0.051, 0.0		***Gravelly Silt (ML) to Silty Gravel (GM)*** Dark brown (7.5YR 3/2) gravelly silt to silty gravel; gravel is coarse-grained and subrounded to subangular; slightly moist.	2
								Siltstone Dark gray (10YR 4/1) siltstone fragments; dry.	2.5
4								***Gravelly Silt (ML)*** Dark brown (10YR 3/3) gravelly silt; gravel is fine- to coarse-grained and subangular; moist.	3.5
								Siltstone Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-18
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	80	0.219, 0.0		***Gravelly Silt (ML)*** Very dark grayish brown (10YR 3/2) to dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; slightly moist to moist.	
4				- - - -	50			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	4 / 5.1
6								*Bottom of boring at 5.1 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-20
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	0.338, 1.0		***Gravelly Silt (ML)*** Brown (10YR 4/3) gravelly silt with trace coarse-grained sand and siltstone rock fragments; gravel is fine- to coarse-grained and subangular; slightly moist.	
4				- - - -	100	0.005			
									5.5
6								*Bottom of boring at 5.5 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-21
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.7
2				- - - -	75	0.0		***Silty Gravel (GM)*** Dark yellowish brown (10YR 4/4) silty gravel with some coarse-grained sand; trace siltstone fragments; dry.	3.8
4				- - - -	50	1.8 (4-6)		***Gravelly Silt (ML)*** Dark brown (10YR 3/3) gravelly silt with trace coarse-grained sand; gravel is fine-grained; moist; refusal.	8
8								*Bottom of boring at 8 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-22
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 4.6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
				- - - -	100	2.4, 1.5		***Siltstone*** Dark gray (10YR 4/1) siltstone fragments with some silt; dry.	2
2								***Gravelly Silt (ML)*** Yellowish brown (10YR 5/4) gravelly silt with some siltstone fragments; gravel is fine- to coarse-grained and subangular.	4
4				- - - -	0			***No Recovery*** Refusal.	4.6
								Bottom of boring at 4.6 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-23
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/7/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	50	1.8, 1.7		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some clay and siltstone fragments; gravel is fine-grained and subangular; moist.	
4				- - - -	100	1.4		***Clayey Silt (ML) to Gravelly Silt (ML)*** Brown (7.5YR 4/2) clayey silt to gravelly silt with some siltstone fragments; gravel is fine-grained and subangular; moist; refusal.	4
6								*Bottom of boring at 6 feet.*	6
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** DP-25
Drilled By: Atlantic Testing Laboratories/Andy Ward	**Drill Start Date:**	**Drill End Date:** 6/8/2006	**Drill Method:** Direct Push
Logged By: Brian L. Nicklen	**Total Depth (ft):** 5.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.5
2				- - - -	75	1.2, 0.019		***Gravelly Silt (ML)*** Dark brown (7.5YR 3/2) gravelly silt with some siltstone fragments; gravel is fine-grained and subrounded; moist.	4
4				- - - -	100			***Siltstone*** Dark gray (10YR 4/1) siltstone fragments; dry; refusal.	5.1
6								*Bottom of boring at 5.1 feet.*	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-02/ MW-34B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/18/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 22	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 411.28
Coordinates (X/Y): 843401.54/887793.73	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 411.21

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9.5 to 14.5	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				-	0			***Asphalt*** Asphalt and gravel base. (0.5)	
				- - - -	13	9.5		***Silty Gravel (GM)*** Brown (10 YR 4/3) silt with gravel; medium dense; dry; fill. (2.3)	
2	409			- 4 5 7	50	0		***Poorly-Graded Sand with Silt and Gravel (SP-SM)*** Brown (10 YR 4/3) fine- to coarse-grained sand; little silt, gravel; medium dense; dry becoming wet at 4 feet bgs; fill.	
4	407			4 4 5 5	20	0			
6	405			3 2 5 9	100	0		***Silt (ML)*** Brown (10 YR 4/3) silt; little clay; dense; moist. (6.5)	
8	403			33 16 8 8	100	0			
					0			***Weathered Siltstone*** Gray (10 YR 5/1) siltstone; brittle; highly weathered; laminated; friable; dry. (9.3)	
10	401			7 29 50 -				***Siltstone*** Gray siltstone - no sample. (10)	
12	399			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate becoming strong at 11.3 feet bgs; fine-grained; laminated; slightly to moderately decomposed; intensely fractured to moderately fractured at 11.3 feet bgs.	
14	397			- - - -				Fracture Classification: Fracture zone at 10-11.3 feet bgs; dry with staining. Horizontal bedding plane joints (possibly mechanical) at 12.2, 13.4 and 13.7 feet; very narrow; not healed; smooth; dry with staining. (15)	
16	395			- - - -	100			RQD: 58% Water sample MW-34B collected for VOCs.	
18	393			-				***Siltstone*** Gray (10 YR 5/1) siltstone; strong to very strong; fine-grained; laminated; fresh; competent; slightly fractured. (19)	
20	391			-				Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 16.2 and 17.6 feet; very	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-02/ MW-34B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
				- - -	100			narrow; not healed; smooth; dry with staining. RQD: 100%	
22	389							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 19.4, 19.6, 20.3, 20.6 and 20.9 feet; very narrow; not healed; smooth; dry with staining. RQD: 60% *(continued)* *Bottom of boring at 22 feet.*	22
24	387								
26	385								
28	383								
30	381								
32	379								
34	377								
36	375								
38	373								
40	371								
42	369								
44	367								

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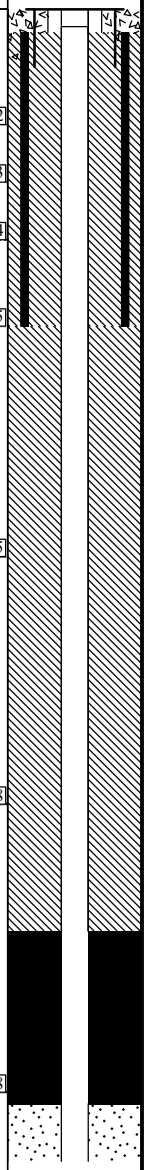
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-03/ MW-35T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/20/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30.2	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 517.27
Coordinates (X/Y): 843564.09/887105.95	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 516.95

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	21 to 26	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				25, 13, 13, 10	0	0		***No Recovery***
2	515			15, 20, 11, 50	20	1.9		***Silt (ML)*** Dark brown (10 YR 3/3) silt; little sand, gravel, and rock fragments; dense; non-plastic; moist.
4	513			- - - -	0			***Weathered Siltstone*** Gray (10 YR 5/1) siltstone; fragmented; dry.
								Siltstone Gray siltstone - no sample.
6	511			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak; fine-grained; laminated; moderately decomposed; very intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); very narrow to narrow; not healed; staining and decomposition; rough; dry with staining.
8	509							RQD: 45%
10	507			- - - -	93			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (many mechanical breaks possible); non-cohesive sediment infilling, rough and damp at 9.5-11.5 feet; clean and dry with staining at 11.5-13.8 feet.
12	505							
14	503							RQD: 30%
16	501			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (many mechanical breaks possible); not healed; clean; rough; dry with staining.
18	499							RQD: 38%
20	497							

Notes:

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-03/ MW-35T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	495			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured to moderately fractured at 21.6 feet bgs. Fracture Classification: Fracture zone at 18.8-21.6 (many mechanical breaks possible). Mechanical breaks at 22, 22.3, and 23.5; horizontal; very narrow; not healed; clean; smooth; dry.	
24	493							23.8 RQD: 44% Water sample MW-35T collected for VOCs. *(continued)*	
26	491			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical breaks throughout sample. Vertical joint at 23.9-24.3; 70 degree dip; narrow; not healed; staining; smooth; dry with staining.	
28	489							28.8 RQD: 78%	
30	487			- - - -	100			30.2 ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Mechanical breaks at 29.5 and 29.8 feet; horizontal; narrow; not healed; clean; smooth; dry. RQD: 71%	
32	485								
34	483							*Bottom of boring at 30.2 feet.*	
36	481								
38	479								
40	477								
42	475								
44	473								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-04/ MW-36B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/19/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 29	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 478.91
Coordinates (X/Y): 843511.9/887349.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 478.58

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 22	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				37 50	100	0		***Asphalt*** Asphalt and gravel base.	0.5 0.8
2	477				0			***Poorly-Graded Gravel (GP)*** Gray gravel and rock fragments; loose angular; dry.	
4	475							***Siltstone*** Gray Siltstone - no sample.	4.5
6	473				100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak; fine-grained; laminated; moderately decomposed; competent; intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); very narrow; not healed; staining; rough; dry with staining. RQD: 8%	
8	471								9
10	469				100			***Siltstone*** Gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; moderately decomposed; competent; intensely fractured. Fracture Classification: Fracture zone throughout sample (some mechanical breaks possible); horizontal with 80 degree dip at 11 feet bgs; very narrow; not healed; staining; rough; dry with staining. RQD: 36%	
12	467								
14	465				100			***Siltstone*** Gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; moderately decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 16.9-17 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry. RQD: 36%	14
16	463								
18	461							Water sample MW-36B collected for VOCs.	19
20	459								

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-04/ MW-36B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
22	457			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 19.7-20.2 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry.	
24	455							RQD: 74% *(continued)* 24	
26	453			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 24.6-25.4 feet; 70 degree dip; extremely narrow; not healed; clean; smooth; dry.	
28	451							RQD: 78% 29	
30	449							*Bottom of boring at 29 feet.*	
32	447								
34	445								
36	443								
38	441								
40	439								
42	437								
44	435								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-05/ MW-37B
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/14/2007	**Drill Method:** Hollow Stem Auger
Logged By: Jerome D. McSorley	**Total Depth (ft):** 15	**Bore Diameter (in):** 10	**Ground Surface (ft-msl):** 408.97
Coordinates (X/Y): 843376.63/887759.7	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 408.46

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 15	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - - -	0			***Asphalt*** Asphalt and gravel base. (0.5)	
					30	2.2		***Silty Gravel (GM)*** Dark gray (10 YR 3/1) to brown (10 YR 4/3) silt with gravel; non-plastic; moist; fill. (2)	
2	407			- 6 7 6	25	2		***Silt (ML)*** Dark gray (10 YR 3/1) to brown (10 YR 4/3) silt; some clay; little gravel; non-plastic; stiff to soft; moist becoming wet at 6 feet bgs; fill.	
4	405			7 5 5 2	25	0		Water sample MW-37B collected for VOCs.	
6	403			1 3 4 5	50	0			
8	401			6 6 5 4	20	0			
10	399			3 4 6 8	50	0		(11)	
12	397			8 10 11 12	50	0		***Weathered Siltstone*** Gray (10 YR 5/1) to yellowish brown siltstone; brittle; highly weathered; easily broken; fragmented; wet. (12.9)	
14	395			18 50 - -	0			***Siltstone*** Gray (10 YR 5/1) to yellowish brown siltstone - no sample. (15)	
16	393			- - - -				*Bottom of boring at 15 feet.*	
18	391								
20	389								

Notes:

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-06/ MW-38T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/10/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 41	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 590.39
Coordinates (X/Y): 843681.6/886577.3	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 590.18

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	27 to 37	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				5, 9, 8, 5	50	0		***Silt with Gravel (ML)*** Yellowish-brown silt; some angular gravel and rock fragments; stiff; non-plastic; moist.	
2	588			50	75	0			2.3, 2.4
				- - -				***Weathered Siltstone*** Gray weathered siltstone; brittle; dry.	
4	586			- - - -	0			***Siltstone*** Gray siltstone - no sample.	
6	584								6
8	582			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 6.2, 6.4 and 7.5 feet; very narrow; clean; rough; dry with staining.	
10	580							RQD: 0%	9.5
12	578			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed to fresh; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 10, 12.4 and 13.7 feet; very narrow; clean; rough; dry. Vertical joints at 11-11.5 feet; joint; extremely narrow; clean; dry.	
14	576							RQD: 51%	14.5
16	574			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed to fresh; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 15.7 and 17.9 feet; extremely narrow; clean; smooth; dry. Vertical joints at 16-17.2 feet; 70 degree dip; very narrow; partly healed with non-cohesive sediment; smooth; damp.	
18	572								19.5
20	570								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-06/ MW-38T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								RQD: 48%	
22	568				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 20.2, 21.1, 21.6, 23 and 24.5 feet; very narrow; clean; smooth; dry.	
24	566							RQD: 61% *(continued)* (24.5)	
26	564				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical fractures throughout sample. Horizontal bedding plane joints at 25.8, 26.3, 27, 27.4, 27.7, 27.9, 28.3, and 29.2 feet; very narrow; clean to slightly decomposed; rough; dry. Vertical joints at 26.5 (45 degree dip) and 28.5-29 (80 degree dip); very narrow; clean; smooth; dry.	
28	562								
30	560				100			RQD: 33% (29.5) ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints at 30.3, 31.1, 31.3, 31.6, 31.9, 32.1, 33, 33.9, and 34.4 feet; very narrow; clean; rough; dry. Vertical joint at 30.5 feet; 25 degree dip; very narrow; clean; rough; dry.	
32	558								
34	556							RQD: 71% (34.5) Water sample MW-38T collected for VOCs.	
36	554				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 34.9, 36.2, 36.5 and 36.6 feet; very narrow; not healed; clean; smooth; dry. Vertical joints at 35.4-36.6 and 38.1-39.5 feet; extremely narrow; partly healed; rough; dry.	
38	552								
40	550				100			RQD: 42% (39.5) ***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Mechanical break at 40.5 feet. RQD: 100% (41)	
42	548								
44	546							*Bottom of boring at 41 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-07/ MW-39T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/12/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 60	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 641.7
Coordinates (X/Y): 843670.41/886076.19	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 641.33

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	44 to 54	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				0 6 7 9	25	0		***Asphalt*** Asphalt and gravel base. (0.5)	
2	640			39 50	50	0		***Silt with Gravel (ML)*** Yellowish-brown silt; some angular gravel; dense; dry. (2)	
								Weathered Siltstone Light gray (7.5 YR 7/1) weathered shale; brittle; dry. (2.9)	
4	638				0			***Siltstone*** Gray Siltstone - no sample.	
6	636							(6)	
8	634				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Predominantly mechanical throughout sample. Fracture zones at 7.9 - 8.2 and 10.4 -11 feet; narrow; clean; smooth; dry. RQD: 0%	
10	632							(11)	
12	630				100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical fracture joint at 12 feet; 80-90 degree dip; very narrow to narrow; moderately healed; clean; smooth; dry with staining. RQD: 20%	
14	628								
16	626							(16)	
18	624				100				
20	622								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-07/ MW-39T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
								Siltstone Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Horizontal bedding plane joints at 16.7, 17.4, and 17.6 feet; narrow; not healed; clean; smooth; dry. RQD: 50% *(continued)*	21
22	620			- - - -	100				
24	618							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Predominantly mechanical throughout sample. Vertical joint at 21.3 - 23.7 feet; 80-90 degree dip; narrow; clean; smooth; damp; tight and cemented at 23.5-23.7 feet. Horizontal bedding plane joints at 21.3 feet; narrow; not healed; clean; smooth; damp. RQD: 60%	26
26	616			- - - -	96				
28	614								
30	612							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderate fracture. Fracture Classification: Mechanical fracture at 26.3 feet. Horizontal bedding plane joints at 26.7, 26.9, 28.6, and 28.8 feet; narrow; not healed; clean; smooth; dry with staining. Vertical joints at 27.9-28.1 feet; 10 degree dip; narrow; not healed; clean; rough; dry with staining. RQD: 83%	31
32	610			- - - -	100				
34	608							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; slightly to moderately fractured. Fracture Classification: Mechanical fracture at 32 feet. Horizontal bedding plane joints at 33.6, 33.9, 35.1, and 35.3 feet; narrow; not healed; clean; smooth to rough; dry with staining. RQD: 97%	36
36	606			- - - -	100				
38	604							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; fresh; competent; slightly fractured. Fracture Classification: Mechanical fractures at 36.5 and 38.5 feet. Horizontal bedding plane joints at 39.8 and 40.4 feet; very narrow; not healed; clean; smooth ; dry. Vertical joint at 37.8 feet; very narrow; not healed; clean; rough; dry. RQD: 100%	41
40	602			- - - -	100				
42	600								
44	598								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-07/ MW-39T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
46	596							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Mechanical fractures at 41.2 and 42.2 feet. Horizontal bedding plane joints at 41.6, 41.7, 43, 43.3, 43.5, 44.4 and 44.6 feet; very narrow; not healed; clean; smooth; dry. Horizontal joint at 45.1 feet; narrow; not healed; clean; rough; dry. RQD: 78% *(continued)*	46
48	594			- - - -	100				
50	592								
52	590			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly to moderately fractured. Fracture Classification: Mechanical fractures at 47.3, 50 and 52 feet. Horizontal bedding plane joints at 46.8, 48.2, 48.6, 48.8, and 49.9 feet; narrow; not healed; clean; rough; dry. Vertical joint at 50.6-51 feet; 80 degree dip; tight; partly healed; clean; smooth ; dry to restricted. RQD: 92% Water sample MW-39T collected for VOCs.	51
54	588								
56	586			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Horizontal bedding plane joints at 52.2, 53.8, and 55.5 feet; narrow; not healed; clean; smooth; dry with staining. RQD: 100%	56
58	584								
60	582							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; slightly decomposed; slightly fractured. Fracture Classification: Mechanical fracture at 56.9 feet. Horizontal bedding plane joints at 57.5, 58, 59.1, and 59.7 feet; very narrow; not healed; clean; smooth; dry with staining. RQD: 100% *Bottom of boring at 60 feet.*	60
62	580								
64	578								
66	576								
68	574								
70	572								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-08/ MW-40T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/7/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30.6	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 593.3
Coordinates (X/Y): 843620.56/886481.76	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 592.97

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9 to 19	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - 50 -	100	0		***Asphalt*** Asphalt with gravel base.	1.3
2	591			- - - - -	0			***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark gray to dark brown gravel and rock fragments; some sand and silt; loose; wet; fill.	
4	589							***Siltstone*** Gray siltstone - no sample.	4
6	587			- - - -	98			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; moderately fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 4.9, 5.3, 5.5, 5.8, 6.8, 6.9 and 8.3 feet; very narrow; clean; smooth; dry. RQD: 50%	
8	585								8.6
10	583			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 8.9, 9.6, 10.2, 11.4, 11.9, 12.3 and 13.4 feet; very narrow; clean; smooth; dry. RQD: 31% Water sample MW-40T collected for VOCs.	
12	581								
14	579			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Vertical joints at 15.4 and 15.9 feet; 30-40 degree dip; very narrow; clean; smooth; dry. RQD: 23%	
16	577								
18	575								18.6
20	573								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-08/ MW-40T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
22	571			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joints at 21.5 and 22.1 feet; very narrow; clean; smooth; dry. RQD: 33% *(continued)*	
24	569								23.6
26	567			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; intensely fractured. Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joints at 24.3, 25.1, 25.8, 26.3 and 27.3 feet; very narrow; clean; smooth; dry. Vertical joints at 23.8-24.1 feet; 80 degree dip; very narrow; clean; smooth; dry. RQD: 43%	
28	565								28.6
30	563			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample. Horizontal bedding plane joint at 29.7 feet; very narrow; clean; smooth; dry. RQD: 64% *Bottom of boring at 30.6 feet.*	
									30.6
32	561								
34	559								
36	557								
38	555								
40	553								
42	551								
44	549								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-10/ MW-42T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/11/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 48.8	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 656.35
Coordinates (X/Y): 843564.43/885888.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 655.98

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	33 to 43	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				21, 16, 8, 6	40	0		***Asphalt*** Asphalt and gravel base. (1.5)	
2	654			5, 6, 6, 7	60	0		***Silt (ML)*** Yellowish-brown silt; firm and dry becoming soft and moist at 2 feet bgs. (4)	
4	652			6, 4, 5, 6	60	14		***Silt with Gravel (ML)*** Yellowish-brown silt with gravel; firm and moist becoming wet at 8 feet bgs.	
6	650			9, 27, 24, 31	80	26.2			
8	648			16, 8, 13, 50	50	0		(9.5)	
10	646			20, 50	50	0		***Weathered Siltstone*** Light gray siltstone; fragmented; dry. (11)	
12	644			- - - - -	0			***Siltstone*** Gray Siltstone - no sample.	
14	642							(15.5)	
16	640			- - - -	88			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 15.9 and 17.3 feet; narrow; clean; dry.	
18	638							(18.8) RQD: 72%	
20	636								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-10/ MW-42T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	634			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 19.4, 20.3, 21.1 and 23.8 feet; narrow; clean; dry.	
24	632							RQD: 96% *(continued)* (23.8)	
26	630			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Vertical natural fractures at 24 and 26 feet are joints; 60 degree dip; smooth; very narrow; not healed; clean; dry. Horizontal natural fractures at 24.9, 25.2, 27, 27.8, and 28.5 are bedding plane joints; smooth, very narrow, not healed; clean; dry.	
28	628							RQD: 50% (28.8)	
30	626			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joints at 30.2 and 30.7 feet; smooth, narrow, not healed; clean; dry.	
32	624							RQD: 92% (33.8) Water sample MW-42T collected for VOCs.	
34	622			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical 35.2 - 35.9 Fracture zone; damp Horizontal bedding plane joints at 34.5 and 38.5 feet; smooth, narrow, not healed; clean; dry.	
36	620								
38	618							RQD: 74% (38.8)	
40	616			- - - -	94			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Horizontal horizontal bedding plane joints at 40, 40.3, 41, 42.6, and 42.9 feet; smooth, narrow, not healed; clean; dry.	
42	614							RQD: 85% (43.8)	
44	612								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-10/ MW-42T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	610			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; slightly decomposed; competent; moderately fractured. Fracture Classification: Predominantly mechanical Horizontal bedding plane joint at 44.8 feet; smooth, narrow, not healed; clean; dry. 48.8 RQD: 92% *(continued)*	
48	608								
50	606							*Bottom of boring at 48.8 feet.*	
52	604								
54	602								
56	600								
58	598								
60	596								
62	594								
64	592								
66	590								
68	588								
70	586								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-11/ MW-43T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/10/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 35	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 565.55
Coordinates (X/Y): 843289.03/886471.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 565.18

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	14.5 to 24.5	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				- - - -	0	0		***Asphalt*** Asphalt and gravel base.	1
2	564			37 9 8 6	40	0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Black to dark gray gravel; some sand and silt; moist becoming wet at 5 feet bgs; fill.	
4	562			7 4 3 3	20	0			
6	560			3 4 5 5	40	0			
8	558			3 3 3 3	30	0			8.8 9
10	556			11 36 36 22	50	0		***Silt (ML)*** Yellowish-brown silt; non-plastic; soft; moist. ***Poorly-Graded Gravel (GP)*** Gray to dark gray gravel with rock fragments; angular; loose; dry.	11
12	554			19 50 - -	100	0		***Weathered Siltstone*** Light gray siltstone; fragmented; dry. ***Siltstone*** Gray Siltstone - no sample Water sample MW-43T collected for VOCs.	11.8
14	552			- - - -	0				15
16	550			- - - -				***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured.	
18	548			- - - -	100			Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 15.8, 17.5, 17.7 and 18.6 feet; very narrow; non-cohesive sediment; partly healed; rough; dry. RQD: 51%	
20	546								20

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-11/ MW-43T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
22	544			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 21.7, 22, 22.6, 22.9, and 23.9 feet; very narrow; non-cohesive sediment; partly healed; rough; dry. RQD: 50%	
24	542								
								25	
26	540			- - - -	100			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 25.5 and 28.3 feet; very narrow; clean; rough; dry. RQD: 53%	
28	538								
30	536							30	
32	534			- - - -	96			***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fossils; fresh; intensely fractured. Fracture Classification: Predominantly mechanical breaks. Horizontal bedding plane joints at 30.8, 31.4, 32.1, 32.5, 33.2 and 34.8 feet; very narrow; clean; smooth; dry. Vertical joint at 32.1-32.5; very narrow; clean; smooth; dry. RQD: 50%	
34	532								
								35	
36	530							*Bottom of boring at 35 feet.*	
38	528								
40	526								
42	524								
44	522								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-12/ MW-44T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/13/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 50	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 558.67
Coordinates (X/Y): 842927.9/885982.86	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 558.22

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	41 to 46	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				25 15 15 9	50	0.8		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray to dark gray gravel; some sand and silt; loose; dry becoming wet at 4 feet bgs; fill.	
2	557			13 8 8 5	40	1			
4	555			4 4 3 2	20	0			
6	553			5 50	50	0			7
8	551			- -				***Siltstone*** Gray Siltstone - no sample.	
10	549			- - - -	0				
12	547								12.5
14	545			- - - -	100			***Siltstone*** Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Fracture zone at 12.5-13.2 feet bgs; horizontal and vertical; not healed; clean; rough; dry with staining. Mechanical breaks at 13.2-16 feet bgs; horizontal; extremely narrow; not healed; clean; smooth; dry with staining. RQD: 29%	
16	543								16
18	541			- - - -	100				
20	539								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Siltstone Dark Gray (10 YR 3/1) siltstone; weak to moderate; fine-grained; laminated; fresh; competent; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry with staining. RQD: 44% *(continued)*	21
22	537			- - - -	100				
24	535							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; intensely to moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joint at 22.8 feet; smooth, narrow, not healed; decomposed; rough; dry. RQD: 44%	26
26	533								
28	531			- - - -	100				
30	529							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Fracture zone at 26.9-27.1 feet; rough; dry with staining. Horizontal bedding plane joints at 28.7 and 30 feet; very narrow; not healed; clean; rough; dry. RQD: 60%	31
32	527								
34	525			- - - -	100				
36	523							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Vertical joint at 34.1-34.5 feet; 80 degree dip; very narrow; not healed; clean; rough; dry with staining. Horizontal bedding plane joint at 35.4 feet; narrow; not healed; clean; rough; dry. RQD: 62%	36
38	521			- - - -	100				
40	519							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; slightly decomposed; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints at 39.3, 39.8, 39.9 and 40 feet; narrow; not healed; cohesive sediment in fractures; rough; damp. RQD: 62%	41
42	517			- - - -	100				
44	515								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-12/ MW-44T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	Well
46	513							***Siltstone*** Gray (10 YR 5/1) siltstone; strong; fine-grained; laminated; fresh; competent; moderately fractured. Fracture Classification: Mechanical breaks throughout sample; horizontal; very narrow; not healed; clean; smooth; dry. Horizontal bedding plane joints (possibly mechanical) at 42.5, 42.7, 43, 43.7, 43.8, 45, and 45.6 feet; very narrow; not healed; clean; rough; dry to dry with staining. RQD: 60% Water sample MW-44T collected for VOCs. *(continued)*	46
48	511			- - - -	100				
50	509								50
52	507							***Siltstone*** Gray (10 YR 5/1) siltstone; very strong; fine-grained; laminated; fresh; competent; slightly fractured. Fracture Classification: Horizontal bedding plane joints (possibly mechanical) at 47, 48.7 and 49.7 feet; very narrow; not healed; clean; smooth; dry. RQD: 100%	
54	505								
56	503							*Bottom of boring at 50 feet.*	
58	501								
60	499								
62	497								
64	495								
66	493								
68	491								
70	489								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EB-13/ MW-45T
Drilled By: Parratt Wolff, Inc./Layne	**Drill Start Date:**	**Drill End Date:** 9/13/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Jerome D. McSorley	**Total Depth (ft):** 30	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 545.92
Coordinates (X/Y): 842468.45/885373.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 545.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 15	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				5, 15, 16, 22	60	0		***Wood*** Wood - section of railroad tie.	0.5
2	544			31, 35, 21, 20	80	0		***Silty Sand with Gravel (SM)*** Black to dark gray sand; some silt, trace gravel; fill.	2
4	542			10, 5, 5, 17	30	0		***Silt (ML)*** Yellowish-brown silt; non-plastic; stiff to hard; dry; gravel and rock fragments at 4 feet bgs.	5.5
6	540			- - - -	0			***Weathered Siltstone*** Gray siltstone; highly weathered; easily broken; dry.	6
8	538			- - - -	95			***Siltstone*** Gray Siltstone - no sample.	7
10	536							***Siltstone*** Dark Gray (10 YR 3/1) to brownish gray siltstone; weak; discoloration due to weathering; fine-grained; laminated; moderately decomposed; moderately disintegrated; very intensely fractured. Fracture Classification: Fracture zone throughout sample (mechanical and natural) - predominantly horizontal; narrow to very narrow; partly healed; rough; dry with staining to damp. RQD: 0% Water sample MW-45T collected for VOCs.	11
12	534								
14	532							***Siltstone*** Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (mechanical and natural) - both horizontal and vertical; narrow to extremely narrow; partly healed; rough; damp at 11 - 12.5 feet to dry with staining at 12.5 - 16 feet. RQD: 30%	16
16	530								
18	528			- - - -	100				
20	526								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EB-13/ MW-45T

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Siltstone Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; weak to moderate; fine-grained; laminated; slightly decomposed; slightly disintegrated; intensely fractured. Fracture Classification: Fracture zone throughout sample (mechanical and natural) - both horizontal and vertical; very narrow; partly healed; decomposed infilling; rough; dry with staining. RQD: 12% *(continued)*	21
22	524			- - - -	100				
24	522							***Siltstone*** Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; competent; intensely fractured. Fracture Classification: Fracture zone throughout sample (mechanical and natural) - predominantly horizontal; very narrow to narrow; clean to stained; rough; dry with staining. RQD: 40%	26
26	520								
28	518			- - - -	100				
								Siltstone Dark Gray (10 YR 3/1) to gray (10 YR 5/1) siltstone; moderate to strong; fine-grained; laminated; competent; intensely to moderately fractured. Fracture Classification: Fracture zone throughout sample (predominantly mechanical) - horizontal; very narrow to narrow; clean to stained; smooth; dry with staining. RQD: 48% *Bottom of boring at 30 feet.*	30
30	516								
32	514								
34	512								
36	510								
38	508								
40	506								
42	504								
44	502								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-10-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/18/2008	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.04
Coordinates (X/Y): 843068.65/886158.34	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.82

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				30	6.4		***Fill*** Dark brown black sand; well graded; some silt; rare grave; some ash; loose; dry.	
2	561								
3	560				80	0		***Fill*** Light brown to brown clay; low plasticity; some gravel; soft; dry to moist.	
4	559								
5	558				30	2.6		***Fill*** Light gray fine to medium sand; some gravel; loose; dry.	
6	557								
7	556				40	2.5		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs.	
8	555								
9	554				60	28.6			
10	553								

Notes:

2.8

4

7

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Project Name: Former EPT | **Client:** Emerson | **Location:** Ithaca, NY | **Boring Log:** EW-10-25B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
11	552				60	27.6		***Sandy Lean Clay (CL)*** Light mottled gray to brown clay; medium plasticity; soft; moist; with hydrocarbon odor and sandy band at 11 feet bgs. *(continued)*	
								11.5	
12	551							***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								12	
13	550				0	N/A		***Ithaca Siltstone*** No core recovery.	
14	549							14	
					100	1.4		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
16	547				100	N/A		Fracture: 4 mechanical (3 horizontal, 1 vertical). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.2 and 13.0 feet bgs. Very narrow; no healing; some infilling with cohesive sediment; smooth to undulating; dry.	
17	546							RQD: 18% (very poor)	
								17.8	
18	545							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured.	
19	544							Fractures: 10 mechanical (7 horizontal, 3 vertical). 11 bedding plane joints. Extremely narrow; not healed; some with cohesive sediment fill; laminated; smooth to undulating; dry.	
20	543				100	NA		RQD: 24% (very poor)	
21	542								
22	541								
								22.8	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-10-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
23	540			-	100	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 4 mechanical (all horizontal) 1 bedding plane joint. Extremely narrow; not healed; clean; smooth; dry.	
				-					
24	539			-					
				-	100	N/A		RQD: 58% (fair) *(continued)*	24.2
25	538			-				***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. *Bottom of boring at 25 feet.*	25
				-					
26	537			-					
				-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-11-43C (Formerly MW-14C)
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/15/2011	**Drill Method:** Hollow Stem Auger/Mud Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.80
Coordinates (X/Y): 843153/886142.06	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.07

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
2	585				0.0		***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583							
6	581							
8	579				0.0			
10	577							
12	575						12	
14	573						***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal.	
16	571							
18	569			31	2.3			
20	567			75	12.0			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-11-43C (Formerly MW-14C)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				75	14.3		***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal. *(continued)*	
22	565			75	6.1			
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							
38	549							
40	547							
42	545							
44	543							
							45	
							Bottom of boring at 45 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-12-45C (Formerly EXB-02)
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05
Coordinates (X/Y): 843190.49/886146.18	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.47

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
				100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
5	582			100	0			
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish-gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs. (10–12)	
15	572						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	
20	567							
25	562							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
							Siltstone Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
30	557							
35	552							
40	547							
45	542							
50	537							
55	532							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-12-45C (Formerly EXB-02)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	527						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*	
65	522							
70	517							
75	512							
80	507						80 *Bottom of boring at 80 feet. EXB-02 converted to extraction well EW12-45C by grouting up open portion to 45 feet on 6/3/15*	
85	502							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-1-62C/EXB-05
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Timothy Huff	**Total Depth (ft):** 62	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 566.59
Coordinates (X/Y): 843159.83/886285.85	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 565.88

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
				10 9	0			***Silty Gravel (GM)*** Fill material; gravel; silt.	
				11 20 6 5	20	0			
					50	0			
				4 5 5 4	50	0			
					10	0		9.5	
				2 2 2 3				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs.	
20	547								
40	527								
60	507							62	
								Bottom of boring at 62 feet. Converted to open-borehole extraction well for DPE System.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-4-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/31/2008	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Tim Dowle	**Total Depth (ft):** 25.5	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.04
Coordinates (X/Y): 843107.29/886221.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 562.9

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	563				40	0.0		***Fill*** Brown gray becoming dark gray sand; well graded; fine to course grained; some silt; occasional brick fragments; loose; dry.	
2	562								
3	561				40	2.0			
4	560								4
5	559				50	2.6		***Ithaca Siltstone*** Gray gravel of siltstone (weathered bedrock).	
6	558				100	4.7			
7	557				N/A	N/A			
8	556								8.5
9	555								
10	554								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 6 mechanical (mainly horizontal, some at 30 degrees). 8 bedding plane joints at 8.6, 9.8, 10.2, 10.4, 11.25, 11.5, 12.5 and 13 feet bgs. Very narrow; not healed; clean with staining in some joints; smooth; dry. 5 fracture zones at 8.7-9.6, 10.6-11, 11.8-12.1 and 13-13.5 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 0% (very poor) *(continued)*	
12	552								
13	551							13.5	
14	550							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 24 mechanical (mainly horizontal). 8 bedding plane fractures at 13.6, 14.25, 15.8, 16.5, 17.8, 18.0 and 18.4 feet bgs. Very to extremely narrow; not healed; clean; smooth; dry. 3 fracture zones at 14.1-14.2, 17.0-17.1 and 17.6-17.7 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 13% (very poor)	
15	549								
16	548			- - - -	100	N/A			
17	547								
18	546							18.5	
19	545							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 21 mechanical (mainly horizontal, 2 at 30 degrees) 8 bedding plane joints at 19.2, 20, 21.4, 21.5, 22.6, 22.8, 19.6 and 23.4 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 18.6-18.8 feet bgs. Very narrow; not healed; clean; smooth; dry. RQD: 15% (very poor)	
20	544								
21	543			- - - -	100	N/A			
22	542								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-4-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	541								
								23.5	
24	540			- - - -	100	N/A		***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; moderately to intensely fractured. Fractures: 1 mechanical (horizontal). 2 bedding plane fractures at 24.6 and 24.8 feet bgs. Extremely narrow; not healed; clean; smooth; dry. 1 fracture zone at 23.7-23.9 feet bgs. Very narrow; not healed; clean; smooth; dry.	
25	539							25.5	
								Bottom of boring at 25.5 feet.	
26	538								
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-5-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/16/2008	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Tim Dowle	**Total Depth (ft):** 25.2	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 564.49
Coordinates (X/Y): 843100.6/886196.14	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 563.37

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	563				50	3.2		***Fill*** Dark brown black fine to medium poorly graded sand with occasional gravel and silt and pockets of clay and ash.	
2	562								
3	561				50	0.0		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs.	
4	560								
5	559				50	0.9			
6	558								
7	557				90	18.1			
8	556								
9	555				50	52.3			
10	554								

Notes:

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
11	553				50	11.8		***Lean Clay with Sand (CL)*** Light brown gray sandy clay; frequent gravel; high plasticity; soft; moist becoming wet from 6 to 8 feet bgs; slight hydrocarbon odor from 8 to 11 feet bgs. *(continued)*	
								11	
								Ithaca Siltstone Gray gravel of siltstone (weathered bedrock).	
12	552							12	
					N/A	N/A		***Ithaca Siltstone*** Weathered siltstone bedrock.	
								12.5	
13	551							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured. Fractures: 5 Mechanical, horizontal 5 bedding plane joints at 12.6, 14.4, 15.0, 15.5 and 12.65 feet bgs. Very narrow; not healed; mainly clear; smooth; undulating; dry. 1 fracture zone from 12.8 to 12.9 feet bgs. RQD: 72% (Fair)	
14	550				99	N/A			
15	549								
								15.2	
16	548							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured. Fractures: 15 mechanical mainly horizontal. 13 bedding plane joints extremely narrow; not healed; some infilled cohesive sediment; smooth to undulating; some surface oxidation; dry. 2 fracture zones at 15.2, 15.4 and 19.4-20.2 feet bgs. RQD: 0% (very poor)	
17	547								
18	546				100	N/A			
19	545								
20	544								
								20.2	
21	543							***Ithaca Siltstone*** Gray Siltstone, strong, fine grained, laminated, fresh, competent, moderately to intensely fractured. Fractures: 17 mechanical fractures, mainly horizontal, 2 at 30 degrees. 11 bedding plane joints; extremely narrow; not healed; some infilling with cohesive sediment; smooth to undulating; dry. 1 fracture zone at 20.2 to 20.3 feet bgs. RQD: 0% (very poor)	
22	542				100	N/A			

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-5-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	541								
24	540								
25	539							25.2	
								Bottom of boring at 25.2 feet.	
26	538								
27	537								
28	536								
29	535								
30	534								
31	533								
32	532								
33	531								
34	530								
35	529								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-7-25B
Drilled By: Parratt Wolff/Mick Foley	**Drill Start Date:**	**Drill End Date:** 9/19/2008	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Tim Dowle	**Total Depth (ft):** 25	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 563.28
Coordinates (X/Y): 843084.17/886176.33	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 561.76

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		15 to 25	**Filter Pack:**	**to**
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
1	562				10	0.0		***Fill*** Black brown sand; poorly graded; medium to fine grained; rare silt; some wood fragments; loose; moist.	
2	561								
								2.5	
3	560				60	0.0		***Lean Clay with Gravel (CL)*** Brown gray becoming gray clay; low to medium plasticity; frequent siltstone gravel; rare silt; soft; moist becoming moist to wet with hydrocarbon odor and sheen from 6 feet bgs.	
4	559								
5	558				50	15.2			
6	557								
7	556				60	49			
8	555								
9	554				20	36.4			
								9.5	
10	553				N/A	N/A		***Ithaca Siltstone***	
								10	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Gray gravel of siltstone (weathered bedrock).	
11	552							***Ithaca Siltstone*** Gray siltstone; strong; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 5 mechanical (4 horizontal, 1 at 45 degrees) 15 horizontal bedding plane joints. Very narrow; not healed; some oxidation; mostly clear; smooth to undulating; dry. 1 30 degree joint. Very narrow; not healed; some cohesive sediment infill; undulating; dry. RQD: 44% (poor)	
12	551				100	N/A			
13	550								
14	549								
								14.5	
15	548							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 14 mechanical (mainly horizontal) 12 bedding plane joints. Very narrow to extremely narrow; not healed; clean; smooth to undulating; dry. 1 fracture zone at 14.5 to 14.7 feet bgs. RQD: 30% (poor)	
16	547								
17	546				100	N/A			
18	545								
19	544								
								19.5	
20	543							***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. Fractures: 11 mechanical (mainly horizontal) 10 bedding plane joints. Extremely narrow; not healed; clean; smooth to undulating; dry. 4 joints at 20 degrees. Very narrow; not healed; clean; undulating; dry. RQD: 8% (very poor)	
21	542								
22	541				100	N/A			

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-7-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
23	540								
24	539								
								24.5	
25	538			-	N/A	N/A		***Ithaca Siltstone*** Gray siltstone; fine grained; laminated; fresh; competent; intensely fractured. 25	
				-				*Bottom of boring at 25 feet.*	
26	537			-					
				-					
27	536								
28	535								
29	534								
30	533								
31	532								
32	531								
33	530								
34	529								
35	528								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EW-9R-72C
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** HSA/Downhole Air Hammer/HQ
Logged By: Erik S. Reinert & Nathaniel Winston	**Total Depth (ft):** 79.3	**Bore Diameter (in):** 10.25/6/2/3.8	**Ground Surface (ft-msl):** 586.13
Coordinates (X/Y): 843141.55/886147.62	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	584			- - - -	0			***Well-Graded Gravel with Silt (GW-GM)*** Angular rock fragments to 1 foot in diameter, some sand and gravel, little black silt.	
4	582								
6	580			- - - -	67	1.8		***Silt with Gravel (ML)*** Brownish-yellow (10YR 6/6) silt, little sub-angular gravel to 0.5-inch in diameter, trace organics and wood debris; medium soft to stiff; dry. (5.5–7)	
8	578							***Well-Graded Gravel (GW)*** Dark gray (10YR 4/1) angular siltstone gravel to 1-inch in diameter; loose; dry.	
10	576			- - - -	50	8.6			
12	574			- - -	100	4		***Silt with Gravel (ML)*** Dark grayish-brown (10YR 5/2) to dark gray (10YR 4/1) silt, some angular gravel to 2-inches in diameter, few clay, medium soft to stiff; dry, becoming wet between 11 and 11.2 feet bgs, faint petroleum-like odor. (10.5–11.5) ***Well-Graded Gravel (GW)*** Dark gray (10YR 4/1) siltstone fragments; loose; dry. (12.3–13)	
14	572							***Silt with Gravel (ML)*** Very dark gray (10YR 3/1) silt, some gravel and coarse-grained sand; medium soft; moist, faint petroleum-like odor. (13.5) ***Well-Graded Gravel (GW)*** Grayish-brown (10YR 5/2) siltstone fragments greater than 2 inches in diameter with shaly partings, few sand and gravel; dense; dry.	
16	570								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
38	548							***Bedrock*** Gray siltstone, recovery is small chips (less than 1/2-inch diameter) and rock dust; dry. *(continued)*	
40	546								
42	544								
44	542								
46	540								
48	538								
50	536								
52	534								
54	532								
56	530			- - - -	100	-			
58	528								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EW-9R-72C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
60	526							***Bedrock*** Siltstone; moderate to strong field strength; gray (10YR 5/1); fine grained; massive with some laminations; fresh; competent; slightly fractured. 54.5'- mechanical break 54.8'- 70 degree angle fracture; medium narrow; not healed; wet; clean; rough; some sediment. 55.0'- bedding plane fracture 56.0'- mechanical break 59.2'-60.6' 90 degree joint; very to extremely narrow; not healed; non-cohesive sediment; moderately smooth; wet with minor seepage. 61.6'- mechanical break 62.5'- mechanical break 63.4'- mechanical break 65.5'- mechanical break 66.2'- mechanical break 67.1'- mechanical break 68.1'- mechanical break 68.5'- bedding plane fracture; healed; smooth; restricted. 72.3'-72.5' 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 73.3'-74.1; 70 degree angle joint; extremely narrow; not healed; non plastic sediment; tight; medium smooth; wet with minor seepage. 75.0'-75.4'- 70 degree angle joint; extremely narrow; not healed; clean; tight; moderately smooth; wet with minor seepage. 77.3'-77.6'- Multiple intersecting joint sets with discrete 70 degree angle plane of fracture; highly pulverized. *(continued)*	
62	524			- - - -	98	-			
64	522								
66	520			- - - -	98	-			
68	518								
70	516			- - - -	87	-			
72	514								
74	512								
76	510			- - - -	80	-			
78	508								
								79.3	
80	506							*Bottom of boring at 79.3 feet. Macro-core refusal at 13.5 feet. Augered to 14.5. Downhole Air Hammer to 54 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-01 (Abondoned 6/2/15)
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Timothy Huff	**Total Depth (ft):** 81	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				3 6 6 7	10	0		***Lean Clay (CL)*** Dark brown silty clay, fill.	
2	585			5 5 4 4	15	0			
4	583			3 3 3 3	15	0		***Sandy Silt (ML)*** Dark brown sandy silt; trace clay; trace gravel; some fill; black staining; saturated. Sample collected at 9-9.5 feet bgs.	4
6	581			3 2 2 2	50	0			
8	579			2 2	100	0			9
10	577							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs.	
12	575								
14	573								
16	571								
18	569								
20	567								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Siltstone Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							
38	549							
40	547							
42	545							
44	543							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
46	541							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
48	539							
50	537							
52	535							
54	533							
56	531							
58	529							
60	527							
62	525							
64	523							
66	521							
68	519							
70	517							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-01 (Abondoned 6/2/15)

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
72	515							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Soil sample EXB-1 collected from 9 to 9.5 feet bgs for VOCs. Rock cuttings sample EXB-1 collected from 19 feet bgs for VOCs. Water sample EXB-1 collected from 71.3 feet bgs for VOCs. *(continued)*
74	513							
76	511							
78	509							
80	507							81
82	505							*Bottom of boring at 81 feet. Abandoned 6/3/15*
84	503							
86	501							
88	499							
90	497							
92	495							
94	493							
96	491							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-02
Drilled By: Parratt Wolff, Inc./Lee Penrod	**Drill Start Date:**	**Drill End Date:** 8/16/2007	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Scott P. Haitz	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
2	585			100	0		***Silt (ML)*** Dark brown clayey silt, moist.	
4	583							
6	581			100	0			
8	579							
10	577			100	0		***Lean Clay with Sand (CL)*** Brownish gray silty clay; sand; petroleum odor. Soil sample EXB-2 collected from 10 to 12 feet bgs for VOCs.	10
12	575						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs.	12
14	573							
16	571							
18	569							
20	567							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
							Siltstone Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
34	553						
36	551						
38	549						
40	547						
42	545						
44	543						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
46	541						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
48	539						
50	537						
52	535						
54	533						
56	531						
58	529						
60	527						
62	525						
64	523						
66	521						
68	519						
70	517						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
72	515						***Siltstone*** Ithaca Siltstone (Description based on cuttings) Rock cuttings sample EXB-2 collected from 19 to 19.5 feet bgs for VOCs. Water sample EXB-2 collected from 75 feet bgs for VOCs. *(continued)*
74	513						
76	511						
78	509						
80	507						80
							Bottom of boring at 80 feet.
82	505						
84	503						
86	501						
88	499						
90	497						
92	495						
94	493						
96	491						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-02R
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Hollow Stem Auger
Logged By: Timothy Huff	**Total Depth (ft):** 12.5	**Bore Diameter (in):** 10	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
				5 7	50	0		***Silt (ML)*** Brown and light gray clayey silt; few gravel; soft; moist becoming wet from 2 to 4 feet bgs.	
2				5 8 5 4	50	0			
4				5 7 7 6	25	0		***Gravelly Silt (ML)*** Brown and dark gray gravelly silt; coarse-grained angular siltstone gravel; soft; moist to wet.	4 6
6				5 5 4 5	25	0		***Silty Gravel (GM)*** Dark gray silty gravel; coarse-grained angular siltstone gravel; moist.	8
8				8 4 5 2	20	0		***Gravelly Silt (ML)*** Dark gray gravelly silt; siltstone gravel; soft; moist to wet; faint odor at 10 feet bgs.	
10				7 13 7 8	40	2.1			
12				50/4	0	0			12.5
								Bottom of boring at 12.5 feet.	
14									
16									
18									
20									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-03
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Concrete Corer
Logged By: Rachel Posner	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete Concrete; gravel from 0.5 to 0.8 feet bgs.	0.8 1.1
2					***Siltstone*** Ithaca Siltstone	
					Bottom of boring at 1.1 feet.	
4						
6						
8						
10						
12						
14						
16						
18						
20						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-04
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Topsoil.	2
2					***Silty Gravel (GM)*** Shale fragments; silt; loose; dry.	4
4					***Poorly-Graded Sand (SP)*** Sand; loose; dry.	5
					Poorly-Graded Gravel with Silt (GP-GM) Gravelly shale; some silt; loose; dry.	7
6					***Lean Clay (CL)*** Clay; hard to stiff; dry; some mottling.	8
8					***Siltstone*** Ithaca Siltstone, weathered. Soil sample EXB-4 collected from 10 to 11 feet bgs for VOCs.	11
10					*Bottom of boring at 11 feet. Refusal at 11 feet bgs.*	
12						
14						
16						
18						
20						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-05
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Timothy Huff	**Total Depth (ft):** 62	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 566.59

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				10 9	0			***Silty Gravel (GM)*** Fill material; gravel; silt.	
2	565			11 20 6 5	20	0			
4	563			4 5 5 4	50	0			
6	561			2 2 2 3	50	0			
8	559				10	0			9.5
10	557							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs.	
12	555								
14	553								
16	551								
18	549								
20	547								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs. *(continued)*
22	545							
24	543							
26	541							
28	539							
30	537							
32	535							
34	533							
36	531							
38	529							
40	527							
42	525							
44	523							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	521							***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-5 collected from 48.8 feet bgs for VOCs. *(continued)*
48	519							
50	517							
52	515							
54	513							
56	511							
58	509							
60	507							
62	505							62 *Bottom of boring at 62 feet.*
64	503							
66	501							
68	499							
70	497							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-06
Drilled By: Parratt Wolff, Inc./Layne	Drill Start Date:	Drill End Date: 8/29/2007	Drill Method: Hollow Stem Auger/Air Hammer
Logged By: Timothy Huff	Total Depth (ft): 61.5	Bore Diameter (in): 10/6	Ground Surface (ft-msl): 563.1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				6, 5, 4, 6	10	0		Asphalt and gravel base.	2
2	561			7, 12, 12, 15	50	0		***Gravelly Silt (ML)*** Yellowish brown gravelly silt; medium-stiff to stiff; coarse-grained siltstone gravel; dry.	4
4	559			9, 11, 9, 6	60	0		***Poorly-Graded Gravel (GP)*** Yellowish brown silty gravel; coarse-grained siltstone gravel; dry.	6
6	557			17, 13, 3, 3	60	33.1		***Gravelly Silt (ML)*** Grayish brown gravelly silt; siltstone gravel; soft; moist from 6 to 7.5 feet bgs, wet from 7.5 to 8 feet bgs, odor.	
8	555			8, 2, 2, 7	50	1.0			
10	553			9, 5, 13, 20	40	22.3			12
12	551			10, 12, 9, 7	50	102		***Silt (ML)*** Gray clayey silt; few siltstone gravel from 14 to 16 feet bgs; low plasticity; firm; moist to wet; odor.	
14	549			5, 41, 15, 50/2		64.3			15.5
16	547				0			***Siltstone*** Ithaca Siltstone (Description based on cuttings)	
18	545								
20	543								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
22	541							***Siltstone*** Ithaca Siltstone (Description based on cuttings) *(continued)*
24	539							***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken joints throughout sample. Vertical Joint runs entire length of core run. RQD: 93%
26	537				93			
28	535							
30	533							***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. Vertical joint continues from 29 to 32.5 feet bgs, cemented at 30.5 to 31 feet bgs.
32	531				100			
34	529							***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; moderately fractured. Fracture Classification: Mechanically broken bedding joints throughout sample. Bedding plane joints at 36, 36.5, and 37.5 feet. Vertical Joint at 38.5 to 39 feet bgs. RQD: 78%
36	527				78			
38	525							
40	523				83			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; intensely fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. Vertical Joint at 39 to 40 feet bgs. RQD: 0% Water sample EXB-6 collected from 39.5 feet bgs for VOCs.
42	521				83			
44	519				94			***Siltstone*** Dark gray siltstone; strong; fresh; unweathered; intensely fractured. Fracture Classification:

24 29 34 39 40.5 41.5 44.5

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	517							Mechanically broken bedding plane joints throughout sample. RQD: 0%
					76			***Siltstone*** Dark gray siltstone; strong; fresh; massive; intensely fractured. Fracture Classification: No natural fractures identified. RQD: 78%
48	515							
50	513							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; intensely fractured. Fracture Classification: Mechanically broken and natural bedding plane joints throughout sample. Vertical joints at 45 to 45.5 and 47.75 to 48.75 feet bgs; mineralization on fracture surface. RQD: 50% Water sample EXB-6 collected from 46.3 feet bgs for VOCs. *(continued)*
					95			
52	511							
54	509							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; slightly to moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. RQD: 96%
56	507				100			
58	505							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; moderately fractured. Fracture Classification: Mechanically broken bedding joints throughout sample. RQD: 100%
60	503				100			
62	501							***Siltstone*** Dark gray siltstone; strong; fresh; thinly bedded; fossiliferous; moderately fractured. Fracture Classification: Mechanically broken bedding plane joints throughout sample. RQD: 100%
64	499							*Bottom of boring at 61.5 feet.*
66	497							
68	495							
70	493							

49.5

53.5

58.5

61.5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-07
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Timothy Huff	**Total Depth (ft):** 25	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 529.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description
						Ground Surface
2	527					***Siltstone*** Ithaca Siltstone (Description based on cuttings)
4	525					
						5
6	523			100		***Siltstone*** Dark gray siltstone; thinly-bedded. Fracture Classification: Natural bedding plane joints at 6.8 and 7.5 feet bgs. Vertical fracture joint from 6.8 to 7.7 feet bgs..
8	521					
10	519					10
12	517			92		***Siltstone*** Dark gray siltstone; thinly- to medium-bedded; thick black siltstone at 12.5 feet bgs. Fracture Classification: Natural bedding plane joints at 11.5 and 13.4 feet bgs. Water sample EXB-7 collected from 11 feet bgs for VOCs.
14	515					
						14.5
16	513			96		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Natural bedding plane joint at 22.3 and 23.7 feet bgs. Vertical fracture joints from 23.7 to 24.5 feet bgs; 30 degree dip; moderately decomposed calcite mineralization. Water sample EXB-7 collected from 17.5 feet bgs for VOCs.
18	511					
						19.75
20	509					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description
22	507			100		***Siltstone*** Dark gray siltstone; thinly to medium-bedded. Fracture Classification: Few mechanical joints sub-parallel to bedding. Partial natural joint at 22.7 feet bgs. *(continued)*
24	505					25
26	503					*Bottom of boring at 25 feet.*
28	501					
30	499					
32	497					
34	495					
36	493					
38	491					
40	489					
42	487					
44	485					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-08
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Hollow Stem Auger/Air Rotary/
Logged By: Timothy Huff	**Total Depth (ft):** 100	**Bore Diameter (in):** 10/6/4	**Ground Surface (ft-msl):** 587.56

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Sandy Silt (ML) Dark brown sandy silt; trace clay; trace gravel; fill material.	
2	586					
4	584					
6	582					
8	580					8
					Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs.	
10	578					
12	576					
14	574					
16	572					
18	570					
20	568					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Siltstone Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
22	566				
24	564				
26	562				
28	560				
30	558				
32	556				
34	554				
36	552				
38	550				
40	548				
42	546				
44	544				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
46	542				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
48	540				
50	538				
52	536				
54	534				
56	532				
58	530				
60	528				
62	526				
64	524				
66	522				
68	520				
70	518				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
72	516				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
74	514				
76	512				
78	510				
80	508				
82	506				
84	504				
86	502				
88	500				
90	498				
92	496				
94	494				
96	492				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
98	490				***Siltstone*** Ithaca Siltstone (Description based on cuttings) Water sample EXB-8 collected from 82.3 feet bgs for VOCs. *(continued)*
100	488				100 *Bottom of boring at 100 feet.*
102	486				
104	484				
106	482				
108	480				
110	478				
112	476				
114	474				
116	472				
118	470				
120	468				
122	466				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-09
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/29/2008	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 565.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				12 13 9 -	50	0.4		***FILL*** Asphalt road surface.	0.5
1	565							***FILL*** Grey brown gravel fill of siltstone.	
2	564			9 10 21 34	50	0.4		***FILL*** Light brown sandy gravel fill; medium dense; dry.	2
3	563							***FILL*** Grey brown sandy gravel fill with some brick fragments; dense; dry to moist.	3
4	562			- -	0	N/A		***FILL*** Concrete fill - no recovery.	4
5	561			- -	25	1.3		***FILL*** Brown sand fill with some concrete and siltstone fragments and rare pockets of ash; dense; dry to moist.	5
6	560			8 4 2 2	50	1.0			
7	559								
8	558			4 3 2 2	10	0.2		***FILL*** Concrete fill with rebar- no recovery.	9
9	557								
10	556								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	555			2, 2, 2, 3	0	N/A		***FILL*** Concrete fill with rebar- no recovery. *(continued)*
12	554			5, 5, -, -	20	0.3		***Fat Clay with Gravel (CH)*** Grey brown high plasticity clay with some gravel; soft; moist.
14	552			2, 3	40	0		***Sandy Fat Clay with Gravel (CH)*** Grey mottled orange brown high plasticity clay with some gravel of siltstone
15	551			6, 6				***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
16	550			4, 50, -, -				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
17	549							
18	548							
19	547							
20	546			-, -, -, -	N/A	N/A		
21	545							
22	544							

12

14

14.8

14.9

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	543							***Siltstone*** Ithaca Siltstone. (Description based on flush arisings). *(continued)*
24	542							
25	541							
26	540							26
27	539			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely to moderately fractured. Fracture Classification: 7 mechanical, horizontal, extremely narrow. 5 bedding plane joints at 26.2', 27.0', 27.2', 28.0' and 28.2'. horizontal, extremely to very narrow, not healed, clean, rough, dry. 2 vertical joints at 27.4' and 28.0', 25 degree dip extremely narrow, not healed, rough, dry. RQD: 25% (Very Poor)
28	538							
29	537							29
30	536			- - - -	100	N/A		***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; intensely fractured. Fracture Classification: 6 mechanical, horizontal, extremely narrow. 9 bedding plane joints at 30.5', 30.6', 30.7', 31.0', 31.2', 32.0', 32.7', 33.0' and 33.7', horizontal, very narrow, not healed, mostly clean, dry, smooth. 2 fracture zones at 29.2' - 30.2' and 33.0' - 33.2'; very narrow, not healed, clean, rough and dry. RQD: 30% (Poor)
31	535							
32	534							
33	533							
34	532							34
35	531							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	530			-				***Siltstone*** Ithaca siltstone; strong; grey; fine grained; fossiliferous; laminated, fresh; competent; moderately fractured. Fracture Classification: 4 mechanical, 3 horizontal, 1 vertical, extremely narrow. 8 bedding plane fractures at 34.5', 36.0', 36.5', 37.0', 37.3', 38.0', 38.4' and 38.9', horizontal, very narrow, not healed, clean, dry, rough. 2 fracture zones at 34.0' - 34.1 and 35.5' - 36.5'; very narrow, not healed, clean, rough and dry. RQD: 68% (Fair) *(continued)*
				-	100	N/A		
37	529			-				
				-				
38	528							
39	527							39
40	526							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 mechanical fractures, mainly horizontal, extremely narrow. 3 bedding plane fractures at 39.2', 41.0' and 43.0', horizontal, very narrow, not healed, clean, dry, smooth. 1 vertical joint with associated fracture zone at 43.0'- 44.0'; very narrow, not healed, surface oxidation or staining, smooth and dry. RQD: 77% (Good)
				-				
41	525			-				
				-	100	N/A		
42	524			-				
43	523							
44	522							44
45	521							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 11 Mechanical fractures; mainly horizontal; 1 vertical; very narrow. 5 Bedding plane fractures at 44.5', 44.7', 44.9', 48.4 and 48.7'; horizontal; very narrow; not healed; clean; smooth; dry. RQD: 93% (Excellent)
				-				
46	520			-				
					100	N/A		
				-				
47	519			-				
48	518							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	517							49
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; mainly horizontal; 1 vertical; very to extremely narrow. 2 Bedding plane fractures at 51.2' and 52.6'; horizontal; very narrow; not healed; clean; smooth; dry. 1 Microjoint at 52.8'. 1 fracture zone at 53.1 - 53.5'; narrow; not healed; infilled with cohesive sediment of silty gravel of silt; smooth; damp. RQD: 93% (Excellent) **NOTE: Low flow groundwater sample collected at of 53.75 feet below top of casing or 53.11 fbgs on 6/12/2008.**
50	516							
51	515				100	N/A		
52	514							
53	513							
54	512							54
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; and very narrow. 2 Bedding plane fractures at 54.4' and 55'; horizontal; narrow to moderately narrow; not healed; clean; 1 fracture zone at 54.0 - 54.2'; horizontal; moderately narrow; not healed; infilled with cohesive sediment of siltstone gravel in clay matrix; damp. RQD: 97% (Excellent)
55	511							
56	510				97	N/A		
57	509							
58	508							
59	507							59
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent)
60	506							
61	505							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	504			-	97	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 3 Mechanical fractures; horizontal; extremely narrow. 1 fracture zone at 62.1' - 62.5'; very narrow; not healed; clean; rough; dry. RQD: 93% (Excellent) *(continued)*
63	503			-				
64	502							64
65	501							*Bottom of boring at 64 feet.*
66	500							
67	499							
68	498							
69	497							
70	496							
71	495							
72	494							
73	493							
74	492							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-10
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/23/2008	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Tim Dowle	**Total Depth (ft):** 64	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 560.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
1	559			1, 3, 3, 3	40	0		***FILL*** Grey brown gravelly well sorted medium to coarse sand; dense and moist; some siltstone fragments.
2	558			9, 10, 8, 9	50	0		
3	557							
4	556			6, 7, 11, 9	50	0		
5	555							***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor.
6	554			11, 8, 8, 6	50	.1		
7	553							
8	552			11, 8, 8, 6	50	.1		
9	551							
10	550							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	549			2, 3, 3, 4	25	.1		***Well-Graded Sand with Gravel (SW)*** Brown gravelly well sorted medium to coarse sand; moist and medium dense with some grey siltstone fragments and rare clay at 8-10' and some black staining at 11.5-12.0' with no odor. *(continued)*
12	548			50	100	.1		12 / 12.1 ***Siltstone*** Ithaca Siltstone; weak; grey; fine grained.
13	547			-				***Siltstone*** Ithaca Siltstone. (Description based on flush arisings).
14	546			-				
15	545							
16	544			-				
17	543			-	N/A	N/A		
18	542			-				
19	541							
20	540							
21	539							
22	538			-				22

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	537			- -	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 4 mechanical fractures; horizontal; very narrow; 1 bedding plane fracture at 22.25'; horizontal; very narrow; not healed; clean; rough; dry. 1 fracture zone at 22.95'; horizontal; not healed; undulating, dry. RQD: 87% (Good) *(continued)*
24	536							24
25	535							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 12 Bedding plane fractures at 24.2', 24.4', 25.6', 24.9', 25.1', 25.15', 25.25', 25.9', 27.0', 27.75', 27.5' and 28.4'; predominately horizontal, narrow, not healed, clean, smooth to undulating, dry. 1 Fracture zone at 25.9' - 27.25'; narrow, not healed, clean, rough, dry. RQD: 63% (Fair)
26	534			- - - -	100	N/A		
27	533							
28	532							
29	531							29
30	530							***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture Classification: 3 mechanical fractures at; horizontal, very narrow. 5 bedding plane fractures; 29.25', 30.75', 30.8', 32.1' and 33.0'; horizontal, narrow, not healed, clean, smooth, dry. 1 Fracture zone at 29.75; moderately narrow, not healed, clean, smooth, dry. RQD: 92% (Excellent)
31	529			- - - -	100	N/A		
32	528							
33	527							
34	526							34
35	525							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	524			-				***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 mechanical break; horizontal, very narrow. 4 bedding plane fractures at 34.5', 35.6', 37.0' and 37.6', horizontal, narrow, not healed, clean, smooth, dry. RQD: 98% (Excellent) *(continued)*
				-	100	N/A		
37	523			-				
				-				
38	522							
39	521							39
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 mechanical breaks; horizontal, very narrow. 4 bedding plane fractures at 39.5', 42.1', 42.75' and 43.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 94% (Excellent)
40	520							
				-				
41	519							
				-	100	N/A		
				-				
42	518			-				
43	517							
44	516							44
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical break; extremely narrow. 5 bedding plane fractures at 44.5', 45.8', 46.0', 47.0' and 48.0', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 70% (Good) **NOTE: Low flow groundwater sample collected at 44.40 feet below top of casing or 44.67 fbgs on 6/12/2008.**
45	515							
				-				
46	514			-				
					100	N/A		
				-				
47	513			-				
48	512							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	511							49
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 6 bedding plane fractures at 49.8', 50.8', 51.7', 52.2', 52.7 and 53.2', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
50	510							
51	509				100	N/A		
52	508							
53	507							
54	506							54
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; moderately fractured. Fracture classification: 1 mechanical, horizontal, very narrow. 4 bedding plane fractures at 55.75', 56.5', 57.75', 58.25', horizontal, very narrow, not healed, clean, smooth, dry. RQD: 100% (Excellent)
55	505							
56	504				100	N/A		
57	503							
58	502							
59	501							59
								Siltstone Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent)
60	500							
61	499							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	498			-	100	N/A		***Siltstone*** Ithaca Siltstone; strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture classification: 2 mechanical, horizontal, very narrow. RQD: 100% (Excellent) *(continued)*
63	497			-				
64	496							64
								Bottom of boring at 64 feet.
65	495							
66	494							
67	493							
68	492							
69	491							
70	490							
71	489							
72	488							
73	487							
74	486							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** EXB-11
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 5/30/2008	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Tim Dowle	**Total Depth (ft):** 80	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 532.82

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0		***FILL*** Asphalt road surface.	0.5
				-				***FILL*** Black sandy gravel fill; loose and dry.	0.7
1	532			-				***Siltstone*** Ithaca Siltstone; grey; weathered.	0.8
2	531			-				***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings)	
3	530								
4	529								
5	528								
6	527								
7	526								
8	525								
9	524								
10	523								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
11	522							***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
12	521			-				
				-				
13	520			-	N/A	N/A		
				-				
14	519							
15	518							
16	517							
17	516							
18	515							
19	514							
20	513							
21	512							
22	511							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
23	510							***Siltstone*** Ithaca Siltstone; note loss of flush at 4' due to large fracture - possibly associated with base of sewer in this locality. (Description based on flush arisings) *(continued)*
24	509							
25	508							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 10 Mechanical fractures; mainly horizontal; 2 vertical; extremely narrow, 80 degree dip. 2 Bedding plane fractures at 26.1' and 29.5'; horizontal; very narrow; not healed; lower fracture slightly infilled with cohesive sediment and damp; upper fracture, smooth and dry. RQD: 100% (Excellent)
26	507							
27	506				100	N/A		
28	505							
29	504							
30	503							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 7 Mechanical fractures; 5 horizontal; 2 vertical; extremely narrow, 90 degree dip. 1 Bedding plane fractures at 32.9'; horizontal; very narrow; clean, smooth; dry. RQD: 100% (Excellent)
31	502							
32	501				100	N/A		
33	500							
34	499							
35	498							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
36	497							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 5 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent) *(continued)*
37	496			- - -	100	N/A		
38	495			-				
39	494							
40	493							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 42.9' - 43.2'; not healed; possibly infilled with cohesive sediment or washed out from above; rough; damp. RQD: 86% (Good)
41	492							
42	491			- -	92	N/A		
43	490			-				
44	489							
45	488							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 1 Mechanical fractures; horizontal; extremely narrow, 90 degree dip. 4 Bedding plane fractures at 45', 47.5', 49.1' and 49.9'; horizontal; narrow to extremely narrow; clean, smooth; dry. RQD: 97% (Excellent)
46	487							
47	486			- -	100	N/A		
48	485			-				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
49	484							
50	483							50
51	482							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 3 Bedding plane fractures at 51.8', 52.3' and 53.2'; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)
52	481			- - -	100	N/A		
53	480			-				
54	479							
55	478							55
56	477							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fracture at 57.5"; horizontal; extremely narrow; clean, smooth; dry. RQD: 98% (Excellent)
57	476			- -	100	N/A		
58	475			- -				
59	474							
60	473							60
61	472							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
62	471			- - - -	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 1 Fractures zone at 60.5' to 60.75'; horizontal; narrow to very narrow; clean, smooth to undulating; dry. RQD: 95% (Excellent) *(continued)*
63	470							
64	469							
65	468			- - - -	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 2 Mechanical fractures; horizontal; extremely narrow. 2 Bedding plane fractures at 65.9' and 67.9'; horizontal; extremely narrow; clean, smooth; dry. RQD: 100% (Excellent)
66	467							
67	466							
68	465							
69	464							
70	463			- - - -	100	N/A		***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; unfractured. Fracture Classification: 4 Mechanical fractures; horizontal; extremely narrow. RQD: 100% (Excellent)
71	462							
72	461							
73	460							
74	459							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: EXB-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
75	458							75
76	457							***Siltstone*** Ithaca Siltstone; very strong; grey; fine grained; fossiliferous; laminated; fresh; competent; slightly fractured. Fracture Classification: 6 Mechanical fractures; horizontal; extremely narrow. 1 Bedding plane fractures at 79.0'; horizontal; very narrow; clean, smooth; dry. 1 Fracture zone at 75.6' to 75.7'; horizontal; moderately narrow; clean smooth; dry. RQD: 100% (Excellent) **NOTE: Low flow groundwater sample collected at 75.20 feet below top of casing or 75.6 fbgs on 6/12/2008.**
77	456			-				
				-	100	N/A		
78	455			-				
				-				
79	454							
80	453							80
81	452							*Bottom of boring at 80 feet.*
82	451							
83	450							
84	449							
85	448							
86	447							
87	446							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-01
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 60	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.19
Coordinates (X/Y): 843339.32/886177.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.87

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

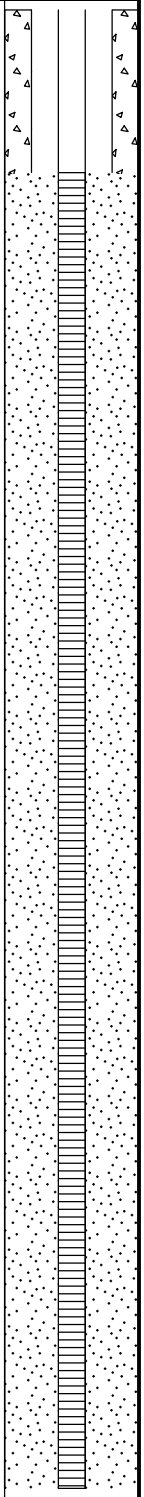
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

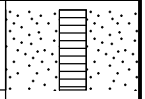
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582					
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	562					
40	560					
42	558					
44	556					
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-01

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60	540					
62	538					
64	536					
66	534					
68	532					
70	530					
72	528					
74	526					
76	524					
78	522					
80	520					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-02
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 34	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.27

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-03
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 39	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.3

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-03

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38	562				
40	560				
42	558				
44	556				
46	554				
48	552				
50	550				
52	548				
54	546				
56	544				
58	542				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-04
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 600.25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	598				
4	596				
6	594				
8	592				
10	590				
12	588				
14	586				
16	584				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	582				
20	580				
22	578				
24	576				
26	574				
28	572				
30	570				
32	568				
34	566				
36	564				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-05
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-05

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-06
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.3	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-06

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-07
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.78
Coordinates (X/Y): 843012.82/885778.33	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.50

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598				***Siltstone***	
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					

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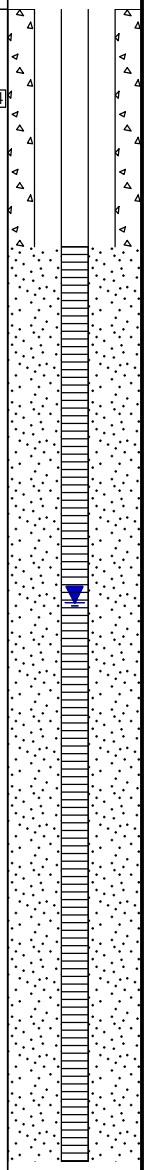
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** *(continued)* 18.5	
					Bottom of boring at 18.5 feet.	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.55
Coordinates (X/Y): 843020.84/885709.05	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 600.06

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					1.4	
2	598				***Siltstone*** Siltstone bedrock	
4	596					
6	594					
8	592					
10	590					
12	588					
14	586					
16	584					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-08

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** Siltstone bedrock *(continued)* 18.4	
					Bottom of boring at 18.4 feet.	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-09
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 23.6	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-10
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21.7	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 42.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-12

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-12

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 611.80

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-13

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	594				
20	592				
22	590				
24	588				
26	586				
28	584				
30	582				
32	580				
34	578				
36	576				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-14
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 38.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 607.83

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	606				
4	604				
6	602				
8	600				
10	598				
12	596				
14	594				
16	592				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-14

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	590				
20	588				
22	586				
24	584				
26	582				
28	580				
30	578				
32	576				
34	574				
36	572				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-14

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38	570				
40	568				
42	566				
44	564				
46	562				
48	560				
50	558				
52	556				
54	554				
56	552				
58	550				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-15
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 710.60

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
2	709				
4	707				
6	705				
8	703				
10	701				
12	699				
14	697				
16	695				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	693				
20	691				
22	689				
24	687				
26	685				
28	683				
30	681				
32	679				
34	677				
36	675				

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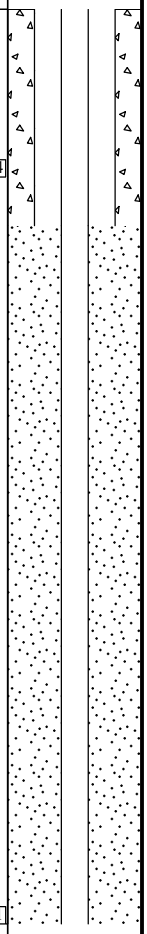
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-16
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 13.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.40
Coordinates (X/Y): 843087.33/885726.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 615.22

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	610				2.4	
4	608				***Siltstone*** Siltstone bedrock	
6	606					
8	604					
10	602					
12	600				13.1	
14	598				*Bottom of boring at 13.1 feet.*	
16	596					



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18.1	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.49

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-17

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	594				
20	592				
22	590				
24	588				
26	586				
28	584				
30	582				
32	580				
34	578				
36	576				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 13.4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.46

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	610				
4	608				
6	606				
8	604				
10	602				
12	600				
14	598				
16	596				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-19
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 11	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.52
Coordinates (X/Y): 842947.77/885742.66	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 601.48

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base Fill (1.9)	
2	598				***Siltstone***	
4	596					
6	594					
8	592					
10	590				(11)	
					Bottom of boring at 11 feet.	
12	588					
14	586					
16	584					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-20
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 55	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-20

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-20

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-21
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 586.54

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	585				
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-21

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				
20	567				
22	565				
24	563				
26	561				
28	559				
30	557				
32	555				
34	553				
36	551				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-22
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 20	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 584.34

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	582				
4	580				
6	578				
8	576				
10	574				
12	572				
14	570				
16	568				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	566				
20	564				
22	562				
24	560				
26	558				
28	556				
30	554				
32	552				
34	550				
36	548				

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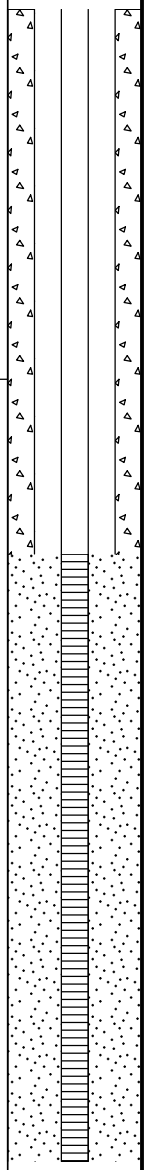
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-23
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 22.8	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 578.44
Coordinates (X/Y): 843590.27/886615.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 580.39

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	576					
4	574					
6	572				***Siltstone***	
8	570					
10	568					
12	566					
14	564					
16	562					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-23

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	560				***Siltstone*** *(continued)*	
20	558					
22	556					
					23.75	
24	554				*Bottom of boring at 22.8 feet.*	
26	552					
28	550					
30	548					
32	546					
34	544					
36	542					

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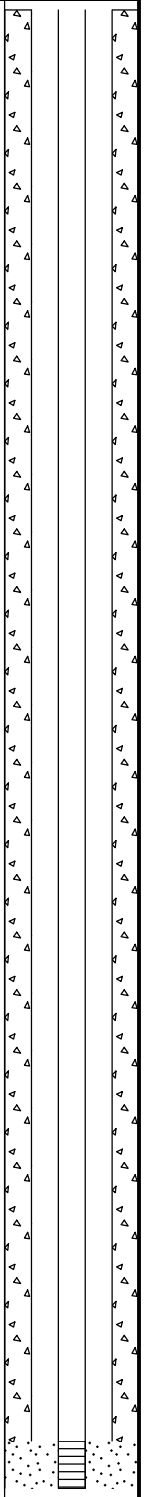
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-24
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 57	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 595.17
Coordinates (X/Y): 843591.94/886427.84	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 594.93

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	593				***Siltstone***	
4	591					
6	589					
8	587					
10	585					
12	583					
14	581					
16	579					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-24

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone *(continued)*	
18	577					
20	575					
22	573					
24	571					
26	569					
28	567					
30	565					
32	563					
34	561					
36	559					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-24

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	557				***Siltstone*** *(continued)*	
40	555					
42	553					
44	551					
46	549					
48	547					
50	545					
52	543					
54	541					
56	539					
					Bottom of boring at 57 feet.	
58	537					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-25
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 60	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
60					
62					
64					
66					
68					
70					
72					
74					
76					
78					
80					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-26
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 581.86
Coordinates (X/Y): 842872.44/885815.25	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 581.57

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	580					
4	578					
6	576					
8	574					
10	572					
12	570					
14	568				***Siltstone***	
16	566					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone *(continued)*	
18	564					
20	562					
22	560					
24	558					
26	556					
28	554					
30	552					
32	550					
34	548					
36	546					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	544				***Siltstone*** *(continued)*	
40	542					
42	540					
44	538				*Bottom of boring at 44 feet.*	
46	536					
48	534					
50	532					
52	530					
54	528					
56	526					
58	524					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-27
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 50	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 584.86

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	583				
4	581				
6	579				
8	577				
10	575				
12	573				
14	571				
16	569				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-27

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18	567				
20	565				
22	563				
24	561				
26	559				
28	557				
30	555				
32	553				
34	551				
36	549				

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-27

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38	547				
40	545				
42	543				
44	541				
46	539				
48	537				
50	535				
52	533				
54	531				
56	529				
58	527				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-28
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 45	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-29
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 50	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-30
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 566.77
Coordinates (X/Y): 843234.05/886389.37	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 566.43

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	565					
4	563					
6	561					
					6.5	
					Siltstone Siltstone Bedrock	
8	559					
10	557					
12	555					
14	553					
16	551					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-30

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	549				***Siltstone*** Siltstone Bedrock *(continued)*	
20	547					
22	545					
24	543				25	
					Bottom of boring at 25 feet.	
26	541					
28	539					
30	537					
32	535					
34	533					
36	531					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-31
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 19.8	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-31

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-32
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-33
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 14.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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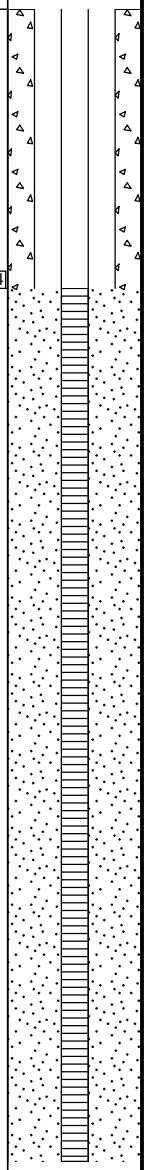
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-34N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 21	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.63
Coordinates (X/Y): 843366.49/886275.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.35

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	586					
4	584				***Siltstone*** Siltstone bedrock RQD: 90- 100 %	
6	582					
8	580					
10	578					
12	576					
14	574					
16	572					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34N

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	570				***Siltstone*** Siltstone bedrock RQD: 90- 100 % *(continued)*	
20	568				21	
					Bottom of boring at 21 feet.	
22	566					
24	564					
26	562					
28	560					
30	558					
32	556					
34	554					
36	552					

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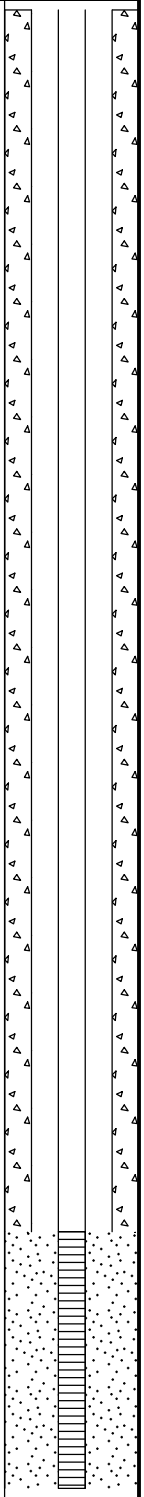
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-34S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.58
Coordinates (X/Y): 843362.5/886270.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.23

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	586					
4	584				***Siltstone*** Siltstone bedrock RQD: 90- 100 %	
6	582					
8	580					
10	578					
12	576					
14	574					
16	572					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone Siltstone bedrock RQD: 90- 100 % *(continued)*	
18	570					
20	568					
22	566					
24	564					
26	562					
28	560					
30	558					
32	556					
34	554					
36	552					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-34S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	550				***Siltstone*** Siltstone bedrock RQD: 90- 100 % *(continued)*	
40	548					
42	546					
44	544				44 *Bottom of boring at 44 feet.*	
46	542					
48	540					
50	538					
52	536					
54	534					
56	532					
58	530					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-35
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 32	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2						
4					5.1	
6					***Siltstone*** Siltstone Bedrock RQD: 72%	
					7	
8					***Siltstone*** Siltstone Bedrock RQD: 100%	
10						
12						
14						
16						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone Siltstone Bedrock RQD: 100% *(continued)*	
18						
20						
22						
24						
26						
28						
30						
32						
34						
36						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38					***Siltstone*** Siltstone Bedrock RQD: 100% *(continued)*	
40						
42						
44						
46						
48						
50						
52						
54						
56						
58						

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60					***Siltstone*** Siltstone Bedrock RQD: 100% *(continued)*	
62						
64						
66						
68						
70						
72					72 *Bottom of boring at 32 feet.*	
74						
76						
78						
80						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.54
Coordinates (X/Y): 842995.33/885715.22	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.92

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594					
8	592				***Siltstone*** Siltstone bedrock RQD: 79 - 100%	
10	590					
12	588					
14	586					
16	584					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** Siltstone bedrock RQD: 79 - 100% *(continued)*	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	562				***Siltstone*** Siltstone bedrock RQD: 79 - 100% *(continued)*	
40	560					
42	558					
44	556				45	
					Bottom of boring at 35 feet.	
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-37
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 44	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 586.72
Coordinates (X/Y): 843331.41/886287.88	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.45

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	585					
4	583					
6	581					
8	579					
					9.5	
10	577				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 %	
12	575					
14	573					
16	571					

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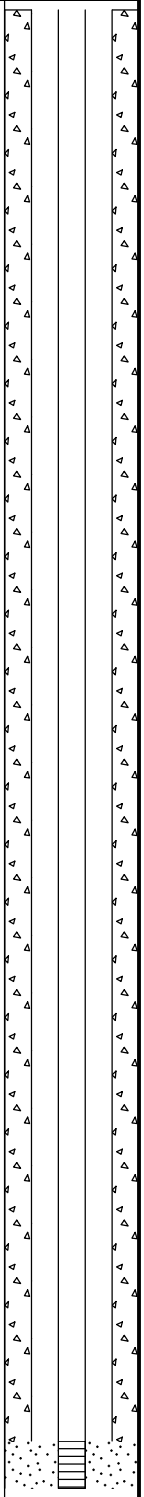
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 % *(continued)*	
20	567					
22	565					
24	563					
26	561					
28	559					
30	557					
32	555					
34	553					
36	551					



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	549				***Siltstone*** Siltstone bedrock RQD: 93.50- 100 % *(continued)*	
40	547					
42	545					
44	543				44 *Bottom of boring at 44 feet.*	
46	541					
48	539					
50	537					
52	535					
54	533					
56	531					
58	529					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-38
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 35	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 587.21

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	585				
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-38

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				
20	567				
22	565				
24	563				
26	561				
28	559				
30	557				
32	555				
34	553				
36	551				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-39
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 583.06
Coordinates (X/Y): 842880.05/885810.29	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 582.61

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	581					
4	579					
6	577					
8	575					
10	573					
12	571					
14	569				***Siltstone*** RQD-30%	
					15.5	
16	567				***Siltstone*** RQD >79% from 15.5 to 25.5 feet below ground surface.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-39

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone RQD >79% from 15.5 to 25.5 feet below ground surface. *(continued)*	
18	565					
20	563					
22	561					
24	559				25.5	
26	557				*Bottom of boring at 25.5 feet.*	
28	555					
30	553					
32	551					
34	549					
36	547					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-40N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 18	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40N

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-40S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 57	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2					
4					
6					
8					
10					
12					
14					
16					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
18					
20					
22					
24					
26					
28					
30					
32					
34					
36					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-40S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

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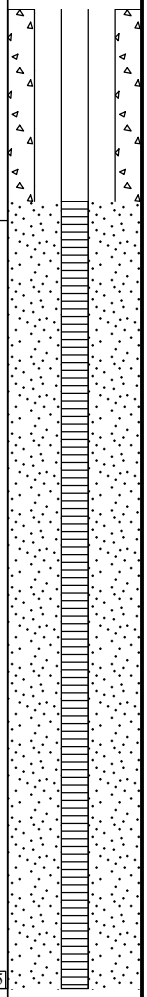
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-41
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/5/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 594.56
Coordinates (X/Y): 843599.97/886443.42	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 594.37

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
5	590					
					Siltstone RQD-100%.	
10	585					
15	580					
20	575					
25	570				25.5	
					Bottom of boring at 25.5 feet.	
30	565					



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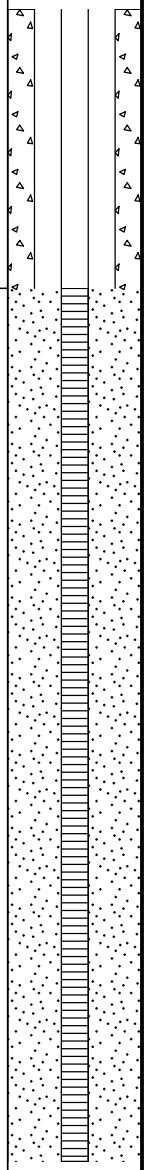
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-42N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2						
4					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8".	
6						
8						
10						
12						
14						
16						



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42N

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8". *(continued)*	
					19	
20					***Siltstone*** RQD-100% from 19.0 - 25.0 feet below ground surface.	
22						
24						
					25	
					Bottom of boring at 25 feet.	
26						
28						
30						
32						
34						
36						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-42S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 46	**Bore Diameter (in):**	**Ground Surface (ft-msl):** -
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** -

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2						
4					***Siltstone*** RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8".	
6						
8						
10						
12						
14						
16						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone RQD-67% at 4.0 - 9.0 feet below ground surface. Top of rock at 8". *(continued)*	
18						
					19	
					Siltstone RQD- at/near 100% from 19.0 - 49.0 feet below ground surface.	
20						
22						
24						
26						
28						
30						
32						
34						
36						

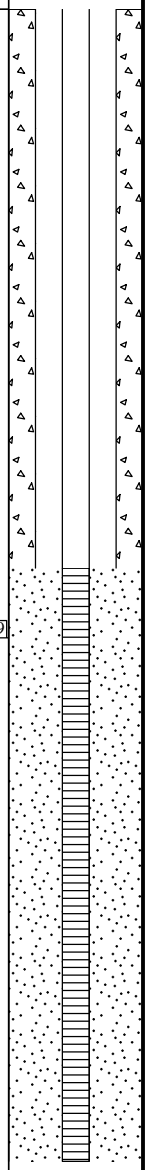
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-42S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38					***Siltstone*** RQD- at/near 100% from 19.0 - 49.0 feet below ground surface. *(continued)*	
40						
42						
44						
46						
48					49	
					Bottom of boring at 46 feet.	
50						
52						
54						
56						
58						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-43N
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 25	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.50
Coordinates (X/Y): 843023.26/885681.37	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 612.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	611					
4	609					
6	607					
8	605					
10	603				***Siltstone*** Siltstone bedrock: RQD 58%	
12	601					
14	599					
16	597					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43N

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	595				***Siltstone*** Siltstone bedrock: RQD 58% *(continued)*	
20	593					
22	591				22 ***Siltstone*** Siltstone bedrock: RQD 100%	
24	589				25	
					Bottom of boring at 25 feet.	
26	587					
28	585					
30	583					
32	581					
34	579					
36	577					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-43S
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 47	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 612.51
Coordinates (X/Y): 843020.13/885677.87	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 612.23

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	611					
4	609					
6	607					
8	605					
10	603				***Siltstone*** Siltstone bedrock: RQD 58%	
12	601					
14	599					
16	597					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	595				***Siltstone*** Siltstone bedrock: RQD 58% *(continued)*	
20	593					
22	591				***Siltstone*** Siltstone bedrock: RQD 100%	22
24	589					
26	587					
28	585					
30	583					
32	581					
34	579					
36	577					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-43S

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	575				***Siltstone*** Siltstone bedrock: RQD 100% *(continued)*	
40	573					
42	571					
44	569					
46	567				47	
					Bottom of boring at 47 feet.	
48	565					
50	563					
52	561					
54	559					
56	557					
58	555					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-44E
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 12	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.54
Coordinates (X/Y): 842946.92/885698.99	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.14

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					5
6	594				***Siltstone*** Siltstone bedrock RQD: 88-100%	
8	592					
10	590					
12	588					12
					Bottom of boring at 12 feet.	
14	586					
16	584					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** LBA-MW-44W
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/6/1905	**Drill Method:**
Logged By: Labella Associates PC	**Total Depth (ft):** 40	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.55
Coordinates (X/Y): 842943.75/885702.65	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.20

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	598					
4	596					
6	594				***Siltstone*** Siltstone bedrock RQD: 88-100%	5.8
8	592					
10	590					
12	588					
14	586					
16	584					

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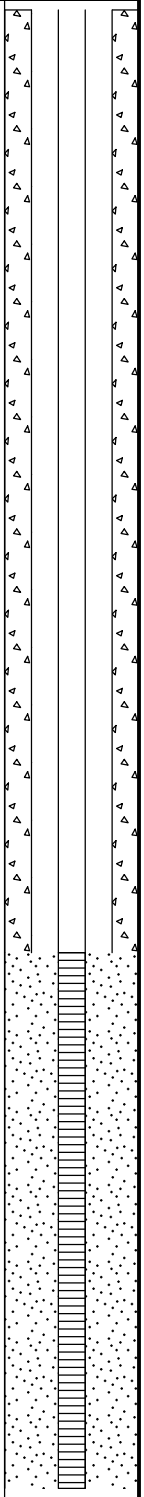
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-44W

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	582				***Siltstone*** Siltstone bedrock RQD: 88-100% *(continued)*	
20	580					
22	578					
24	576					
26	574					
28	572					
30	570					
32	568					
34	566					
36	564					



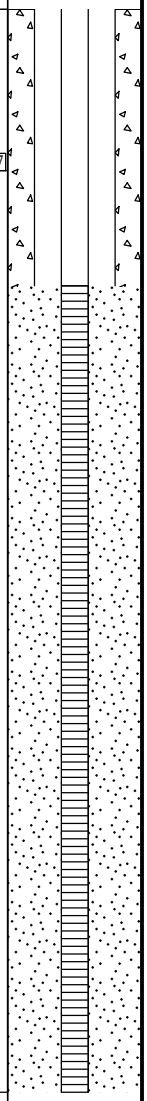
Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: LBA-MW-44W

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
38	562				***Siltstone*** Siltstone bedrock RQD: 88-100% *(continued)*	
40	560				40 *Bottom of boring at 40 feet.*	
42	558					
44	556					
46	554					
48	552					
50	550					
52	548					
54	546					
56	544					
58	542					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 8/10/1989	**Drill Method:** Hollow Stem Auger
Logged By: K. Makeig	**Total Depth (ft):** 47	**Bore Diameter (in):** 36	**Ground Surface (ft-msl):** 622.18
Coordinates (X/Y): 843530.13/886136.74	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 625.81

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Overburden	
10	612				***Siltstone***	
20	602					
30	592					
40	582					
50	572				*Bottom of boring at 47 feet.*	



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-01
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil	0.3
1					100	0.0		***SILTY GRAVEL (gm)*** Silty gravel, 10YR-4/4. Dry, hard, medium density, non plastic.	
					100	(0-2) 0.0 (2-3.5) 0.0			2
2								***GRAVELLY SILT (ml)*** Grayish brown (10YR4/6) gravelly silt, some coal ash/cinders; non plastic; medium hard; dry.	
3					100	0.0		***SILTY GRAVEL (gm)*** Grayish brown (10YR4/4) silty gravel; non plastic; hard; dry.	3.5
4								*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-02
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 5.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil, some rootlets	0.3
1					50	0.0		***GRAVELLY SILT (ml)*** Dark yellowish brown (10YR4/4) gravelly silt, trace coal cinders; low plasticity; cohesive; medium dense; dry.	
2					100	(0-2) 0.0 (2-3.5) 0.0		***GRAVELLY SILT (ml)*** Gravel with silt and traces of sand and coal cinders. Hard, medium density, low plasticity, dry, 10YR-4/4	
3					75	0.0			3.5
4								***WELL-GRADED GRAVEL (gw)*** Grayish brown (10YR4/1) poorly graded gravel; loose; dry.	4.25
5								***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark yellowish brown (10YR4/4) gravel and silt, trace sand; hard; dense; moist.	5.5
6					100	(4-6) 0.0 (6-8) 0.0		*Bottom of boring at 5.5 feet. Refusal at 5.5 ft bgs.*	
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-04-SB-03
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				Topsoil	0.3
				-				***SILT WITH GRAVEL (ml)*** Light brown silt with gravel. 2.5 YR-4/4, Stiff, medium density, low plasticity, dry.	
1				-	100 90	0.0 0.0		***Silt with Gravel (ML)*** Light brown (2.5 YR-4/4) silt with gravel; stiff, low plasticity, dry.	
				-					2
2				-				***SILT WITH GRAVEL (ml)*** Light brown (10YR6/3) silt and gravel; medium dense; ow plasticity; cohesive; dry.	
				-				*Bottom of boring at 2 feet. Refusal at 2.0 ft bgs.*	
3				-					
4				-					
5									
6									
7									
8									
9									
10									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-07B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Timothy Huff	**Total Depth (ft):** 21	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.53
Coordinates (X/Y): 843133.8/886125.12	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.26

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
				4, 4, 4, 3	25	nm		***Asphalt*** (0.5)	
2	586			6, 6, 4, 4	25	nm		***Poorly-Graded Sand with Gravel (SP)*** Dark olive brown sand; some gravel and siltstone fragments; loose; moist. Soil sample MW-7B collected from 6 to 8 feet bgs for VOCs.	
4	584			5, 5, 4, 2	25	nm			
6	582			2, 2, 3, 2	20	nm			
8	580			50/0.3	0	nm		***Siltstone*** Dark gray siltstone - no sample. (8)	
10	578			- - -	0			***Siltstone*** Dark gray siltstone; weathered from 10 to 10.5 feet bgs; medium bedded; intensely fractured. Fracture Classification: Bedding plane joints throughout sample. RQD: 0% (10)	
12	576			- - - -	43				
14	574			- - - -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Bedding plane joints with staining throughout sample. Vertical joint at 18-19 feet bgs. RQD: 17.5% (14)	
16	572			- - - -					
18	570			- -				(19)	
20	568								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-07B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				- -	100			***Siltstone*** Dark gray siltstone; thinly to medium bedded; reddish-brown discoloration on joint surfaces; intensely to very intensely fractured; petroleum sheen on wet areas of core. 21	
22	566							Fracture Classification: Vertical joint at 19-20 feet bgs.	
24	564							RQD: 21%	
								Water sample MW-7B collected for VOCs. *(continued)*	
26	562							*Bottom of boring at 21 feet.*	
28	560								
30	558								
32	556								
34	554								
36	552								
38	550								
40	548								
42	546								
44	544								

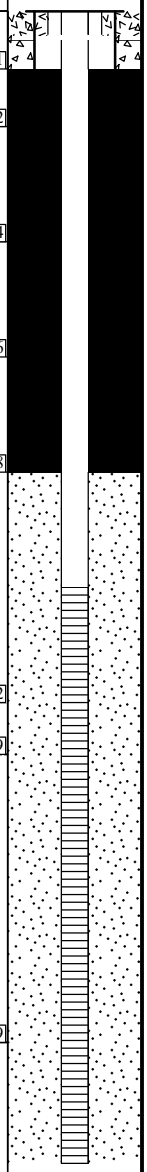
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-08B
Drilled By: Parratt Wolff, Inc./Glen Lansing	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Hollow Stem Auger/ Rock Rolle
Logged By: Timothy Huff	**Total Depth (ft):** 21.3	**Bore Diameter (in):** 10/4	**Ground Surface (ft-msl):** 587.12
Coordinates (X/Y): 843183.14/886137.72	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	10 to 20	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				- - 10 4	75	0.0		***Asphalt*** Asphalt / concrete
2	585			4 5 10 8	50	0.0		***Silt with Gravel (ML)*** Reddish brown silt with gravel; soft; moist.
4	583			5 48 15 8	25	0.0		***Poorly-Graded Sand with Gravel (SP)*** Yellowish brown silty sand with gravel and siltstone fragments; coarse-grained; wet at 2-3 feet and dry at 3-4 feet.
6	581			4 5 9 7	20	0.0		***Silt with Gravel (ML)*** Dark brown silt with gravel and siltstone fragments; soft; moist.
8	579			10 7 9 5	20	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark brown silty gravel; coarse-grained; loose; moist.
10	577			3 2 4 50	60	6.5		***Silt with Gravel (ML)*** Dark brown to grayish brown silt with gravel and siltstone fragments; soft; moist; petroleum odor and sheen from 10 to 12 feet bgs.
12	575			- - - -	0			***Siltstone*** No sample.
14	573			- - - -	100			***Siltstone*** Dark gray siltstone; thinly bedded; slightly decomposed with trace discoloration along joint surfaces; intensely fractured; petroleum sheen on wet areas of core. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joints with discoloration at 13, 13.9, and 14.9 feet bgs. RQD: 57%
16	571							
18	569			- - -	100			
20	567							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-08B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				-				***Siltstone*** Dark gray siltstone; thinly bedded; breaks easily along bedding planes; intensely fractured. Fracture Classification: Mechanical brakes throughout sample. Bedding plane joint with no discoloration at 20.6 feet bgs. RQD: 100% Product sample MW-8B-P collected for VOCs. *(continued)* *Bottom of boring at 21.3 feet.*	21.3
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

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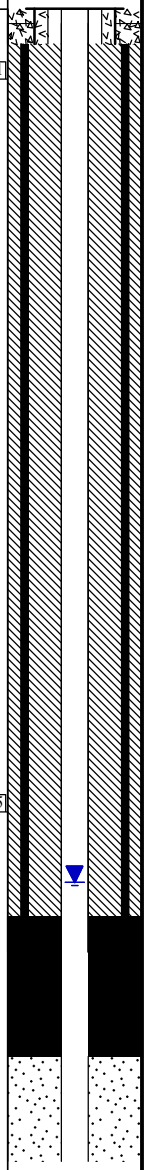
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-09B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 30.4	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.03
Coordinates (X/Y): 843126.2604/886060.5812	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.63

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Concrete
2	585				***Overburden*** Overburden (not sampled).
4	583				
6	581				
8	579				
10	577				
12	575				***Siltstone*** Weathered Siltstone bedrock (not sampled).
14	573				
16	571				

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-09B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Siltstone Weathered Siltstone bedrock (not sampled). *(continued)*	
18	569					
20	567					
22	565					
24	563					
26	561					
28	559					
30	557				30.4	
					Bottom of boring at 30.4 feet.	
32	555					
34	553					
36	551					

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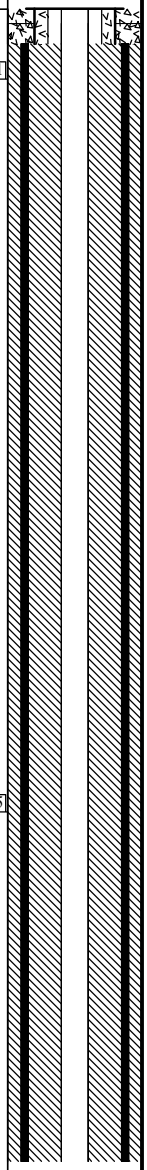
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-10B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.24
Coordinates (X/Y): 843078.791/886022.8092	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.88

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	22 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Concrete	1
2	585				***Overburden*** Overburden (not sampled).	
4	583					
6	581					
8	579					
10	577					11.5
12	575				***Siltstone*** Weathered Siltstone bedrock (not sampled).	
14	573					
16	571					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-10B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Siltstone*** Weathered Siltstone bedrock (not sampled). *(continued)*	
20	567					
22	565					
24	563					
26	561				27.5	
28	559				*Bottom of boring at 27.5 feet.*	
30	557					
32	555					
34	553					
36	551					

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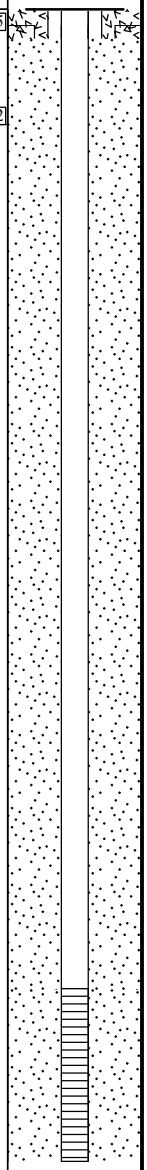
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-11B
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/17/2011	**Drill Method:** Air Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 27	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 587.07
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.73

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	17 to 27	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Asphalt (0.125)
					Concrete (2)
2	585				***Overburden*** Overburden (not sampled)
4	583				
6	581				
8	579				
10	577				
12	575				
14	573				
16	571				
18	569				
20	567				

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-11B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Overburden Overburden (not sampled) *(continued)*	
22	565					
24	563				25.5	
26	561				***Ithaca siltstone*** Light gray siltstone; weak field strength; thinly bedded; slightly decomposed. 27	
					Bottom of boring at 27 feet.	
28	559					
30	557					
32	555					
34	553					
36	551					
38	549					
40	547					
42	545					
44	543					

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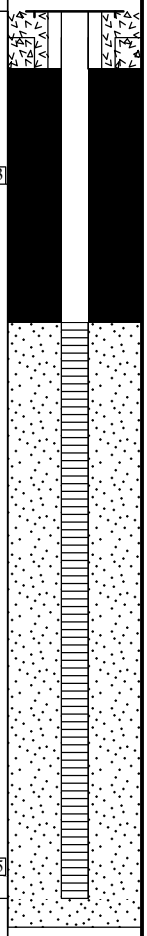
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12B
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/18/2011	**Drill Method:** Air Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 15.4	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 555.66
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 555.2

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	5.4 to 15.4	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Overburden (not sampled)
2	554				
					3
4	552				***Ithaca siltstone*** Light gray siltstone; weak field strength; thinly bedded; slightly decomposed.
6	550				
8	548				
10	546				
12	544				
14	542				
					15
16	540				*Bottom of boring at 15.4 feet.*
18	538				
20	536				

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-12C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 586.94
Coordinates (X/Y): 843198.9288/886141.733	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.35

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.3 to 29.3	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Overburden*** Overburden (not sampled).	
4	583								
6	581								
8	579								
10	577								11.5
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	13
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible.	
16	571								

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-12C

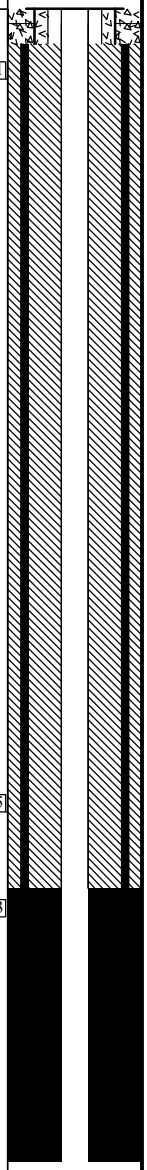
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture, some lamination visible below 24 feet; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; moderate to intensely fractured, fracture frequency decreasing below 21.5 feet; bedding plane fractures and microfractures prevalent between 14 and 15.5 feet; some clay infilling and moisture apparent at 15.7 feet and 18 feet; possible healed fracture zone between 24 and 24.3 feet, infilling and cement visible. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-13C
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 4/27/2010	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert & David P. Bouchard	**Total Depth (ft):** 30	**Bore Diameter (in):** 8.25/6	**Ground Surface (ft-msl):** 587.13
Coordinates (X/Y): 843177.3054/886115.6846	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.62

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	24.8 to 29.8	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	
								Overburden Overburden (not sampled).	
2	585								
4	583								
6	581								
8	579								
10	577								
12	575							***Siltstone*** Weathered Siltstone bedrock (not sampled).	
14	573			- - - -	Total: 100% RQD: 35%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet.	
16	571								

Notes:



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-13C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569			- - - -	Total: 100% RQD: 20%	NA		***Siltstone*** Gray siltstone; moderate to strong field strength; aphanitic, massive texture; fresh to slightly decomposed, slightly disintegrated, becoming competent and fresh at 22 to 30 feet; intensely fractured, 85-degree dipping joint with orangish-brown iron staining and possible oil sheen, all other fractures are horizontal with no infilling or mineralization, petroleum odor and oily sheen in horizontal fracture at 20.6 feet. *(continued)*	
20	567								
22	565			- - - -	Total: 100% RQD: 62.5%	NA			
24	563								
26	561								
28	559			- - - -	Total: 100% RQD: 76%	NA			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								
36	551								

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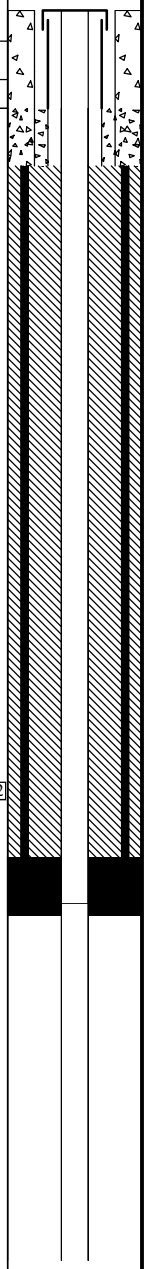
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-14C
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/15/2011	**Drill Method:** Hollow Stem Auger/Mud Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.61
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.31

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
2	585			- - - -		0.0		***Silty Clay*** Dark brown, moist, silty clay overburden
4	583							
6	581			- - - -		0.0		
8	579							
10	577							
12	575							***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal.
14	573							
16	571							
18	569			- - - -	31	2.3		
20	567			-	75	12.0		

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-14C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				-	75	14.3		***Ithaca siltstone*** Light gray siltstone; weak to moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated; intensely to moderately fractured with near vertical joints with iron staining at 14.5 to 15 feet and 19 feet, all other fractures are thin and horizontal. *(continued)*	
				-					
				-					
22	565			-	75	6.1			
				-					
				-					
24	563			-					
				-					
				-					
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								
								45 *Bottom of boring at 45 feet.*	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-15C
Drilled By: Parratt Wolff, Inc./	**Drill Start Date:**	**Drill End Date:** 3/16/2011	**Drill Method:** Hollow Stem Auger/Mud Rotary
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.76
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.27

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 45	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	585							***Silty Clay*** Dark brown, moist, silty clay overburden	
4	583								
6	581								
8	579								
10	577								
12	575			- - - -	0	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal.	11.4
14	573								
16	571			- - - -	53	0.0			
18	569								
20	567			- -	26	0.0			

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
					26	0.0		***Ithaca siltstone*** Light gray siltstone; moderate field strength; thinly bedded; fresh to slightly decomposed; slightly disintegrated, becoming competent at 13.3 to 21.3 feet; intensely fractured with 30-degree dipping joint with iron staining at 12.8 feet, all other fractures are thin and horizontal. *(continued)*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								
38	549								
40	547								
42	545								
44	543								

Notes:

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-15C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
46	541							46	
								Bottom of boring at 45 feet.	
48	539								
50	537								
52	535								
54	533								
56	531								
58	529								
60	527								
62	525								
64	523								
66	521								
68	519								
70	517								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16B/C
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
1	586				***Lean Clay with Gravel (CL)*** Gravelly clay overburden	
2	585				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	2
3	584					
4	583					
5	582					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
12	575					
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16B/C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
25	562					
26	561					
27	560					
28	559					
29	558					
30	557				30	
					Bottom of boring at 30 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16C
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Rob Wallace	**Total Depth (ft):** 45	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 45	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Concrete	
1	586				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	
2	585					
3	584					
4	583					
5	582					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
12	575				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
26	561					
27	560					
28	559					
29	558					
30	557					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
31	556				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
32	555					
33	554					
34	553					
35	552					
36	551					
37	550					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
38	549					
39	548					
40	547					
41	546					
42	545					
43	544					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
44	543				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
45	542				45 *Bottom of boring at 45 feet.*	
46	541					
47	540					
48	539					
49	538					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-16C/B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/29/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.89
Coordinates (X/Y): 843227.2483/886138.7419	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	25 to 30	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Lean Clay with Gravel (CL) Gravelly clay overburden	
1	586					
2	585				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	2
3	584					
4	583					
5	582					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
12	575					
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-16C/B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured *(continued)*	
26	561					
27	560					
28	559					
29	558					
30	557				30 *Bottom of boring at 30 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-17B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/27/2012	**Drill Method:** Hollow Stem Auger/Air Hammer
Logged By: Rob Wallace	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.74
Coordinates (X/Y): 843207.0493/886117.192	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.42

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	4 to 14	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description.	
1	586					
2	585					
3	584					
4	583					
5	582					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-17B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description. *(continued)*	
6	581					
7	580					
8	579					
9	578					
10	577					
11	576					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-17B

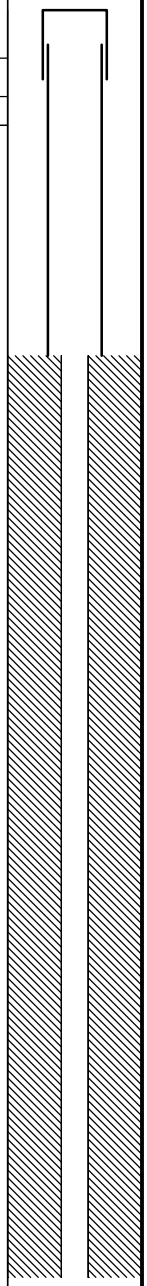
Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					11.5	
					Ithaca Shale Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured	
12	575					
13	574					
14	573				14.5	
					Bottom of boring at 14.5 feet.	
15	572					
16	571					
17	570					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-18B
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/27/2012	**Drill Method:** Hollow Stem Auger
Logged By: Robert Wallace	**Total Depth (ft):** 28	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.68
Coordinates (X/Y): 843109.9129/885990.5121	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 587.95

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 28	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description.
1	586				
2	585				
3	584				
4	583				
5	582				

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Lean Clay with Gravel (CL) Lean clay. All cuttings were vacuumed from auger immediately, leaving no samples for full description. *(continued)*	
6	581				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs.	
7	580					
8	579					
9	578					
10	577					
11	576					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
12	575				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	[redacted]
13	574					
14	573					
15	572					
16	571					
17	570					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	
19	568					
20	567					
21	566					
22	565					
23	564					
24	563					

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-18B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
25	562				***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Large fracture at 23' bgs. *(continued)*	
26	561					
27	560					
28	559				28 *Bottom of boring at 28 feet. Found fracture at 23', set screen to capture*	
29	558					
30	557					

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-20B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/23/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 20.2	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 517.53
Coordinates (X/Y): 843121.55/886496.75	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 516.09

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Gravel Road Base	
5	513				***Silty Clay*** Dark gray (N4) silty clay with gravel; medium stiff; nonplastic; moist.	5
10	508				***Siltstone*** Weathered Siltstone.	9
					Siltstone Gray (N5) weathered siltstone; several natural fractures; some weathering in fractures; RQD-28%.	11
15	503				***Siltstone*** Gray (N5) weathered siltstone; with approximately 4 slightly weathered natural fractures; some mechanical fractures; RQD-92%.	15
20	498				*Bottom of boring at 20.2 feet.*	20
25	493					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-22B
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 3/31/2005	**Drill Method:** Hollow Stem Auger
Logged By: Pat Peterson and Erik Reinert	**Total Depth (ft):** 16.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 490.95
Coordinates (X/Y): 843247.83/886844.08	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 489.46

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	489				***Gravel Road Base*** Gravel and sand with silty clay material.	
4	487				***Silty Clay*** Gray silty clay with rock fragments; moist.	
6	485					
8	483					
9					***Siltstone***	
10	481					
11					***Siltstone*** RQD-0%.	
11.5					***Siltstone*** Compotent; fractured every 2-4"; fine-grained; no vertical fractures; moderate yield; RQD-13%.	
12	479					
14	477					
16	475					
16.5					*Bottom of boring at 16.5 feet.*	
18	473					
20	471					

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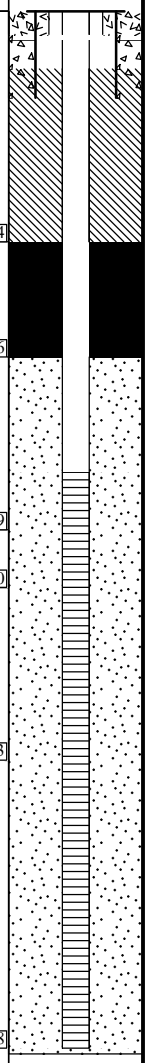
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-23B
Drilled By: Parratt Wolff, Inc./Sean and Mark	**Drill Start Date:**	**Drill End Date:** 10/30/2008	**Drill Method:** Hollow Stem Auger
Logged By: Steven Dawson	**Total Depth (ft):** 18	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	13.1 to 18.1	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
					Fill Gravelly Fill	
4					***Silty Clay*** Dark gray (N4) silty clay with gravel; black fill fragments; moist	
6					***Clayey Silt*** Reddish brown (5 YR 5/3) clayey silt; stiff; semi-plastic; moist; trace shale fragments	
8						
10					***Siltstone*** Gray (N5) weathered siltstone; friable; dry to moist	
					Siltstone Gray (N5) weathered siltstone; several natural fractures; RQD-0%	
12						
14					***Siltstone*** Gray (N5) weathered siltstone; slightly less weathered/fractured; becoming less weathered from 17 to 18 feet bgs; RQD-26%	
16						
18					*Bottom of boring at 18 feet.*	
20						



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24A
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/10/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 10.1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes: Soil Boring, not a well.

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2, 4								***Concrete*** Concrete and fill.	4
4, 6				6 8 6 12	10	0.0		***Well-Graded Sand (SW)*** Olive (5Y 4/3) medium- to coarse-grained sand, some gravel, fill; loose; dry.	6
6, 8				8 13 14 11	20	0.0		***Clayey Sand with Gravel (SC)*** Olive (5Y 4/3) clayey sand with gravel; medium density; moist.	8
8, 10				11 15 50/3	25	0.0		***Well-Graded Sand with Gravel (SW)*** Olive (5Y 4/3) sand with gravel, some low plasticity clay, siltstone rock fragments in spoon; medium density; moist. Collect sample from 10 to 10.1 feet bgs: MW-24A (10-10.1').	10.1
10				50/3	100	1.3		*Bottom of boring at 10.1 feet. Refusal at 10.1 feet bgs.*	
12, 14									

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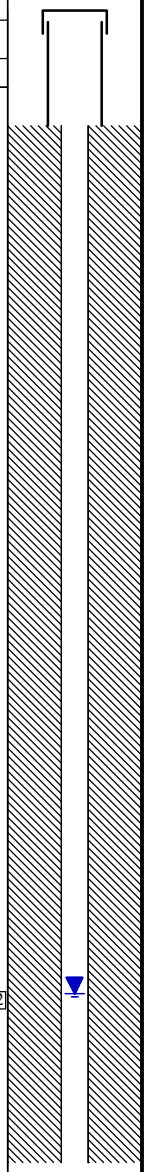
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/24/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.35
Coordinates (X/Y): 843093.037/886004.9151	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.94

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Overburden
2	584							
4	582							
6	580							
8	578							
10	576							
12	574							***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured
14	572			- - -	Very Poor	0.0		Lost water at 23' bgs

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-24B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
16	570				Very Poor	0.0		***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Lost water at 23' bgs *(continued)*	
18	568								
20	566				Very Poor	0.0			
22	564							22.6	
								Clay Dark gray (N5) lean clay in fractures 23.2	
24	562				Very Poor	0.0		***Ithaca Shale*** Dark gray (N5) weathered shale: Fine-grained, thinly bedded, slightly disintegrated, competent, intensely fractured Lost water at 23' bgs	
26	560								
28	558				Poor	0.0			
30	556							30	
								Bottom of boring at 30 feet.	
32	554								
34	552								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-24B (2005)
Drilled By: Parratt Wolff, Inc./Jim Hammond	**Drill Start Date:**	**Drill End Date:** 2/10/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 18	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 415.42
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 415.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes: Abandoned

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	Well
					Ground Surface	
					Gravel Road Base Gravel and rock fragments placed during road replacement.	
2	413					
					3.5	
4	411				***Siltstone*** Light gray (N3) weathered siltstone; dry.	
6	409					
					7.5	
8	407				***Siltstone*** RQD-100%.	
10	405					
12	403					
					13	
14	401				***Siltstone*** RQD-80%.	
16	399					
18	397				18	
					Bottom of boring at 18 feet.	
20	395					

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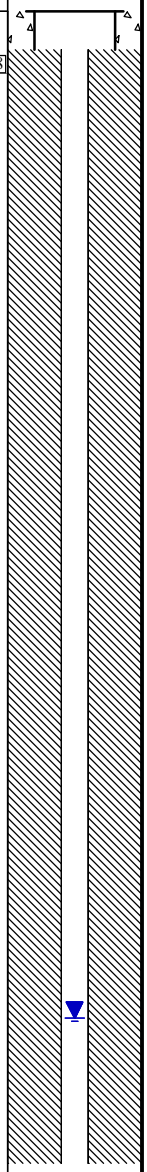
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-25B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 587.21
Coordinates (X/Y): 843088.4006/886034.1763	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.84

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	20 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete (0.8)	
								Overburden	
2	585								
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-25B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569							18	
								Ithaca Shale Medium gray (N4) weathered shale: fine-grained, thinly bedded, fossiliferous, slightly decomposed, competent, intensely fractured. Lost water at 24' bgs	
20	567								
22	565			- - - -	Very Poor	0.0			
24	563								
26	561			- - - -	Very Poor	0.0			
28	559								
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26A
Drilled By: Parratt Wolff, Inc./Layne Tesh	**Drill Start Date:**	**Drill End Date:** 3/22/2005	**Drill Method:** Hollow Stem Auger
Logged By: Gregory J. Frisch	**Total Depth (ft):** 17.5	**Bore Diameter (in):** 8.25	**Ground Surface (ft-msl):** 397.49
Coordinates (X/Y): 842355.88/886058.61	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 395.91

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
2	395					
4	393				***Siltstone*** Medium gray (N5) weathered siltstone bedrock; highly fractured; friable; trace fines; dry to moist.	
6	391				6	
8	389					
10	387				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet.	
12	385				12	
14	383					
16	381				***Silty Clay*** Gray (N5) to brown (7.5 YR 5/2) silty clay; medium stiff; semi- to nonplastic; damp to wet. 15.5 ***Siltstone*** Weathered Siltstone. 17	
18	379				*Bottom of boring at 17.5 feet.*	
20	377					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-26B
Drilled By: Parratt Wolff, Inc./Bill Rice	**Drill Start Date:**	**Drill End Date:** 8/22/2012	**Drill Method:** Hollow Stem Auger
Logged By: Rob Wallace	**Total Depth (ft):** 30	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 586.66
Coordinates (X/Y): 843068.3626/886033.4964	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.19

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	21.5 to 30	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
								Ground Surface	
								Concrete 0.75	
								Overburden	
2	585								
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-26B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
16	571							***Overburden*** *(continued)*	
18	569								
20	567								
								21.5	
22	565							***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured	
24	563			- - - -	Very Poor	0.0			
								24.7 / 24.9	
								Clay Dark Gray (N3) lean clay in fracture	
26	561			- - - -	Very Poor	0.0		***Ithaca Shale*** Medium Gray (N4) weathered shale: Fine-grained, thinly bedded, slightly decomposed, competent, intensely fractured Lost water at 26' bgs	
28	559			- - - -	Very Poor	0.0			
30	557							30	
								Bottom of boring at 30 feet.	
32	555								
34	553								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-27B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/3/2005	**Drill Method:** Hollow Stem Auger/Roller Bit
Logged By: Gregory J. Frisch	**Total Depth (ft):** 28.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 551.12
Coordinates (X/Y): 843399.99/886730.22	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 550.64

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Clayey Gravel (GC) Gray (N5) with coal and slag fragments; loose; dry; (fill).	
					No recovery - rock lodged in spoon.	
5	546				***Clayey Gravel (GC)*** Gray (N6) to reddish brown (5YR 5/3) with coal and shale fragments; loose; dry to moist; (fill). 6	
					No recovery - rock lodged in spoon. 8	
10	541				***Gravelly Lean Clay (CL)*** Gray (N6) to grayish brown (10YR 5/2) with siltstone and shale fragments; medium stiff; nonplastic; moist. 14	
15	536				***Gravelly Lean Clay (CL)*** Same as above with degraded solvent odor. 16	
					Lean Clay with Gravel (CL) Gray (N5) to light olive brown (2.5Y 5/3); medium stiff; semi-plastic; damp; degraded solvent odor. 18	
20	531				***Siltstone*** Gray (N5) weathered; highly fractured; thinly bedded; fractures mainly along bedding with weathering; fractures mainly mechanical below 25 feet below ground surface; RQD 11% (18.5 to 23.5) and 55% (23.5 to 28.7).	
25	526					
30	521				*Bottom of boring at 28.5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-31B
Drilled By: Parratt Wolff, Inc./Mickey Marshal	**Drill Start Date:**	**Drill End Date:** 8/5/2005	**Drill Method:** Hollow Stem Auger/Roller Bit
Logged By: Gregory J. Frisch	**Total Depth (ft):** 24.5	**Bore Diameter (in):** 8/6	**Ground Surface (ft-msl):** 532.52
Coordinates (X/Y): 842942.15/886296.68	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 533.45

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Silt with Gravel (ML) Gray (N5) to dark grayish brown (10YR 4/2); with coal and shale fragments; loose; dry; (fill).	
5	528					
10	523					
					14 / 14.5	
15	518				***Lean Clay with Gravel (CL)*** Dark gray (N4) to dark grayish brown (10YR 4/2); medium stiff; nonplastic; moist; weathered siltstone in shoe.	
					Siltstone Gray (N5); weathered; highly fractured at 14.5 to 15.0 and 17.3 to 17.8 feet below ground surface; weathering in fractures; fracturing mainly along bedding with vertical fracturing in highly fractured zones; fractures mainly mechanical below 21 feet below ground surface; RQD 38% (14.5 - 19.5) and 75% (19.5 - 24.5).	
20	513					
					24.5	
25	508				*Bottom of boring at 24.5 feet.*	
30	503					

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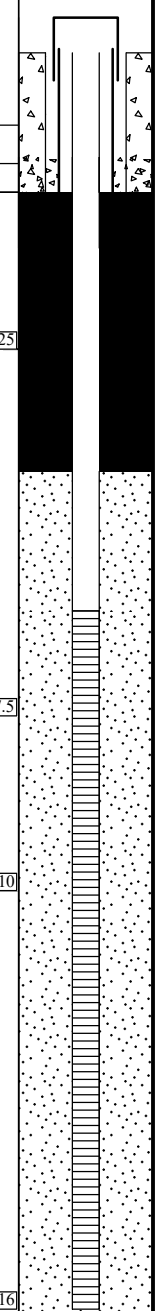
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-33B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/19/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 16	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 584.0
Coordinates (X/Y): 843156.1/886190.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.56

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	6 to 16	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				4, 8, 5, 3	60	9.4		***Silt with Gravel (ML)*** Black (10YR 2/1) silt, little fine to coarse-grained sand, trace gravel and broken grass, trace organics and rootlets; loose; dry.
2	582			2, 7, 8, 5	75	0.5		2.25 ***Poorly-Graded Gravel (GP)*** Grayish-brown (10YR 5/2) concrete rubble and cinders; loose; dry.
4	580			7, 8, 18, 6	25	10.7		
6	578			10, 6, 12, 12	50	12.6		7.5 ***Silt with Gravel (ML)*** Yellowish-brown (10YR 5/6) silt, trace rootlets, little sub-angular gravel; very dense; dry.
8	576			19, 12, 12, 12	10	6.1		
10	574							10 ***Siltstone*** Gray siltstone.
12	572							
14	570							
16	568							16 *Bottom of boring at 16 feet.*

Well



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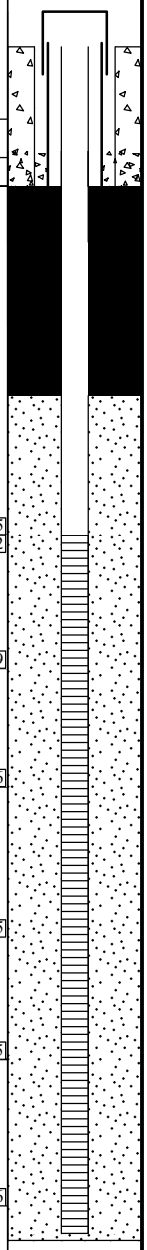
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-34B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/18/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 14.6	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 582.7
Coordinates (X/Y): 843146.8/886180.4	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 584.85

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	4.6 to 14.6	**Filter Pack:**	to
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				3, 3, 3, 5	25	0.6		***Silt with Sand (ML)*** Dark brown (10YR 3/3) silt, little fine to medium-grained sand, little organics and rootlets, little gravel; loose; dry.
2	581			5, 7, 7, 6	25	2.1		
4	579			12, 20, 17, 20	75	3.2		
								5 / 5.2
								Silt with Gravel (ML) Black (10YR 2/1) silt, little gravel, some organics; loose; dry.
6	577			14, 5, 7, 14	15	0.0		***Gravelly Silt (ML)*** Dark yellowish-brown (10YR 4/6) silt, some angular weathered bedrock fragments; loose; dry.
								6.9
								Poorly-Graded Gravel (GP) Brown (10YR 4/3) siltstone fragments; dry.
8	575			11, 11, 12, 25	40	0.1		
								8.6
								Gravelly Silt (ML) Grayish-brown (10YR 5/2) silt and siltstone fragments; loose; dry.
10	573			20, 23, 22, 16	25	0.4		
								10.75
								Silt with Gravel (ML) Black (10YR 2/1) and yellow (10YR 7/8) silt, little clay, little gravel; dense; moist.
12	571			15, 10, 15, 16	50	26.4		
								12.5
								Gravelly Silt (ML) Light olive brown (2.5Y 5/4) silt, little clay, little to some gravel, soft to medium soft; wet; faint petroleum odor and sheen.
14	569			8, 50/0.1	0	NA		
								14.6
								Bottom of boring at 14.6 feet.
16	567							

Notes:

Well



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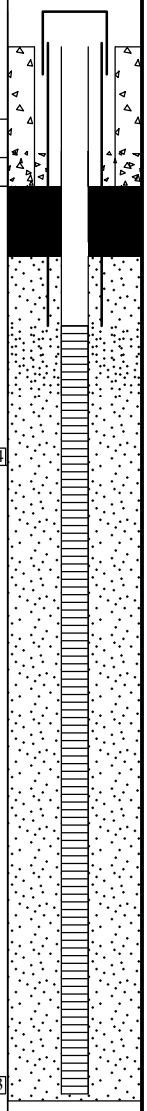
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-35B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/16/2013	**Drill Method:** Driven Case/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 13	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 581.0
Coordinates (X/Y): 843139.3/886172.5	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 583.52

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	3 to 13	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
								Ground Surface
				1, 1, 2, 2	10	1.7		***Well-Graded Sand with Gravel (SW)*** Very dark grayish brown (10YR 3/2) to brown (10YR 4/4) fine to coarse-grained sand, little angular gravel; loose; dry.
2	579			8, 25, 35, 29	25	6.2		
4	577							***Siltstone*** Gray siltstone.
6	575							
8	573							
10	571							
12	569							
14	567							*Bottom of boring at 13 feet.*
16	565							

Well



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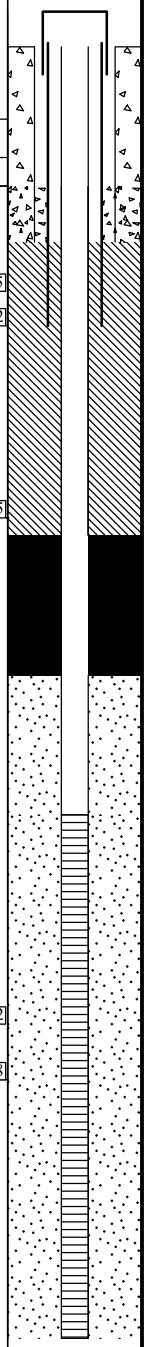
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-36B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/15/2013	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 19	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.3
Coordinates (X/Y): 843143.3/886140.7	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.78

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	9 to 19	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete
								1.5
2	584			4 9 7 4	50	0.0		***Gravel*** Gravel Sub-base. 2 ***Well-Graded Gravel (GW)*** Light brownish-gray (10YR 6/2) siltstone fragments up to 2-inches in diameter; loose; dry.
4	582			9 5 8 5	25	0.0		4.75 ***Gravelly Silt (ML)*** Dark yellowish-brown (10YR 4/6) silt, some siltstone fragments; dense; dry.
6	580			8 11 7 6	25	0.0		
8	578			5 4 4 4	25	0.0		
10	576			4 5 6 3	25	0.0		
12	574			9 50/0.3 - -	40	120		12 ***Well-Graded Gravel with Silt and Sand (GW-GM)*** Grayish-brown (10YR 5/2) siltstone fragments, little silt and sand; dry; oil-like substance between cobbles. 12.8 ***Siltstone*** Gray siltstone (not sampled).
14	572							
16	570							

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-36B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	568							***Siltstone*** Gray siltstone (not sampled). *(continued)*	
								19	
								Bottom of boring at 19 feet.	
20	566								
22	564								
24	562								
26	560								
28	558								
30	556								
32	554								
34	552								
36	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-37B
Drilled By: Parratt Wolff, Inc./Joe Percey	**Drill Start Date:**	**Drill End Date:** 7/17/2013	**Drill Method:** Hollow Stem Auger/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 20	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.0
Coordinates (X/Y): 843158.5/886129.6	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.65

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	10 to 20	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete 0.8	
								Poorly-Graded Gravel (GP) Concrete and brick rubble; loose; dry.	
2	585								
4	583			2 2 5 8	25	2.6		4.75	
								Silt with Gravel (ML) Yellowish-brown (10YR 5/1) silt, little clay, little coarse-grained sand and gravel, some brick fragments between 6 and 8 feet; loose; dry.	
6	581			1 4 3 3	15	2.0			
8	579			- - - -	0	-		9	
								Silt (ML) Dark yellowish-brown (10YR 4/6), light brownish gray (10YR 6/2) and black (10YR 2/1) silt; dense; dry, mottled.	
10	577			2 2 2	95	10.5		11.5	
12	575			50/0.4				11.9	
								Silt with Sand (ML) Brown (10YR 9/3) silt, little clay, little coarse-grained sand and gravel; soft, wet; faint petroleum-like odor and possible petroleum sheen.	
								Siltstone Gray siltstone.	
14	573								
16	571								

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-37B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
18	569							***Siltstone*** Gray siltstone. *(continued)*	
20	567							*Bottom of boring at 20 feet.*	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								

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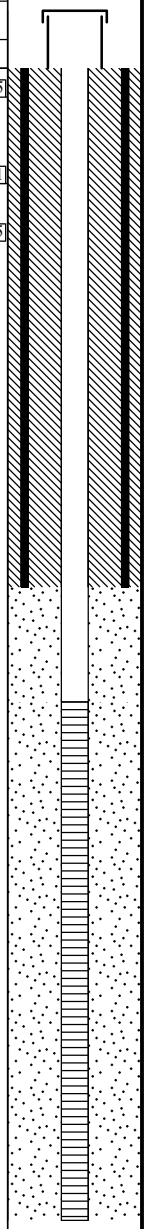
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-45B
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/3/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):** ND

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description
						Ground Surface
				100		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining
1						***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visble staining
2						***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining
3				0		***Ithaca Shale*** Dark gray (N4) fine-grained, aphanitic shale. Thinly bedded, moderately decomposed, intensely factured. Mechanical fractures throughout.
4						6.1': Bedding plane fracture, 0°, extremely narrow, partly healed, surface oxidation, smooth
						8.2', 9.8', 11.6', 11.8', 21.4', 12.8', 13.9', 14.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth
5				88		14.4-14.7': Fracture zone, dip varies, moderatly narrow, not healed, very little surface oxidation, rough
6						15.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth
						15.3': Bedding plane fracture, 5°, narrow, partly healed, surface oxidation, smooth
7						
8				100		
9						
10						

Notes:

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-45B

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ithaca Shale Dark gray (N4) fine-grained, aphanitic shale. Thinly bedded, moderately decomposed, intensely factured. Mechanical fractures throughout.	
11						6.1': Bedding plane fracture, 0°, extremely narrow, partly healed, surface oxidation, smooth	
12						8.2', 9.8', 11.6', 11.8', 21.4', 12.8', 13.9', 14.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth	
13				100		14.4-14.7': Fracture zone, dip varies, moderatly narrow, not healed, very little surface oxidation, rough	
14						15.0': Bedding plane fracture, 0°, narrow, partly healed, surface oxidation, smooth 15.3': Bedding plane fracture, 5°, narrow, partly healed, surface oxidation, smooth *(continued)*	
15						15.5	
16						*Bottom of boring at 15.5 feet.*	
17							
18							
19							
20							
21							
22							

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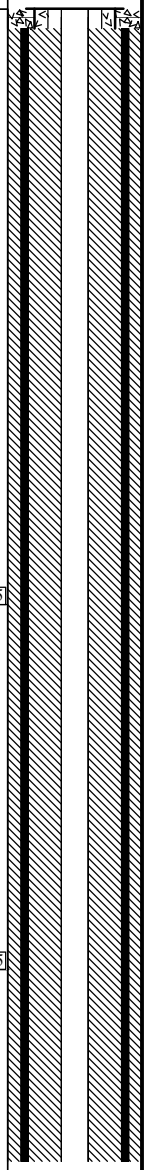
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-43C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/20/2017	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Nathaniel Winston	**Total Depth (ft):** 50.25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.83
Coordinates (X/Y): 843149.0178/886135.4032	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.55

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
5	582					***Overburden*** Overburden	
10	577						
15	572					15.5 ***Siltstone*** Not logged - air rotary	
20	567						
25	562			Total: 100%; Solid: 95%; RQD: 22.5%		25	
30	557						



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-43C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 26%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; intensely fractured. Bedding plane fractures every 0.33-1.0'; tight narrow; mostly clean; trace healing; trace brachiopod fossils; smooth; damp. 26.0-26.8' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 27.4-27.7' vertical microjoint fracture zone; very tight; not healed; clean; smooth. 30.4-30.9' vertical fracture; tight; not healed; clean; smooth; wet. 32.1-32.7' vertical to 45 degree joints; tight; not healed; clean; smooth; wet. 35.0-35.2' bedding plane fracture zone; moderately healed with silt and sand; moderately narrow; wet. 37.7-38.0' vertical fracture; tight; not healed; clean; smooth; wet. *(continued)*	
35	552			Total: 100%; Solid: 96%; RQD: 72%			
40	547			Total: 100%; Solid: 100%; RQD: 88%			
						44.2	
45	542			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 44.6-44.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough 47.0-47.3' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.15' Bedding plane fracture; narrow to moderately narrow; not healed; rough 49.8' Bedding plane fracture; narrow to moderately narrow; not healed; rough	
50	537			Total: 100%; Solid: 100%; RQD: 100%			
						50.2	
						Bottom of boring at 50.25 feet.	
55	532						
60	527						
65	522						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-46-72C
Drilled By: Parratt Wolff, Inc./Joe Percy	**Drill Start Date:**	**Drill End Date:** 7/13/2017	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Nathaniel Winston	**Total Depth (ft):** 83.8	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.04
Coordinates (X/Y): 843141.5188/886138.552	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 585.1

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
						Ground Surface	
						Overburden Overburden	
5	581						
10	576						
15	571						15.5
				Total: 100%; Solid: 85%; RQD: 12%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; slightly decomposed; slight disintegration; intensely fractured. Bedding Plane fractures every 0.1-0.33' ; very narrow to narrow; not healed to partialy healed; mostly clean with some oxidation; dry.	18.8
20	566			Total: 100%; Solid: 98%; RQD: 38%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. Bedding plane fractures every 0.33-1.0'; very narrow to narrow; mostly clean; not healed; smooth; damp.	23.8
25	561			Total: 100%; Solid: 100%; RQD: 28%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured. 24.4-24.6' 45 degree joint; narrow; not healed; fresh; rough; wet; trace sediment. 25.2' Bedding plane fracture; narrow to moderately narrow; not healed; rough; wet.	28.8
30	556						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
				Total: 100%; Solid: 100%; RQD: 68%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; moderately fractured, bedding plane fractures, not healed, tight, wet. *(continued)*	
						33.8	
35	551			Total: 100%; Solid: 100%; RQD: 46%		***Siltstone*** Siltstone; strong; strong gray; aphanitic; massive; fresh; competent; slightly fractured. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' verticlal joint; narrow; clean; not healed; medium rough; wet.	
						38.8	
40	546			Total: 100%; Solid: 100%; RQD: 92%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured; some brachiopod fossils. 34.4-34.9' 45 degree joint; tight to narrow; slight healing; fresh; wet. 36.0-36.8' vertical joint; narrow; clean; not healed; medium rough; wet.	
						43.8	
45	541			Total: 100%; Solid: 100%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; moderately fractured with bedding plane fractures every 1'.	
						48.8	
50	536			Total: 96%; Solid: 96%; RQD: 96%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent.	
						53.8	
55	531			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent; trace bedding plane fractures.	
60	526			Total: 100%; Solid: 100%; RQD: 100%			
65	521			Total: 96%; Solid: 96%; RQD: 96%			

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-46-72C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	Graphic Log	Physical Description	Well
70	516			Total: 100%; Solid: 100%; RQD: 90%		68.8 — ***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 71.5-72.0' bedding plane fracture zone; very broken; moderately healed with gray plastic silt and sand; smooth to medium rough; wet; fresh. — 73.8	
75	511			Total: 100%; Solid: 100%; RQD: 100%		***Siltstone*** Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent. 78.0' bedding plane fracture; moderately healed; narrow; wet; smooth; wet; smooth. 82.8' bedding plane fracture; very tight; not healed. — 83.8	
80	506						
85	501					*Bottom of boring at 83.8 feet.*	
90	496						
95	491						
100	486						
105	481						

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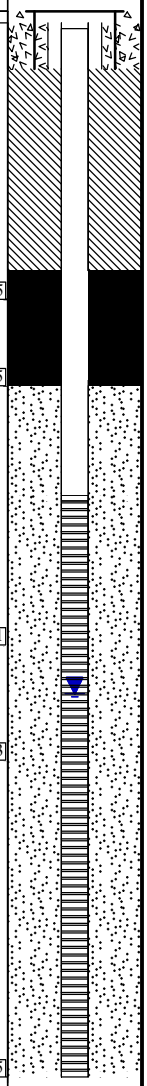
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-47A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/18/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.16
Coordinates (X/Y): 843093.8547/886037.4959	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.7

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.4 to 18.4	**Filter Pack:** 20/40 Sand	**to**
Riser: Schedule 80 PVC Riser	4	0.2 to 8.4	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
							Ground Surface
							Asphalt surface
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular medium gravel, little fine to coarse sand; loose to medium density; dry.
4	583						
							5
6	581			50	0.0		***LEAN CLAY WITH SAND (cl)*** Yellowish-brown clay, some silt, trace coarse sand and sub-angular fine gravel; soft; dry.
							6.5
8	579						***POORLY-GRADED GRAVEL (gp)*** Grayish sub-rounded medium to coarse gravel; loose; dry.
10	577			75	0.0		
							11
12	575						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular medium gravel, little silt and medium to coarse sand; loose; dry.
							13
14	573						***Lean Sandy Clay with Gravel (CL)*** Dark gray to black sandy lean clay, trace gray rounded fine gravel; medium soft; wet; strong petroleum-like odor.
16	571			75	11.9		
18	569			75	37.4		
							18.5
							Bottom of boring at 18.5 feet. Auger Refusal
20	567						

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-48A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/18/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.15
Coordinates (X/Y): 843079.7165/886022.2465	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.75

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.2 to 18.2	**Filter Pack:** 20/40 Sand	to
Riser: Schedule 80 PVC Riser	4	0.2 to 8.2	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
							Ground Surface	
							0.2 *Asphalt surface*	
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular medium to coarse gravel, trace fine to coarse sand; loose to medium dense; dry.	
4	583						4.5	
6	581			40	10.8		***Lean Clay with Sand (CL)*** Yellowish-brown clay, some silt, little coarse sand and sub-rounded fine gravel; soft; dry.	
							7	
8	579						***Poorly-Graded Gravel (GP)*** well sorted sub-angular medium to coarse gravel; loose; dry.	
10	577						10	
12	575			50	8.1		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular coarse gravel, little silt and coarse sand; loose; dry.	
							13.5	
14	573						***Lean sandy Clay with Gravel (CL)*** Dark gray to black sandy clay, trace rounded fine to medium gravel; medium soft; moist to wet; strong petroleum-like odor.	
16	571			50	154.9			
18	569			75	116.3			
							18.5	
							Bottom of boring at 18.5 feet. Auger Refusal	
20	567							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-49A-AOC-1
Drilled By: Parratt Wolff, Inc./Devin Gawarecki	**Drill Start Date:** 9/17/2019	**Drill End Date:** 9/19/2019	**Drill Method:** Hollow Stem Auger
Logged By: Chris Cresci	**Total Depth (ft):** 19	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843080.3519/886039.0726	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.74

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen: 0.01-inch Schedule 80 PVC Screen	4	8.75 to 18.75	**Filter Pack:** 20/40 Sand	**to**
Riser: Schedule 80 PVC Riser	4	0.2 to 8.75	**Seal:** Cement-Bentonite Grout	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
							Ground Surface	
							Asphalt surface (0.2)	
2	585						***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty sub-angular gravel, little fine to coarse sand; loose to medium dense; dry.	
4	583							
							(5.5)	
6	581			50	0.0		***LEAN CLAY WITH SAND (cl)*** Yellowish-brown clay, some silt, trace sub-angular gravel; soft; dry. (6.5)	
							Poorly-Graded Gravel (GP) Sub-angular to sub-rounded grey medium gravel; loose; dry.	
8	579							
10	577						(10.5)	
				50	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular medium gravel, little silt and coarse sand; loose; dry.	
12	575							
14	573							
16	571			75	3.7		(17)	
18	569			80	1.3		***Lean Sandy Clay with Gravel (CL)*** Dark gray clay, trace sub-rounded medium gravel; soft; moist; petroleum-like odor. (19)	
20	567						*Bottom of boring at 19 feet. Auger Refusal. Designated MW-46A-AOC-1 in the field. ID was changed to prevent confusion with MW-46 cluster adjacent to firewater reservoir.*	

Notes:

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-8-40
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 7/15/1988	**Drill Method:**
Logged By: R.T. Church	**Total Depth (ft):** 43.2	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 518.27
Coordinates (X/Y): 843130.89/886507.35	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 517.98

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Depth	Well
					Ground Surface		
					Gravelly Clay Brown to gray; medium stiff; dry.	6.5	
10	508				Fill	10	
					Clay Brown; some angular medium stiff to stiff, damp.	12.1	
					Siltstone RQD-0%	17.1	
20	498				***Siltstone*** RQD at/near 100% from 17.1 to 38.2 feet below ground surface.		
30	488					38.2	
40	478				***Siltstone*** RQD-63%	43.2	
					Bottom of boring at 43.2 feet.		

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-9-100
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 8/18/1989	**Drill Method:**
Logged By: R. T. Church	**Total Depth (ft):** 101	**Bore Diameter (in):** 5.63	**Ground Surface (ft-msl):** 506.76
Coordinates (X/Y): 843064.73/886467.78	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 506.17

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Asphalt Asphalt (0.5)	
					Silty Clay Black; trace fine to coarse gravel; moist. (2.5)	
					Siltstone RQD-19% (10)	
					Siltstone RQD-78% at 10.0 - 20.0 feet below ground surface; RQD at/near 100% from 20.0 - 40.0 feet below ground surface.	
20	487					
40	467				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. (40)	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-9-100

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
60	447				***Siltstone*** RQD-49% at 40.0 - 50.0 feet below ground surface; RQD-100% from 50.0 - 100 feet below ground surface. *(continued)*	
80	427					
100	407				100	
					Bottom of boring at 101 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PTW-1
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/18/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 12.25/	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843074.6292/886022.8677	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 589.36

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	4	23 to 33	**Filter Pack:**	**to**
Riser:	4	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete	1
2	585							***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Dark gray silty gravel.	
4	583			- - - -	NA	NA			
6	581								
8	579								9
10	577			6 6 4 5	25	NM		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Black silty gravel, little fine to coarse-grained sand; medium dense; dry.	
12	575			7 10 6 5	35	NM			11.75
								Poorly-Graded Gravel with Silt (GP-GM) Gray angular siltstone fragments to 2-inches in diameter with silt, little clay; medium dense; dry.	13.65
14	573			2 5 8 6	35	NM		***Poorly-Graded Gravel with Silt (GP-GM)*** Brown (7.5 YR 4/4) gravel, little silt and clay; dry.	14.6
16	571			3 3 6	25	NM		***Poorly-Graded Gravel with Silt (GP-GM)*** Dark gray gravel, little silt and clay; moist, petroleum-like odor and sheen.	15.75

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PTW-1

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				6				***Gravelly Silt (ML)*** Dark grayish-brown (10YR 4/2) silt and clay, some gravel; medium dense; dry. *(continued)* 17.75	
				6					
18	569			7	25	NM			
				12				***Poorly-Graded Gravel with Silt (GP-GM)*** Light olive brown (2.5Y 5/4) angular siltstone fragments, little silt; medium dense; dry.	
				13					
				50/0.3	100	NM		19.3	
20	567							***Siltstone***	
22	565								
24	563								
26	561								
28	559								
30	557								
32	555								
								33	
								Bottom of boring at 33 feet.	
34	553								
36	551								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-1
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/18/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.17
Coordinates (X/Y): 843076.5099/886025.3325	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.07

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Notes:

Well

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete
				56, 52	100	0.1		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light gray to black silty gravel, little fine to coarse sand; loose to medium dense; dry.
2	585			15, 14, 14, 16	25	0.1		
4	583			3, 4, 9, 9	50	9		
6	581			9, 6, 5, 4	50	0.4		***Lean Clay with Sand (CL)*** Yellowish-brown clay, some silt, little sand and gravel; soft; dry. ***Poorly-Graded Gravel (GP)*** Red and black cinders, little gravel; loose; dry.
8	579			6, 7, 6, 6	50	3.6		
10	577			4, 4, 3, 3	15	0.0		***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Gray sub-angular grave, little silt and sand; loose; dry.
12	575			4, 4, 5, 6	25	0.0		
14	573			4, 5, 5, 6	25	15		***Lean Clay with Gravel (CL)*** Dark gray clay, little silt and gravel; medium soft; moist; strong petroleum-like odor and visible sheen.
16	571			5				

1 — 5.5 — 5.7 — 10.75 — 14.75

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				4 3 4	75	98.3		***Lean Clay with Gravel (CL)*** Dark gray clay, little silt and gravel; medium soft; moist; strong petroleum-like odor and visible sheen. *(continued)*	
18	569			9 15 11 7	50	41.0		18.5 ***Poorly-Graded Gravel with Silt (GP-GM)*** Olive gray (2.5Y 5/4) angular siltstone fragments and silt; dense; dry; oil between shale partings and petroleum-like odor.	
20	567			6 10 40/0.4	14	NA		21.4	
22	565							***Siltstone***	
24	563								
26	561								
28	559								
30	557								
32	555							33	
34	553							*Bottom of boring at 33 feet.*	
36	551								

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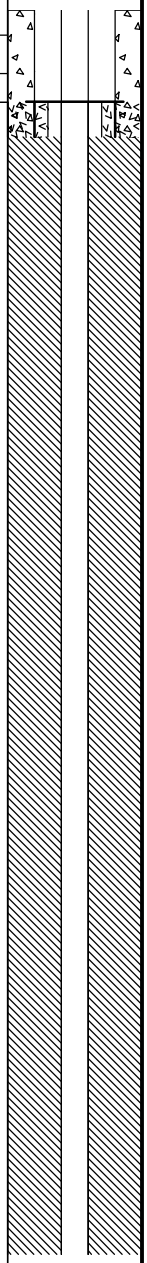
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-2
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.19
Coordinates (X/Y): 843077.7508/886026.6735	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.51

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
					Ground Surface	
					Silt with Sand and Gravel Overburden	
2	585					
4	583					
6	581					
8	579					
10	577					
12	575					
14	573					
16	571					



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-2

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	Well
18	569				***Silt with Sand and Gravel*** Overburden *(continued)*	
					18.5	
20	567				***Siltstone***	
22	565					
24	563					
26	561					
28	559					
30	557					
32	555					
					33	
					Bottom of boring at 33 feet.	
34	553					
36	551					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-3
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.2
Coordinates (X/Y): 843078.9235/886028.1182	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.67

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Sandy Silt with Gravel (ML) Overburden	
2	585						
4	583						
6	581						
8	579			- - - -			
10	577						
12	575						
14	573						
16	571						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-3

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description	Well
						Sandy Silt with Gravel (ML) Overburden *(continued)*	
18	569					***Siltstone***	
20	567						
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
						Bottom of boring at 33 feet.	
34	553						
36	551						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-4
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/20/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.18
Coordinates (X/Y): 843081.2842/886030.2202	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.66

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
						Ground Surface	
						Sandy Silt with Gravel (ML) Overburden	
2	585						
4	583						
6	581						
8	579			-			
				-			
				-			
10	577			-			
12	575						
14	573						
16	571						

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-4

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Physical Description	Well
18	569					***Sandy Silt with Gravel (ML)*** Overburden *(continued)*	
						18.5	
20	567					***Siltstone***	
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
						33	
34	553					*Bottom of boring at 33 feet.*	
36	551						

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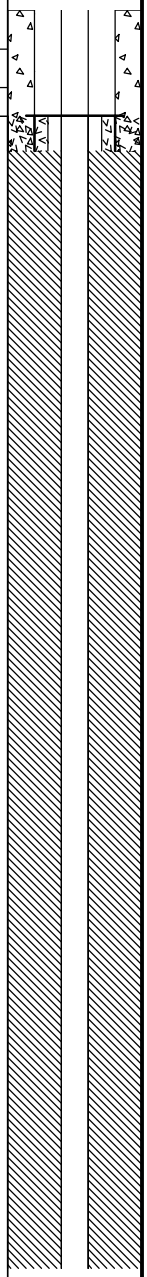
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** PZ-5
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/19/2014	**Drill Method:** HSA/Air Rotary
Logged By: Erik S. Reinert	**Total Depth (ft):** 33	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 586.78
Coordinates (X/Y): 843069.7234/886028.1167	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 588.3

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:	2	23 to 33	**Filter Pack:**	**to**
Riser:	2	to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description
						Ground Surface
						Gravelly Silt with Sand (ML) Overburden
2	585					
4	583					
6	581					
8	579					
				-		
				-		
				-		
10	577			-		
12	575					
14	573					
16	571					

Well



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: PZ-5

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Graphic Log	Notes: / Physical Description	Well
18	569					***Gravelly Silt with Sand (ML)*** Overburden *(continued)*	
20	567					***Siltstone***	
22	565						
24	563						
26	561						
28	559						
30	557						
32	555						
34	553					*Bottom of boring at 33 feet.*	
36	551						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-04b/SB-04b Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/11/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 9.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 599.56
Coordinates (X/Y): 842888.94/885583.1	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 599.06

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
					10	0.0		***Concrete*** Concrete (0.5)	
2	598			7, 13, 8, 9	75	0.5		***Well-Graded Sand (SW)*** Dark olive gray (5Y 3/2) medium- to fine-grained sand, few gravel, few clay; medium density; moist; trace metal fragments. (4)	
4	596			9, 9, 8, 6	15	0.2		***Well-Graded Gravel (GW)*** Olive (5Y 5/3) siltstone fragments, coarse-grained sand from 6 to 7 feet bgs; dry to moist becoming wet at 7 feet bgs; oily sheen and petroleum odor at 7 feet bgs; free product at 8 feet bgs. Collect sample from 6 to 7 feet bgs: SB-4b (6-7'). Collect sample from 8 to 9.8 feet bgs: SB-4b (8-9.8').	
6	594			3, 3, 4, 3	15	4.3, 22.0			
8	592			1, 12, 40, 50/3	10	23.0		(9.8)	
10	590							*Bottom of boring at 9.8 feet. Refusal at 9.8 feet bgs.*	
12	588								
14	586								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-15/SB-15 - Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 25.4	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 586.67
Coordinates (X/Y): 843047.95/886006.04	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.36

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete Concrete	1
2	585							***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) medium- to coarse-grained sand, loose; some gravel; rock chips from 4 to 6 feet bgs; moist, some gray (10YR 6/1) and brownish-yellow (10YR 6/6) mottling from 8 to 10 feet bgs.	
		X		3 2		0.2			
4	583	X		3 1 2 2	15	0.6			
6	581	X		2 2 3 5	15	0.0			
8	579	X		3 4 5 4	15	0.0			
10	577	X		5 1 1 1	10	2.9		***Well-Graded Sand (SW)*** Very dark grayish-brown (2.5Y 3/2) fine- to medium-grained sand, loose; few gravel; moist.	10
12	575	X		10 4 5 7	15	1.8		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; moist. Collect sample from 12 to 14 feet bgs: SB-15 (12-14')	12
14	573	X		9 6					14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: RW-15/SB-15 - Redrilled

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
				4, 4	20	12.4		***Well-Graded Sand with Gravel (SW)*** Very dark grayish-brown (2.5Y 3/2) medium- to coarse-grained sand and gravel; high metal content; very moist. *(continued)*	
16	571			5, 3, 3, 3	25	3.5		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; wet.	16
18	569			5, 6, 6, 5	0.01	1.4		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) clay, low plasticity; rock fragments; wet. No recovery.	18
20	567			2, 2, 2, 3	60	38.4 - 41.2		***Well-Graded Sand with Clay (SW)*** Black (10YR 2/1) sand; some clay; some gravel from 22 to 24 feet bgs; wet to very wet; product/sludge - petroleum odor, oily sheen. Collect sample from 24 to 25.4 feet bgs: SB-15 (24-25.4').	20
22	565			5, 6, 5, 4	60	48.0			
24	563			9, 16, 50/4	50	59.0			25.4
26	561							*Bottom of boring at 25.4 feet. Refusal at 25.4 feet bgs.*	
28	559								
30	557								
32	555								
34	553								

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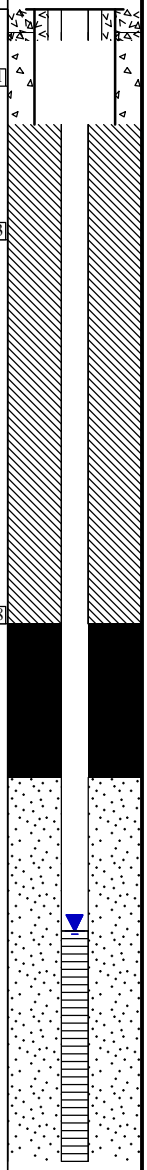
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-15a/SB-15a
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 22.4	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** 586.66
Coordinates (X/Y): 843065.92/886029.61	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.24

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete
						0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark brown (10YR 2/2) sand with gravel; loose; moist, some yellowish-brown (10YR 5/6) mottling.
2	585					0.0		
					10	0.5		***Poorly-Graded Sand with Gravel (SP)*** Very dark grayish-brown (10YR 3/2) coarse-grained sand, loose; some gravel, large fragments at 6 feet bgs; some clay from 3 - 6 feet bgs; some black (10YR 2/1) shale fragments at 6 feet bgs; moist.
4	583			4 3 1 1	10	0.5		
6	581				20	0.6		
8	579			18 6 4 3	20	3.5		***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish-brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4').
10	577			2 5 6 2	50	3.9		
12	575			2 4 6 9	50	8.1		
14	573			2 3				

Well



Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: RW-15a/SB-15a

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				2, 2	0			***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish-brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4'). *(continued)*	
16	571			3, 4, 4, 5	50	3.6			
18	569			6, 8, 3, 5	75	15.5			
20	567			4, 2, 6, 14	20	525			
22	565				100	240		22.4	
								Bottom of boring at 22.4 feet. Refusal at 22.4 feet bgs.	
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** RW-24b/SB-24
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 14.1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** 587.17
Coordinates (X/Y): 843170/886124.39	**Well Permit Number:**		**Top-of-Casing (ft-msl):** 586.76

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
2	585							***Concrete*** Concrete and fill.	3
					40	5.2		***Silty Sand (SM)*** Very dark grayish-brown (2.5Y 3/2) to dark olive brown (2.5Y 3/3) silty sand, some gravel; loose; dry.	4
4	583			7, 8, 10, 13	50	1.0		***Lean Clay with Gravel (CL)*** Olive brown (2.5Y 4/4) silty clay with gravel; large siltstone fragments; dry to moist.	6
6	581			16, 8, 9, 8	10	0.2		***Lean Clay (CL)*** Dark grayish-brown (2.5Y 4/3) low plasticity clay, some gravel and siltstone fragments; moist to dry.	8
8	579			5, 5, 2, 3	15	0.0		***Well-Graded Sand (SW)*** Olive brown (2.5Y 4/3) medium- to coarse-grained sand, some clay, trace gravel; loose; dry. Collect sample from 8 to 10 feet bgs: MW-24B (8-10')	10
10	577			2, 2, 2, 2	80	43.6		***Lean Clay (CL)*** Olive brown (2.5Y 4/4) low plasticity clay, some silt; soft; wet; oily sheen at 12 feet bgs. Collect sample from 12 to 12.4 feet bgs: MW-24B (12-12.4').	12.4
12	575			50/4	30	31.2			
14	573							*Bottom of boring at 14.1 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
					4.0		***Concrete***	0.5
							Sandy Silt (ML) Dark brown (10YR 3/3) sandy silt; some dark gray (10YR 4/1) weathered shale fragments; moist.	1
2				70	0.0		***Elastic Silt (MH)*** Dark greenish gray (GLEY1 4/5G) to yellowish brown (10YR 5/4) clayey silt; some dark gray (10YR 4/1) weathered shale fragments; medium soft to stiff; dry to moist.	
4								4
							Sandy Silt (ML) Very dark gray (10YR 3/1) sandy silt; some angular shale fragments; few dark greenish gray (GLEY1 4/5G) mottling; dry.	
6				65	0.0			6
							Lean Clay (CL) Yellowish brown (10YR 5/4) medium plasticity clay; some dark greenish gray (GLEY1 4/5G) mottling; some very dark gray (10YR 3/1) shale fragments; soft; moist.	
8								8
							Lean Clay (CL) Very dark grayish brown (10YR 3/2) silty clay with brownish yellow (10YR 6/8) to olive (5Y 5/3) mottling; stiff; moist. Soil sample SB-1a collected from 8 to 10 feet bgs for VOCs, TAL Metals. Water sample SB-1a collected for VOCs.	
10				80	0.0			10
							Lean Clay (CL) Gray (2.5Y 5/1) medium plasticity clay with some shale fragments; solvent odor; shiny luster; soft; wet.	
12				100	NM			
								13.5
14							*Bottom of boring at 13.5 feet. Refusal at 13.5 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
							Shale Dark gray (2.5Y 4/1) shale; dry.	1
2				30	0.0		***Sandy Silt (ML)*** Very dark grayish brown (2.5Y 3/2) sandy silt; some angular shale fragments; white (2.5Y 8/1) mottling at 3.5 feet bgs; wet.	
4								4
							Silt (ML) Dark gray (10YR 4/1) silt with gray (10YR 6/1) mottling; some very dark brown (10YR 2/2) rock fragments; wet.	
6				25	0.0			
8								8
							Shale Grayish brown (2.5Y 5/2) shale fragments; dry. Soil sample SB-1b collected from 12 to 13.3 feet bgs for VOCs, TAL Metals.	
10				50	0.0			
12				90	NM			13.2
							Bottom of boring at 13.2 feet. Refusal at 13.2 feet bgs.	
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.7
2				50	0.0		***Shale*** Very dark grayish brown (10YR 3/2) to very dark gray (10YR 3/1) shale; few fossil fragments; black (10YR 2/1) staining and solvent odor from 2 to 5 feet bgs; dry.	
4								5
6				75	0.0		***Lean Clay (CL)*** Brown (10YR 4/3) medium plasticity clay; very soft to medium soft; some very dark gray (10YR 3/1) angular shale fragments; trace mottling; moist.	
8					3.7		***Shale*** Dark grayish brown (10YR 4/2) highly weathered shale; dry. Soil sample SB-1c collected from 8 to 9 feet bgs for VOCs, TAL Metals.	8
10				75	0.0 0.0 0.0		***Lean Clay (CL)*** Brown (10YR 4/3) to yellowish brown (10YR 5/6) medium plasticity clay; very soft; some very dark gray (10YR 3/1) angular shale fragments; moist to wet.	10
12				95	0.0			13
14							*Bottom of boring at 13 feet. Refusal at 13 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 14.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
							Well-Graded Sand (SW) Very dark grayish brown (10YR 3/2) medium- to coarse-grained sand; loose; dry.	1
2				50	0.0		***Silt with Gravel (ML)*** Dark gray (10YR 4/1) silt with gravel and highly weathered shale fragments; little brownish yellow (10YR 6/6) mottling; dry.	
4								
6				50	0.0			
8								
					0.0			
10				80				10
					12.0		***Lean Clay (CL)*** Dark yellowish brown (10YR 4/6) silty clay; soft; solvent odor at 12 to 14.2 feet bgs; moist to wet. Soil sample SB-1d collected from 11 to 12 feet bgs for VOCs, TAL Metals. Water sample SB-1d collected for VOCs.	
12					3.0			
				100	10.0			
14					22.0			14.2
							Bottom of boring at 14.2 feet. Refusal at 14.2 feet bgs.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01e
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mickey Foley	**Drill Start Date:**	**Drill End Date:** 6/3/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 12.5	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
					25	0.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (10YR 4/2) medium-grained sand, trace to some gravel, fill; medium dense; moist.	
2					25	0.0			
4				4 4 8 8	25	0.0		***Well-Graded Gravel (GW)*** Dark grayish brown (10YR 4/2) fine- to coarse-grained gravel, few clay, trace medium-grained sand; moist, becoming wet at 8 feet bgs; oily sheen and petroleum odor from 8 - 10 feet bgs. Collect sample from 8 to 10 feet bgs: SB-1e (8-10')	4
6					10	0.0			
8					30	0.0			
10				2 3 5 50/4	25	32.0		***Elastic Silt (MH)*** Dark gray (2.5Y 4/1) silty clay; medium stiffness; wet, mottling; petroleum odor, oily sheen. Collect sample from 10 to 12 feet bgs: SB-1e (10-12')	10
12								***Bedrock*** Bedrock *Bottom of boring at 12.5 feet. Refusal at 12.5 feet bgs.*	12 12.5
14									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-01f
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/3/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 12.6	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				2.5, 2.5, 8, 8	15	0.0		***Well-Graded Sand (SW)*** Olive Brown (2.5Y 4/3) medium- to fine-grained sand, some gravel, fill; loose; moist.	2
2				8, 8, 5, 5	15	0.0		***Poorly-Graded Sand (SP)*** Brown (10YR 4/3) fine-grained sand with few clay, few gravel; dense; moist, some dark yellowish brown (10YR 4/6) mottling.	4
4				7.5, 7.5, 5.5, 5.5	50	0.0		***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) fine- to medium-grained sand, some gravel; medium dense; moist, some yellowish brown (10YR 5/6) mottling.	
6				3.5, 3.5, 4, 4	10	0.0			8
8				3, 3, 4, 4	80	36.0		***Elastic Silt (MH)*** Olive brown (2.5Y 4/3) and grayish brown (2.5YR 5/2) silty clay, medium plasticity, medium hardness becoming soft at 11.5 feet bgs; trace sand; moist becoming wet at 11.5 feet bgs, yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor. Collect sample from 8 to 10 feet bgs: SB-1f (8-10'). Collect sample from 12 to 12.6 feet bgs: SB-1f (12-12.6').	
10				4, 4, 5.5, 5.5	85	7.5			
12				6, 50/1	100	7.0			12.6
14								*Bottom of boring at 12.6 feet. Refusal at 12.6 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-02a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1				45	0.0		***Poorly-Graded Sand (SP)*** Very dark brown (10YR 2/2) coarse-grained sand; some strong brown (10YR 5/8) staining; medium dense; wet. Soil sample SB-2a collected from 1.2 to 1.5 feet bgs for VOCs, TAL Metals.	1.5
2							*Bottom of boring at 1.5 feet.*	
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-02b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1							***Poorly-Graded Sand (SP)*** Very dark gray (10YR 3/1) coarse-grained sand; petroleum odor; dense; dry.	2
2				20	0.0		***Siltstone*** Grayish brown (10YR 4/2) pulverized siltstone; dry. Soil sample SB-2b collected from 3 to 4 feet bgs for VOCs, TAL Metals.	4.2
3								
4								
							Bottom of boring at 4.2 feet. Refusal in bedrock at 4.2 feet bgs.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	1.5
2				50	0.0		***Lean Clay (CL)*** Light olive brown (2.5Y 5/4) silty clay; some very dark gray (2.5Y 3/1) mottling; stiff; dry.	4
4				40	0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark gray (10YR 3/1) coarse-grained sand with gravel; medium dense; moist. Soil samples SB-3a (4.5 to 5.5 feet bgs) and SB-3a (6 to 7 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	7
6							*Bottom of boring at 7 feet. Refusal at 7 feet bgs.*	
8								
10								
12								
14								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.2
2				70	0.0		***Poorly-Graded Sand (SP)*** Brown (10YR 4/3) and black (10YR 2/1) medium-grained sandy fill; some gravel; loose; dry to moist.	2.5
4							***Concrete***	4
6				90	0.0		***Lean Clay (CL)*** Yellowish brown (10YR 5/4) silty clay; some gravel; some dark yellowish brown (10YR 4/4) mottling; soft to stiff; moist. Soil samples SB-3b (7 to 8 feet bgs) and SB-3b (10 to 11 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	
8				100	0.0			
10								
12							*Bottom of boring at 11 feet. Refusal at 11 feet bgs.*	
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-03c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 12	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2				50	0.0		***Silt with Gravel (ML)*** Very dark gray (2.5Y 3/1) silt with gray (2.5Y 6/1) gravel; dry.	
4								4
6				60	0.0 4.4		***Lean Clay (CL)*** Olive brown (2.5Y 4/4) silty clay with some olive brown (2.5Y 4/3) mottling; some gravel; stiff; dry. Soil samples SB-3c (7 to 8 feet bgs) and SB-3c (11 to 12 feet bgs) collected for VOCs, SVOCs, TAL Metals, PCBs.	
8								
10				95	0.0			
12								12
14							*Bottom of boring at 12 feet. Refusal in concrete at 12 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.3
				10	0.0		***Poorly-Graded Sand (SP)*** Dark gray (10YR 4/1) coarse-grained sand; dense; dry. Soil sample SB-4a collected from 0.5 to 1 feet bgs for VOCs, SVOCs, TAL Metals, PCBs.	1
1							*Bottom of boring at 1 feet. Refusal in bedrock at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 10	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
2				100	0.0		***Poorly-Graded Sand (SP)*** Grayish brown (2.5Y 5/2) medium-grained sand; some clay; some coarse gravel; petroleum odor from 4 to 10 feet bgs; liquid product at 8 to 10 feet bgs; moist to wet. Soil sample SB-4b collected from 7 to 8 feet bgs for VOCs, SVOCs, TAL Metals, PCBs. Water sample SB-4b collected for VOCs.	
4								
6				40	0.0			
8				50	0.0			
10								10
							Bottom of boring at 10 feet. Refusal in bedrock at 10 feet bgs.	
12								
14								

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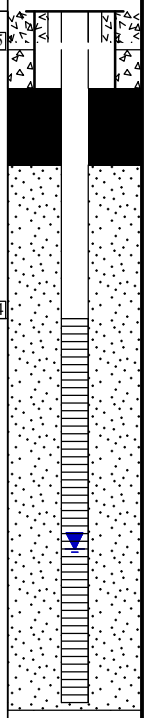
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04b Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/11/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 9.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
								Concrete Concrete (0.5)
					10	0.0		***Well-Graded Sand (SW)*** Dark olive gray (5Y 3/2) medium- to fine-grained sand, few gravel, few clay; medium density; moist; trace metal fragments.
2				7, 13, 8, 9	75	0.5		
4				9, 9, 8, 6	15	0.2		***Well-Graded Gravel (GW)*** Olive (5Y 5/3) siltstone fragments, coarse-grained sand from 6 to 7 feet bgs; dry to moist becoming wet at 7 feet bgs; oily sheen and petroleum odor at 7 feet bgs; free product at 8 feet bgs. (4)
6				3, 3, 4, 3	15	4.3, 22.0		Collect sample from 6 to 7 feet bgs: SB-4b (6-7'). Collect sample from 8 to 9.8 feet bgs: SB-4b (8-9.8').
8				1, 12, 40, 50/3	10	23.0		(9.8)
10								*Bottom of boring at 9.8 feet. Refusal at 9.8 feet bgs.*
12								
14								

Well



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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04c
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/12/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***FILL*** Concrete hard standing	0.6
		X		-	10	0		***FILL*** Black (5Y 2.5/1) gravel of coal fill with some sand	
1				-				Sample collected: SB-04C (0.5-1.0'). Analysis: VOCs (8260B).	1
				-				*Bottom of boring at 1 feet. Refusal at 1.0 foot bgs in Siltstone bedrock.*	
2				50/3"					
				-					
3				-					
				-					
4									
5									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-04d
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/12/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 1.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-			***FILL*** Concrete hard standing	0.5
1				-	0.1		***Silty Sand with Gravel (SM)*** Dark olive grey 5Y 3/2 medium sand with silt and some rock fragments of siltstone; loose to dense; dry. Sample collected: SB-04D (0.5-1.8'). Analysis: VOCs (8260B).	1.8
2				12			*Bottom of boring at 1.8 feet. Refusal at 3.9 feet bgs in Siltstone bedrock.*	
3				3				
4				50/3"				
5				-				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-04e
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	Drill Start Date:	Drill End Date: 6/12/2008	Drill Method: Hollow Stem Auger
Logged By: Rachel Posner	Total Depth (ft): 3.9	Bore Diameter (in): 6	Ground Surface (ft-msl): Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***FILL*** Concrete hard standing	0.5
				-	5	0.2		***FILL*** Olive (5Y 4/3) low plasticity clay with some coarse sand and gravel and fragments of siltstone; moist.	1
1				-				***FILL*** Buried concrete block	1.5
				-				***Poorly-Graded Sand with Gravel (SP)*** Olive (5Y 4/3) medium sand with gravel; loose; dry. Sample collected: SB-04E (3.0-3.9'). Analysis; VOCs (8260B).	
2				50/3"	15	0.2			
3				-					
				-	10	0.3			3.9
4				-				*Bottom of boring at 3.9 feet. Refusal at 1.8 feet bgs in Siltstone bedrock.*	
5				-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-04e

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				
				-				
6								
				35				
				40				
7								
				25				
				15				
8								
				50/4"				
				-				
9								
				-				
				-				
10								
11								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
2				60	0.0		***Poorly-Graded Sand with Gravel (SP)*** Brown (10YR 4/3) medium- to coarse-grained sand with white (10YR 8/1) shale fragments and gravel; loose; dry to moist.	
4								
6				50	0.0			
8								9
10				50	0.0		***Silty Gravel with Sand (GM)*** Dark gray (10YR 4/1) to very dark gray (10YR 3/1) shaley gravel with silt and some fine-grained sand; loose; dry to moist.	
12				100	0.0			13
14							***Lean Clay (CL)*** Yellowish brown (10YR 5/4) low plasticity clay, trace mottling; little gravel; very soft; moist. Soil sample SB-5a collected from 13 to 13.5 feet bgs for STARS VOCs, PAHs. *Bottom of boring at 13.5 feet. Refusal at 13.5 feet bgs.*	13.5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1							***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry.	
2				60	0.0			2
3							***Well-Graded Sand (SW)*** Very dark gray (2.5Y 3/1) fine- to medium-grained sand; some silt; some olive yellow (2.5Y 6/6) mottling; loose; dry. Soil sample SB-5b collected from 3 to 4 feet bgs for STARS VOCs, PAHs.	
4								4
5							*Bottom of boring at 4 feet. Refusal at 4 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-05c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1							***Silty Sand (SM)*** Grayish brown (2.5Y 5/2) fine-grained sand and silt; loose; dry. Soil sample SB-5c collected from 3.5 to 4.5 feet bgs for STARS VOCs, PAHs.	
2				90	0.0			
3								
4				100	0.0			4.5
							Bottom of boring at 4.5 feet. Refusal at 4.5 feet bgs.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-06
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
							Silty Sand with Gravel (SM) Grayish brown (10YR 5/2) silty sand with gravel; loose; dry.	1
2				85	0.6		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) medium- to coarse-grained sand; some gravel; some reddish yellow (5YR 6/8) mottling at 4 to 8 feet bgs; few tree roots at 8 to 9 feet bgs; loose; dry. Soil sample SB-6 collected from 7 to 8 feet bgs for STARS VOCs, PAHs.	
4					0.0			
					0.0			
6				80				
					0.0			
					26.0			
8								9
10				80	0.0		***Lean Clay (CL)*** Very dark gray (5YR 3/1) medium plasticity clay; some brown (10YR 4/3) interbedded shale fragments at 10 to 11 feet bgs; soft; moist.	11
12				100	0.0		***Fat Clay (CH)*** Grayish brown (10YR 5/2) medium to high plasticity clay; some yellow (10YR 7/8) mottling; moist becoming wet.	13
14							*Bottom of boring at 13 feet. Refusal at 13 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				70	0.6		***Poorly-Graded Sand (SP)*** Dark olive brown (2.5Y 3/3) medium-grained sand; medium dense; some light yellowish brown (2.5Y 6/3) mottling; dry to moist. Soil sample SB-7c collected from 1 to 2 feet bgs for cyanide, TAL Metals.	
2							*Bottom of boring at 2 feet. Refusal at 2 feet bgs.*	2
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				70	0.8		***Concrete*** Grayish brown (2.5Y 5/2) concrete fragments; dry.	
2					2.7			
3					16.0		***Lean Clay (CL)*** Light olive brown (2.5Y 5/4) medium plasticity clay; some gravel; hard; moist. Soil sample SB-7d collected from 3 to 4 feet bgs for cyanide, TAL Metals.	3
4				100	2.2		***Poorly-Graded Sand (SP)*** Very dark grayish brown (2.5Y 3/2) fine-grained sand; little clay; little gravel; medium dense; some olive yellow (2.5Y 6/6) mottling; moist.	4
5							*Bottom of boring at 5 feet. Refusal at 5 feet bgs.*	5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07e
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1 2				20	2.5		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) to light gray (2.5Y 7/2) coarse-grained sand and broken up concrete; loose; dry.	2.5
3 4							***Sandy Lean Clay (CL)*** Light olive brown (2.5Y 5/3) sandy clay; soft; moist.	4
5				100	7.2		***Silt with Sand (ML)*** Dark grayish brown (2.5Y 4/2) shaley silt and sand; some gravel; loose; dry. Soil sample SB-7e collected from 4 to 5 feet bgs for cyanide, TAL Metals.	5
							Bottom of boring at 5 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-07g
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	
							Ground Surface	
							Asphalt	0.5
1							***Concrete***	1.5
2				80	0.0		***Sandy Silt (ML)*** Black (2.5Y 2.5/1) sandy silt; loose; moist. Soil sample SB-7g collected from 2.5 to 3 feet bgs for cyanide, TAL Metals.	3
3							***Shale*** Dark gray (2.5Y 4/1) shale fragments; dry.	4
4							*Bottom of boring at 4 feet.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-08
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	
							Ground Surface	
							Topsoil	1
1								
				100	0.0		***Silty Sand (SM)*** Dark yellowish brown (10YR 4/4) silty sand; little clay; dense; some yellowish brown (10YR 5/8) mottling; moist.	2.5
2								
							Poorly-Graded Gravel (GP) Gray (10YR 6/1) gravelly shale fragments; dense; dry to moist. Soil sample SB-8 collected from 3 to 3.5 feet bgs for STARS VOCs, PAHs.	3.5
3								
							Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-09
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 6	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
2				80	0.0		***Sandy Silt with Gravel (ML)*** Olive brown (2.5Y 4/4) sandy silt with gravel; dense; dry.	
4				100	NM		***Elastic Silt (MH)*** Light olive brown (2.5Y 5/4) clayey silt; some gravel; some gray (2.5Y 5/1) mottling; moist. Soil sample SB-9 collected from 5 to 6 feet bgs for STARS VOCs, PAHs.	4
6							*Bottom of boring at 6 feet. Refusal in shale/concrete at 6 feet bgs.*	6
8								
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-10
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 9/5/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 0.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Notes: Physical Description	
						Ground Surface	
				0.0		***Topsoil*** Dark grayish brown (2.5Y 4/2) topsoil with shale fragments; loose; dry. Samples collected from 0 to 0.5 feet bgs (SB-10a through SB-10e) for VOCs, SVOCs, TAL Metals, PCBs.	0.5
						Bottom of boring at 0.5 feet. Refusal at 0.5 feet bgs.	
1							
2							
3							
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-100
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Robert J. Wallace	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.5
2								***Lean Clay (CL)*** Light brown silty clay, soft, moist, grading to stiff and dark brown with depth.	
								Refusal @ 4.5 feet bgs.	
4									4.5
								Bottom of boring at 4.5 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.2
								Clayey Sand with Gravel (SC) Brown clayey sand, some gravel, moist.	
2								Refusal @ 2 feet bgs.	2
								Bottom of boring at 2 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-1
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	45-300		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-2
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	46.8		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	40.9		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-3
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	0.0		
							Bottom of boring at 14.5 feet. Refusal in bedrock 14.5' bgs
16							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-4
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
				- - - -	1.0		
14							*Bottom of boring at 13.2 feet. Refusal in bedrock 13.2' bgs*
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-5
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 12.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
							No Sample Collected
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14							*Bottom of boring at 12.3 feet. Refusal in bedrock 12.3' bgs*
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-6
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	0.0		
12							
14				- - - -	130		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-101112-7
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 10/11/2012	**Drill Method:** Direct Push
Logged By: Scott Petersen	**Total Depth (ft):** 15	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description
							Ground Surface
2				- - - -	0.0		
4							
6				- - - -	0.0		
8							
10				- - - -	2.0		
12							
14				- - - -	8.0		
16							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-102
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.2
2				- - - -	100	0		***Clayey Sand with Gravel (SC)*** Grayish brown clayey sand, some gravel, moist. Refusal @ 7 feet bgs.	
4									
6				- - - -	100	0			
									7
								Bottom of boring at 7 feet.	
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-103
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Robert J. Wallace	**Total Depth (ft):** 6.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.5
2								***Shale*** Gray to dark brown weathered shale.	
4								Refusal @ 6.5 feet bgs.	
6				- - - -	100	0			6.5
8								*Bottom of boring at 6.5 feet.*	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-104
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.3
2								***Well-Graded Sand with Silt (SW-SM)*** Brown well-graded sand with silt, dry, loose.	
4								***Well-Graded Sand with Silt and Gravel (SW-SM)*** Brown well-graded sand with silt, dry, loose, some gravel.	4
6				- - - -	100	0		Refusal @ 7.5 feet bgs.	7.5
8								*Bottom of boring at 7.5 feet.*	
10									
12									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-105
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.2
								Poorly-Graded Sand with Gravel (SP) Black sand, poorly-graded, some gravel, loose.	1
2				- - - -	100	0		***Shale*** Gray to dark gray weathered shale. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
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12									
14									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-106
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand (SW) Black sand, well-graded, loose.	0.8
2				- - - -	100	0		***Shale*** Gray weathered shale. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-107
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.2
								Poorly-Graded Sand with Gravel (SP) Black sand, poorly-graded, some gravel, loose.	1
2				- - - -	100	0		***Shale*** Brown to dark brown weathered shale. Refusal @ 5 feet bgs.	
4									5
								Bottom of boring at 5 feet.	
6									
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10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-108
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
								Well-Graded Sand with Gravel (SW) Black sand, well-graded, some gravel, loose.	2
								Shale Gray weathered shale.	3
								Refusal @ 3 feet bgs.	
								Bottom of boring at 3 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-109
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
2				- - - -	100	0		***Well-Graded Sand with Gravel (SW)*** Black sand, well-graded, some gravel, loose.	2.5
								Shale Gray to brown weathered shale.	
4								Refusal @ 4 feet bgs.	4
								Bottom of boring at 4 feet.	
6									
8									
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12									
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16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-111
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
2 4				- - - -	100	0		***Shale*** Gray to brown weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6 8 10 12 14 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-112
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand with Gravel (SW) Black sand, well-graded, some gravel, loose.	0.8
2				- - - -	100	0		***Shale*** Gray to dark gray weathered shale, some clay infilling. Refusal @ 4.5 feet bgs.	
4									4.5
								Bottom of boring at 4.5 feet.	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-113
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.2
2 4				- - - -	100	0		***Shale*** Gray to dark gray weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6 8 10 12 14 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-114
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
				-					0.7
				-	100	0		***Well-Graded Sand with Gravel (SW)*** Dark gray sand, well-graded, some gravel, loose.	
2				-				***Shale*** Gray weathered shale, some clay infilling.	
				-					3
								Refusal @ 3 feet bgs.	
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-115
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.2
								Shale Gray weathered shale.	
2								Refusal @ 2 feet bgs.	2
								Bottom of boring at 2 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-116
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.2
2 4				- - - -	100	0		***Shale*** Gray weathered shale, some clay infilling. Refusal @ 4.5 feet bgs.	4.5
6 8 10 12 14 16								*Bottom of boring at 4.5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-117
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/12/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.3 0.6
								Well-Graded Sand with Gravel (SW) Dark gray sand, Well-graded, some gravel, loose.	
2				- - - -	100	0		***Shale*** Gray to brown weathered shale. some clay infilling. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-118
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt	0.3
								Well-Graded Sand (SW) Black sand, well-graded, loose.	0.8
2				- - - -	100	0		***Shale*** Gray weathered shale, some clay infilling. Refusal @ 8 feet bgs.	
4									
6				- - - -	100	0			
8									8
								Bottom of boring at 8 feet.	
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-119
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale. Refusal @ 3 feet bgs.	3
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-120
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale. Refusal @ 3 feet bgs.	3
4								*Bottom of boring at 3 feet.*	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-121
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale, some clay infilling. Refusal @ 2.5 feet bgs.	2.5
								Bottom of boring at 2.5 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-122
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0		***Topsoil*** Dark brown topsoil.	0.5
2, 4								***Shale*** Brown weathered shale, some clay infilling. Refusal @ 5 feet bgs.	5
6, 8, 10, 12, 14, 16								*Bottom of boring at 5 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-123
Drilled By: ADT Inc./Richard Donnely	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 19	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
								Clayey Gravel (GC) Gravel backfill, gray, some clay, some poorly-sorted sand, trace ash.	
2				- - - -	100	0			
4									
6				- - - -	100	0			
8									
10				- - - -	100	0			
12									
14									
16				-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-123

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18				- - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray, some clay, some poorly-sorted sand, trace ash. *(continued)*
								18.5
								Shale Gray weathered shale.
								19
20								Refusal @ 19 feet bgs.
								Bottom of boring at 19 feet.
22								
24								
26								
28								
30								
32								
34								
36								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-124
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0		***Asphalt***	0.3
2								***Shale*** Gray weathered shale, some clay infilling. Refusal @ 2.5 feet bgs.	2.5
								Bottom of boring at 2.5 feet.	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-125
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
2 4				- - - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash.	
6 8				- - - -	100	0			
10									11
12 14				- - - -	60	0		***Shale*** Gray weathered shale, some clay infilling.	12
								Clayey Gravel (GC) Gravel backfill, gray to brown, some clay, little ash.	
16									

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-125

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18				- - - -	60	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash. *(continued)* 18.5
20								***Shale*** Gray weathered shale, some clay infilling. 20
								Bottom of boring at 18.5 feet.
22								
24								
26								
28								
30								
32								
34								
36								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-126
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Dark brown topsoil.	0.5
2				- - - -	100	0		***Clayey Gravel (GC)*** Gravel backfill, gray to brown, some clay, little ash.	3
4								***Shale*** Brown weathered shale.	4
								Refusal @ 4 feet bgs.	
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-127
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/14/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Asphalt	0.3
2				- - - -	100	0		***Shale*** Gray to brown weathered shale. Refusal @ 4 feet bgs.	
4									4
								Bottom of boring at 4 feet.	
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-128
Drilled By: ADT Inc./Richard Donnelly	**Drill Start Date:**	**Drill End Date:** 11/13/2012	**Drill Method:** Direct Push
Logged By: Adam C. Near	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0		***Organic Soil (OL/OH)*** Dark brown topsoil.	0.5
2								***Shale*** Gray to brown weathered shale, some clay infilling. Refusal @ 4 feet bgs.	
4								*Bottom of boring at 4 feet.*	4
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-12a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.6
1							***Lean Clay (CL)*** Olive brown (2.5Y 4/3) silty clay with gravel; some olive yellow (2.5Y 6/6) mottling.	
				80	0.0			2
2							***Poorly-Graded Sand (SP)*** Black (10YR 2/1) fine- to medium-grained sand; petroleum odor and oily sheen; moist to dry. Soil sample SB-12a collected from 2 to 3.5 feet bgs for VOCs, PAHs, PCBs.	
3								3.8
4							*Bottom of boring at 3.8 feet. Refusal in bedrock at 3.8 feet bgs.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-12b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
							Poorly-Graded Sand with Gravel (SP) Olive brown (2.5Y 4/3) and dark gray (2.5Y 4/1) coarse-grained sand; little clay; some reddish brown (5YR 4/4) gravels; loose; petroleum odor from 5 to 14.5 feet bgs; dry becoming wet at 5 feet bgs. Soil sample SB-12b collected from 3.5 to 4.5 feet bgs for VOCs, PAHs, PCBs. Water sample SB-12b collected for VOCs.	
2				45	0.0			
4								
6				60	0.0			
8								
10				60	0.0			
12								
14				100	NM			
								14.5
							Bottom of boring at 14.5 feet. Refusal at 14.5 feet bgs.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-13
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	0.5
							Poorly-Graded Sand with Gravel (SP) Dark grayish brown (2.5Y 4/2) sand with gravel; medium dense; dry.	
2				100	0.0			2
							Lean Clay (CL) Light olive brown (2.5Y 5/4) silty clay with gravel; hard; some gray (2.5Y 6/1) mottling; dry to moist. Soil sample SB-13 collected from 6.5 to 7.5 feet bgs for STARS VOCs, PAHs.	
4								
6				100	NM			7.5
8							*Bottom of boring at 7.5 feet. Refusal in shale at 7.5 feet bgs.*	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-14
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/24/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 11.6	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	1
2				80	0.0		***Poorly-Graded Gravel with Sand (GP)*** Black (2.5Y 2.5/1) shaley gravel with sand; loose; dry to moist. Soil sample SB-14 collected from 10 to 11.6 feet bgs for STARS VOCs, PAHs.	
4								
6				60	0.0			
8								
10				100	0.3			11.6
12							*Bottom of boring at 11.6 feet. Refusal in concrete and wood at 11.6 feet bgs.*	
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/21/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 26	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
2				60	0.0		***Well-Graded Sand with Gravel (SW)*** Grayish brown (2.5Y 5/2) and very dark grayish brown (2.5Y 3/2) coarse-grained sand with gravel; loose; some olive yellow (2.5Y 6/6) mottling; dry to moist.	
4								
6				50	0.0			
								7
							Shale Black (5YR 2.5/1) shale fragments; some yellowish red (5YR 5/8) staining; dry.	
8								8
10				60	0.0		***Fuel Ash Conglomerate*** Black (10YR 2/1) medium- to coarse-grained sand and gravel; dry to moist.	
12								
14				50	0.0			14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description
16							***Lean Clay (CL)*** Yellowish brown (10YR 5/4) low plasticity silty clay with gray (10YR 5/1) shale fragments; soft to medium soft; moist. Soil sample SB-15 collected from 14 to 20 feet bgs for STARS VOCs, lead. *(continued)*
18				60	0.0		
20							20
22				50	0.0		***Weathered Shale*** Dark brown (10YR 3/3) weathered shale with heavy petroleum staining and petroleum odor; black (5Y 2.5/2) liquid product encountered between 20 to 26 feet bgs; wet.
24				100	0.0		
26							26 *Bottom of boring at 26 feet. Refusal at 26 feet bgs.*
28							
30							
32							
34							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15 - Redrilled
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/5/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 25.4	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete Concrete	1
2								***Well-Graded Sand (SW)*** Very dark brown (10YR 2/2) medium- to coarse-grained sand, loose; some gravel; rock chips from 4 to 6 feet bgs; moist, some gray (10YR 6/1) and brownish yellow (10YR 6/6) mottling from 8 to 10 feet bgs.	
		X		3 2		0.2			
4		X		3 1 2 2	15	0.6			
6		X		2 2 3 5	15	0.0			
8		X		3 4 5 4	15	0.0			
10		X		5 1 1 1	10	2.9		***Well-Graded Sand (SW)*** Very dark grayish brown (2.5Y 3/2) fine- to medium-grained sand, loose; few gravel; moist.	10
12		X		10 4 5 7	15	1.8		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; moist. Collect sample from 12 to 14 feet bgs: SB-15 (12-14')	12
14		X		9 6					14

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15 - Redrilled

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				4, 4	20	12.4		***Well-Graded Sand with Gravel (SW)*** Very dark grayish brown (2.5Y 3/2) medium- to coarse-grained sand and gravel; high metal content; very moist. *(continued)*	
16				5, 3, 3, 3	25	3.5		***Clayey Sand (SC)*** Olive brown (2.5Y 4/4) clayey sand; some gravel; wet. (16)	
18				5, 6, 6, 5	0.01	1.4		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) clay, low plasticity; rock fragments; wet. No recovery. (18)	
20				2, 2, 2, 3	60	38.4 - 41.2		***Well-Graded Sand with Clay (SW)*** Black (10YR 2/1) sand; some clay; some gravel from 22 to 24 feet bgs; wet to very wet; product/sludge - petroleum odor, oily sheen. Collect sample from 24 to 25.4 feet bgs: SB-15 (24-25.4'). (20)	
22				5, 6, 5, 4	60	48.0			
24				9, 16, 50/4	50	59.0		(25.4)	
26								*Bottom of boring at 25.4 feet. Refusal at 25.4 feet bgs.*	
28									
30									
32									
34									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15a
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 22.4	**Bore Diameter (in):** 6.25	**Ground Surface (ft-msl):** Not Determined
Coordinates (X/Y): /	**Well Permit Number:**		**Top-of-Casing (ft-msl):**

Well Construction			Annulus	
Material	**Diameter (in)**	**Depth (ft)**	**Material**	**Depth (ft)**
Screen:		to	**Filter Pack:**	to
Riser:		to	**Seal:**	to
Other:			**Other:**	to

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	Well
								Ground Surface	
								Concrete Concrete	1
2						0.0 0.0		***Poorly-Graded Sand with Gravel (SP)*** Very dark brown (10YR 2/2) sand with gravel; loose; moist, some yellowish brown (10YR 5/6) mottling.	3
4					10	0.5		***Poorly-Graded Sand with Gravel (SP)*** Very dark grayish brown (10YR 3/2) coarse-grained sand, loose; some gravel, large fragments at 6 feet bgs; some clay from 3 - 6 feet bgs; some black (10YR 2/1) shale fragments at 6 feet bgs; moist.	
				4 3 1 1	10	0.5			
6					20	0.6			8
8				18 6 4 3	20	3.5		***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs.	
10				2 5 6 2	50	3.9		Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4').	
12				2 4 6 9	50	8.1			
14				2 3					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15a

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	Well
				2, 2	0			***Well-Graded Sand (SW)*** Very dark gray (10YR 3/1) medium- to coarse-grained sand, loose; few clay at 20 feet bgs; moist becoming very moist at 12 feet bgs, wet at 16 feet bgs, some yellowish brown (10YR 5/6) mottling; oily sheen, petroleum odor at 16 feet bgs, free product at 22 feet bgs. Collect sample from 10 to 12 feet bgs: SB-15a (10-12'). Collect sample from 22 to 22.4 feet bgs: SB-15a (22-22.4'). *(continued)*	
16				3, 4, 4, 5	50	3.6			
18				6, 8, 3, 5	75	15.5			
20				4, 2, 6, 14	20	525			
22					100	240		22.4	
								Bottom of boring at 22.4 feet. Refusal at 22.4 feet bgs.	
24									
26									
28									
30									
32									
34									

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15b
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/4/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 19.8	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2								***Well-Graded Sand with Clay (SW)*** Very dark grayish brown (2.5Y 3/2) medium- to coarse-grained sand, loose, with dark yellowish brown (10YR 4/6) low plasticity clay from 4 to 6 feet bgs, medium stiffness; moist.	
				3 3	10	0.4			
4				2 6	25	0.8			
				3 4					
6				3 3	10	0.6			
				2 2					8
8				4 4	25	2.3		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) coarse-grained sand, loose; some gravel and red (2.5YR 4/8) fill from 10 to 12 feet bgs; moist, some gray (10YR 6/1) mottling.	
				2 2					
10				2 4	30	2.3			
				5 7					
12				16 9	10	3.1			
				4 5					14
14				5 4				***Lean Clay (CL)*** Brown (10YR 4/3) clay with sand, low plasticity, medium stiffness; moist.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-15b

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				4, 4	5	1.1		***Lean Clay (CL)*** Brown (10YR 4/3) clay with sand, low plasticity, medium stiffness; moist. *(continued)* 16
16				3, 2, 4, 7, 50/3	20	0.0		***Lean Clay (CL)*** Yellowish brown (10YR 5/6) clay, low plasticity, medium stiffness; some gravel; moist. Collect sample from 16 to 18 feet bgs: SB-15b (16-18'). 19.8
18								
20								*Bottom of boring at 19.8 feet. Refusal at 19.8 feet bgs.*
22								
24								
26								
28								
30								
32								
34								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-15c
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/9/2008	**Drill Method:** Hollow Stem Auger
Logged By: Rachel Posner	**Total Depth (ft):** 14	**Bore Diameter (in):** 6	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2								***Concrete*** Concrete and fill.	4
4				9 7 11 10	60	0.0		***Silty Sand (SM)*** Olive brown (2.5Y 4/4) silty sand, some clay, few gravel; dense; moist.	6
6				10 10 11 15	0.0	0.0		***Well-Graded Sand (SW)*** Olive brown (2.5Y 4/3) fine- to medium-grained sand, some silt, some gravel; loose; dry becoming wet at 12 feet bgs; petroleum odor from 12 to 14 feet bgs. Collect sample from 12 to 14 feet bgs: SB-15c (12-14').	
8				15 21 9 14	30	0.0			
10					20	0.0			
12					40	3.5			
14								*Bottom of boring at 14 feet. Refusal at 14 feet bgs.*	14

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-16a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1, 2				100	0.0		***Poorly-Graded Sand (SP)*** Black (10YR 2/1) coarse-grained sand; some dark yellowish brown (10YR 4/6) mottling; dense; moist.	2
2, 3							***Lean Clay (CL)*** Gray (10YR 5/1) medium plasticity clay; hard; moist. Soil samples SB-16a (2 feet bgs) and SB-16a (3 feet bgs) collected for pH.	3
3							***Shale*** Dark grayish brown (10YR 4/2) shale fragments; dry.	3.5
4, 5							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-16b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Poorly-Graded Sand (SP) Very dark gray (2.5Y 3/1) sand; medium dense; moist.	1
1				100	0.0		***Sandy Lean Clay (CL)*** Grayish brown (2.5Y 5/2) sandy clay with olive yellow (2.5Y 6/6) mottling; moist.	2
2							***Lean Clay (CL)*** Light yellowish brown (2.5Y 6/3) medium plasticity clay; soft; moist. Soil samples SB-16b (2 feet bgs) and SB-16b (3 feet bgs) collected for pH.	3
3							*Bottom of boring at 3 feet.*	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-17
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1 2 3 4				NA	0.0		***Fill Material*** Soil sample SB-17 collected from 3.3 to 4 feet bgs with hand auger for STARS VOCs, PAHs.	4
5							*Bottom of boring at 4 feet. Refusal at 4 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil and Plant Roots	1
1								
							Silt (ML) Light olive brown (2.5Y 5/3) silt with highly weathered shale fragments; dry. Soil sample SB-19a collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
2				80	0.0			
3								
4								4
							Bottom of boring at 4 feet.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil and Plant Roots	0.5
1				85	0.0		***Poorly-Graded Sand with Gravel (SP)*** Black (2.5Y 2.5/1) medium- to coarse-grained sand with gravel; medium dense; wet.	2
2							***Lean Clay (CL)*** Grayish brown (2.5Y 5/2) low plasticity clay with large shale fragments; solvent odor; hard; dry. Soil sample SB-19b collected from 2.5 to 3.5 feet bgs for STARS VOCs, PAHs, PCBs.	3.5
3								
4							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet bgs.*	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1							***Topsoil***	1.5
2				95	0.0		***Silt (ML)*** Light olive brown (2.5Y 5/4) silt with highly weathered shale fragments; dry. Soil sample SB-19c collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
3								
4								4
							Bottom of boring at 4 feet.	
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	1
1							***Silt (ML)*** Olive brown (2.5Y 4/3) silt with highly weathered shale fragments; loose; dry. Soil sample SB-19d collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
2				90	0.0			
3								
4								4
							Bottom of boring at 4 feet.	
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-19e
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	1
1							***Poorly-Graded Sand with Gravel (SP)*** Black (2.5Y 2.5/1) coarse-grained sand with gravel; medium dense; wet.	2
2				75	0.0		***Silt (ML)*** Dark gray (2.5Y 4/1) silt with weathered shale; slight petroleum odor; dry. Soil sample SB-19e collected from 3 to 4 feet bgs for STARS VOCs, PAHs, PCBs.	
3								
4							*Bottom of boring at 4 feet.*	4
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-1G
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/26/2012	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 13.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1				- - - -	75	1.1		***Well-Graded Gravel with Sand (GW)*** Dark Yellowish-Brown (10YR 3/4), dry gravel with sand Sample SB-1G-(2-5) collected for VOC analysis	
2									
3				- -		0.7			
4				- -					
5									5

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1G

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay (CL)*** Light Brown (7.5 YR 6/4) lean clay 5.3
				-	62	1.1		***Well-Graded Gravel (GW)*** Gray (7.5YR 5/1), dry gravel
6				-				
				-				
7						1.1		
				-				
				-				
8								
				-				
				-				
9					100	0.9		9 ***Lean Clay with Gravel (CL)*** Yellowish Red (5YR 5/8), moist lean clay with gravel.
				-				
				-				
10								10 ***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), moist lean clay with gravel. Very slight odor.
				-				
				-				
11						2.5		

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1G

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), moist lean clay with gravel. Very slight odor. *(continued)*
12								12
				-				***Lean Clay with Gravel (CL)*** Olive Yellow (2.5YR 6/6), wet lean clay with gravel
				-	100	4.2		
13				-				13.2
								Lean Clay with Gravel (CL) Light Yellowish Brown (2.5YR 6/3), dry clay with gravel
								13.5
				-				Sample SB-1G-(12-13.5) collected for VOC analysis
								Bottom of boring at 13.5 feet. Refusal in bedrock at 13.5 feet bgs.
14				-				
				-				
15				-				
16								
17								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-1H
Drilled By: Parratt Wolff, Inc./Glen Lansing, Mick Foley	**Drill Start Date:**	**Drill End Date:** 6/26/2012	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 14	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
1				- - - -	37	0.4		***Well-Graded Gravel with Sand (GW)*** Dark Reddish-Brown (5YR 3/4), dry well-graded gravel with sand Sample SB-1H-(5-6) collected for VOC analysis
2								
3								
4				- -				
5								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1H

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- -	62	0.3		***Well-Graded Gravel with Sand (GW)*** Dark Reddish-Brown (5YR 3/4), dry well-graded gravel with sand Sample SB-1H-(5-6) collected for VOC analysis *(continued)*
6								6
				- - - -		0.8		***Lean Clay with Gravel (CL)*** Brown (7.5YR 4/4), dry lean clay with gravel
7								
8				- - - -	62	0.5		
9								9.3
								Lean Clay with Gravel (CL) Brownish-yellow (10YR 6/8), moist lean clay with gravel
10								10.2
				-		0.7		***Well-Graded Gravel with Clay (GW-GC)*** Strong Brown (7.5YR 4/6). wet gravel with clay
								10.5
				- -				***Lean Clay with Gravel (CL)*** Olive yellow (2.5 YR 6/6), very wet clay with gravel. Noticeable odor. Sample SB-1H-(12-14) collected for VOC analysis
11								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-1H

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				***Lean Clay with Gravel (CL)*** Olive yellow (2.5 YR 6/6), very wet clay with gravel. Noticeable odor. Sample SB-1H-(12-14) collected for VOC analysis *(continued)*
12								
				-				
				-				
13					100	15.8		
				-				
				-				
14								14
								Bottom of boring at 14 feet. Refusal in bedrock at 14'
15								
16								
17								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	NM		***Silty Sand with Gravel (SM)*** Gray (10YR 5/1) silty sand and gravel; some highly weathered shale fragments; loose; dry. Soil sample SB-20a collected from 1 to 1.5 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark yellowish brown (10YR 4/4) coarse-grained sand and gravel; some weathered shale fragments; loose; dry. Soil sample SB-20b collected from 0.5 to 1.3 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.3
2							*Bottom of boring at 1.3 feet. Refusal at 1.3 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.25	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1				100	0.0		***Silt (ML)*** Light olive brown (2.5Y 5/3) silt and highly weathered shale; dry. Soil sample SB-20c collected from 0.8 to 1.25 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.25
							Bottom of boring at 1.25 feet. Refusal at 1.25 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-20d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
1				80	0.0		***Sandy Silt (ML)*** Brown (10YR 4/3) sandy silt with clay; hard; dry. Soil sample SB-20d collected from 0.5 to 1.5 feet bgs for VOCs, PAHs, PCBs, TAL Metals, cyanide.	1.5
2							*Bottom of boring at 1.5 feet. Refusal at 1.5 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	0.0		***Asphalt***	0.5
							Silt (ML) Light olive brown (2.5Y 5/3) silt and weathered shale fragments; dry. Soil sample SB-21a collected from 0.5 to 1.5 feet for VOCs, PAHs, PCBs, cyanide.	1
1							*Bottom of boring at 1 feet. Refusal at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Topsoil	0.5
1 2				100	0.0		***Silt (ML)*** Very dark grayish brown (2.5Y 3/2) to black (2.5Y 2.5/1) silt and highly weathered shale fragments; little olive yellow (2.5Y 6/8) staining and petroleum odor at 2 to 2.3 feet bgs; dry. Soil sample SB-21b collected from 1.5 to 2.3 feet bgs for VOCs, PAHs, PCBs, cyanide.	2.3
3 4 5							*Bottom of boring at 2.3 feet. Refusal at 2.3 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt	0.5
							Shale Grayish brown (2.5Y 5/2) shale fragments; dry.	1
2				100	0.0		***Poorly-Graded Sand (SP)*** Black (2.5Y 2.5/1) to dark brown (7.5YR 3/4) coarse-grained sand; loose; dry.	1.7
							Silt (ML) Strong brown (7.5YR 4/6) and grayish brown (2.5Y 5/2) silt and gravelly shale; some pale yellow (2.5Y 8/4) and yellow (2.5Y 7/8) mottling; dry.	4
4							***Well-Graded Sand (SW)*** Very dark gray (2.5Y 3/1) fine- to medium-grained sand with silt; some gravel; little clay; some strong brown (7YR 5/8) mottling; dry to moist. Soil sample SB-21c collected from 5 to 7 feet bgs for VOCs, PAHs, PCBs, cyanide.	
6				70	0.0			
8								8
							Bottom of boring at 8 feet.	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-21d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/22/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
2				75	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark olive brown (2.5Y 3/3) medium- to coarse-grained sand; some gravel; some olive yellow (5Y 6/6) cobbles; loose; dry.	
4								4
							Poorly-Graded Gravel (GP) Gray (2.5Y 6/1) gravelly shale fragments; loose; dry. Soil sample SB-21d collected from 4 to 6 feet bgs for VOCs, PAHs, PCBs, cyanide.	
6				50	0.0			6
							Poorly-Graded Sand (SP) Dark yellowish brown (10YR 3/6) coarse-grained sand; loose; dry.	
8								8
							Bottom of boring at 8 feet.	
10								
12								
14								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-22a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 4.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Asphalt	0.5
1 2 3 4				100	0.0		***Lean Clay with Gravel (CL)*** Dark gray (7.5YR 4/1) low plasticity clay with gravel; hard; some reddish yellow (7.5YR 6/6) and gray (7.5YR 6/1) mottling; dry to moist. Soil sample SB-22a collected from 3 to 4 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	4.2
5							*Bottom of boring at 4.2 feet. Refusal at 4.2 feet bgs.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-22b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: / Physical Description	
							Ground Surface	
							Asphalt	0.5
1 2				100	0.0		***Poorly-Graded Sand with Gravel (SP)*** Dark gray (7.5YR 4/1) coarse-grained sand and gravel; loose; some weathered shale fragments; fuel odor at 3 feet; moist to wet. Soil sample SB-22b collected from 2.5 to 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	3
3							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	
4 5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23a
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.9	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100			***Concrete***	0.7
1				NA	0.2		***Lean Clay (CL)*** Dark olive brown (2.5Y 3/3) low plasticity clay; some silt; some gravel; soft; moist. Soil sample SB-23a collected from 1 to 1.7 feet bgs for VOCs, SVOCs, TAL Metals, PCBs.	1.9
2							*Bottom of boring at 1.9 feet. Refusal in shale at 1.9 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23b
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				100	NM		***Concrete***	0.7
1				NA	0.0		***Poorly-Graded Gravel with Sand (GP)*** Dark grayish brown (2.5Y 4/2) gravel and sand fill; dry.	1.4
							Lean Clay with Gravel (CL) Dark grayish brown (2.5Y 4/2) silty clay with gravel; medium soft; dry.	1.9
2							***Elastic Silt with Gravel (MH)*** Dark grayish brown (2.5Y 4/2) clayey silt with gravel; moist. Soil sample SB-23d collected from 1 to 2.4 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	2.4
3							*Bottom of boring at 2.4 feet. Refusal in hard rock at 2.4 feet bgs.*	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23c
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1				90	0.0		***Shale*** Light yellowish brown (2.5Y 6/3) to grayish brown (2.5Y 5/2) weathered shale; loose; dry. Soil sample SB-23c collected from 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	
2								
3								3
							Bottom of boring at 3 feet. Refusal at 3 feet bgs.	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23d
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1				50	0.0		***Silt (ML)*** Olive brown (2.5Y 4/4) silt and weathered shale; dry.	2
2							***Concrete*** Gray (2.5Y 6/1) concrete with medium- to coarse-grained angular rock fragments; dry. Soil sample SB-23d collected from 3 feet bgs for VOCs, SVOCs, PCBs, TAL Metals.	3
3							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-23e
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/30/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Concrete***	0.8
1							***Siltstone*** Pulverized siltstone; dry.	1.25
							Bottom of boring at 1.2 feet. Refusal in bedrock at 1.2 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-1
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
				100	0.0		***Elastic Silt (MH)*** Olive brown (2.5Y 4/3) silt with little clay; soft; damp.	0.6
							Silt (ML) Grayish brown (2.5Y 5/2) silt; dry.	
1							Soil sample SB-25a-1 collected from 1 foot bgs for VOCs.	1
							Bottom of boring at 1 feet. Refusal at 1 foot bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-2
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.2
1 2				80	0.0		***Silt (ML)*** Light yellowish brown (2.5Y 6/3) silt and highly weathered shale; dry. Soil sample SB-25a-2 collected from 2.5 feet bgs for VOCs.	2.5
3 4 5							*Bottom of boring at 2.5 feet. Refusal at 2.5 feet bgs.*	

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25a-3
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/20/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				95	0.0		***Concrete***	0.5
							Silt (ML) Grayish brown (2.5Y 5/2) to dark grayish brown (2.5Y 4/2) silt and weathered shale; dry. Soil sample SB-25a-3 collected from 1 foot bgs for VOCs.	1
1							*Bottom of boring at 1 feet. Refusal at 1 foot bgs.*	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-1
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				90	0.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) sand and pulverized siltstone; loose; dry. Soil sample SB-25b-1 collected from 0.8 to 1.4 feet bgs for VOCs.	1.4
2							*Bottom of boring at 1.4 feet. Refusal in bedrock at 1.4 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-2
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
1				10	0.6		***Concrete*** Broken up concrete and shale fragments.	
2							*Bottom of boring at 2 feet. Refusal at 2 feet bgs.*	2
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-3
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				80	NM		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) medium-grained sand; some large gravels and siltstone fragments; loose; dry. Soil sample SB-25b-3 collected from 0.75 to 1.2 feet bgs for VOCs.	1.3
							Bottom of boring at 1.3 feet. Refusal in bedrock at 1.3 feet bgs.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-4
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/27/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.5
				100	NM		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-4 collected from 0.5 to 1.2 feet bgs for VOCs.	1.2
							Bottom of boring at 1.2 feet. Refusal at 1.2 feet bgs.	

1
2
3
4
5

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-5
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	NM		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-5 collected from 0.8 to 1.5 feet bgs for VOCs.	1.5
2							*Bottom of boring at 1.5 feet. Refusal in shale at 1.5 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25b-6
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/28/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
				100	0.0		***Poorly-Graded Sand (SP)*** Olive brown (2.5Y 4/3) coarse-grained sand; loose; dry. Soil sample SB-25b-6 collected from 0.5 to 1.2 feet bgs for VOCs.	1.2
1								
							Bottom of boring at 1.2 feet. Refusal in shale at 1.2 feet bgs.	
2								
3								
4								
5								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-1
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
							Poorly-Graded Sand (SP) Grayish brown (2.5Y 5/2) medium-grained sand with siltstone gravel; loose; dry.	1
1				80	1.0		***Silty Gravel (GM)*** Dark grayish brown (2.5Y 4/2) silty gravel and pulverized siltstone; loose; dry. Soil sample SB-25c-1 collected from 1 to 2 feet bgs for VOCs, TAL Metals, cyanide.	2
2							*Bottom of boring at 2 feet. Refusal in bedrock at 2 feet bgs.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-2
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				10	0.0		***Concrete***	0.5
1							***Poorly-Graded Sand with Gravel (SP)*** Grayish brown (2.5Y 5/2) coarse-grained sand and gravel.	1
							Bottom of boring at 1 feet.	
2								
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25c-3
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/29/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Concrete	0.6
1				100	3.0		***Poorly-Graded Sand (SP)*** Dark grayish brown (2.5Y 4/2) coarse-grained sand; some gravel; pulverized siltstone; black (2.5Y 2.5/1) staining and petroleum odor at 1.5 to 1.7 feet bgs. Soil sample SB-25c-3 collected from 1.2 to 1.7 feet bgs for VOCs, TAL Metals, cyanide.	1.7
2							*Bottom of boring at 1.7 feet.*	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25d-1
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1				100	0.0		***Lean Clay with Gravel (CL)*** Pale brown (10YR 6/3) medium plasticity clay with gravel; some sand; soft; some brownish yellow (10YR 6/6) mottling; moist to wet. Soil sample SB-25d-1 collected from 1.5 to 2 feet bgs for VOCs.	
2								2
							Bottom of boring at 2 feet. Refusal at 2 feet bgs.	
3								
4								
5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-25d-2
Drilled By: Zebra Environmental Corporation/Dominick Pirro	**Drill Start Date:**	**Drill End Date:** 8/23/2007	**Drill Method:** Direct Push
Logged By: Rachel Posner	**Total Depth (ft):** 3	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
							Concrete	0.5
1 2				100	0.0		***Lean Clay (CL)*** Grayish brown (10YR 5/2) medium plasticity clay; some gravel; some yellowish brown (10YR 5/6) mottling; stiff; wet. Soil sample SB-25d-2 collected from 2 to 3 feet bgs for VOCs.	3
3							*Bottom of boring at 3 feet. Refusal at 3 feet bgs.*	
4 5								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-617
Drilled By: Parratt Wolff, Inc./Jolaan Price	**Drill Start Date:**	**Drill End Date:** 4/30/2014	**Drill Method:** Direct Push
Logged By: Martha E. Fleming	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2				- - - -	88	0.0		***FILL*** Fill material. Brown to mottled tan silt; small angular gravel; brick, wet at 4.8'.	
4									5.2
6				- - - -	38	0.0		Not logged.	
8									8
10				- - - -	38	0.0		***FILL*** Fill material. Medium brown with mottled subangular gravel; medium- to coarse-grained sand; brick; trace slag; wet.	
12									12
								Bottom of boring at 12 feet.	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-641
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel, silt, and fine to medium sand. Wet. No odor. PID = 0	0.75
1					***Shale*** Gray; shale chips and sand. Dry.	1
					Bottom of boring at 1 feet. Refusal at 1 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-642
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Asphalt	0.4
1					***Well-Graded Gravel with Sand (GW)*** Dark gray; fine to medium gravel, fine sand, some clay. Damp. No odor. PID = 0	1.4
					Shale Gray; shale fragments and sand. Dry.	1.9
2					*Bottom of boring at 1.9 feet. Refusal at 1.9 ft bgs*	
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-643
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Asphalt	0.6
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel, fine sand, some silt. Dry. No odor. PID = 0	0.9
1					***Shale*** Gray; shale fragments and sand. Dry.	1.5
					Bottom of boring at 1.5 feet. Refusal at 1.5 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-644
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 1.25	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete	0.2
					Well-Graded Gravel with Sand (GW) Dark gray; fine to medium gravel and sand. Wet. Asphalt odor. PID = 0	1
1					***Asphalt***	1.25
					Bottom of boring at 1.25 feet. Refusal at 1.25 ft bgs	
2						
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-645
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Asphalt	0.6
1					***Well-Graded Gravel with Sand (GW)*** Dark gray; very coarse sand, fine gravel, trace clay. Wet. No odor. PID = 0	2
2					***Shale*** Gray; shale fragments and sand. Dry.	2.5
					Bottom of boring at 2.5 feet. Refusal at 2.5 ft bgs	
3						
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-646
Drilled By: Zebra Environmental Corporation/Phil Orsi	**Drill Start Date:**	**Drill End Date:** 9/9/2014	**Drill Method:** Direct Push
Logged By: GMB	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Topsoil Brown fine sand and loam with roots.	0.5
1					***Well-Graded Gravel with Sand (GW)*** Brown; fine sand and rock fragments (fine to coarse gravel). Dry. Asphalt odor. PID = 0	2
2					***Shale*** Gray; shale fragments and sand. Dry.	3
3					*Bottom of boring at 3 feet. Refusal at 3 ft bgs*	
4						
5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-01
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.75
6	581			- - - -	17	(6-8) 0.0		***SILT (ml)*** Dark brown (7.5 YR 3/4) silt, trace coal fragments; dry; soft.	
8	579								9
10	577			- - - -	50	(10-12) 0.0		***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Dark brown (10YR 3/2) to black (7.5YR 2.5/1) coarse-grained sand, some silt, some angular gravel; loose; well graded; dry.	10.75
								WELL-GRADED GRAVEL (gw) Gray (10YR 4/1) gravel, trace coarse-grained sand, trace silt; loose; well graded; dry.	
12	575								12.75
14	573			- - - -	62.5	(12-14) 0.0 (14-16) 15.8		***WELL-GRADED SAND WITH GRAVEL (sw)*** Reddish-brown (5YR 5/4) coarse-grained sand, some sub-angular gravel; some staining; loose; dry.	14.25
								LEAN CLAY WITH GRAVEL (cl) Gray (10YR 4/1) Clay with sub-angular fractured shale, some silt; staining; strong odor; oily sheen; wet.	15.5
16	571							***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) angular gravel, some saturated oily silt; strong odor; visibly saturated with oil	15.8

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								like product; loose; wet. PID > 250 ppm	16.58
18	569			- - - -	71	(16-18) 0.4		***LEAN CLAY (cl)*** Gray (10YR 4/1) Clay, some silt, trace sub-angular fractured shale; soft; some odor; some staining; soft; wet. *(continued)*	17.5
								SILT WITH GRAVEL (ml) Dark gray (10YR 4/1) silt and sub angular gravel, some clay; some staining; slight odor; medium dense; dry.	18.5
20	567							***LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 6/1) clay, some angular shale fragments, trace silt; soft; wet.	19.5
								SILTSTONE Light gray (10YR 7/1) highly weathered shale, some silt, trace very fine sand; loose becoming medium dense at 19.10 ft; dry.	
22	565							*Bottom of boring at 19.5 feet. Refusal at 19.5 feet.*	
24	563								
26	561								
28	559								
30	557								
32	555								
34	553								
36	551								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-02
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.5
6	581			- - - -	67	(6-8) 0.0		***SILT (ml)*** Brown (10 YR 5/3) silt, some clay, some sub-angular gravel; well graded; soft; moist.	6.75
								WELL-GRADED SAND (sw) Dark brown (7.5YR 3/4) to white (10YR 8/1) coarse-grained sand with coal fragments and ash; loose; dry.	7.5
8	579							***SANDY ELASTIC SILT WITH GRAVEL (mh)*** Brown (10YR 5/3) silt, some clay and sub-angular gravel; some coarse-grained sand; well graded; medium hard; dry.	
10	577			- - - -	50	(10-12) 0.0			11.25
12	575							***WELL-GRADED SAND WITH GRAVEL (sw)*** Reddish-brown (5YR 3/4) to black (5YR 2.5/1) coarse-grained sand with slag fragments and coal ash; loose; dry; oxidized.	
14	573			- - - -	12.5	(14-16) 12.8			15.5
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	32	-		***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) angular gravel, some saturated silt; thick oil-like saturation; 100% saturated; strong odor; loose; wet at 15.5 ft. *(continued)*
								18.5
								18.9
								SILTSTONE Dark gray (10YR 4/1) highly weathered siltstone, some silt, some clay, trace very fine-grained sand; some odor; medium dense; dry.
20	567							*Bottom of boring at 18.5 feet. Refusal at 18.5 feet.*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-03
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								4.75
6	581			- - - -	50	(6-8) 0.3		***WELL-GRADED SAND WITH GRAVEL (sw)*** Dark reddish-brown (5YR 3/3) coarse-grained sand, some sub-angular gravel; well graded; loose; moist.	7.5
8	579							***WELL-GRADED SAND (sw)*** Black (5YR 2.5/1) coarse to medium fine-grained sand; well graded; medium dense; moist.	9.25
10	577			- - - -	37.5	(10-12) 0.0		***WELL-GRADED GRAVEL (gw)*** Brown (10YR 4/3) sub-angular gravel, some silt; well graded; dry; loose, trace roolets.	
12	575								12.75
								POORLY-GRADED SAND (sp) Brownish-yellow (10YR 6/8) coarse-grained sand; poorly graded; medium dense; dry.	13.7
14	573			- - - -	62.5	(12-14) 16.8 (14-16) 2.7		***WELL-GRADED GRAVEL (gw)*** Black (5YR 2.5/1) angular gravel, trace silt; medium dense; saturated with oil like product; strong odor; thick sheen.	15
16	571							***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay, some sub-angular gravel; trace silt; medium plasticity; soft; moist, becoming wet at 15.8 ft.	16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	(16-18) 0.0		***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay with sub-angular fractured siltstone; medium coarse-grained sand; soft, becoming medium dense at 17.5; wet; slight odor. *(continued)* 18.5
								Bottom of boring at 18.5 feet. Refusal at 18.5 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-04
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/2/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.79

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.7
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	25	(6-8) 0.7		***WELL-GRADED GRAVEL (gw)*** Dark brown (7.5YR 3/3) sub-angular gravel, some coarse-grained sand, little silt; moist; loose.	5.5
8	579								
10	577			- - - -	37.5	(10-12) 0.0		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) to light brown (7.5YR 6/3) sub-angular gravel, trace coarse-grained sand, trace silt; moist; loose.	9.25
12	575							***GRAVELLY LEAN CLAY (cl)*** Brown (7.5YR 4/2) clay;, some sub-angular gravel, trace silt; medium to low plasticity; soft; moist.	11.8
14	573			- - - -	62.5	(12-14) 37.6 (14-16) 34.9		***GRAVELLY LEAN CLAY (cl)*** Dark gray (10YR 4/1) clay, some sub-angular gravel; trace fine-grained sand; low plasticity; soft; moist, becoming wet at 13.7 ft, black staining, strong petroleum like odor, and oily sheen from 13.7 to 14.1 feet, and from 15.5 to 17.5 feet.	12.75
16	571			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	(16-18) 1.2		17.5
18	569							18 ***SILTSTONE*** Dark gray (10YR 4/1) weathered siltstone; thinly bedded; dense; trace clay; wet.
								Bottom of boring at 18 feet. Refusal at 18.0 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-05
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 18.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.15

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	25	(6-8) 0.0			6.1
								GRAVELLY SILT WITH SAND (ml) Brown (10YR 4/3) Silt, some sand, some sub-angular gravel; well graded; medium dense; dry.	
8	579								
10	577			- - - -	37.5	(10-12) 0.0			11.25
								WELL-GRADED GRAVEL (gw) Dark grayish-brown (10YR 4/2) angular gravel, trace silt, trace fine-grained sand; well graded; loose; dry.	
12	575								
14	573			- - - -	62.5	(12-14) 2.5 (14-16) 28.1			14
								LEAN CLAY WITH GRAVEL (cl) Gray (10YR 5/1) clay, some silt, some angular shale fragments; black staining; strong odor; medium plasticity; wet.	
16	571								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	100	(16-18) 88.5 (18-18.5) 11.0		***GRAVELLY LEAN CLAY WITH SAND (cl)*** Gray (10YR 5/1) clay with silt and weathered shale fragments, trace very fine-grained sand; moist; medium dense; slight staining at 16.5 ft.; slight odor; medium plasticity. *(continued)*
18	569							18
								SILTSTONE Gray (10YR 4/1) highly weathered siltstone; trace very fine-grained sand and silt; dense; dry. 18.5
								Bottom of boring at 18.5 feet. Refusal at 18.5 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	33	(6-8) 0.0		***WELL-GRADED GRAVEL (gw)*** Very dark grayish-brown (10YR 3/2) angular gravel, some silt, some coarse-grained sand; moist; loose; trace rootlets.	6
8	579								
10	577			- - - -	25	(10-12) 0.0			
12	575								
14	573			- - - -	37.5	(14-16) 68.5		***LEAN CLAY WITH GRAVEL (cl)*** Dark yellowish-brown (10YR 4/4) clay, some silt, trace gravel; soft; moist; low to medium plasticity, slight odor.	13.75
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1) gravel, some saturated silt; thick oil-like saturation; strong odor; wet; loose; 100% oil-like saturation	15
16	571								15.5 16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	100	(16-18) 333.8 (18-19) 88.5		***LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 6/1) clay, some angular gravel, trace silt, trace very fine-grained sand; soft; moist to wet; strong odor; some staining.
18	569							***SANDY LEAN CLAY WITH GRAVEL (cl)*** Gray (10YR 3/2) sandy silt and clay, some angular gravel; strong odor; heavy staining; moist to wet; medium soft; low plasticity. *(continued)*
20	567							***SILTSTONE*** Very dark gray (10YR 3/1) highly weathered siltstone, some very fine-grained sandy silt; some staining; some odor; loose, becoming dense at 18.75 ft.
22	565							*Bottom of boring at 19 feet. Refusal at 19.0 feet.*
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

18

19

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-07
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/3/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 19.7	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	1
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
6	581			- - - -	17	(6-8) 0.0			6.25
								WELL-GRADED GRAVEL (gw) Brown (7.5YR 4/2) angular gravel, some silt, trace coarse-grained sand; well graded; loose, becoming medium dense at 11.0 ft.; dry.	
8	579								
10	577			- - - -	50	(10-12) 0.0			
12	575								12.75
								WELL-GRADED SAND WITH SILT (sw-sm) Brown (10YR 4/3) coarse-grained sand and silt, some gravel; strong odor; some staining; loose; well graded.	14
14	573			- - - -	62.5	(12-14) 46.1 (14-16) 198.1		***WELL-GRADED GRAVEL (gw)*** Very dark brown (10YR 2/1) to Black (10YR 2/2) angular gravel with heavy oily staining, some thick free floating oily sheen; few silt; loose; well graded; wet.	14.4
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-07

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	(16-18) 28.9		***LEAN CLAY (cl)*** Gray (10YR 4/1) clay, some angular shale fragments, few very fine-grained sand; medium plasticity; some staining 14.4 - 15.75 ft; wet; some odor. *(continued)* 17.7
								SILTSTONE Gray (10YR 5/1) to brownish-yellow (10YR 6/8) highly weathered siltstone, some silt and clay, few very fine-grained sand; loose, becoming hard at 18.5 ft. 19.7
20	567							*Bottom of boring at 19.7 feet. Refusal at 19.7 feet.*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-08
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 21.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.1

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
2	585							***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light Gray (10YR 7/1) to Black (10YR 2/1) sand with silt and gravel, coarse to fine-grained, some concrete and wire debris, trace coal fragments and slag fill material, trace rootlets; loose; dry.	
4	583								
									5.5
6	581			- - - -	66	(5-6) 0.0 (6-8) 0.0		***WELL-GRADED GRAVEL (gw)*** Gray (10YR 6/1) becoming brownish-yellow (10YR 6/6) at 7.5 ft. angular gravel, some fine-grained sand, trace silt; well graded; loose; dry.	
8	579								
10	577			- - - -	50	(10-12) 0.2			
									10.5
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Brownish-yellow (10YR 6/8) silt and angular gravel, trace fine-grained sand; medium dense; moist; trace rootlets.	11
								SILT WITH SAND (ml) Brown (10YR 4/3) medium coarse-grained sandy silt, some angular gravel; medium dense; moist.	11.5
12	575								
14	573			- - - -	62.5	(12-14) 1.8 (14-16) 3.3		***WELL-GRADED GRAVEL (gw)*** Olive brown (2.5YR 4/3) angular gravel, some silt; strong oil like odor; loose; well graded; wet; visible staining.	13.9
								LEAN CLAY WITH GRAVEL (cl) Dark gray (2.5YR 4/1) clayey silt, some angular gravel, trace fine-grained sand; wet; strong odor; medium soft; staining; low plasticity.	14.5
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	75	(16-18) 102.3 (18-20) 9.2		***SILT WITH GRAVEL (ml)*** Gray (2.5YR6/1) silt with shale fragments, some clay, trace very fine-grained sand; medium dense; dry, becoming wet at 15.0 ft, becoming moist from 17.0-19.0ft.; strong odor. *(continued)* 19
20	567							***LEAN CLAY (cl)*** Gray (2.5YR 6/1) clay and silt, trace very fine-grained sand; medium dense; dry. 20
				- - - -	100	7.8		***SILT (ml)*** Gray (2.5YR 6/1) silt, some very fine-grained sand, trace gravel, trace clay; occasional yellow (2.5YR 6/8) mottling; moderately cohesive; wet. 21.5
22	565							*Bottom of boring at 21.5 feet. Refusal at 21.5 feet.*
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-09
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 13	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
2	585							***WELL-GRADED GRAVEL (gw)*** Very dark brown (10YR 2/2) angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt, trace coarse-grained sand; loose; dry.	
4	583								
6	581			- - - -	50	2.3			
8	579								9
10	577			- - - -	50	1.4		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt, trace coarse-grained sand; loose; dry.	10.5
								WELL-GRADED GRAVEL (gw) Dark yellowish-brown (10YR 4/4) angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt, trace coarse-grained sand; moist.	11
12	575			- - - -	100	2.9		***SILT (ml)*** Dark brown (10YR 3/3) silt, few gravel ranging in size from 0.5 to 1.5 inches in diameter; soft; wet.	12 12.5 13
14	573							***SILT (ml)*** Yellowish-brown (10YR 5/6) silt, little angular gravel ranging in size from 0.2 to 0.8 inches in diameter; possible staining; soft; wet.	
								SILTSTONE Gray (10YR 5/1) weathered siltstone; loose; dry.	
16	571							*Bottom of boring at 13 feet. Refusal at 13 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 18.8	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete	0.75
2	585							***WELL-GRADED GRAVEL (gw)*** Black (10YR 2/1) gravel with size ranging from 0.5 to 1.5 inches in diameter, trace sand, trace silt; moist.	
4	583								
6	581			- - - -	33	7.5			
									7.25
8	579							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark yellowish-brown (10YR 3/4) gravel ranging from 0.2 to 2 inches in diameter, few silt; moist.	7.75
10	577			- - - -	38	3.9		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	
12	575								
									13.25
14	573			- - - -	26.7	26.7		***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, few to little gravel ranging in size from 0.2 to 1.5 inches in diameter, trace coarse-grained sand; soft; wet.	
									15.25
16	571							***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10 YR 4/2) silt, little to some gravel ranging in size from 0.2 to 1.5 inches in diameter; soft; wet.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-10

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - - -	68	71		16.65 ***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR 4/2) silt, little sub-angular gravel ranging in size from 0.2 to 2 inches in diameter. 17.8 18 ***WELL-GRADED GRAVEL (gw)*** Dark grayish-brown (10YR 4/2) sub-angular gravel ranging in size from 0.5 to 2 inches in diameter, trace silt; loose; moist. 18.8 ***SILT (ml)*** Dark grayish-brown (10YR 4.2) silt, trace gravel; soft; wet. *Bottom of boring at 18.8 feet. Refusal at 18.8 feet.*
18	569							
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.09

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.75
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Grayish-brown (10YR 5/2) angular siltstone gravel ranging from 0.2 to 2 inches in diameter, little yellowish-brown (10YR 5/6) silt, few fine-grained sand; dense; dry, becoming moist at 11.8 feet.	
2	585								
4	583								
6	581			- - - -	66	3.7			
8	579								
10	577			- - - -	50	2.5			
12	575								
				- - - -					13.6
14	573				20	4.3		***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) angular gravel ranging from 0.2 to 2 inches in diameter, trace to few silt; dense; wet; oil-like staining; odor.	
16	571								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	100	6.7		***SILT WITH GRAVEL (ml)*** Dark gray (10YR 4/1) and brownish-yellow (10YR 6/8) silt, few subrounded gravel ranging from 0.1 to 2.5 inches in diameter; soft to 16.5 feet, very stiff below; wet to 16.5 feet, dry to moist below. *(continued)* 18.2
								Bottom of boring at 18.2 feet. Refusal at 18.2 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 6/4/2015	Drill Method: Direct Push
Logged By: Molly Long	Total Depth (ft): 14.2	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 587.2

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.75
2	585							***SILTY GRAVEL (gm)*** Very dark grayish-brown (10YR 3/3) angular gravel ranging in size from 0.5 to 2 inches in diameter, little silt; dry.	
4	583								
6	581			- - - -	66	5.8			6.5
								SILT WITH GRAVEL (ml) Dark grayish-brown (10YR 4/2) silt, little angular gravel ranging in size from 0.2 to 1.5 inches in diameter; medium density; rust staining; dry.	7.5
8	579							***WELL-GRADED GRAVEL (gw)*** Very dark grayish-brown (10YR 3/2) to dark yellowish-brown (10YR 3/4) angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	
10	577			- - - -	38	9.1			11.5
12	575			- - - -	45	4.1		***SILTY GRAVEL (gm)*** Dark brown (10YR 3/3) angular gravel, some silt; loose; dry; becoming wet with oil-like liquid at 11.8, petroleum-like odor odor.	13.7
14	573							***SILTSTONE*** Gray (10YR 5/1) extremely weathered siltstone, trace silt; loose; dry.	14.2
								Bottom of boring at 14.2 feet. Refusal at 14.2 feet.	
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-13
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/1/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert and Molly M. Long	**Total Depth (ft):** 11.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.65

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								WELL-GRADED SAND (sw) Light yellowish-brown (10YR 6/4) fine-grained sand, trace coarse-grained sand; very loose; dry.	1
2	585			- - - - -	100	(0-2) 0.0 (2-4) 0.0		***WELL-GRADED SAND WITH GRAVEL (sw)*** Dark grayish-brown (10YR 4/2) fine to coarse-grained sand, some angular gravel to 2 inches in diameter; very loose; dry.	1.8
								WELL-GRADED GRAVEL (gw) Pale brown (10YR 6/3) sub-angular gravel up to 2 inches in diameter, little fine-grained sand, trace coarse-grained sand; loose; dry.	
4	583								4.5
								WELL-GRADED GRAVEL (gw) Dark brown (10YR 3/3) angular gravel, trace to few coarse-grained sand; dry; loose.	
6	581			- - - - -	75	(4-6) 0.0 (6-8) 0.0			7
								WELL-GRADED GRAVEL (gw) Pale brown (10YR 6/3) angular gravel, trace coarse-grained sand, trace clay; loose; dry.	7.8
8	579							***LEAN CLAY (cl)*** Clay seam.	8.25
10	577			- - - - -	86	(8-10) 0.0 (10-11.5) 0.0)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark yellowish-brown (10YR 4/4) angular gravel, little silt, few clay; dense; dry.	10.5
								LEAN CLAY (cl) Brown (10YR 5/3) clay, few angular gravel; medium plasticity; moist to wet.	11 11.5
12	575							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark gray (10YR 4/1) angular gravel, few silt, few fine to coarse-grained sand; dry to moist.	
								Bottom of boring at 11.5 feet. Refusal at 11.5 feet.	
14	573								
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-14
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 6/2/2015	Drill Method: Direct Push
Logged By: Nathaniel Winston	Total Depth (ft): 11.9	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 586.65

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	585			- - - -	50	(2-4) 0.0		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Light yellowish-brown (10YR 6/5) fine-grained sand, some angular gravel (0.2-2.0 inches in diameter); very loose; dry.	
4	583								4.75
6	581			- - - -	62.5	(4-6) 0.0 (6-8) 0.0		***SANDY SILT WITH GRAVEL (ml)*** Light yellowish-brown (10YR 6/5) to brown (10YR 4/4) fine-grained sandy silt, angular gravel (0.2-2.0'); medium dense; well graded, dry.	
8	579								
10	577			- - - -	64	(8-10) 0.4 (10-11.9) 0.0)			10.4
								SANDY SILT WITH GRAVEL (ml) Very dark grayish-brown (10YR 3/2) fine-grained sandy silt with sub-angular gravel (0.2 to 0.5 inches in diameter); moist, becoming wet at 10.9 ft.; medium dense; well graded; slight odor.	11.4 11.7 11.9
12	575							***SANDY SILT WITH GRAVEL (ml)*** Brownish-gray (10YR 5/2) fine-grained sandy silt, some sub-angular gravel (0.2 to 0.5 inches in diameter); wet; soft; well-graded; slight odor.	
14	573							***SILTSTONE*** Dark gray (10YR 4/1) highly weathered siltstone, trace clay; thinly bedded; very dense; wet.	
16	571							*Bottom of boring at 11.9 feet. Refusal at 11.9 feet.*	

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 6/2/2015	Drill Method: Direct Push
Logged By: Molly Long	Total Depth (ft): 11.1	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 586.44

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	584			- - - - -	75	(0-2) 0.6 (2-4) 0.2		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark yellowish-brown (10YR 4/4) fine-grained sand, some angular gravel ranging in size from 0.2 to 2 inches in diameter; loose; dry.	
4	582								4.75
6	580			- - - - -	63	(4-6) 0.2 (6-8) 0.6		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark brown (10YR 3/3) fine-grained sand and angular gravel ranging in size from 0.2 to 2 inches in diameter; loose; dry. Possible staining at 7 feet.	
8	578								8.8
10	576			- - - - -	50	(8-10) 0.1		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Dark brown (10YR 3/3) fine-grained sand, some gravel ranging from 0.2 to 1.5 inches in diameter, trace silt; loose; dry, becoming wet between 10.2 and 10.5 feet; slight odor.	10.5
								SILTSTONE Dark gray (10YR 4/1) to very dark gray (10YR 4/1) highly weathered siltstone, trace clay; dense; wet; odor.	11.1
12	574							*Bottom of boring at 11.1 feet. Refusal at 11.1 feet.*	
14	572								
16	570								

Notes:

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	Drill Start Date:	Drill End Date: 6/2/2015	Drill Method: Direct Push
Logged By: Molly Long	Total Depth (ft): 10.5	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 586.61

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								SILTY GRAVEL (gm) Black (10YR 2/1) angular gravel ranging from 0.2 to 1.5 inches in diameter, some silt; loose; dry.	1.5
2	585			- - - -	75	(0-2) 8.2 (2-4) 1.9		***WELL-GRADED SAND WITH GRAVEL (sw)*** Light gray (10YR 7/1) fine-grained sand, some gravel ranging from 0.2 to 1.5 inches in diameter, trace silt; loose; dry.	
4	583								5.5
6	581			- - - -	25	(4-8) 0.0		***SANDY SILT (ml)*** Yellow darkish-brown (10YR 4/6) silt, some fine-grained sand, little gravel ranging from 0.2 to 0.7 inches in diameter, trace clay; dense; dry.	7.5
8	579			- - - -	30	(8-10.5) 0.4		***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR 3/3) silt and fine- to coarse-grained sand, few gravel; medium dense; moist at 7.8 feet.	8.875
10	577							***SANDY SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR 4/2) silt and coarse-grained sand, some gravel ranging from 0.2 to 2 inches in diameter; dry. Moist at 9.75 feet. Wet at 10.0 feet.	10.2
								SILTSTONE Dark gray (10YR 4/1) highly weathered siltstone, trace clay.	10.5
12	575							*Bottom of boring at 10.5 feet. Refusal at 10.5 feet.*	
14	573								
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-17
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 6/4/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 13.2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.53

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	585				50	4.9		***Well Graded Sand with Gravel (SW)*** Grayish-brown (10YR 5/2) fine to coarse-grained sand, some angular gravel ranging in size from 0.2 to 2 inches in diameter, trace silt; loose; dry.	3.5
4	583							***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 2 inches in diameter, few sand, trace silt; loose; dry.	5.5
6	581				25	1.6		***WELL-GRADED GRAVEL (gw)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 2 inches in diameter, few sand, trace silt; loose; dry.	9
8	579								
10	577				50	1.4		***SILTY GRAVEL (gm)*** Dark brown (10YR 3/3) angular gravel ranging in size from 0.2 to 1.5 inches in diameter, little to some silt, trace sand; moist.	11.5
12	575				83	0.6		***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) angular gravel ranging in size from 0.2 to 2 inches in diameter, little silt; wet with oil like substance.	12.1
14	573							***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) angular gravel ranging in size from 0.2 to 2 inches in diameter, little silt; wet with oil like substance.	13 / 13.2
								SILTSTONE Gray (10YR 5/1) weather siltstone; loose; dry.	
16	571							*Bottom of boring at 13.2 feet. Refusal at 13.2 feet.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-18
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	18.5 (0-2)		***Concrete*** Concrete	0.5
								POORLY-GRADED SAND (sp) Black (7.5YR 2.5/1) fine- to medium-grained sand, trace coarse-grained sand, trace gravel; loose; dry. Some cinders between 0.5 and 0.65 feet.	1.9
2	585							***SILT WITH SAND (ml)*** Yellowish-brown (10YR 5/0) silt, little coarse sand, little coarse gravel; soft; dry.	2
								Bottom of boring at 2 feet.	
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								
16	571								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-19
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 2	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	19.3 (0-2)		***Concrete*** Concrete	0.5
								WELL-GRADED GRAVEL (gw) Yellowish-brown (10YR 5/4) fine- to coarse-grained sand, trace gravel; loose; dry.	2
2	585							*Bottom of boring at 2 feet.*	
4	583								
6	581								
8	579								
10	577								
12	575								
14	573								
16	571								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-20
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Concrete Concrete	
2	585			- - - -	100	14 (2-4)			2
								POORLY-GRADED SAND (sp) Black (10YR 2/1) medium- to coarse-grained sand, some cinders, trace silt; loose; dry.	2.5
4	583							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark grayish-brown (10YR 4/2) to dark yellowish-brown (10YR 4/6) angular gravel ranging from 0.2 to 2 inches in diameter, little silt, little fine- to coarse-grained sand; dense; dry.	5
6	581			- - - -	50	15 (6-8)		***GRAVELLY SILT (ml)*** Yellowish-brown (10YR 5/8) silt, some angular gravel ranging from 0.2 to greater than 2 inches in diameter; stiff; dry.	
8	579								9.25
10	577			- - - -	37	19 (10-12)		***GRAVELLY SILT (ml)*** Black (10YR 2/1) and gray (10YR 5/1) silt, some gravel; medium stiff; wet; strong petroleum-like odor; visible petroleum-like sheen.	
12	575								12
								GRAVELLY SILT (ml) Black (10YR 2/1) and gray (10YR 5/1) silt, some gravel; loose; wet.	13
14	573			- - - -	100	25 (12-14) 19 (14-16)		***ELASTIC SILT WITH GRAVEL (mh)*** Dark gray (10YR 4/1) silt, little clay, little angular gravel; soft to medium stiff; wet.	
16	571			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-20

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	75	17 (16-18)		16.75 ***ELASTIC SILT (mh)*** Gray (10YR 5/1) and yellowish-brown (10YR 5/8) silt, little clay, few gravel; medium stiff; wet. 18
18	569							*Bottom of boring at 18 feet. Refusal at 18 feet.*
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-21
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 8/6/2015	Drill Method: Direct Push
Logged By: Erik S. Reinert	Total Depth (ft): 20	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 587.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	16.4 (0-4)		***Concrete*** Concrete	2
								WELL-GRADED SAND (sw) Dark yellowish-brown (10YR 4/4) fine- to coarse-grained sand, little angular gravel ranging from 0.2 to 1 inch in diameter, trace silt; loose; dry.	
5	582			- - - -	50	11.0 (4-8)		***WELL-GRADED GRAVEL (gw)*** Dark yellowish-brown (10YR 4/4) angular gravel ranging from 0.2 to 2 inches in diameter, little fine- to coarse-grained sand; dense; dry.	5
10	577			- - - -	0				11
				- - - -	50	>50.0 (12-16)		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Very dark gray (10YR 3/2) coarse-grained sand and gravel, little fine-grained sand; medium dense; dry to moist.	
15	572								15
								WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm) Very dark gray (10YR 4/1) angular gravel ranging from 0.2 to 2 inches in diameter, little silt, little fine- to coarse-grained sand; dense; moist. Becomes wet at 15.5 feet. Strong petroleum-like odor and oil-like substance in water.	16
				- - - -	100	43.0 (16-18) 1.5 (18-20)		***LEAN CLAY WITH GRAVEL (cl)*** Black (10YR 2/1) clay and silt, little angular gravel; stiff; wet.	19
20	567							***SILTSTONE*** Grayish-brown (10YR 5/6) siltstone fragments, trace silt; very dense; dry.	20

Bottom of boring at 20 feet. Refusal at 20 feet.

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-22
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 19	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	
2	584			- - - - -	100	19.5 (0-4)			2
								POORLY-GRADED GRAVEL (gp) Black (10YR 2/1) cinders ranging from 0.1 to 0.25 inches in diameter; loose; dry.	
4	582								
6	580			- - - - -	50	20.9 (4-8)			
									7.5
8	578							***SILT (ml)*** Yellowish-brown (10YR 5/8) silt, little gravel; medium stiff; dry.	
									9
10	576			- - - - -	50	9.1 (8-12)		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 4/8) to grayish-brown (10YR 4/2) silt, some gravel; medium stiff; wet. Carbon pellet (1-inch by 0.5-inch cylinder) at 11 feet.	
12	574								
									13
14	572			- - - - -	50	29.2 (12-16)		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 4/8) to grayish-brown (10YR 4/2) silt, some gravel; medium stiff; wet.	
16	570								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	568			- - - -	100	13.2 (16-19)		***Silt*** Grayish-brown (10YR 5/2) silt, trace to few gravel; medium stiff; wet. Gravel increasing to some between 18.5 and 19 feet with shaley partings visible. *(continued)* 19
								Bottom of boring at 19 feet. Refusal at 19 feet.
20	566							
22	564							
24	562							
26	560							
28	558							
30	556							
32	554							
34	552							
36	550							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-23
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/5/2015	**Drill Method:** Direct Push/Slide Hammer
Logged By: Erik S. Reinert	**Total Depth (ft):** 5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 579.98

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	11.9 (0-2)		***WELL-GRADED SAND (sw)*** Black (7.5YR 2.5/1) fine- to coarse-grained sand, little angular gravel, trace silt, brick fragments, cinders, plant fibers; loose; dry.	
2	578			- - - -	100	3.3 (2-4)			
4	576			- - - -	100	5.8 (4-5)			5
6	574							*Bottom of boring at 5 feet. Refusal at 5 feet due to limitation of drilling method (i.e., bedrock interface may be deeper).*	
8	572								
10	570								
12	568								
14	566								
16	564								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-24
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/5/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 1.17	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.55

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete	
					Gravelly silt (not logged).	1 (1.17)
2	585				*Bottom of boring at 1.17 feet.*	
4	583					
6	581					
8	579					
10	577					
12	575					
14	573					
16	571					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-25
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 586.73

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	1
2	585			- - - -	100	0.0 (0-2) 0.0 (2-4)		***WELL-GRADED SAND (sw)*** Brown (10YR 4/3) fine- to coarse-grained sand, trace gravel; loose; dry; trace rootlets.	2
								Concrete Concrete rubble.	2.4
								POORLY-GRADED GRAVEL (gp) Black (10YR 2/1) cinders.	3
4	583							***WELL-GRADED SAND (sw)*** Dark brown (10YR 3/3) fine- to coarse-grained sand, few gravel; loose, becoming medium dense between 5 and 9 feet bgs; dry.	
6	581			- - - -	50	0.0 (4-8)			
8	579								9
10	577			- - - -	50	0.4 (8-12)		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) and reddish-brown (2.5YR 4/3) gravel, cinders; medium dense; dry, becoming wet at 11.5 feet and 17 feet, becoming dry between 17 and 21 feet bgs.	
12	575								
14	573			- - - -	50	0.0 (12-16)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	33.7 (16-20)		***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) and reddish-brown (2.5YR 4/3) gravel, cinders; medium dense; dry, becoming wet at 11.5 feet and 17 feet, becoming dry between 17 and 21 feet bgs. *(continued)*
20	567							21
22	565			- - - -	50	14.6 (20-24)		***GRAVELLY SILT (ml)*** Yellowish-brown (10 YR 5/6) silt, some gravel; soft; wet.
								22.5
								22.7 ***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Dark gray (10YR 4/1) gravel, few silt, few clay; dense; wet.
								23.5
24	563							***SILT (ml)*** Dark gray (10YR 4/1) silt, few gravel, little clay; soft; wet. Petroleum-like sheen and odor.
								25 ***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) gravel; wet. Petroleum-like sheen and odor.
26	561			- - - -	57	31.2 (24-27.5)		***POORLY-GRADED GRAVEL WITH SILT (gp-gm)*** Very dark gray (10YR 3/1) and brown (10YR 3/6) highly weathered gravel, few silt; loose; wet. Free petroleum-like substance in water.
								27.5
28	559							*Bottom of boring at 27.5 feet. Refusal at 27.5 feet.*
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-26
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 8/6/2015	Drill Method: Direct Push
Logged By: Erik S. Reinert	Total Depth (ft): 20	Bore Diameter (in): 2.25	Ground Surface (ft-msl): 587.26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.67
								POORLY-GRADED SAND (sp) Black (10YR 2/1) coarse-grained sand, cinders; loose; dry.	2
2	585			- - - -	100	0.3 (0-2) 6.4 (2-4)		***WELL-GRADED SAND WITH GRAVEL (sw)*** Yellowish-brown (10YR 5/4) fine- to coarse-grained sand, little gravel; loose; dry.	2.2 2.4
								WELL-GRADED GRAVEL (gw) Black (10YR 2/1) fine- to coarse-grained sand, cinders; loose; moist.	3.5
4	583							***POORLY-GRADED GRAVEL (gp)*** Black (10YR 2/1) gravel, few fine- to coarse-grained sand, cinders; dense; dry.	5
6	581			- - - -	50	1.4 (4-8)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Yellowish-brown (10YR 5/6) angular coarse gravel, few silt, few fine- to coarse-grained sand; dense; dry.	
								POORLY-GRADED SAND (sp) Very dark grayish-brown (10YR 2/2) coarse-grained sand, cinders; loose; dry.	
8	579								
10	577			- - - -	50	0.4 (10-12)			10.5
								POORLY-GRADED GRAVEL WITH SILT AND SAND (gp-gm) Dark gray (10YR 4/1) gravel, little coarse-grained sand; little silt; medium dense; dry, becoming moist at 11.5 feet.	
12	575								13
14	573			- - - -	50	12.1 (12-16)		***SILTY GRAVEL WITH SAND (gm)*** Brownish-yellow (10YR 5/8) and very dark gray (10YR 3/1) gravel, some silt, few fine- to coarse-grained; dense; wet, becoming dry between 17 and 19.5 feet.	
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-26

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	9.5 (16-20)		***SILTY GRAVEL WITH SAND (gm)*** Brownish-yellow (10YR 5/8) and very dark gray (10YR 3/1) gravel, some silt, few fine- to coarse-grained; dense; wet, becoming dry between 17 and 19.5 feet. *(continued)*
								19.5
20	567							20 ***SILT WITH GRAVEL (ml)*** Dark gray (10YR 4/1) silt, little clay, little gravel; medium stiff; wet; oily-like sheen and odor.
								Bottom of boring at 20 feet. Refusal at 20 feet.
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC1-27
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 8/6/2015	**Drill Method:** Direct Push
Logged By: Erik S. Reinert	**Total Depth (ft):** 18	**Bore Diameter (in):** 2.25	**Ground Surface (ft-msl):** 587.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete	0.67
2	585			- - - - -	100	3.2 (0-2) 3.8 (2-4)		***WELL-GRADED GRAVEL WITH SAND (gw)*** Reddish-brown (2.5YR 5/4) to reddish-black (2.5YR 2.5/1) gravel and cinders, little fine- to coarse-grained sand; loose; dry.	2
								WELL-GRADED GRAVEL (gw) Dark grayish-brown (10YR 4/2) sub-rounded gravel ranging from 0.1 to 1 inch in diameter, trace to few coarse-grained sand; medium dense; dry.	
4	583								
6	581			- - - - -	50	3.6 (6-8)			
									7
								POORLY-GRADED GRAVEL WITH SAND (gp) Dark gray (7.5YR 4/1) coarse gravel, little fine- to coarse-grained sand; loose; dry.	
8	579								
									9
10	577			- - - - -	50	2.2 (8-10) 14.9 (10-12)		***SILTY GRAVEL (gm)*** Yellowish-brown (7.5YR 5/8) angular gravel ranging from 0.25 to 2 inches in diameter, some silt; dense; wet. Petroleum-like sheen, black staining, faint odor between 10 and 11 feet.	
12	575								
									12.5
14	573			- - - - -	75	4.4 (12-14) 7.4 (7.4)		***GRAVELLY SILT (ml)*** Brownish-yellow silt, some gravel ranging from 0.1 to 1 inch in diameter; dense; moist.	
16	571			-					16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC1-27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	36 (16-18)		***GRAVELLY SILT (ml)*** Dark gray (10YR 4/1) silt, some gravel ranging from 0.1 to 2 inches in diameter with shaley partings; medium dense; dry. Petroleum-like staining and a strong odor between 16 and 17 feet. *(continued)*
18	569							18
								Bottom of boring at 18 feet. Refusal at 18 feet.
20	567							
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.8

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.2 (0-0.8)		***Concrete*** Concrete.	0.4 0.8
							SILTY GRAVEL (gm) Brown (10YR 4/3) gravel ranging from 0.5 to 2 in diameter, angular, little silt.	
2	606						*Bottom of boring at 0.8 feet. Refusal at 0.8 feet*	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.77

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-1.4)		***Concrete*** Concrete.	0.5
2	606						***SILT WITH GRAVEL (ml)*** Dark yellowish-brown (10YR 4/4) silt, little gravel ranging from 0.5 to 2 in diameter, sub-angular, trace clay; dry.	1.4
							Bottom of boring at 1.4 feet. Refusal at 1.4 feet	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.4)		***Concrete*** Concrete.	0.3 0.4
							WELL-GRADED GRAVEL (gw) Black (10YR 2/1) gravel ranging from 0.2 to 1 in diameter, sub-angular, trace silt.	
2	606						*Bottom of boring at 0.4 feet. Refusal at 0.4 feet*	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.4 (0-0.5)		***Concrete*** Concrete.	0.4 0.5
							WELL-GRADED GRAVEL (gw) Black (10YR 3/1) gravel ranging from 0.2 to 1.5 in diameter, sub-angular, trace silt.	
2	606						*Bottom of boring at 0.5 feet. Refusal at 0.5 feet*	
4	604							
6	602							
8	600							
10	598							
12	596							
14	594							
16	592							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.66

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0.1 (0.6-1.2) 5.4 (1.2-1.8)		***Concrete*** Concrete.	0.6
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Gray (10YR 6/1) gravel ranging from 0.5 to 2 in diameter, angular, few silt; loose; dry.	1.2
2	596							***SILT WITH GRAVEL (ml)*** Dark gray (5YR 4/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; petroleum-like odor; sheen present.	2
4	594							*Bottom of boring at 2 feet. Refusal at 2 feet*	
6	592								
8	590								
10	588								
12	586								
14	584								
16	582								

Notes:

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-06
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.45

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	85	0.2 (0-0.3) 0.2 (0.3-1.3) 0.2 (1.3-2)		***Asphalt*** Asphalt.	0.3
2	595							***SILTY GRAVEL (gm)*** Very dark gray (10YR 3/1) gravel ranging from 0.2 to 2 in diameter, angular, some silt; loose; dry.	2
								Bottom of boring at 2 feet. Refusal at 2 feet	
4	593								
6	591								
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.96

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	93	0.0 (0-0.8) 0.0 (0.8-1.5)		***Concrete*** Concrete.	0.8
								SILT WITH GRAVEL (ml) Very dark gray (10YR 3/1) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; loose; moist.	1.5
2	595							*Bottom of boring at 1.5 feet. Refusal at 1.5 feet*	
4	593								
6	591								
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.96

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Asphalt*** Asphalt.	0.6
				-	100	0.0 (0-1.1) 0.1 (1.1-2.5)		***SILT WITH GRAVEL (ml)*** Yellowish-brown (10YR 5/4) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; moist. Dry from 1.1 to 2' bgs.	1.1
2	595			-				***SILT WITH GRAVEL (ml)*** Dark grayish brown (10YR 4/2) silt, little gravel ranging from 0.2 to 0.8 in diameter, angular; dry.	2
4	593							***LEAN CLAY (cl)*** Yellowish brown (10YR 5/6) clay, medium plasticity, few gravel less than 0.5 in diameter, angular.	2.5
6	591							*Bottom of boring at 2.5 feet. End boring at 2.5 feet*	
8	589								
10	587								
12	585								
14	583								
16	581								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 596.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.1 (0-1.3)		***Asphalt*** Asphalt.	0.7
				-		0.1 (1.3-1.7)		***SILTY GRAVEL (gm)*** Gray (10YR 6/1) gravel ranging from 0.1 to 1 in diameter, some silt; loose; dry.	1.3
2	594			-		0.1 (1.7-2.5)		***Slag*** Fill: slag and ash.	1.7
								Silt Dark brown (10YR 3/3) silt, few gravel less than 0.5 in diameter, rounded; moist.	2.5
4	592							*Bottom of boring at 2.5 feet. End boring at 2.5 feet*	
6	590								
8	588								
10	586								
12	584								
14	582								
16	580								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 595.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	88	0.2 (0-0.2) 0.2 (0.2-1) 0.2 (1-2.5)		***Asphalt*** Asphalt	0.2
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Light gray (10YR 7/1) gravel less than 0.5 in diameter, angular, few silt; loose; dry.	1
2	593							***Slag*** Fill: slag, ash, red brick.	2.5
								Bottom of boring at 2.5 feet. End boring at 2.5 feet	
4	591								
6	589								
8	587								
10	585								
12	583								
14	581								
16	579								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-11
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 594.67

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.3 (0-1) 0.3 (1-1.8) 0.3 (1.8-2)		***Asphalt*** Asphalt, road gravel base.	1
								Slag Fill: slag, ash, trace red brick.	1.8
2	593							***SILTSTONE*** Light brownish gray (10YR 6/2) siltstone; highly fractured.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	591								
6	589								
8	587								
10	585								
12	583								
14	581								
16	579								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-12
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 594.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	95		***Asphalt*** Asphalt, road gravel base.	1.3
2	592						***Silt*** Brown (10YR 4/3) silt, low plasticity, little gravel less than 0.5 in diameter, sub-rounded; moist at 1.7' bgs.	2
							Bottom of boring at 2 feet. End boring at 2 feet	
4	590							
6	588							
8	586							
10	584							
12	582							
14	580							
16	578							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 615.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	613			- - - - -	60	(0-2) 0.0 (2-4) 0.0		***SILT WITH GRAVEL (ml)*** Brownish-gray (10YR6/8) silt and gravel, some ash and coal cinders; medium hard; dense; dry.	2.5
4	611			- - - -	100	0.0		***GRAVELLY SILT (ml)*** Brown (10YR4/6) gravelly silt; medium dense; hard; moist.	4.5
6	609							*Bottom of boring at 4.5 feet. Refusal at 4.5 ft bgs.*	
8	607								
10	605								
12	603								
14	601								
16	599								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	(0-2) 0.0 (2-3.5) 0.0		***WELL-GRADED GRAVEL (gw)*** Fill: gray siltstone gravel (0.25-1.0") and concrete debris	1.5
2	597							***SILT WITH SAND (ml)*** Dark brown (10YR4/6) silt and sand, some black staining; medium dense; medium plasticity; moist, becoming wet at 3.0'.	3.5
4	595							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
6	593								
8	591								
10	589								
12	587								
14	585								
16	583								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-17
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 598.67

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	597			- - - -	60	(0-2) 0.4 (2-3.5) 0.8		***SILTY GRAVEL (gm)*** Brown (10YR6/6) silty gravel fill, some ash, trace discoloration; loose; dry.	2.5
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Brown (10YR5/6) silt and gravel, trace discoloration; plastic; cohesive; medium dense; wet.	3.5
4	595							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft bgs.*	
6	593								
8	591								
10	589								
12	587								
14	585								
16	583								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-18
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 593.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	60	(0-2) 0.0 (2-4) 0.0		***WELL-GRADED GRAVEL (gw)*** Gravel (0.2-2.0) fill	1
2	591							***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (10YR4/6) silt and gravel, some discoloration; dense; medium plasticity; cohesive; moist.	
4	589							*Bottom of boring at 4 feet. Refusal at 4.0 ft bgs.*	4
6	587								
8	585								
10	583								
12	581								
14	579								
16	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC26-19
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 592.93

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0.9		***WELL-GRADED GRAVEL (gw)*** Fill: coarse gravel (0.2 to 2.0 inches in diameter) and concrete debris, some coal cinders; trace silt; loose; dry.	1.5
2	591							*Bottom of boring at 1.5 feet. Refusal at 1.5 ft bgs.*	
4	589								
6	587								
8	585								
10	583								
12	581								
14	579								
16	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC27-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.73

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	30	1.3 (1-1.3) 5.4 (1.3-1.7)		***Concrete*** Concrete.	1.3
2	611							***WELL-GRADED GRAVEL (gw)*** Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.	1.7
								Bottom of boring at 1.7 feet. Refusal at 1.7 feet	
4	609								
6	607								
8	605								
10	603								
12	601								
14	599								
16	597								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC27-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.73

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	33		***Concrete*** Concrete.	0.8
							WELL-GRADED GRAVEL (gw) Fill: Light gray (7.5YR 7/1) gravel with rock dusk/fine silt.	1.2
2	611						*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
4	609							
6	607							
8	605							
10	603							
12	601							
14	599							
16	597							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.38

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, roots; dry.	0.2
2	605			- - - -	75	0.1 (0-0.2) 0.1 (0.2-3)		***Slag*** Fill: slag, fire brick, red rock, coal fragments, bedrock fill. Roots present from 3.5 to 9.1' bgs.	
4	603								
6	601			- - - -	75	0.1 (4-7)			
8	599								
									9.1
10	597			- - - -	65	0.1 (8-9.1) 0.6 (9.1-10.4)		***GRAVELLY SILT (ml)*** Grayish brown (2.5Y 5/2) silt, gravel less than 0.25 in diameter, flat, round, medium plasticity; no odor.	
									11.4
12	595			- - - -	100	1.4 (12-13.6)		***Slag*** Fill: slag, fire brick, red brick, coal fragments.	
									13.6
14	593							***Silt*** Dark grayish brown (2.5Y 4/2) silt, stiff, medium plasticity; wet.	14.5
								Bottom of boring at 14.5 feet. Refusal at 14.5 feet	
16	591								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/18/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 14	Bore Diameter (in): 2	Ground Surface (ft-msl): 609.66

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, roots.	0.2
2	608			- - - - -	65	0 (0-0.2) 0.1 (0.2-2) 0.6 (2-2.7)		***Slag*** Fill: bedrock fragments, slag, fire brick, red brick; no odor; dry.	
4	606								
6	604			- - - - -	53	0.1 (4-4.3) 0.4 (4.3-6.1)			
8	602								
									9
10	600			- - - - -	100	0 (8-10) 0.2 (10-12)		***Silt*** Dark grayish brown (2.5Y 4/2) silt, sitff to very stiff, medium plasticity; no odor; wet.	
12	598								12
				- - - - -	100	0.2 (12-13.2) 0.2 (13.2-14)		***Slag*** Fill: slag, coal fragments, red brick; dry.	13.2
14	596							***SILTY GRAVEL WITH SAND (gm)*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; wet.	14
								Bottom of boring at 14 feet. Refusal at 14 feet	
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 609.7

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	74	0.1 (0-1.8) 0.1 (1.8-2.4) 0.1 (2.4-2.8)		***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, coal fragments; no odor; dry.	1.8
2	608							***Silt*** Dark gray (2.5Y 4/1) silt, stiff, medium plasticity; no odor; dry.	2.4
								SILTSTONE Siltstone, pulverized.	3.8
4	606							*Bottom of boring at 3.8 feet. Refusal at 3.8 feet*	
6	604								
8	602								
10	600								
12	598								
14	596								
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 610.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	40	0.1 (0-0.6) 0.7 (0.6-1.6)		***Topsoil*** Topsoil, slag, organics; dry.	0.6
2	609							***SILTSTONE*** Siltstone, highly fractured.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	607								
6	605								
8	603								
10	601								
12	599								
14	597								
16	595								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 611.25

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.5) 0.2 (0.5-2)		***Topsoil*** Topsoil, organics.	0.5
2	609							***SILTSTONE*** Siltstone, weathered.	2
								Bottom of boring at 2 feet. Refusal at 2 feet	
4	607								
6	605								
8	603								
10	601								
12	599								
14	597								
16	595								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 609.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	608			- - - - -	63	0 (0-0.2) 0 (0.2-2.5)		***Slag*** Fill: slag, red brick, fire brick, coal fragments; dry.	
4	606								
				- - - - -	55	0 (4-5.5) 0 (5.5-6.2)			5.5
6	604							***SILT WITH GRAVEL (ml)*** Light yellowish brown (2.5Y 6/3) silt, few gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.	7.1
8	602							***Slag*** Slag, fire brick, red brick, coal fragments.	9
10	600			- - - - -	73	0 (8-9) 0 (10-10.9)		***SILT WITH GRAVEL (ml)*** Light yellowish brown (2.5Y 6/3) silt, few small gravel less than 0.25 in diameter, rounded, stiff, medium plasticity; wet.	10
								Silt Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.	11.4
12	598			- - - - -	63	0 (12-13.5) 0 (13.5-13.8) 0 (13.8-14)		***Slag*** Fill: slag.	13.5
14	596							***Silt*** Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet.	13.8
								SILTSTONE Light brownish gray (10YR 6/2) siltstone; highly fractured.	14
16	594							*Bottom of boring at 14 feet. Refusal at 14 feet*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 613.2

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	611			- - - -	58	0 (0-0.2) 0 (0.2-3.5)		***Asphalt*** Asphalt.	0.2
								Slag Fill: slag, red brick, fire brick, coal fragments, bedrock fill; dry.	3.5
4	609							*Bottom of boring at 3.5 feet. Refusal at 3.3 feet*	
6	607								
8	605								
10	603								
12	601								
14	599								
16	597								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/19/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 18	Bore Diameter (in): 2	Ground Surface (ft-msl): 608.85

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	607			- - - -	87	0 (0-0.2) 0 (0.2-3.5)		***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag; dry.	
									3.75
4	605							***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Wet from 9.3 to 14.5' bgs and 17 to 18' bgs.	
6	603			- - - -	75	0 (4-7)			
8	601								
10	599			- - - -	65	0 (8-10.6)			
12	597								
14	595			- - - -	65	0 (12-14.5)			
16	593			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- - -	100	0 (16-18)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Wet from 9.3 to 14.5' bgs and 17 to 18' bgs. *(continued)* 18
18	591							*Bottom of boring at 18 feet. Refusal at 18 feet*
20	589							
22	587							
24	585							
26	583							
28	581							
30	579							
32	577							
34	575							
36	573							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/19/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 14	Bore Diameter (in): 2	Ground Surface (ft-msl): 610.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	608			- - - -	65	0 (0-0.2) 0 (0.2-2.6)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; dry. Moist to wet beginning at 5.5' bgs.	
4	606								
6	604			- - - -	73	0 (4-6.9)			
8	602								
10	600			- - - -	75	0.1 (8-10) 0 (10-11)			10
								Silt Light yellowish brown (2.5Y 6/3) silt, trace coarse sand, soft, medium plasticity; wet. Few bedrock fragments at bottom.	
12	598			- - - -	100	0 (12-14)			
14	596								14
								Bottom of boring at 14 feet. Refusal at 14 feet	
16	594								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/19/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 11	Bore Diameter (in): 2	Ground Surface (ft-msl): 610.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, bedrock fill.	0.2
2	608			- - - -	65	0 (0-0.2) 0 (0.2-2.5)		***Slag*** Fill: slag, bedrock fill, coal fragments, red brick, fire brick.	3.25
4	606							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, fire brick, red brick, organics.	
6	604			- - - -	58	0 (4-6.3)			7.1
8	602							***Slag*** Fill: slag, fire brick, red brick; dry.	9.5
10	600			- - - -	77	0 (8-9.5)		***GRAVELLY SILT (ml)*** Light yellowish brown (2.5Y 6/3) silt, some bedrock fragments, stiff, medium plasticity; moist to wet. Siltstone present at bottom.	11
12	598							*Bottom of boring at 11 feet. Refusal at 11 feet*	
14	596								
16	594								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 612.02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	610			- - - -	57	0 (0-0.2) 0 (0.2-1.8) 0 (1.8-2)		***WELL-GRADED GRAVEL (gw)*** Fill: cobble.	0.2
								Slag Fill: slag, fire brick, bedrock fragments, few silt.	1.8
								SILTSTONE Siltstone, silt.	3.5
4	608							*Bottom of boring at 3.5 feet. Refusal at 3.5 feet*	
6	606								
8	604								
10	602								
12	600								
14	598								
16	596								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 616.12

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, bedrock fill; dry.	0.2
2	614			- - - -	0.6	0 (0-0.2) 0 (0.2-2.4)		***Slag*** Fill: bedrock fragments, slag, fire brick, red brick, organics, few silt; moist to wet.	3.2
4	612			- - - -	100	0 (4-5) 0 (5-6)		***GRAVELLY SILT (ml)*** Bedrock fill; dry.	5
6	610							***Slag*** Fill: slag, silt, bedrock fragments; wet.	6
								Bottom of boring at 6 feet. Refusal at 6 feet	
8	608								
10	606								
12	604								
14	602								
16	600								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC28-13
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/19/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 7.5	Bore Diameter (in): 2	Ground Surface (ft-msl): 616.18

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Tosoil Topsoil, organics; moist.	0.3
2	614			- - - -	47	0 (0-0.3) 0 (0.3-1.9)		***Slag*** Fill: slag, coal fragments, wood debris, red brick, large root; dry.	3
4	612							***Slag*** Fill: fire brick, slag, red brick, large root; moist to wet.	4.3
6	610			- - - -	80	0.1 (4-4.3) 0 (4.3-4.8)		***SILTSTONE*** Siltstone fragments, few silt; dry.	7.5
8	608							*Bottom of boring at 7.5 feet. Refusal at 7.5 feet*	
10	606								
12	604								
14	602								
16	600								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-14
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 12	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 608.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Fill	1
2	606			- - - -	75	(0-2) 0.0 (2-4) 0.0		***SILT (ml)*** Brownish-red (7.5YR4/6) silt with some cinders and ash fill; medium dense; moist.	2
4	604							***SANDY SILT WITH GRAVEL (ml)*** Dark yellow (2.5YR5/6) sandy silt with gravel, trace ash; hard; very dense; dry.	
6	602			- - - -	75	(4-6) 0.0 (6-8) 0.0			6
								SANDY SILT (ml) Brown (10YR4/8) Sandy silt; soft; wet; cohesive; low plasticity; wet.	7.5
8	600							***WELL-GRADED SAND (sw)*** Yellow(10YR6/8) sand, some gravel; dry; firm.	9
10	598			- - - -	40	(8-10) 0.0 (10-12) 0.4		***SANDY SILT (ml)*** Brown (10YR4/6) sandy silt, trace ash and coal cinders; wet; non cohesive; medium dense.	
12	596								12
								Bottom of boring at 12 feet. Refusal at 12.0 ft bgs.	
14	594								
16	592								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-15
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 9.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 599.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								WELL-GRADED GRAVEL (gw) Fill: gravel, concrete and crushed rock.	1.25
2	598			- - - -	90	(0-2) 0.0 (2-4) 0.4		***SANDY SILT (ml)*** Brown (10YR5/8) sandy silt, some gravel, trace ash and coal cinders; medium dense to dense; non cohesive; dry.	
4	596								
6	594			- - - -	70	(4-6) 0.4 (6-8) 0.6			6
								SILT (ml) Brown (10YR5/8) silt, some ash and coal cinders; trace wood fragments; medium dense; dry.	
8	592			- - - -	75	(8-9.5) 0.0			9.5
10	590							*Bottom of boring at 9.5 feet. Refusal at 9.5 ft bgs.*	
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-16
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 598.23

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2	596			- - - -	90	(0-2) 0.0 (2-2.5) 0.0		***WELL-GRADED SAND WITH GRAVEL (sw)*** Light brown (2.5YR4/4) coarse sand, some gravel, trace silt; soft; dry.	2.5
								Bottom of boring at 2.5 feet. Refusal at 2.5 ft bgs.	
4	594								
6	592								
8	590								
10	588								
12	586								
14	584								
16	582								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-17
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 619.37

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0.0		***GRAVELLY SILT (ml)*** Bedded siltstone fragments with black silt and loam, trace fine sand; moist; soft.	
2	617							*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	
4	615								
6	613								
8	611								
10	609								
12	607								
14	605								
16	603								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC28-18
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 626.27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					GRAVELLY SILT (ml) Siltstone fragments with silt and organics, trace fine sand, trace clay; moist; black to dark brown.	2
2	624				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	
4	622					
6	620					
8	618					
10	616					
12	614					
14	612					
16	610					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.83

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.4) 0.2 (0.4-2)		***Topsoil*** Topsoil, orgaincs; moist.	0.4
2	647							***GRAVELLY SILT (ml)*** Very dark brown (10YR 2/2) silt, some gravel less than 1 in diameter, angular, medium soft to stiff, low plasticity; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.4) 0 (0.4-2)		***Topsoil*** Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.	0.4
2	647							***SILT WITH GRAVEL (ml)*** Very dark brown (10YR 2/2) silt, few gravel less than 1 in diameter, angular, medium soft to stiff; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.64

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0.1 (0.4-2)		***GRAVELLY SILT (ml)*** Bedrock fill.	0.2 0.4
								Topsoil Black (10YR 2/1) topsoil, silt, organics, medium soft, low plasticity; dry.	
2	647							***SILT WITH GRAVEL (ml)*** Fill: very dark brown (10YR 2/2) silt, few gravel less than 0.5 in diameter, few coal fragments, medium soft to stiff, low plasticity; dry.	2
4	645							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.44

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-0.6) 0.1 (0.6-2)		***GRAVELLY SILT (ml)*** Fill: siltstone fragments; very broken; dry.	0.2 0.6
								GRAVELLY SILT (ml) Fill: very dark grayish-brown (10YR 3/2) silt, some gravel less than 0.5 in diameter, medium soft, low plasticity; dry.	2
								SILTY GRAVEL (gm) Dark brown (10YR 3/3) gravel less than 1.5 in diameter, angular, few silt, trace coal fragments; dry.	
2	647							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 649.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.1 (0-0.3)		***Topsoil*** Black (10YR 2/1) topsoil, roots, organics, silt, soft, low plasticity; moist.	0.3
				-		0.1 (0.3-1.5)		***SILT WITH GRAVEL (ml)*** Very dark grayish-brown (10YR 3/2) silt, few gravel less than 0.25 in diameter, angular; dry. Coal fragments present.	1.5
				-		0.1 (1.5-2)		***GRAVELLY SILT (ml)*** Very dark brown (7.5YR 2.5/2) silt, some gravel, less than 2 in diameter, angular, blocky.	2
2	647							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	645								
6	643								
8	641								
10	639								
12	637								
14	635								
16	633								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 650.77

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0 (0-0.4) 0 (0.4-1.5) 0.1 (1.5-2)		***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, some gravel less than 0.25 in diameter, medium soft; moist.	0.4
								WELL-GRADED GRAVEL (gw) Light gray (10YR 7/1) gravel less than 1.5 in diameter, angular.	1.5
2	649							***Slag*** Fill: black (10YR 2/1) slag with coal fragments.	2
4	647							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	645								
8	643								
10	641								
12	639								
14	637								
16	635								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 651.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.4) 0.1 (0.4-0.8) 0.1 (0.8-2)		***Topsoil*** Very dark brown (10YR 2/2) topsoil silt, roots, gravel.	0.4 0.8
								Silt Very dark brown (10YR 2/2) silt, medium soft, low plasticity; dry.	
2	650							***Slag*** Fill: slag, coal fragments. Porous texture. Less dense.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	648								
6	646								
8	644								
10	642								
12	640								
14	638								
16	636								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 648.28

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.1 (0-0.6) 0.1 (0.6-0.8) 0.1 (0.8-2)		***Asphalt*** Asphalt.	0.6 0.8
2	646							***Silt*** Very dark gray (10YR 3/1) silt, trace gravel less than 0.25 in diameter, sub-angular, medium soft, low plasticity; dry.	2
								GRAVELLY SILT (ml) Dark gray (10YR 4/1) silt, some gravel less than 1.5 in diameter, sub-angular to sub-rounded, medium soft to stiff; dry.	
4	644							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	642								
8	640								
10	638								
12	636								
14	634								
16	632								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-09
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 653.36

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***WELL-GRADED SAND WITH SILT AND GRAVEL (sw-sm)*** Light brownish-gray (10YR5/6) sandy silt and siltstone gravel, trace coal fragments and cinders; non plastic; hard; dry.	2
2	651							*Bottom of boring at 2 feet. End of boring at 2.0*	
4	649								
6	647								
8	645								
10	643								
12	641								
14	639								
16	637								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 645.3

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***GRAVELLY SILT WITH SAND (ml)*** Brownish-gray (10YR6/8) gravelly silt with sand; firm; non plastic; medium density; dry.	1.25
2	643							Siltstone fragments; very broken; dry.	2
								Bottom of boring at 2 feet. End of boring at 2.0	
4	641								
6	639								
8	637								
10	635								
12	633								
14	631								
16	629								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-11
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 645.35

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not logged.
2	643				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	641				
6	639				
8	637				
10	635				
12	633				
14	631				
16	629				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-12
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 648.9

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not logged.
2	647				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	645				
6	643				
8	641				
10	639				
12	637				
14	635				
16	633				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC29-13
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 657.74

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not logged.
2	656				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	654				
6	652				
8	650				
10	648				
12	646				
14	644				
16	642				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/17/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 24	Bore Diameter (in): 2	Ground Surface (ft-msl): 608.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil.	0.2
								SILTSTONE Fill: Siltstone, highly fractured.	0.8
2	606			- - - -	63	0 (0-0.2) 0 (0.2-0.8) 0.5 (0.8-2) 0 (2-2.5)		***GRAVELLY SILT (ml)*** Very dark brown (10YR 2/2) silt, some gravel less than 0.25 in diameter, sub-rounded, medium soft, low plasticity; dry. Slag present. Faint petroleum-like odor around 1' bgs.	2
								WELL-GRADED GRAVEL (gw) Fill: highly fractured rock fill.	3.25
4	604							***WELL-GRADED SAND WITH GRAVEL (sw)*** Fill: red brick, sand, rounded gravel.	
6	602			- - - -	75	0.1 (4-5.5) 0.0 (5.5-7)		***Slag*** Fill: slag material, angular gravel, coal fragments.	5.5
8	600								
10	598			- - - -	50	0.1 (8-10)			
12	596								12
14	594			- - - -	75	0.1 (12-14.7) 0.2 (14.7-15)		***Slag*** Fill: slag, fractured bedrock fill, fire brick.	14.7
								Silt Brown (10YR 4/3) silt, stiff, low plasticity; wet.	15.5
16	592								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	100	0 (16-18) 0.1 (18-20)		***Slag*** Fill: slag, red brick, fire brick, fractured bedrock; dry. *(continued)* 18
								Slag Fill: very dark gray (10YR 3/1) slag, few silt, stiff; wet. Transitions to black slag near bottom.
20	588							20
				- - - -	100	0.1 (20-22) 0 (22-24)		***Slag*** Fill: slag, fire brick, coal fragments; moist to wet. 22
22	586							***SILTSTONE*** Highly fractured siltstone.
24	584							24
								Bottom of boring at 24 feet. Refusal at 24 feet
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/18/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 22	Bore Diameter (in): 2	Ground Surface (ft-msl): 608.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics.	0.1
				- - - -	75	0 (0-0.1) 1.5 (0.1-2) 0.5 (2-3)		***GRAVELLY SILT (ml)*** Fill: siltstone fragments; very broken; dry.	2
2	606							***Slag*** Fill: slag, fire brick, coal fragments, red brick. Wet starting at 15.4' bgs.	
4	604								
				- - - -	75	0.1 (4-7)			
6	602								
8	600								
				- - - -	50	0.5 (8-10)			
10	598								
12	596								
				- - - -	50	0.7 (12-14)			
14	594								15
								SILTSTONE Siltstone, some slag.	
16	592								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	38	0.6 (16-17.5)		***SILTSTONE*** Siltstone, some slag. *(continued)*
20	588			- - - -				
22	586							22
								Bottom of boring at 22 feet. Refusal at 22 feet
24	584							
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/18/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 25	Bore Diameter (in): 2	Ground Surface (ft-msl): 607.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, some roots, some leaves.	0.2
2	606			- - - -	63	0.1 (0-0.2) 1.4 (0.2-2.5)		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs.	
4	604								
6	602			- - - -	50	0.8 (4-6)			
8	600								
10	598			- - - -	50	0.5 (8-10)			
12	596								
14	594			- - - -	43	0.3 (12-13.7)			
16	592								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	590			- - - -	50	1.6 (16-18)		***Slag*** Fill: slag, coal fragments, bedrock fill, red brick, fire brick. Wet from 4 to 4.2' bgs, 5.6 to 6' bgs, 8 to 8.3' bgs, 12 to 13.7' bgs, and 20 to 21' bgs. *(continued)*
20	588							
22	586			- - - -	43	0.2 (20-21.6)		
24	584			- - - -				25
26	582							*Bottom of boring at 25 feet. Refusal at 25 feet*
28	580							
30	578							
32	576							
34	574							
36	572							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 606.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, roots; moist.	0.2
2	605			- - - - -	40	0 (0-0.2)		***Slag*** Fill: slag, fire brick, red brick, fill, few coal fragments; dry. Wet from 13.5 to 14.4' bgs.	
4	603								
6	601			- - - - -	63	0.2 (4-6.5)			
8	599								
10	597			- - - - -	45	0.1 (8-9.8)			
12	595								
14	593			- - - - -	55	5.9 (12-14.2)			
									15.2
16	591							***GRAVELLY SILT (ml)*** Bedrock fill; dry.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-04

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	589			- - - -	63	0.6 (16-16.6) 0 (16.6-18.6)		16.6 ***Slag*** Fill: slag, fire brick, coal fragments; dry. 18.8
20	587							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, fire brick, red brick. Dry from 20 to 21.5' bgs. Wet from 21.5 to 23' bgs.
22	585			- - - -	75	0.1 (20-23)		23.5
24	583							***Slag*** Fill: slag, fire brick, red brick, bedrock fill, coal fragments.
26	581			- - - -	66	0.1 (24-26.3)		27.5
28	579							*Bottom of boring at 27.5 feet. Refusal at 27.5 feet*
30	577							
32	575							
34	573							
36	571							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 17	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 608.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, roots; moist.	0.3
								GRAVELLY SILT (ml) Bedrock fill; dry.	1.5
2	606			- - - -	75	0.1 (0-0.3) 0.1 (0.3-1.5) 3.5 (1.5-3)		***Slag*** Fill: slag, fire brick, red brick, coal fragments; no odor; dry.	
									3.5
4	604							***GRAVELLY SILT (ml)*** Fill: bedrock fragments, slag, coal fragments, fire brick, red brick; dry. Bedrock at 15.4' bgs.	
6	602			- - - -	75	0.2 (4-7)			
8	600								
10	598			- - - -	100				
12	596								
14	594			- - - -	100	1.1 (12016)			
16	592			-					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC30-05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				-				17
				-				*Bottom of boring at 17 feet. Refusal at 17 feet*
				-				
18	590							
20	588							
22	586							
24	584							
26	582							
28	580							
30	578							
32	576							
34	574							
36	572							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 607.18

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0.6 (0.2-2)		***Topsoil*** Topsoil, organics; moist.	0.2
2	605							***Slag*** Fill: slag, coal fragments, fire brick, red brick; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	603								
6	601								
8	599								
10	597								
12	595								
14	593								
16	591								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/18/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** Not Surveyed

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.1) 6.3 (0.1-2)		***Topsoil*** Topsoil, roots, organics; moist.	0.1
2								***GRAVELLY SILT (ml)*** Fill: bedrock fragments, fire brick, red brick, coal fragments; no odor; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4									
6									
8									
10									
12									
14									
16									

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC30-08
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 607.94

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description	
					Ground Surface	
					Not Logged.	
2	606				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	2
4	604					
6	602					
8	600					
10	598					
12	596					
14	594					
16	592					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 12	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 716.96

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Asphalt Asphalt.	0.6
							WELL-GRADED GRAVEL (gw) Black (7.5YR 2.5/1) gravel, sub-angular to sub-rounded, poorly sorted, trace silt; dry.	1.8
2	715			50	0 (0-4)		***WELL-GRADED GRAVEL (gw)*** Very dark brown (7.5YR 2.5/2) gravel less than 0.25 in diameter, trace silt, medium soft, low plasticity; wet.	3
4	713						***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Brown (7.5YR 4/3) gravel less than 0.25 in diameter, few silt, medium soft, low plasticity; wet.	5.5
6	711			50	0 (4-8)		***WELL-GRADED GRAVEL (gw)*** Pinkish gray (7.5YR 6/2) gravel less than 1.5 in diameter, sub-angular to angular; dry.	7
8	709						***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Gravel less than 1.5 in diameter, poorly sorted, few silt, medium soft to stiff, low plasticity; wet.	10
10	707			75	0 (10-11)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, poorly sorted, trace silt, stiff; dry.	12
12	705						*Bottom of boring at 12 feet. Refusal at 12 feet*	
14	703							
16	701							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 712.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt and road base.	0.4 0.6
								Topsoil Topsoil, organics; moist.	1
2	710			- - - -	63	0.1 (0-4)		***SILTY GRAVEL (gm)*** Dark brown (7.5YR 3/2) gravel less than 0.5 in diameter, sub-rounded, few silt, trace medium-grained sand; moist.	3.25
4	708			- - - -	40	0.1 (4-5.5)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1 in diameter, angular, trace silt; dry. ***SILTSTONE*** Highly fractured siltstone; dry.	5.5
6	706							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	704								
10	702								
12	700								
14	698								
16	696								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 14.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.92

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
2	708			- - - -	15	0.2 (0-0.6)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, weathered; dry.	
4	706								
6	704			- - - -	50	0.2 (4-6.5)			
8	702								
10	700			- - - -	25	3.3 (8-9)			
12	698								
				- - - -	100	0.3 (12-13) 0.3 (13-14.5)			13
14	696							***Silt*** Brown (7.5YR4/4) silt, trace fine- to medium-grained sand, soft to stiff, low plasticity; wet.	14.5
								Bottom of boring at 14.5 feet. Refusal at 14.5 feet	
16	694								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 7.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.48

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
2	707			- - - -	100	0.3 (0-4)		***WELL-GRADED GRAVEL (gw)*** Gray (7.5YR 6/1) gravel less than 1.5 in diameter, angular, highly weathered; dry.	4
4	705			- - - -	100	0.1 (4-6) 0.1 (6-7.5)		***SILT WITH GRAVEL (ml)*** Brown (7.5YR 4/4) silt, few gravel less than 0.25 in diameter, sub-angular, medium soft to stiff, low plasticity; wet.	6
6	703							***SILTSTONE*** Light gray (7.5YR 7/1) siltstone; dry.	7.5
8	701							*Bottom of boring at 7.5 feet. Refusal at 7.5 feet*	
10	699								
12	697								
14	695								
16	693								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/17/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 709.78

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	0.2 (0-0.6) 0.1 (0.6-3)		***SILT WITH GRAVEL (ml)*** Dark reddish-brown (5YR 3/2) silt, few gravel less than 0.25 in diameter, angular, medium soft, low plasticity; dry.	0.6
2	708							***WELL-GRADED GRAVEL (gw)*** Light gray (7.5YR 7/1) gravel less than 1.5 in diameter, angular; dry.	
									3.5
4	706			- - - -	50	0.2 (4-6)		***SILTSTONE*** Light gray (7.5YR 7/1) siltstone less than 2 in diameter, angular, fractured; dry.	
6	704								7
								Bottom of boring at 7 feet. Refusal at 7 feet	
8	702								
10	700								
12	698								
14	696								
16	694								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC31-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 709.19

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description
								Ground Surface
				- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Fill material, siltstone fragments, brick fragments; some silt and coal ash; medium dense; dry.
2	707							*Bottom of boring at 2 feet. End of boring at 2.0*
4	705							
6	703							
8	701							
10	699							
12	697							
14	695							
16	693							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-01
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0.1 (0-0.5) 0.1 (0.5-1.2) 0.1 (1.2-2)		***Topsoil*** Very dark grayish-brown (10YR 3/2) topsoil, roots present.	0.5
								GRAVELLY SILT (ml) Very dark gray (10YR 3/1) silt, some gravel ranging from 0.2 to 1.0 in diameter, angular; loose; dry.	1.2
2	568							***Slag*** Fill: slag, ash, coal fragments, few small gravel. Siltstone rock present at 1.8' bgs.	2
4	566							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-02
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.87

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.5) 0.1 (0.5-1.7) 0.1 (1.7-2)		***Topsoil*** Topsoil, roots present.	0.5
								Slag Fill: slag, coal, ash, trace brick, trace glass.	1.7
2	569							***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, little gravel ranging from 0.5 to 1 in diameter, angular; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	567								
6	565								
8	563								
10	561								
12	559								
14	557								
16	555								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 569.5

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	0.2 (0-0.4) 0.2 (0.4-1.2) 0.2 (1.2-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present.	0.4
								Slag Fill: slag, few gravel, angular, trace coal; dry.	1.2
2	568							***SILTSTONE*** Siltstone.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	566								
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.91

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	60	0.2 (0-0.4) 0.2 (0.4-1) 0.2 (1-1.2)		***Topsoil*** Very dark gray (10 YR 3/1) topsoil, roots present.	0.4
								Slag Fill: slag, trace brick, trace coal; dry.	1
2	565							***WELL-GRADED GRAVEL (gw)*** Gravel ranging from 0.8 to 1.5 in diameter, angular; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	563								
6	561								
8	559								
10	557								
12	555								
14	553								
16	551								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.3 (0-1.2) 178.4 (1.2-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil.	0.4
2	568							***Silt*** Very dark grayish-brown (10YR 3/2) silt, few gravel ranging from 0.2 to 0.8 in diameter, angular; loose; dry. Tree roots from 0.9 to 1.2 bgs.	1.2
								Slag Fill: dark gray (10YR 4/1) slag, coal, ash, little gravel, angular; dry.	2
4	566							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	564								
8	562								
10	560								
12	558								
14	556								
16	554								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-06
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 570.52

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.2 (0-0.17)		***Topsoil*** Black (7.5YR 2.5/1) topsoil, trace gravel less than 1.5 in diameter, angular.	0.17
				-	0.3 (0.17-1.4)		***Silt*** Black (7.5YR 2.5/1) silt, few gravel ranging from 0.2 to 2.5 in diameter, angular, moist. Becoming wet at bottom.	1.4
				-			*Bottom of boring at 1.4 feet. Refusal at 1.4 feet*	
2	569							
4	567							
6	565							
8	563							
10	561							
12	559							
14	557							
16	555							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 567.11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.17) 0.7 (0.17-1.1)		***Topsoil*** Very dark brown (7.5YR 2.5/2) topsoil, few gravel less than 1 in diameter, sub-angular, few roots, trace brick; loose; dry.	1.1
2	565						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	563							
6	561							
8	559							
10	557							
12	555							
14	553							
16	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.43

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.3		***WELL-GRADED GRAVEL (gw)*** Very dark gray (7.5YR 3/1) gravel less than 1.2 in diameter, angular, trace silt, trace roots; loose; dry.	0.17
				-	(0-0.17)			
				-	0.3 (0.17-1.7)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Black (7.5YR 2.5/1) gravel less than 1.5 in diameter, angular, few silt; loose; dry.	1.7
				-				
2	564						*Bottom of boring at 1.7 feet. Refusal at 1.7 feet*	
4	562							
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.2 (0-0.17) 0.3 (0.17-1.1)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, trace large gravel, trace organics, trace roots.	0.17
2	564						***SILT WITH GRAVEL (ml)*** Dark brown (7.5YR 3/3) silt, little gravel less than 1.5 in diameter, sub-angular, trace clay, trace fine-grained sand, trace roots; moist.	1.1
4	562						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC32-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.82

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.3		***Topsoil*** Topsoil, roots, organics, trace gravel less than 1.5 in diameter; loose; dry.	0.9
							Bottom of boring at 0.9 feet. Refusal at 0.9 feet	
2	564							
4	562							
6	560							
8	558							
10	556							
12	554							
14	552							
16	550							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	Drill Start Date:	Drill End Date: 11/19/2015	Drill Method: Direct Push
Logged By: Matthew Richardson	Total Depth (ft): 23.8	Bore Diameter (in): 2	Ground Surface (ft-msl): 586.75

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.3
								Concrete Road base.	0.5
2	585			- - - -	57	0 (0-0.3) 0 (0.3-0.5) 0 (0.5-1.5) 0 (1.5-2.3)		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling present from 1.5 to 3.1' bgs.	3.1
4	583							***Slag*** Fill: slag, coal fragments, red brick, fire brick; wet.	
6	581			- - - -	25	0.1 (4-5)			6.5
								SILTY GRAVEL (gm) Fill: bedrock fragments, slag, few silt; wet at 9.5' bgs.	
8	579								
10	577			- - - -	50	0.1 (8-10)			
12	575								
14	573			- - - -	57	0.2 (12-14.3)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-01

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	53	0.1 (16-18.1)		***SILTY GRAVEL (gm)*** Fill: bedrock fragments, slag, few silt; wet at 9.5' bgs. *(continued)* 19
20	567							***WELL-GRADED GRAVEL (gw)*** Gravel, coarse, LNAPL present; saturated.
22	565			- - - -	53	3.5 (20-22)		23.8
24	563							*Bottom of boring at 23.8 feet. Refusal at 23.8 feet*
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC33-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 23.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 586.7

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.2
2	585			- - - -	50	0 (0-0.2)		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs.	
4	583								
6	581			- - - -	45	0.3 (4-5.8)			
8	579								
10	577			- - - -	65	3.5 (8-10.7)			
12	575								
14	573			- - - -	53	0.6 (12-14.1)			
16	571								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	50	0.6 (16-18)		***Slag*** Fill: slag, rock fill, coal fragments, red brick; dry. Wet beginning at 5.5' bgs. Wood present from 20 to 20.7' bgs. LNAPL present from 20.7 to 22.4' bgs. *(continued)*
20	567							
22	565			- - - -	65	1.4 (20-21.7) 3.7 (21.7-22.4)		23.7
24	563							*Bottom of boring at 23.7 feet. Refusal at 23.7*
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC33-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 19.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt. Road base.	0.2
								GRAVELLY SILT (ml) Rock fill.	0.8
2	585				73	0 (0-0.2) 0.2 (0.2-0.8) 0.2 (0.8-2.9)		***Slag*** Gray gravel less than 0.25 in diameter, little silt, dense; dry. Slag and mottling, light orange and pale brown in color, present from 1.5 to 3.1' bgs.	3.5
4	583							***Slag*** Fill: slag, coal fragments, red brick, gravel, angular; moist. Little silt from 5.9 to 6.5' bgs.	
6	581				63	0.2 (4-6.5)			7.25
8	579							***Slag*** Fill: slag, coal fragments, red brick, gravel, angular. Sub-angular gravel present from 9.5 to 10.3' bgs.	
10	577				67	0.3 (8-10.3)			11.2
12	575							***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating at 13.5' bgs.	
14	573				77	0.2 (12-14.5)			15.25
16	571							***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating near bottom. Odor present.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC33-03

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	569			- - - -	88	2.5 (16-19.1)		***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock fragments with a brownish yellowish coating near bottom. Odor present. *(continued)* ***Slag*** Slag, coal fragments, red brick, gravel, angular. Transition to bedrock with a brownish yellowish coating near bottom. Odor present. *(continued)* 19.5
20	567							*Bottom of boring at 19.5 feet. Refusal at 19.5 feet*
22	565							
24	563							
26	561							
28	559							
30	557							
32	555							
34	553							
36	551							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.98

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt.	0.6
2	627			- - - -	85	0 (0-0.2) 0 (0.2-0.6) 0.2 (0.6-3.4)		***Slag*** Slag, bedrock fill, coal fragments, red brick, fire brick. Light olive brown (2.5Y 5/4) few silt from 3.7 to 5.5' bgs. Siltstone at bottom of boring.	
4	625			- - - -	86	0.2 (4-5.3)			5.5
6	623							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	621								
10	619								
12	617								
14	615								
16	613								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/20/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 6.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Topsoil Topsoil, organics, bedrock fill.	0.3
								WELL-GRADED GRAVEL WITH SILT (gw-gm) Gravel, angular, little very dark grayish-brown (2.5Y 3/2) silt.	1.4
2	626			- - - -	35	0.2 (0-0.3)		***GRAVELLY SILT (ml)*** Fill: bedrock fragments, highly factured, gravel, angular; dry.	
4	624			- - - -	96	0.2 (4-6.5)			
6	622								6.5
								Bottom of boring at 6.5 feet. Refusal at 6.5 feet	
8	620								
10	618								
12	616								
14	614								
16	612								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-03
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.7

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete.	0.167 0.333
2	629			- - - -	75	0.1 (0-4)		***Topsoil*** Topsoil. ***Topsoil*** Topsoil.	1.5 2.8
4	627			- - - -	60	0 (4-5)		***WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm)*** Very dark grayish brown (10YR 3/2) gravel ranging from 0.2 to 1.5 in diameter, some fine-grained sand, few silt; loose; dry. ***LEAN CLAY WITH GRAVEL (cl)*** Dark yellowish brown (10YR 3/4) clay, low plasticity, little gravel ranging from 0.5 to 1 in diameter; dry.	5
6	625							***SILTSTONE*** Light brownish gray (10YR 6/2) siltstone; highly fractured.	
8	623							*Bottom of boring at 5 feet. Refusal at 5 feet*	
10	621								
12	619								
14	617								
16	615								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-04
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.94

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	67	0.3		***Topsoil*** Topsoil.	0.5
								WELL-GRADED SAND WITH GRAVEL (sw) Dark brown (10YR 3/3) fine to semi- coarse-grained sand, little gravel ranging from 0.2 to 0.8 in diameter, few silt; loose; dry.	1 1.5
2	629							***GRAVELLY SILT (ml)*** Dark yellowish brown (10YR 4/6) silt, low plasticity, some gravel ranging from 0.5 to 2 in diameter; loose; dry.	3
4	627							***SILTSTONE*** Light gray (10YR 7/2) siltstone; fractured; weathered; loose; dry.	
								Bottom of boring at 3 feet. Refusal at 3 feet	
6	625								
8	623								
10	621								
12	619								
14	617								
16	615								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-05
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 629.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Concrete Concrete.	0.2 0.5
								Topsoil Topsoil.	1 1.2
2	628			- - - - -	63	0.1 (0-4)		***SILT WITH GRAVEL (ml)*** Very dark grayish brown (10YR 3/2) silt, little gravel ranging from 0.2 to 0.8 in diameter; loose; dry.	3.25
4	626			- - - - -	50	0.1 (4-6)		***Slag*** Fill: slag; coal fragments.	4.7
								LEAN CLAY (cl) Dark yellowish brown (10YR 3/4) clay, medium plasticity; loose; dry. Few gravel ranging from 0.2 to 1.0 in diameter present from 1.2 to 1.8' bgs.	
6	624							***FAT CLAY (ch)*** Dark yellowish brown (10YR 3/4) clay; high plasticity; moist.	6
								SILTSTONE Siltstone; weathered.	
8	622							*Bottom of boring at 6 feet. Refusal at 6 feet*	
10	620								
12	618								
14	616								
16	614								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-06
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 634.37

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					SILTY GRAVEL (gm) Grayish-brown (10YR5/2) siltstone fragments and silt; dry; loose.	2
2	632				*Bottom of boring at 2 feet. End of boring at 2.0*	
4	630					
6	628					
8	626					
10	624					
12	622					
14	620					
16	618					

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC34-07
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 629.79

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.2		***WELL-GRADED GRAVEL WITH SILT AND SAND (gw-gm)*** Grayish-brown (0YR5/6) gravel with sandy silt, fill; hard; non plastic; noncohesive; dry.	1.5
2	628							***SILTY GRAVEL (gm)*** Light brown (10YR3/6) silty gravel, some coal fragments; hard; dry.	2
								Bottom of boring at 2 feet. End of boring at 2.0	
4	626								
6	624								
8	622								
10	620								
12	618								
14	616								
16	614								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 680.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0 (0-0.1)		***SILT WITH SAND (ml)*** Black (5YR 2.5/1) silt, some fine-grained sand, soft to medium stiff, low plasticity; moist.	0.1
				-		0 (1-1.5)		***POORLY-GRADED GRAVEL (gp)*** Light gray (5YR 7/1) gravel less than 1.5 in diameter; dry.	1.5 1.8
2	679			-		0 (1.5-1.8)		***GRAVELLY SILT (ml)*** Black (5YR 2.5/1) silt, some gravel less than 0.5 in diameter, angular, trace fine-grained sand, stiff; dry.	2.3
				-		0 (1.8-2.3)		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Yellowish-red (5YR 5/8) medium coarsed-grained sand, some gravel, angular, loose; dry.	3
						0 (2.3-3)		***POORLY-GRADED SAND WITH GRAVEL (sp)*** Black (5YR 2.5/1) medium coarsed-grained sand, some gravel less than 0.5 in diameter, angular, medium dense; moist.	
4	677								
6	675							*Bottom of boring at 3 feet. End boring at 3 feet*	
8	673								
10	671								
12	669								
14	667								
16	665								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 679.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0 (0-0.4) 0 (0.4-0.6) 0 (0.6-2)		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.	0.4 0.6
								POORLY-GRADED GRAVEL (gp) Gray (5YR 6/1) gravel less than 1.5 in diameter, angular; dry.	
2	677							***SILTY GRAVEL WITH SAND (gm)*** Dark reddish-brown (5YR 2.5/2) gravel less than 1 in diameter, sub-rounded, few silt, few fine-grained sand; dry.	2
4	675							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	673								
8	671								
10	669								
12	667								
14	665								
16	663								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/16/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 681.68

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		-	100	0 (0-0.3)		***Topsoil*** Black (5YR 2.5/1) topsoil, silt, few fine-grained sand, organics, soft, medium plasticity; moist.	0.3
				-		0 (0.3-1.4)		***POORLY-GRADED GRAVEL WITH SAND (gp)*** Gravel less than 1 in diameter, sub-rounded, few fine- to medium-grained sand, trace silt.	1.4
				-		0 (1.4-1.6)			1.6
2	680			-		0 (1.6-2)		***POORLY-GRADED GRAVEL (gp)*** Gray (5YR 6/1) gravel less than 1.5 in diameter.	2
								SILTY SAND (sm) Black (5YR 2.5/1) medium-grained sand, some silt, loose; wet.	
4	678							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	676								
8	674								
10	672								
12	670								
14	668								
16	666								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 578.68

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-2)		***Asphalt*** Asphalt.	0.2
								SILTY GRAVEL (gm) Gravel, angular to sub-angular, some fines, trace brick; moist.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 579.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-2)		***Asphalt*** Asphalt.	0.2
								SILTY GRAVEL (gm) Gravel, angular to sub-angular, some fines, trace brick; moist.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 11/19/2015	**Drill Method:** Direct Push
Logged By: Matthew Richardson	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 578.77

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.2) 0 (0.2-0.4) 0 (0.3-2)		***Asphalt*** Asphalt.	0.2
								Concrete Road base, trace coal.	2
2	577							*Bottom of boring at 2 feet. End boring at 2 feet*	
4	575								
6	573								
8	571								
10	569								
12	567								
14	565								
16	563								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-07
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	75	0.1 (0-0.2) 0.1 (0.2-0.8) 0.1 (0.8-2)		***Topsoil*** Very dark gray (10YR 3/1) topsoil; dry.	0.2
								Concrete Concrete, road base; dry.	0.8
2	564							***GRAVELLY SILT (ml)*** Brown (10YR 4/3) silt, some gravel ranging from 0.2 to 1.5 in diameter; loose; dry.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-08
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	90	0.1 (0-0.5) 0.1 (0.5-1.3) 0.1 (1.3-2)		***Asphalt*** Asphalt, road base.	0.5
								Slag Fill: gravel, angular to sub-angular, some fines, trace brick; moist.	1.3
2	564							***WELL-GRADED GRAVEL WITH CLAY (gw-gc)*** Brown (10YR 5/3) gravel, few clay. high plasticity; moist.	2
								Bottom of boring at 2 feet. End boring at 2 feet	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-09
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/1/2015	**Drill Method:** Direct Push
Logged By: Molly Long	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 565.85

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	95	0.2 (0-0.2) 0.2 (0.2-0.9) 0.2 (0.9-1.5) 0.2 (1.5-2)		***Asphalt*** Asphalt, road base.	0.2
								SILTY GRAVEL (gm) Yellowish-brown (10YR 5/4) gravel ranging from 0.2 to 0.8 in diameter, little silt; loose; dry.	0.9
2	564							***Slag*** Fill: slag, little gravel, trace coal.	1.5
								WELL-GRADED GRAVEL WITH CLAY (gw-gc) Brown (10YR 5/3) gravel, few clay, high plasticity; moist.	2
4	562							*Bottom of boring at 2 feet. End boring at 2 feet*	
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-10
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 683.83

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-1.1)		***Topsoil*** Very dark gray (10YR 3/1) topsoil, roots present; dry.	0.17
2	682							***Topsoil*** Dark grayish-brown (10YR 4/2) topsoil, silt, little gravel ranging from 0.5 to 1.1 in diameter, sub-angular, few wood present; dry.	1.1
								Bottom of boring at 1.1 feet. Refusal at 1.1 feet	
4	680								
6	678								
8	676								
10	674								
12	672								
14	670								
16	668								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-11
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 684.25

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-1.1)		***Topsoil*** Very dark gray (10YR 3/1) topsoil with roots, little gravel less than 1 in diameter, angular; dry.	0.17
								SILT WITH GRAVEL (ml) Dark grayish-brown (10YR 4/2) silt, little gravel less than 1 in diameter, sub-angular, little roots; dry.	1.1
2	682							*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	680								
6	678								
8	676								
10	674								
12	672								
14	670								
16	668								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-12
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 677.62

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0.1 (0.17-0.8)		***Topsoil*** Very dark gray (10YR 3.1) topsoil, little gravel ranging from 0.2 to 1 in diameter, angular thin slabs of gravel, roots present; dry.	0.8
2	676							*Bottom of boring at 0.8 feet. Refusal at 0.8 feet*	
4	674								
6	672								
8	670								
10	668								
12	666								
14	664								
16	662								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-13
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 630.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0 (0-0.17) 0 (0.17-0.8)		***Topsoil*** Very dark grayish-brown (10YR 3/2) topsoil, roots present; dry.	0.17
2	628							***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 0.5 in diameter, sub-angular, trace roots; dry.	0.8
								Bottom of boring at 0.8 feet. Refusal at 0.8 feet	
4	626								
6	624								
8	622								
10	620								
12	618								
14	616								
16	614								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-14
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 628.21

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	0.1 (0-0.17) 0.1 (0.17-0.9)		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel ranging from 0.2 to 1 in diameter, sub-angular, roots; dry.	0.17
								SILT WITH GRAVEL (ml) Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1.5 in diameter, angular, trace roots; dry.	0.9
2	626							*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	624								
6	622								
8	620								
10	618								
12	616								
14	614								
16	612								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-15
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 627.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.1 (0-0.17)		***Topsoil*** Brown (10YR 4/3) topsoil, little gravel, sub-angular, roots; dry.	0.17
				-		0.1 (0.17-0.75)		***SILT WITH GRAVEL (ml)*** Brown (10YR 4/3) silt, little gravel ranging from 0.2 to 1 in diameter, angular, trace roots; dry.	0.75
				-					
2	626			-				*Bottom of boring at 0.75 feet. Refusal at 0.75 feet*	
4	624								
6	622								
8	620								
10	618								
12	616								
14	614								
16	612								

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SB-AOC35-16
Drilled By: Parratt Wolff, Inc./Rocky	Drill Start Date:	Drill End Date: 12/2/2015	Drill Method: Direct Push
Logged By: Molly Long	Total Depth (ft): 5.5	Bore Diameter (in): 2	Ground Surface (ft-msl): 600.26

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
								Concrete Concrete.	0.3
2	598			- - - -	60	0.1 (0-0.3) 0.5 (0.3-1.2) 0.2 (1.2-2.4)		***SILT WITH GRAVEL (ml)*** Black (7.5YR 2.5/1) silt, low palsticity, little gravel less than 1 in diameter, angular; loose; dry.	1.2
								SILTY GRAVEL (gm) Dark brown (7.5YR 3/2) gravel ranging from 0.2 to 2 in diameter, angular, little silt, non-plastic; loose; dry. Only angular rock present from 1.2 to 1.4' bgs. More silt is present from 2.1 to 2.4' bgs.	3.2
4	596			- - - -	40	o.2 (4-4.6)		***SILT WITH GRAVEL (ml)*** Dark gray (7.5YR 4/1) silt, non-plastic, little gravel ranging from 0.2 to 1 in diameter, sub-angular; loose; dry.	5.5
6	594							*Bottom of boring at 5.5 feet. Refusal at 5.5 feet*	
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-17
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.58

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, roots, little gravel less than 2 in diameter, sub-angular; loose; dry.	0.9
2	530						*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	528							
6	526							
8	524							
10	522							
12	520							
14	518							
16	516							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-18
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.41

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.3 (0-0.17)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, little gravel less than 1.5 in diameter, sub-angular, trace roots; loose; dry.	0.17
				-	0.3 (0.17-1.3)			1.3
				-			***Silt*** Black (7.5YR 2.5/1) silt, little slag, few gravel less than 0.8 in diameter, trace red brick, trace glass; dry.	
				-			*Bottom of boring at 1.3 feet. Refusal at 1.3 feet*	
2	529							
4	527							
6	525							
8	523							
10	521							
12	519							
14	517							
16	515							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-19
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/3/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 531.06

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.3 (0-0.17) 0.4 (0.17-1.1)		***Topsoil*** Black (7.5YR 2.5/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular to angular, litle slag; loose; dry.	1.1
2	529						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	527							
6	525							
8	523							
10	521							
12	519							
14	517							
16	515							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-20
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 541.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, roots present; dry.	0.17
				-	0 (0.17-1)			1
				-			***Topsoil*** Dark brown (7.5YR 3.2) topsoil, little gravel less than 1.2 in diameter, sub-angular, few organics; dry. Few clay from 0.8 to 1' bgs.	
				-				
2	539						*Bottom of boring at 1 feet. Refusal at 1 foot*	
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-21
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 541.24

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; dry.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 1 in diameter, sub-angular; wet starting at 1 foot bgs.	1.2
				-				
				-				
2	539							
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

Bottom of boring at 1.2 feet. Refusal at 1.2 feet

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-22
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 536.5

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.2		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.	0.17 0.8
2	535						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angualr; loose; dry.	
							Bottom of boring at 0.8 feet. Refusal at 0.8 feet	
4	533							
6	531							
8	529							
10	527							
12	525							
14	523							
16	521							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-23
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 546.6

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics; loose; dry.	0.17
				-	0 (0.17-0.9)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry.	0.9
				-				
2	545			-			*Bottom of boring at 0.9 feet. Refusal at 0.9 feet*	
4	543							
6	541							
8	539							
10	537							
12	535							
14	533							
16	531							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-24
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 540.99

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics; loose; dry.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.5 in diameter, sub-angular; loose; dry.	1.2
				-			*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
				-				
2	539							
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-25
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 540.61

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0 (0-0.17)		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel less than 0.8 in diameter, sub-angular.	0.17
				-	0 (0.17-1.2)		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1.2 in diameter, sub-angular; loose; dry.	1.2
				-			*Bottom of boring at 1.2 feet. Refusal at 1.2 feet*	
2	539							
4	537							
6	535							
8	533							
10	531							
12	529							
14	527							
16	525							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-26
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 547.18

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.1		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.17
2	545						***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, little gravel less than 1 in diameter, sub-angular; loose; dry.	0.9
							Bottom of boring at 0.9 feet. Refusal at 0.9 feet	
4	543							
6	541							
8	539							
10	537							
12	535							
14	533							
16	531							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-27
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 548.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 2.5 in diameter, sub-angular; loose; dry.	0.7
							Bottom of boring at 0.7 feet. Refusal at 0.7 feet	
2	546							
4	544							
6	542							
8	540							
10	538							
12	536							
14	534							
16	532							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-28
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 548.98

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) to very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.7
2	547						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	545							
6	543							
8	541							
10	539							
12	537							
14	535							
16	533							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-29
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 550.57

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, little gravel.	0.17
				-				0.7
				-			***Topsoil*** Brown (7.5YR 4/3) topsoil, few gravel less than 1 in diameter, sub-angular, trace organics.	
				-				
2	549						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	547							
6	545							
8	543							
10	541							
12	539							
14	537							
16	535							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-30
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 1.1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 586.38

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/2) topsoil, organics, few gravel less than 0.5 in diameter, sub-angular; loose; dry.	0.17
							SILT WITH GRAVEL (ml) Very dark gray (7.5YR 3/1) silt, organics, little gravel less than 1.5 in diameter; loose; dry.	1.1
2	584						*Bottom of boring at 1.1 feet. Refusal at 1.1 feet*	
4	582							
6	580							
8	578							
10	576							
12	574							
14	572							
16	570							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-31
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.9	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 573.91

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.0		***Topsoil*** Dark brown (7.5YR 3/3) topsoil, organics, few gravel less than 0.8 in diameter, sub-angular; loose; dry.	0.9
							Bottom of boring at 0.9 feet. Refusal at 0.9 feet	
2	572							
4	570							
6	568							
8	566							
10	564							
12	562							
14	560							
16	558							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-32
Drilled By: Parratt Wolff, Inc./Rocky	**Drill Start Date:**	**Drill End Date:** 12/4/2015	**Drill Method:** Hand Auger
Logged By: Molly Long	**Total Depth (ft):** 0.7	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 576.85

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Notes: Physical Description	
							Ground Surface	
				-	0.0		***SILT WITH SAND (ml)*** Very dark gray (7.5YR 3/1) topsoil, silt, little fine-grained sand, little organics; loose; dry.	0.17
				-				0.7
				-			***GRAVELLY SILT (ml)*** Black (7.5YR 2.5/21) silt, some gravel ranging from 0.25 to 3.5 in diameter with flat platey appearance, trace to little organics; loose; dry.	
				-				
2	575						*Bottom of boring at 0.7 feet. Refusal at 0.7 feet*	
4	573							
6	571							
8	569							
10	567							
12	565							
14	563							
16	561							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-33
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 566.07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***WELL-GRADED GRAVEL WITH SAND (gw)*** Dark gray (2Y4/2) fill: gravel with coarse sand, trace ash fill; medium hard; dry.	2
2	564							*Bottom of boring at 2 feet. Refusal at 2.0 ft.*	
4	562								
6	560								
8	558								
10	556								
12	554								
14	552								
16	550								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-34
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 563.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	100	0.0		***Topsoil*** Very dark gray (7.5YR 3/1) topsoil, organics, few gravel less than 1 in diameter, sub-angular; loose; dry.	0.3
2	562							***Well-Graded Gravel with Silt and Sand (GW-GM)*** Dark gray (2.5YR4/1) gravel with silty sand; medium dense; moist.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	560								
6	558								
8	556								
10	554								
12	552								
14	550								
16	548								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-35
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/1/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 564.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Not Logged.
2	562				*Bottom of boring at 2 feet. Refusal at 2.0 ft.*
4	560				
6	558				
8	556				
10	554				
12	552				
14	550				
16	548				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-36
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Hand Auger
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):** 585.07

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
					Not Logged.
2	583				*Bottom of boring at 2 feet. End of boring at 2.0 ft.*
4	581				
6	579				
8	577				
10	575				
12	573				
14	571				
16	569				

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-37
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 0.75	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 597.92

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
					Not Logged.
					Bottom of boring at 0.75 feet. Refusal at 0.75 ft.
2	596				
4	594				
6	592				
8	590				
10	588				
12	586				
14	584				
16	582				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-38
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.27

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
		X		- - - -	75	0.0		***Silt (ML)*** Brown (10YR4/6) silt with coarse sand; medium dense; dry.	0.4
2	598							***Silty Gravel (GM)*** Brown (10YR4/6) siltstone fragments with some silt; dense; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-39
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	50	0.1		***SILTY GRAVEL (gm)*** Brown (10YR4/6) silty gravel, some coarse sand; hard; medium dense; moist.	1
								Bottom of boring at 1 feet. Refusal at 1.0 ft.	
2	598								
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-40
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.29

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	50	0.0		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Dark brown (10YR4/8) silty gravel, trace coarse sand; loose; dry.	1
								Bottom of boring at 1 feet. Refusal at 1.0 ft.	
2	598								
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SB-AOC35-41
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 3/2/2016	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 600.28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
		X		- - - -	90	0.0		***SANDY SILT (ml)*** Fill: brown (10YR4/6 silt with some coarse sand, some ash and coal cinders, trace brick fragments, trace black discoloration; hard; dry.	1.5
2	598							Siltstone fragments and gravel; weathered; very broken; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft.	
4	596								
6	594								
8	592								
10	590								
12	588								
14	586								
16	584								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SS-100
Drilled By: /	Drill Start Date:	Drill End Date: 11/1/2012	Drill Method:
Logged By:	Total Depth (ft): 0.5	Bore Diameter (in):	Ground Surface (ft-msl): 679.84

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	678				
4	676				
6	674				
8	672				
10	670				
12	668				
14	666				
16	664				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SS-101
Drilled By: /	Drill Start Date:	Drill End Date: 11/1/2012	Drill Method:
Logged By:	Total Depth (ft): 0.5	Bore Diameter (in):	Ground Surface (ft-msl): 545.83

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description
					Ground Surface
2	544				
4	542				
6	540				
8	538				
10	536				
12	534				
14	532				
16	530				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SS-102
Drilled By: /	Drill Start Date:	Drill End Date: 11/1/2012	Drill Method:
Logged By:	Total Depth (ft): 0.5	Bore Diameter (in):	Ground Surface (ft-msl): 669.82

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	668				
4	666				
6	664				
8	662				
10	660				
12	658				
14	656				
16	654				

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: SS-103
Drilled By: /	Drill Start Date:	Drill End Date: 11/1/2012	Drill Method:
Logged By:	Total Depth (ft): 0.5	Bore Diameter (in):	Ground Surface (ft-msl): 531.28

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	529				
4	527				
6	525				
8	523				
10	521				
12	519				
14	517				
16	515				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-104
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 521.52

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: Physical Description
					Ground Surface
2	520				
4	518				
6	516				
8	514				
10	512				
12	510				
14	508				
16	506				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SS-106
Drilled By: /	**Drill Start Date:**	**Drill End Date:** 11/1/2012	**Drill Method:**
Logged By:	**Total Depth (ft):** 0.5	**Bore Diameter (in):**	**Ground Surface (ft-msl):** 545.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
					Ground Surface
2	543				
4	541				
6	539				
8	537				
10	535				
12	533				
14	531				
16	529				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.89

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt, trace rootlets; dry; loose.	0.3
1	799			-	100	(0-2) 0.0 (2-2.5) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/6) silt, trace subangular gravel, trace oxidized mottled zones; medium hard; moist.	1.75
2	798			-				***Siltstone*** Siltstone gravel with some gray (10YR5/1) silt; loose; dry.	2.5
3	797							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.59

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; moist; soft; non cohesive.	0.4
1	800			-				***Silt (ML)*** Yellowish-brown (10YR5/4) clayey silt; moist; soft; low plasticity; cohesive.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	799			-					
				-					
3	798								3.25
								Siltstone Highly weather silstone, some gray (10YR5/1) silt; loose; moist.	3.5
4	797							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; dry; soft; non cohesive.	0.4
1	800			-				***Silt with Gravel (ML)*** Dark grayish-brown (10YR4/2) silt with subangular gravel (0.2-1.5in); dry; medium hard; non cohesive.	1
2	799			-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some angular gravel (0.2-2.0); dry; medium hard; non cohesive.	
3	798			-					3.75
4	797			-				***Siltstone*** Highly weathered siltstone and gray (10YR5/1) silt; loose; dry.	4
								Bottom of boring at 4 feet. Refusal at 4.0 ft. bgs.	
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.81

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) silt, trace subangular gravel, trace rootlets; dry; soft; non cohesive.	0.3
								Poorly-Graded Gravel (GP) Angular gravel; loose; dry.	0.75
1	801			-					
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some angular gravel (0.2-1.5in); dry; soft to medium hard; non cohesive.	
2	800			-					
				-					
3	799								3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.	
4	798								
5	797								
6	796								
7	795								
8	794								
9	793								
10	792								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark Brown (10 YR 3/3) to black (7.5YR2.5/1) silt, some rootlets and organics; dry; soft; low plasticity.	0.5
1	799			-				***Silt (ML)*** Brown (7.5YR4/3) silt, some clay, trace rootlets; moist; soft; low plasticity.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	798			-					
				-					2.75
3	797							***Poorly-Graded Gravel with Silt and Sand (GP-GM)*** Light brown (7.5YR6/3) subangular gravel (0.2-2.0in) and sandy silt; dry; loose.	3.5
4	796							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 801.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets and organics; loose; soft; dry.	0.3
1	801			-				***Poorly-Graded Gravel (GP)*** Gray (10YR5/1) gravel (0.4-2.0in); loose; dry.	0.75
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt with Gravel (ML)*** Grayish-brown (10YR5/2) silt with subangular gravel (0.2-2.0in); loose; dry.	
2	800			-					
				-					
3	799								3.5
4	798							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	797								
6	796								
7	795								
8	794								
9	793								
10	792								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.87

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) silt, trace rootlets; dry; loose.	0.3 0.5
1	799			-	100	(0-2) 0.0 (2-2.5) 0.0		***Poorly-Graded Gravel (GP)*** Subangular gravel (0.2-2.0); loose; dry.	
				-				***Silt (ML)*** Brown (10YR4/3) silt, some subangular gravel; medium dense; dry.	
2	798			-					2
								Siltstone Highly weathered siltstone with trace silt; loose; dry.	2.5
3	797							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.22

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Very dark brown (10YR2/2) silt with rootlets and organics; loose; dry.	0.3
				-				***Poorly-Graded Gravel (GP)*** Siltstone gravel.	0.5
1	799			-	100	(0-2) 0.0		***Silt (ML)*** Light yellowish-brown (10YR6/4) silt, trace sub angular gravel and roolets; loose; dry.	1.8
				-					
2	798							***Siltstone*** Fractured siltstone.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	797								
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 800.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Black (10YR2/1) silt, some rootlets, trace sub angular gravel; loose; soft; dry.	0.5
1	800			-	100	(0-2) 0.0		***Silt (ML)*** Light yellowish-brown (10YR6/4) silt, trace gravel (0.2-1.0in); loose; dry.	
				-					
				-					
2	799								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	798								
4	797								
5	796								
6	795								
7	794								
8	793								
9	792								
10	791								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-7
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 1.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.16

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10YR3/3)) silt, trace rootlets; loose; soft; dry.	0.3
1	798			-	100	(0-1.5) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/6) silt and angular gravel; medium soft; dry; non cohesive.	
				-					1.5
				-				*Bottom of boring at 1.5 feet. Refusal at 1.5 ft. bgs.*	
2	797								
3	796								
4	795								
5	794								
6	793								
7	792								
8	791								
9	790								
10	789								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-8
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.47

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
1	798			- - - -	100	(0-2) 0.0		***Silt with Gravel (ML)*** Very dark brown (10YR2/2) silt with subangular gravel, some rootlets; loose; moist.	1
2	797							***Silt with Gravel (ML)*** Grayish-brown (10YR5/2) silt and subangular gravel (0.2-2.0in); loose; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	796								
4	795								
5	794								
6	793								
7	792								
8	791								
9	790								
10	789								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-49-9
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/9/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 799.97

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.5
1	799			- - - -	100	(0-2) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/6) silt, some subangular shale gravel (0.2-1.5in), trace rootlets; moist; soft; low plasticity; non cohesive.	1.75
2	798							***Siltstone*** Gray (10YR5/1) siltstone, some silt; very fractured; loose; dry.	2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	797								
4	796								
5	795								
6	794								
7	793								
8	792								
9	791								
10	790								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 739.08

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; moist.	0.2
1	738			-				***Silt with Gravel (ML)*** Grayish-brown (10YR5/3) silt with subangular gravel; medium dense; non cohesive; dry.	
				-	100	(0-2) 0.0 (2-3.0) 0.0			
2	737			-					
				-					2.5
								Siltstone Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	3
3	736							*Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.*	
4	735								
5	734								
6	733								
7	732								
8	731								
9	730								
10	729								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-10
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 740.55

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.2
1	740			-				***Silt with Gravel (ML)*** Grayish-brown (10YR5/3) silt with subangular gravel; medium dense; cohesive; low plasticity; moist.	
				-	100	(0-2) 0.0 (2-3.5) 0.0			
2	739			-					2
				-				***Siltstone*** Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	
3	738								3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.	
4	737								
5	736								
6	735								
7	734								
8	733								
9	732								
10	731								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-11
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.25	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 743.46

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
1	742			-	100	(0-2) 0.0 (2-2.25) 0.0		***Silt (ML)*** Yellowish-brown (10YR5/4) silt, some siltstone gravel; loose to medium dense; non cohesive; dry.	
				-					
2	741			-					2.25
								Bottom of boring at 2.25 feet. Refusal at 2.25 ft. bgs.	
3	740								
4	739								
5	738								
6	737								
7	736								
8	735								
9	734								
10	733								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-12
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 745.89

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.4
1	745			-	100	(0-2) 0.0 (2-2.5) 0.0		***Silt (ML)*** Brown (10YR4/3) silt, some subangular gravel; medium dense; non cohesive; dry.	1.8
2	744			-				***Siltstone*** Highly weathered siltstone with trace silt; loose; dry.	2.5
3	743							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	742								
5	741								
6	740								
7	739								
8	738								
9	737								
10	736								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.54

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
1	741			- - -	100	(0-2) 0.0		***Silt with Gravel (ML)*** Yellowish-brown (10YR5/4) silt and siltstone gravel; loose to medium dense; non cohesive; dry.	
2	740							*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	739								
4	738								
5	737								
6	736								
7	735								
8	734								
9	733								
10	732								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 743.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
								Poorly-Graded Gravel (GP) Siltstone gravel; loose; dry.	0.6
1	742			-					
				-	100	(0-2) 0.0 (2-3.5) 0.0		***Silt (ML)*** Brown (10YR4/4) silt, some subangular gravel (0.2-1.5in); medium dense; low-plasticity; cohesive; dry.	
2	741			-					
				-					2.8
3	740							***Siltstone*** Siltstone fragments with some gray (10YR3/1) silt; loose; dry.	3.5
4	739							*Bottom of boring at 3.5 feet. Refusal at 3.5 ft. bgs.*	
5	738								
6	737								
7	736								
8	735								
9	734								
10	733								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 735.2

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Notes: Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
1	734			-	33	(2-3.0) 0.0		***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose; dry.	
2	733			-					
				-					
3	732								3
								Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.	
4	731								
5	730								
6	729								
7	728								
8	727								
9	726								
10	725								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 738.41

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-				***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
1	737								
				-	66	(1.0-2.0) 0.0 (2-3.0) 0.0		***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose to medium dense; non cohesive; moist, becoming dry at 1.75'.	
2	736			-					
				-					
3	735								3
								Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.	
4	734								
5	733								
6	732								
7	731								
8	730								
9	729								
10	728								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.84

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Black (10YR2/1) silt with rootlets, trace sand; loose; soft; dry.	0.3
1	741			-				***Silt (ML)*** Light brownish-yellow (10YR5/4) silt; medium soft; dry; non cohesive.	
				-	100	(0.0-2.0) 0.0 (2-3.0) 0.0			
2	740			-					2.4
				-				***Siltstone*** Light gray (10YR7/2) siltstone fragments, some silt; very fractured; loose to dense; dry.	3
3	739							*Bottom of boring at 3 feet. Refusal at 3.0 ft. bgs.*	
4	738								
5	737								
6	736								
7	735								
8	734								
9	733								
10	732								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-7
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 732.9

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
1	732			- - - -	60	(1.5-2.5) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1.5
2	731							***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose; dry.	2.5
3	730							*Bottom of boring at 2.5 feet. Refusal at 2.5 ft. bgs.*	
4	729								
5	728								
6	727								
7	726								
8	725								
9	724								
10	723								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-8
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 736.11

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with leaf litter, trace subangular gravel; moist; soft.	0.3
1	735							***Siltstone*** Light gray (10YR7/2) siltstone and silt; loose to very dense; dry.	
2	734								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	733								
4	732								
5	731								
6	730								
7	729								
8	728								
9	727								
10	726								

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV2-51-9
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/10/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 741.02

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with leaf litter, trace subangular gravel; moist; soft.	0.3
1	740							***Siltstone*** Light gray (10YR7/2) highly weathered siltstone and silt; loose to very dense; dry.	
2	739								2
								Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.	
3	738								
4	737								
5	736								
6	735								
7	734								
8	733								
9	732								
10	731								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.6
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visble staining	
							Ithaca Shale Saprolite Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
4							*Bottom of boring at 3 feet. Refusal at 3'*	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.8
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2.5 feet. Refusal at 2.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.8
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	2.5
6							*Bottom of boring at 2.5 feet. Refusal at 2.5'*	
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.7
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	2.5
6							*Bottom of boring at 2.5 feet. Refusal at 2.5'*	
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.7
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.4
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/2/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	0.9
2				100	0.0			
							Ithaca Shale Saprolite Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
4							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-49-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/4) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.75
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
							Bottom of boring at 3 feet. Refusal at 3'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-04
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.6
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-05
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.1
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-06
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.2
2							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
4							*Bottom of boring at 3 feet. Refusal at 3'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-07
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-08
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	0.9
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3
							Bottom of boring at 3 feet. Refusal at 3'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-09
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.5
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/4) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	1.8 2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.3
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 2 feet. Refusal at 2'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** SV-51-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 3/31/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.5 1
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
6							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-1
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3.6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1 2 3				0.0		***Silt (ML)*** Silt and clay.	3.6
4 5						*Bottom of boring at 3.6 feet. Refusal at 3.6 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-10
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 9.6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
				5.0		***Silt (ML)*** Silt and clay.	
2							2
				2.0		***Silt (ML)*** Silt and clay.	
4							
6							
8				-		***Silt (ML)*** Silt and clay.	8
							9.6
10						*Bottom of boring at 9.6 feet. Refusal at 9.6 ft bgs, bedrock.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-11
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 6	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
1						***Silt (ML)*** Silt and clay.	
2							
3				-			
4							
5							
6							6
						Bottom of boring at 6 feet. Refusal at 6 ft bgs, bedrock.	
7							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-12
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/9/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 9	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
				0.6		Concrete slab.	0.5
1						***Well-Graded Sand (SW)***	
2							
3							
4							
5							
6							
7							
8							
9							9
						Bottom of boring at 9 feet. Refusal at 9 ft bgs, bedrock.	
10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-2
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3.55	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1 2 3				0.0		***Silt (ML)*** Silt and clay.	3.55
4 5						*Bottom of boring at 3.55 feet. Refusal at 3.55 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-3
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/22/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 2.9	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1, 2				0.0		***Silt (ML)*** Silt and clay.	2.9
3, 4, 5						*Bottom of boring at 2.9 feet. Refusal at 2.9 ft bgs at top of 12" cast iron sewer line.*	

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-4
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/23/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 7.8	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1, 2, 3, 4, 5				-		***Silt (ML)*** Silt and clay.	
6				1.2		***Silt (ML)*** Silt and clay. Oil/water mixture on top of bedrock.	6
7				-		***Silt (ML)*** Silt and clay.	7
8						*Bottom of boring at 7.8 feet. Refusal at 7.8 ft bgs, bedrock.*	7.8
9, 10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-5
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 5/23/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 7.8	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
1, 2, 3, 4, 5				-		***Silt (ML)*** Silt and clay.	
6				1.2		***Silt (ML)*** Silt and clay. Oil/water mixture on top of bedrock.	6
7				-		***Silt (ML)*** Silt and clay.	7
8						*Bottom of boring at 7.8 feet. Refusal at 7.8 ft bgs, bedrock.*	7.8
9, 10							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-6
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/1/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Notes: / Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	3
3					*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-7
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	
3						3
					Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-8
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Concrete slab.	0.5
1 2					***Silt (ML)*** Silt and clay.	
3						3
					Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.	
4 5						

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** TP-9
Drilled By: RSI/Clyde Meador	**Drill Start Date:**	**Drill End Date:** 6/6/2012	**Drill Method:** Takeuchi compact excavator
Logged By: Scott Peterson	**Total Depth (ft):** 3	**Bore Diameter (in):** NA	**Ground Surface (ft-msl):** Not Determined

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	PID (ppm)	Graphic Log	Physical Description	
						Ground Surface	
						Concrete slab.	0.5
1				3.3		***Silt (ML)*** Silt and clay.	3
3						*Bottom of boring at 3 feet. Estimated bottom of test pit at 3 ft bgs.*	
4							
5							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-01
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/4) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.2
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
6							*Bottom of boring at 3.5 feet. Refusal at 3.5'*	
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-02
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-03
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
							Organic Soil (OL/OH) Dark Brown (10 YR 4/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25
2				100	0.0		***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	3.5
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-10
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/6) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 0.8
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	3.5
5							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/3) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 3.5 feet. Refusal at 3.5'	
10								
15								
20								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-11
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/6) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.2
2							***Lean Clay with Gravel (CL)*** Yellowish brown (10 YR 5/6) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	2.5
4							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
6								
8								
10								
12								
14								
16								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP-21-12
Drilled By: Parratt Wolff, Inc./Shawn Bodah	**Drill Start Date:**	**Drill End Date:** 4/1/2015	**Drill Method:** Direct Push
Logged By: Robert Wallace	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** ND

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		100	0.0		***Organic Soil (OL/OH)*** Dark Brown (10 YR 3/3) organic soil with trace clay; moist, soft, not cemented, homogenous, low plasticity, spongy, faint organic odor, no visible staining	0.25 1.5 2
							Lean Clay with Gravel (CL) Yellowish brown (10 YR 5/5) clay with some fine to medium, angular, flat gravel; moist, soft, not cemented, homogenous, low plasticity, weak, no discernable odor, no visible staining	
5							***Ithaca Shale Saprolite*** Grayish brown (10 YR 5/2) fine to medium, angular, flat gravel with trace lean clay; dry, hard, fissured, no discernable odor, no visible staining	
							Bottom of boring at 2 feet. Refusal at 2'	
10								
15								
20								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-1
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 727.77

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; wet.	1
2	726							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, trace sub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; wet becoming dry @ 2.3 ft.	2.5
								Elastic Silt (MH) Dark yellowish-brown (10YR4/4) clayey silt, trace sub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; wet becoming dry @ 2.3 ft.	3
4	724							***Siltstone*** Weathered siltstone, trace silt; wet.	
								Bottom of boring at 3 feet. Refusal at 3 feet	
6	722								
8	720								
10	718								
12	716								
14	714								
16	712								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-2
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 727.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	66	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; wet.	1
2	726							***Elastic Silt (MH)*** Brownish-yellow (10YR6/6) clayey silt, trace sub-angular siltstone gravel; medium dense; cohesive; medium plasticity; moist.	3
4	724							*Bottom of boring at 3 feet. Refusal at 3 feet*	
6	722								
8	720								
10	718								
12	716								
14	714								
16	712								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-3
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.16

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; soft; moist.	0.3
2	727							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, somesub-angular gravel, trace rootlets; medium dense; cohesive; medium plasticity; moist becoming dry @ 2.5 ft.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	725								
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-4
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 4.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Organic Soil (OL/OH) Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	1
2	727			- - - -	75	(0-2) 0.0 (2-4) 0.0		***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, some sub-angular gravel, trace rootlets; cohesive; medium plasticity; wet; soft.	
4	725			- - - -	100	(4-4.5) 0.0			4.3 4.5
								Siltstone Weathered siltstone, trace silt; wet.	
6	723							*Bottom of boring at 4.5 feet. Refusal at 4.5 feet*	
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-5
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.16

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3) 0.0		***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt; medium dense; cohesive; medium plasticity; moist.	1
2	727							***Elastic Silt with Gravel (MH)*** Brownish-yellow (10YR6/6) clayey silt and siltstone fragments; medium dense; moist, becoming dry @2.70ft.	3
								Bottom of boring at 3 feet. Refusal at 3 feet	
4	725								
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** VP2-21-6
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 11/11/2015	**Drill Method:** Direct Push
Logged By: Nathaniel Winston	**Total Depth (ft):** 3.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 729.48

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -	100	(0-2) 0.0 (2-3.5) 0.0		***Organic Soil (OL/OH)*** Dark brown (10 YR 3/3) silt with rootlets, trace subangular gravel; dry; loose.	0.2
2	727							***Elastic Silt (MH)*** Dark yellowish-brown (10YR4/4) clayey silt, some sub-angular gravel, trace rootlets; soft; cohesive; medium plasticity; moist.	1.75
								Elastic Silt (MH) Brownish-yellow (10YR6/6) clayey silt, some gravel (0.2-2.0 in); medium dense; cohesive; medium plasticity; moist.	3
4	725							***Siltstone*** Weathered siltstone, trace silt; loose; dry.	3.5
								Bottom of boring at 3.5 feet. Refusal at 3.5 feet	
6	723								
8	721								
10	719								
12	717								
14	715								
16	713								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-01B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 11/25/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 25.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 566.59

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				10 10 12 35	100	0.2		Asphalt.	0.3 1
2	565							***WELL-GRADED SAND (sw)*** Black (10YR2/1) angular coarse sand with slag and cinders, some gravel (0.25-0.75in); loose; dry.	2
								SILT (ml) Dark yellowish-brown (10YR4/4) silt, some angular siltstone gravel >2.0in in diameter; relict bedding; medium dense; dry.	
4	563							***SILTSTONE*** Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures	
6	561								
8	559				Total: 100% Solid: 98% RQD: 0%				
10	557								
12	555				Total: 100% Solid: 90% RQD: 14%				
14	553								
16	551								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-01B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	549				Total: 100% Solid: 96% RQD: 30%			***SILTSTONE*** Siltstone; gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to slightly disintegrated; intensely fractured; fractures are horizontal to bedding planes; very narrow to extremely narrow; not healed; clean; rough; stepped. 23.1',23.3',23.6',23.8',24.4',25.1' Bedding plane fractures; clean; not healed; very narrow; rough; wet. 24.2-25.0' high angle fractures *(continued)*
20	547							
22	545				Total: 100% Solid: 74% RQD: 58%			
24	543							25.5
26	541							*Bottom of boring at 25.5 feet. End of boring at 25.5 ft. bgs.*
28	539							
30	537							
32	535							
34	533							
36	531							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-02B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 35.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 578.58

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				12 5 6 6	100	2.5		Asphalt.	0.5
								SILT WITH GRAVEL (ml) Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	
2	577			8 6 3 2	25	2.3			3
								SILT (ml) Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
4	575			3 2 2 6	50	14			
6	573			5 6 6 7	50	11.1			
8	571			18 20 10 8	25	2.6			
10	569			10 6 6 8	12.5	0.5			11.7
12	567			6 7 4 6	25	0.4		***SILT (ml)*** Dark grayish-brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	13
14	565			8 50 50/2 -	50	3		***SILT WITH GRAVEL (ml)*** Grayish-brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16	563								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								17
18	561				Total: 100% Solid: 74% RQD: 58%			***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'.
20	559							20.5
22	557				Total: 100% Solid: 89% RQD: 8%			***SILTSTONE*** Siltstone; dark gray; moderate to strong field strength; aphanitic; uniform structure with possible laminations; fresh to slightly decomposed; competent; intensely fractured; fractures appear parallel to bedding every 1-3' ranging from extremely narrow to very narrow in aperture (0-3mm); not healed; clean; rough; stepped. 20.6-21.1' High angle fracture; very narrow; clean; rough; stepped. 27.2-28.3' Near vertical fractures; extremely narrow; not healed; smooth; clean. 29.1-30.65' Near vertical fractures; extremely narrow; not healed; smooth; clean.
24	555							
26	553				Total: 96% Solid: 42% RQD: 7%			
28	551							
30	549							
32	547				Total: 100% Solid: 92% RQD: 36%			
34	545							35.5
36	543							*Bottom of boring at 35.5 feet. End of boring at 35.5 ft. bgs.*

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-02C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Nathaniel Winston	**Total Depth (ft):** 66	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 579.23

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Ground Surface
				12, 5, 6, 6	100	2.5		Asphalt. (0.75)
2	577			8, 6, 3, 2	25	2.3		***WELL-GRADED GRAVEL (gw)*** Angular gravel fill; loose. (1.3)
4	575			3, 2, 2, 6	50	14		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Black (10YR2/2) to yellowish-brown silty coal cinders with angular gravel (0.2-2.0in), trace coarse sand; loose; dry. (5.4)
6	573			5, 6, 6, 7	50	11.1		***SILTY GRAVEL (gm)*** Gray (10YR5/1) sub-angular gravel (0.2-2.0in), some silt, some coal cinders, trace medium sand; loose; dry.
8	571			18, 20, 10, 8	25	2.6		
10	569			10, 6, 6, 8	12.5	0.5		
12	567			6, 7, 4, 6	25	0.4		
14	565			8, 50, 50/2	50	3		(14.6) ***LEAN CLAY (cl)*** Gray (10YR5/1) silty clay, some sub angular gravel (0.2-1.5in); cohesive; medium plasticity; wet; soft. (14.9)
16	563			- - - - -				Fractured siltstone bedrock, trace silt; loose; wet. (15.2)
18	561				Total: 93% Solid: 60%			
20	559							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
					RQD: 11%			
22	557				Total: 100% Solid: 68% RQD: 8%			Siltstone; strong; gray with occasional dark brown oxidized zones; aphanitic; massive with occasional banding; fresh to slightly decomposed; slight disintegration; intensely fractured. 21 18.3-18.55' Bedding plane fracture zone; wide; healed with cohesive clay sediment; rough; dry to moist. 18.7' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.1' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.4' Bedding plane fracture; moderately wide; some healing; cohesive sediment; rough; dry. 19.8' 70° joint; narrow; slightly healed; surface oxidation; smooth; dry. 20.0-21.0' fracture zone; not healed; very broken; rough to smooth; dry. *(continued)*
24	555							
26	553				Total: 100% Solid: 88% RQD: 26%			Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; intensely fractured, bedding plane fractures and vertical joint sets every 1-4, slight healing, some surface oxidation; rough to smooth. 36.4-39.6' Bedding plane fracture zone; narrow to medium wide; healed to clean; cohesive sediment; stepped; wet. 39.8-39.95' Bedding plane fracture; wide; healed; cohesive sediment; wet.
28	551							
30	549							
32	547				Total: 98% Solid: 65% RQD: 8%			
34	545							
36	543				Total: 100% Solid: 95% RQD: 36%	13.5 ppm 39.8-39.95'		
38	541							
40	539							
42	537				Total: 26% Solid: 22% RQD: 0%			
44	535							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-02C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	533							46
48	531				Total: 98% Solid: 98% RQD: 64%			Siltstone; strong; gray; aphanitic; massive with occasional banding; slightly decomposed; slight disintegration; fractured. 46.25' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 46.95' Bedding plane fracture; moderately narrow; some healing; cohesive sediment; rough; wet. 47.3-47.6' 75° Joint; narrow to medium wide; clean; not healed; smooth; wet. 48.2' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 48.55' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 48.9' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 49.15' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped. 50.3' Bedding plane fracture; medium narrow; medium healed; cohesive sediment; wet; stepped.
50	529							
52	527				Total: 100% Solid: 84% RQD: 69%			50.3-50.8' 90° Joint; medium narrow; clean; not healed; smooth; wet. 51-51.3' Fracture zone; very broken; narrow to moderately wide; medium healed; cohesive sediment; stepped; wet. 51.75' Mechanical break 52.15' Mechanical break 52.55' Mechanical break 53.15' Mechanical break 53.6' Mechanical break 52.9-53.55' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.1-55.2' 80° Joint; medium narrow; some healing; cohesive sediment; smooth; wet. 55.5-56.0' Broken; possible fracture zone, possible mechanical break; some cohesive sediment; 60° fracture plane at 55.8'
54	525							
56	523							55.6' Mechanical break 58.25' Mechanical break 59.15' Mechanical break 57.0-57.3 Fracture zone; very broken; narrow to moderately wide; clean; stepped; wet. 59.5-60.6 60-90° Joint set; wide to medium narrow; some healing; cohesive sediment; stepped; wet. 62.6' Mechanical break 63.2' Mechanical break 63.6-63.8 70° Joint; wide; healed; cohesive sediment; wet; stepped. 64.9' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.1' Bedding plane fracture; wide; medium healed; cohesive sediment; wet; stepped. 65.6-66.0' Fracture zone; very wide; healed; cohesive sediment; dry; stepped.
58	521				Total: 92% Solid: 86% RQD: 76%			
60	519							
62	517				Total: 100% Solid: 92% RQD: 88%			
64	515							
66	513							66
68	511							*Bottom of boring at 66 feet. End of boring at 66.0 ft. bgs.*
70	509							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-03B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/8/2016	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 27.5	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 587.05

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description	
					Ground Surface	
					Overburden, not logged.	
2	585					
4	583					
6	581					
8	579					
10	577					
12	575					
						13
14	573				Bluish-gray siltstone; strong; aphanitic; massive; fresh; competent; intensely fractured; fractures are primarily horizontal bedding plane fractures; smooth to slightly rough; no infilling; extremely narrow to tight. Recovery: Total: 100%, Solid: 65%, RQD: 15%	
16	571					

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-03B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Graphic Log	Physical Description
18	569				18
					SAA; intensely fractured to 22', moderately fractured below Recovery: Total: 100%, Solid: 93%, RQD: 22%
20	567				
22	565				23
					SAA; fossiliferous between 26.6' and 27.0'. Possible fracture zone from 23.33-23.75' w solid core recovery between fractures; Horizontal bedding plane fractures at 23.95', 24.0', 24.2', 24.5', 24.75', 24.9', 25.1', 25.25', 25.65', 25.8', 26.1', 26.55', 26.0', and 27.2'. Recovery: Total: 100%, Solid: 95%, RQD: 60%
24	563				
26	561				27.5
28	559				*Bottom of boring at 27.5 feet. End of boring at 27.5 ft. bgs.*
30	557				
32	555				
34	553				
36	551				

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-04B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 11/30/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Nathaniel Winston	**Total Depth (ft):** 41.2	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 593.57

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
								Asphalt Asphalt and gravel debris	1.25
2	592			- - - -	69	(0-2) 1.7 (2-4) 3.0		***SILT WITH GRAVEL (ml)*** Dark grayish-brown (10YR4/2) silt and subangular gravel; moist; medium dense; non cohesive; nonplastic.	
4	590								
6	588			- - - -	63	(4-6) 2.6 (6-8) 3.7			6
								SILT (ml) Dark reddish-brown (10YR2/1) silt, some sub-angular gravel; loose; dry; non cohesive; nonplastic.	
8	586								8.75
10	584			- - - -	63	(8-10) 2.3 (10-12) 4.9		***WELL-GRADED GRAVEL (gw)*** Fill: black (10YE2/1) to dark red (2.5YR3/6) coal ash and brick fragments, some angular coal fragments; loose; dry; non cohesive; odorless.	
12	582								
14	580			- - - -	63	(12-14) 10.3 (14-16) 4.1			
16	578								
18	576			- - - -	75	(16-18) 6.9 (18-20) 3.4			18.5
								WELL-GRADED GRAVEL (gw) White fragmented sandstone fill.	18.8
20	574								20

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-04B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				- -	100	(20-21) 0.1		***WELL-GRADED GRAVEL (gw)*** Fill: red (2.5YR3/6) brick fragments, trace coal; loose; dry. 21
22	572			- -				***SILT (ml)*** Grayish-brown (10YR5/2) silt, trace brick and coal fragments; wet; soft.
24	570				Total: 100% Solid: 60% RQD: 27%			Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°. 26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break
26	568							27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet. 28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break
28	566				Total: 100% Solid: 81% RQD: 18%			29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp; 30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft. 31.9' Mechanical break
30	564							32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break
32	562				Total: 82% Solid: 65% RQD: 13%			33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break
34	560							35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.8' Mechanical break
36	558							37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break 38.05' Mechanical break
38	556				Total: 100% Solid: 100% RQD: 62%			38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet. 39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet.
40	554							Ithaca Siltstone, strong dark gray; aphanitic; laminated to massive; fresh to slightly decomposed; competent to moderately disintegrated; fractures from 0 to 90°. 41.2
42	552							26.4' Bedding plane fracture; medium wide; not healed; cohesive sediment; rough; wet. 26.6-26.9' Mechanical Break 27.0' 50° Joint; narrow; not healed; clean; smooth; oxidation; wet. 27.0-27.3' Mechanical break
44	550							27.9' Bedding plane fracture; wide; moderately to totally healed; cohesive clay sediment; rough; wet. 28.3' Mechanical break 28.4' Mechanical break 28.7-29.3' Mechanical break 29.6-29.8' 90° Joint; narrow; not healed; clean; rough; damp;

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-04B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	548							30.0-31.2' Bedding plane fractures every 0.2 ft.; narrow; not healed; clean; stepped; damp. 31.2-31.65' Cavity; healed; gray cohesive clay sediment; wet; soft. 31.9' Mechanical break 32.1' Mechanical break 32.2' Mechanical break 32.6-32.95' Joint set; wide; totally healed; cohesive gray clay sediment; rough; wet. 33.1' Mechanical break 33.25' Mechanical break 33.4' Mechanical break 33.65' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 33.95' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 34.0-34.65' Mechanical break 35.5' Mechanical break 35.6-35.65' 60° Joint; narrow; clean; stepped; wet. 36.05-36.2' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.4-36.55' 70° Joint; narrow; not healed; clean; smooth; wet. 36.6' Bedding plane fracture; narrow; moderately healed; cohesive sediment; smooth; wet. 36.8' Mechanical break 37.1 Micro-joint; clean; wet. 37.2' Mechanical break 37.5' Mechanical break 38.05' Mechanical break 38.35-38.90' Fracture zone; moderate wide; completely healed; cohesive gray clay sediment; rough; wet. 39.4' Mechanical break 39.7' Mechanical break 40.2' Bedding plane fracture; Narrow; clean; smooth. 40.5-41.2' 90° Joint; narrow; not healed; clean; smooth; wet. *Bottom of boring at 41.2 feet. End of boring at 41.2 ft. bgs.*
48	546							
50	544							
52	542							
54	540							
56	538							
58	536							
60	534							
62	532							
64	530							
66	528							
68	526							
70	524							

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-05B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	Drill Start Date:	Drill End Date: 11/30/2015	Drill Method: Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	Total Depth (ft): 25	Bore Diameter (in): 8.25/4	Ground Surface (ft-msl): 712.35

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				17 22 34 22	100	2.7		Asphalt.	0.5
2	710			18 19 50/2 -	100	1.4		***SILTY GRAVEL (gm)*** Brown (10YR4/5) silty sub angular gravel; loose to medium dense; dry.	3.2
4	708							Not logged, augered down to set casing.	
6	706								6.3
8	704				Total: 98% Solid: 82% RQD: 8%			Siltstone; strong gray; dark; aphanitic; massive with possible laminations; fresh; competent; intensely fractured. 6.3-6.6' broken; 6.7' horizontal bedding plane; 6.85' horizontal bedding plane; 7-7.1' broken; 7.3' horizontal bedding plane; 7.5-7.55' horizontal bedding plane; 7.7, 7.8, 7.9, 8.1, 8.3, 8.5, 8.75, 8.9, 9.1, 9.25, 9.4, 9.8, 10, 10.2, 10.5' horizontal bedding plane fractures; 10.7-11.2' broken. Fractures are extremely narrow; not healed; clean; rough; stepped with visible water flow.	
10	702								11.3
12	700				Total: 98% Solid: 82% RQD: 8%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-4 with horizontal bedding plane fractures; clean; rough; stepped. Vertical fracture between 15.2-15.8'	
14	698								
16	696								16.3

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-05B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	694				Total: 100% Solid: 9% RQD: 28%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured every 1-3 with horizontal bedding plane fractures; clean; rough; stepped. Highest fracture density between 22.4 and 23.1'. *(continued)*
20	692							21.3
22	690				Total: 65% Solid: 65% RQD: 42%			Siltstone; strong; gray; laminated; fresh; competent; intensely fractured. Horizontal bedding plane fractures at 21.8, 21.9, 22.1, 22.4, 22.9, 23.3, 23.8, 24.2, 24.4'. Fractures are clean; rough; stepped with narrow aperatures. High angle fracture between 24.0 and 24.2.
24	688							
26	686							26.3
								Bottom of boring at 25 feet. End of boring at 25.0 ft. bgs.
28	684							
30	682							
32	680							
34	678							
36	676							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-06C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/2/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Nathaniel Winston	**Total Depth (ft):** 66	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 584.72

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				13, 20, 10, 11	100	0.7		Asphalt.	0.5
2	583			17, 18, 16, 13	75	1.9		***SILT WITH GRAVEL (ml)*** Brown (10YR4/3) gravely silt fill; loose; dry; non cohesive.	3
4	581			7, 9, 6, 6	50	1.7		***SILT (ml)*** Very dark brown (10YR2/2) to black (10YR2/1) silt, some angular gravel (0.2-1.0 in), some coal fragments; medium dense; moist; non cohesive; nonplastic.	
6	579			7, 6, 5, 4	0	-			
8	577			2, 3, 4, 4	25	1.8			
10	575			3, 4, 4, 3	15	1.6			11.7
12	573			6, 7, 3, 3	50	2		***SILT (ml)*** Dark grayish-brown (10YR4/2) silt, trace gravel; soft; moist; low plasticity; cohesive; moist.	13
14	571			3, 4, 6, 3	25	1.4		***SILT WITH GRAVEL (ml)*** Grayish-brown (10YR5/3) silt and angular gravel (0.2-2.0in), some coal fragments, trace medium sand; medium dense; low plasticity; cohesive; moist, becoming wet at 13.75'.	
16	569			21, 3, 5, 4	62.5	1.2			17
18	567			15, 6, 6, 3	50	1.4		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'.	
20	565								

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
				6, 3, 3, 6	20	0.8		***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Angular weathered siltstone fragments, some brown (10YR5/3) silt and medium sand, trace coal fragments; loose; wet. Some olive yellow (2.5YR6/6) oxidized zones at 24.5'. *(continued)*
22	563			6, 7, 7, 8	15	1.8		
24	561			10, 7, 5, 8	50	3.3		
26	559			7, 7, 6, 13	15	3.8		
28	557			6, 13, 40, 52	100	3		28.3 – 28.7: Light brownish-gray (2.5YR6/2) siltstone fragments, trace silt; broken; loose.
30	555							
32	553				Total: 84% Solid: 68% RQD: 23%			
34	551							
36	549				Total: 100% Solid: 100% RQD: 44%			
38	547							
40	545							
42	543				Total: 100% Solid: 100% RQD: 56%	PID 2.2 ppm at 39.4'		
44	541							

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
46	539				Total: 100% Solid: 100% RQD: 68%			Siltstone, strong dark gray; aphanitic; massive with occasional bedding; fresh to slightly decomposed; competent to moderately disintegrated; some very intense fracturing. 31.3' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.4' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.6' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 31.7' Bedding plane fracture; narrow to moderately narrow; healed cohesive sediment; rough; wet. 32.2-32.5' Mechanical break 32.5-33.05' Bedding plane fracture zone; moderately narrow to wide; healed cohesive sediment; some sand; stepped; wet. 33.1-33.3' 90° Joint; narrow; not healed; clean; stepped; wet.
48	537							
50	535							
52	533				Total: 100% Solid: 92% RQD: 60%	PID 1.7 ppm at 54.3'; PID 2.3 ppm at 55.4'		33.5' Mechanical break 33.7' Mechanical break 34.5' Mechanical break 35.0' Mechanical break 35.95' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet. 36.2' Bedding plane fracture; moderately narrow; healed cohesive sediment; stepped; wet. 36.4' Bedding plane fracture; moderately narrow; not healed; stepped; wet. 36.65-36.70' 30° Joint; narrow; not healed; clean; smooth; wet. 37.0' Mechanical break 37.25-37.30' 20° Joint; narrow; not healed; clean; smooth; wet. 37.7' Mechanical break 37.8' Mechanical break
54	531							
56	529				Total: 71% Solid: 71% RQD: 71%			38.15' Mechanical break 38.25' Bedding plane fracture; narrow; not healed; stepped; wet. 39.1' Bedding plane fracture; medium wide; not healed; stepped; wet. 39.2' Mechanical break 39.4-39.55' Bedding plane fracture; wide; healed; cohesive clay with sand; wet. 39.7-39.8' 45° Joint; narrow; not healed; clean; stepped; wet. 40.2' Mechanical break 40.3' Mechanical break 40.95' Mechanical break 41.3' Bedding plane fracture; narrow; medium healed; smooth; wet 41.80' Bedding plane fracture; medium narrow; medium healed; some cohesive clay and sand sediment; wet. 42.0' Mechanical break
58	527							
60	525							
62	523				Total: 60% Solid: 100% RQD: 90%	PID 5.6 ppm at 62.4'		42.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 42.65' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 43.5' 20° Joint; narrow; some healed; cohesive sediment; smooth; wet. 43.70' Mechanical break 44.35' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 44.50' Mechanical break 45.1' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 45.2' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet.
64	521							
66	519							45.45' Bedding plane fracture; narrow; medium healed; some cohesive clay and sand sediment; wet. 46.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 47.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 47.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 48.1' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 48.9' Mechanical break 49.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 49.2' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 50.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 50.2' Mechanical break 50.8-51.6 90° joint; narrow to moderately narrow; medium healed; cohesive sediment; stepped; wet.
68	517							
70	515							

66

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-06C

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
								Notes:
72	513							52.0' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 52.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 53.1' Mechanical break 53.4' Bedding plane fracture; narrow; medium healed; some cohesive clay; wet. 53.8-54.0' Bedding plane fracture; wide; clean; stepped; wet. 54.3' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet.
74	511							55.4' Bedding plane fracture; wide; healed; cohesive gray clay sediment; stepped; wet. 55.6' Mechanical break 55.7-57.0 Joint set; 70-90°; extremely narrow; medium healed; stepped; wet; 57-59' core loss, driller notes that the bit dropped during drilling. A void/cavity likely present.
76	509							59.8' Mechanical break 61.0' Mechanical break 61.7' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 62.1' Mechanical break 62.4-62.8' Fracture zone; very wide; healed; cohesive sediment and coarse gravel; rough and stepped; wet.
78	507							63.6' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.3' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 64.9' Bedding plane fracture; narrow; medium healed; some cohesive clay; smooth; wet. 65.4-65.8' Mechanical break *(continued)*
80	505							*Bottom of boring at 66 feet. End of boring at 66.0 ft. bgs.*
82	503							
84	501							
86	499							
88	497							
90	495							
92	493							
94	491							
96	489							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-07B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/7/2016	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 23.1	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 599.67

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Notes: Physical Description	
							Ground Surface	
2	598						Not logged.	
4	596							
6	594							7.5
8	592			- - - -	Total: 100%; Solid: 59%; RQD: 0%		Siltstone; blueish-gray (10B 5/1); moderate strong; fossiliferous; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; horizontal bedding plane fractures	9.8
10	590			- - - -	Total: 100%, Solid: 83%, RQD: 0%		SAA; fractures are horizontal bedding plane fractures; extremely narrow; rough; tight; some CaCO3 recrystallization. Fracture bedding begins to dip to 10° at 19.0'.	
12	588							
14	586							14.8
16	584						SAA, intensely fractured with horizontal bedding plane fractures from 19.8' to 21.5'; extremely narrow; not healed; clean; smooth to rough.	

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
18	582			- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA, intensely fractured with horizontal bedding plane fractures from 19.8' to 21.5'; extremely narrow; not healed; clean; smooth to rough. *(continued)* 19.8
20	580			- - - -	Total: 100%; Solid: 92%; RQD: 44%		SAA
22	578						23.1
							Bottom of boring at 23.1 feet. End of boring at 23.10 ft. bgs.
24	576						
26	574						
28	572						
30	570						
32	568						
34	566						
36	564						

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-07C
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 1/6/2016	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 47.25	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 599.84

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description	
							Ground Surface	
							Not logged.	
2	598							
4	596							
6	594							
								7
8	592			- - - -	Total: 43%; Solid: 19%; RQD: 0%		Siltstone; gray; strong; aphanitic; uniform, some laminations; slightly decomposed; disintegrated; very intensely fractured; fracture surfaces have yellow to red ironoxide staining. Horizontal fractures at 8.5', 8.6', 8.9'; vertical fractures from 8.5'-8.9' Recovery: Total: 43%; Solid: 19%; RQD: 0%	9
10	590			- - - -	Total: 100%; Solid: 90%; RQD: 19%		Siltstone; gray; strong; aphanitic; massive, some laminations; fresh to slightly decomposed; competent; intensely fractured from 9-12' with fracture density decreasing between 12-14'; fractures are mostly horizontal bedding plane fractures and extremely narrow; not healed; clean rough; stepped.	
12	588							
14	586							14
16	584			- - - -	Total: 100%; Solid: 92%; RQD: 20%		SAA, intensely fractured with horizontal bedding plane fractures; extremely narrow; not healed; clean; smooth to rough.	
18	582							18.25
20	580			-	Total: 100%;		SAA	

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
				- - -	Solid: 98%; RQD: 40%		SAA *(continued)*
22	578						SAA *(continued)* — 22.25
24	576			- - - -	Total: 100%; Solid: 98%; RQD: 28%		SAA SAA
26	574						27.25
28	572			- - - -	Total: 100%; Solid: 97%; RQD: 63%		SAA SAA
30	570						
32	568						32.25
34	566			- - - -	Total: 100%; Solid: 97.5%; RQD: 97.5%		SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow. SAA, slightly fractured, horizontal bedding plane fractures at 33.75' and 36.00' and 36.70'; fractures are clean; smooth; very narrow to extremely narrow.
36	564						37.25
38	562			- - - -	Total: 100%; Solid: 100%; RQD: 100%		SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow SAA, slightly fractured; horizontal bedding plane fractures at 37.4', vertical break from 37.4-28.0", 30° fracture at 38.75', horizontal bedding plane fractures at 40.0' and 41.40'; All fractures are clean; narrow rough; extremely narrow
40	560						
42	558						42.25
44	556			- - - -	Total: 100%; Solid: 100%; RQD: 100%		SAA, core recovered entirely intact.

Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-07C

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	Graphic Log	Physical Description
46	554						SAA, core recovered entirely intact. *(continued)*
48	552						SAA, core recovered entirely intact.
							SAA, core recovered entirely intact. *(continued)*
50	550						*Bottom of boring at 47.25 feet. End of boring at 47.25 ft. bgs.*
52	548						
54	546						
56	544						
58	542						
60	540						
62	538						
64	536						
66	534						
68	532						
70	530						

47.25

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-MW-08B
Drilled By: Parratt Wolff, Inc./Wayne Nielson	**Drill Start Date:**	**Drill End Date:** 12/9/2015	**Drill Method:** Hollow Stem Auger/Core Barrel
Logged By: Erik S. Reinert	**Total Depth (ft):** 21	**Bore Diameter (in):** 8.25/4	**Ground Surface (ft-msl):** 536.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				7 12 50/2.5		0		***WELL-GRADED GRAVEL (gw)*** Black gravel, little fine grained sand, little silt; dry; medium dense.	1
								SILT (ml) Light brown silt, trace coarse sand and gravel; dry.	1.7
2	535							Not logged, augered down to set casing.	
4	533								
									5
6	531				Total: 40% Solid: 35% RQD: 35%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	6
8	529				Total: 98% Solid: 66% RQD: 0%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean.	
10	527								
									11
12	525				Total: 100% Solid: 75% RQD: 15%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean; Vertical fracture from 21.1 to 12.4' and from 14.8-15.1'.	
14	523								
16	521								16

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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: WSP-MW-08B

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description
18	519				Total: 100% Solid: 70% RQD: 8%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures; extremely narrow to very narrow; rough stepped; clean. Vertical fracture between 16.2 and 16.7'; smooth; narrow; clean. *(continued)*
20	517							21
22	515				Total: 100% Solid: 92% RQD: 98%			Siltstone; dark gray siltstone; strong; uniform with possible laminations; fresh; competent; intensely fractured with primarily horizontal bedding plane fractures ever 2 to 1'; extremely narrow to very narrow; rough stepped; clean.
24	513							24
26	511							*Bottom of boring at 21 feet. End of boring at 21.0 ft. bgs.*
28	509							
30	507							
32	505							
34	503							
36	501							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-500
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 10.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 584.19

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.4		***Asphalt*** Asphalt.	0.3
2	582						***GRAVELLY SILT WITH SAND (ml)*** Brown (10YR4/3) silt, with ~25% angular, poorly graded, gravel and traces of fine, soft sands; medium dense; low plasticity, dry.	
4	580							
6	578						***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** gray and tan (10YR6/4) well graded, sub angular, coarse gravel with weathered siltstone and some brown, non plastic, stiff silt. Very hard, high density and dry.	6
8	576			- - - -	2.1		***GRAVELLY SILT WITH SAND (ml)*** Light brown silt (10YR4/4) with coarse gravel, trace fine sand and weathered siltstone; firm, medium dense; wet.	8.5
10	574						*Bottom of boring at 10.5 feet. Refusal at 10.5 ft. bgs.*	10.5
12	572							
14	570							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-501
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 8	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.32

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				- - - -	0.2		***Concrete*** Concrete slab	0.5
2	585						***GRAVELLY SILT WITH SAND (ml)*** Brown (7.5YR4/4) Silt with ~15% well graded, angular, medium gravel, trace fine, soft sand; firm, medium density and dry.	
4	583							
6	581							6.5
				- - - -	0.2			
8	579						*Bottom of boring at 8 feet. Refusal at 8.0 ft. bgs.*	
10	577							
12	575							
14	573							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-502
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.33

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.3		***Concrete*** Concrete slab	0.5
1	586			-	0		***Fill Material*** Fill material of brownish-gray (7.5 YR5/4) poorly graded, sub angular, medium-coarse gravel, ash and fine, soft sand;medium density; dry.	1.5
2	585			-			***WELL-GRADED GRAVEL WITH SILT (gw-gm)*** Light brown (10YR6/8) well graded, angular gravel with silt, some weathered shale; hard; dry.	2
				-			*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	
3	584			-				
4	583			-				
5	582							
6	581							
7	580							
8	579							
9	578							
10	577							

Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-503
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 1	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.34

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0		***Concrete*** Concrete slab	0.5
1	586			- - -			***POORLY-GRADED GRAVEL (gp)*** Fill: dark black (10YR3/2) poorly graded, sub angular, medium gravel, with silt and some coarse sand; medium density; dry. Some weather siltstone at bottom 2 of core.	1
							Bottom of boring at 1 feet. Refusal at 1.0 ft. bgs.	
2	585							
3	584							
4	583							
5	582							
6	581							
7	580							
8	579							
9	578							
10	577							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-504
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 6	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.37

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
				-	0.2		***Concrete*** Concrete slab	0.5
1	586			-			***POORLY-GRADED GRAVEL WITH SAND (gp)*** Fill: gray to tan (7.5YR6/3) well graded, sub angular, fine-medium gravel; fine sands with ash and broken up siltstone; hard, medium density; dry.	
				-				
2	585			-				
3	584							3
							WELL-GRADED SAND WITH GRAVEL (sw) Brownish-tan (10YR6/6) well graded angular gravelly sand ; hard; very dense; dry.	3.5
4	583						***SANDY SILT WITH GRAVEL (ml)*** Brown (7.5YR4/6) fine grained sandy silt with poorly graded, angular, medium gravel; medium density; moist to wet with increasing depths.	
5	582			-	11.9			
				-				
6	581			-			*Bottom of boring at 6 feet. Refusal at 6.0 ft. bgs.*	6
				-				
7	580							
8	579							
9	578							
10	577							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-505
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.36

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	PID (ppm)	Graphic Log	Physical Description	
							Ground Surface	
		X		- - - -	0.0		***Concrete*** Concrete slab	0.8
2	585						***Fill*** Fill: Dark brown to black (10YR3/2) poorly graded sandy, sub angular gravel and ash; medium-coarse; about 50% gravel with increasing presence of gravel further down the core run; hard; medium density; dry. Sand was fine grained.	
4	583							
6	581							6
		X		- - - -	1.4		***SANDY SILT WITH GRAVEL (ml)*** Dark brown (10YR3/4) silt with fine, firm sand and ~20% sub angular, poorly graded, medium-coarse gravel; very dense; dry.	
8	579							8.5
							Shale/ siltstone Broken up and weathered shale and siltstone.	9
10	577						*Bottom of boring at 9 feet. Refusal at 9.0 ft. bgs.*	
12	575							
14	573							

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-506
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/18/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 9	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.42

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				- - - -				***Concrete*** Concrete slab	0.5
2	585							Fill: brownish-gray (10YR5/3) poorly sorted, sub angular gravel, coarse sand and ash, over 50% grave/ and all gravel from 4-5'; hard; low density; dry.,	
4	583								
				- - - -	75	0.6			
6	581								6.5
								SANDY SILT WITH GRAVEL (ml) Light brown (7.5YR4/6) moderately fine sandy silt with ~10% well graded, angular gravel; medium density; moist.	
8	579								9
								Bottom of boring at 9 feet. Refusal at 9.0 ft. bgs.	
10	577								
12	575								
14	573								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-507
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 7	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.45

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	40	0.3		Concrete slab	0.5
1	586			-				Fill: gray and brownish-yellow (10YR6/4) well graded, angular gravel with fine sand, trace coarse ash and concrete; hard; medium density; dry. .	
				-					
2	585			-					
3	584								
4	583								
5	582								
6	581			-	90	0.3		***ELASTIC SILT WITH GRAVEL (mh)*** Light brown (10YR3/4) elastic silt with ~20% well graded, angular gravel; dense.	6
				-					
7	580			-				*Bottom of boring at 7 feet. Refusal at 7.0 ft. bgs.*	7
8	579			-					
9	578								
10	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-508
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 5.5	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 587.43

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	25	0.4		Concrete slab	0.5
1	586			-				Fill: brownish-gray (10YR5/4) well graded, sub rounded gravel with mixture of coarse and fine sands, trace non plastic silt; medium density; dry.	
				-					
2	585			-					
3	584								3
								Brownish-gray (10YR-5/3) poorly graded, sub rounded, medium gravel, with dark, coarse ash fill; very hard, and much denser than the above fill material; dry.	
4	583								
5	582			-	50				5
				-				***SANDY ELASTIC SILT WITH GRAVEL (mh)*** Dark brown (10YR2/2) fine grained sandy silt with ~10% well-graded, sub-rounded gravel; medium density; moist.	5.5
6	581			-				*Bottom of boring at 5.5 feet. Refusal at 5.5 ft. bgs.*	
7	580								
8	579								
9	578								
10	577								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-509
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 599.52

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	100	0.6		***Concrete*** Concrete slab	0.5
1	599			- -	100	1.7		***WELL-GRADED GRAVEL WITH SAND (gw)*** Yellow and gray (10YR6/6) sandy well graded, sub angular, coarse gravel with weathered siltstone and broken up shale, trace coarse, poorly graded fill ash material; hard, very dense; dry.	
2	598			-				*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	597			- -					
4	596			-					
5	595								
6	594								
7	593								
8	592								
9	591								
10	590								

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Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** WSP-SB-510
Drilled By: Parratt Wolff, Inc./Layne Pesch	**Drill Start Date:**	**Drill End Date:** 5/19/2016	**Drill Method:** Direct Push
Logged By: Chris Cresci	**Total Depth (ft):** 2	**Bore Diameter (in):** 2	**Ground Surface (ft-msl):** 599.56

Notes:

Depth (ft)	Elevation (ft-msl)	Type	Lab Sample Interval	Blows	Recovery (%)	PID (ppm)	Graphic Log	Physical Description	
								Ground Surface	
				-	90	0.7		***Concrete*** Concrete slab	0.5
1	599			- -	90	8.1		***WELL-GRADED GRAVEL (gw)*** gray to brown (10YR5/2) well graded, angular medium-coarse gravel with weathered siltstone, trace coarse, poorly graded sand and broken up shale at bottom 3 of borehole; very hard; dense; dry.	
2	598			-				*Bottom of boring at 2 feet. Refusal at 2.0 ft. bgs.*	2
3	597			- -					
4	596			-					
5	595								
6	594								
7	593								
8	592								
9	591								
10	590								

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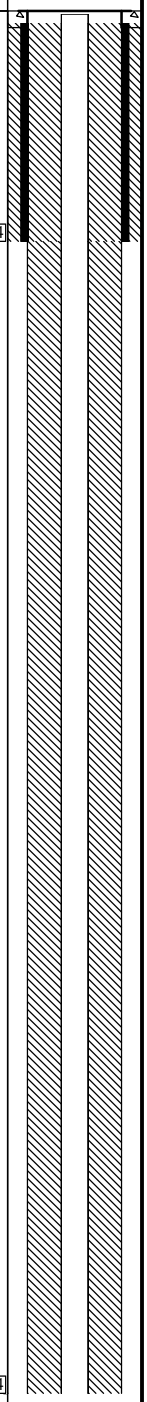
Project Name: Former EPT	**Client:** Emerson	**Location:** Ithaca, NY	**Boring Log:** MW-50-160D
Drilled By: Parratt Wolff, Inc./TJ Dale	**Drill Start Date:** 6/14/2021	**Drill End Date:** 6/17/2021	**Drill Method:** Hollow Stem Auger/Air Rotary/C
Logged By: Nathaniel Winston	**Total Depth (ft):** 163.7	**Bore Diameter (in):** 4	**Ground Surface (ft-msl):**

Depth (ft)	Elevation (ft-msl)	Sample Type	Lab Sample Interval	Recovery (%)	RQD	Graphic Log	Notes: / Physical Description	Well
							Ground Surface	
							OVERBURDEN	
							14	
							SILTSTONE Not logged; air rotary	
20								
40								
60								
80								
							84	



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Project Name: Former EPT	Client: Emerson	Location: Ithaca, NY	Boring Log: MW-50-160D

Depth (ft)	Elevation (ft-msl)	Sample Type	Lab Sample Interval	Recovery (%)	RQD	Graphic Log	Notes: / Physical Description	Well
				Total: 100%; Solid: 100%	100		***SILTSTONE***	
				Total: 100%; Solid: 100%	100		Siltstone; strong; strong to light gray; aphanitic; massive; fresh; competent.	
				Total: 100%; Solid: 100%	100		84.10' bedding plane fracture; trace brachiopod fossils; narrow; partially healed; trace cohesive sediment; rough; wet 87.10' bedding plane fracture; extremely narrow; partially healed; cohesive sediment; rough; wet	
				Total: 100%; Solid: 100%	80		90.55' bedding plane fracture; extremely narrow; partially healed; cohesive sediment; rough; wet 91.54' bedding plane fracture; tight; fossiliferous with pyrite mineralized brachiopods; clean; rough; wet	
100				Total: 100%; Solid: 93%	90		94.86' bedding plane fracture; narrow; partially healed; cohesive sediment; rough; wet 96.10' bedding plane fracture; tight; clean; wet 97.10-98.60' fracture zone; bedding plane fractures; moderate vertical to 45 degree fractures; moderate narrow to tight; partially healed; trace oxidation; some cohesive sediment; trace brachiopod fossils; rough; wet	
				Total: 100%; Solid: 100%	100		101.20' bedding plane fracture; tight; clean; wet 101.40' bedding plane fracture; tight; clean; wet 107.70' joint; 30 degrees; extremely narrow; not healed; clean; smooth; wet	
				Total: 100%; Solid: 100%	100		118.30' bedding plane fracture; extremely narrow; moderately healed; cohesive sediment; stepped; wet 118.80' bedding plane fractures; extremely narrow; moderately healed; cohesive sediment; stepped; wet	
				Total: 100%; Solid: 98%	97		125.20' bedding plane fracture; narrow; moderately healed; trace cohesive sediment; wet 129.58' bedding plane fracture; narrow; trace healing; trace cohesive sediment; wet	
120				Total: 100%; Solid: 100%	100		131.50-132.00' trace very narrow hairline fractures; vertical; clean; wet 133.20' bedding plane fracture; narrow; trace healing; trace cohesive sediment; wet 133.55-136.40 bedding plane fracture zone; moderately narrow; partially healed; cohesive sediment; undulating; wet	
				Total: 100%; Solid: 100%	96		135.40' bedding plane fracture; extremely narrow; partially healed; smooth; wet 145.50' bedding plane fracture; very narrow; clean; smooth; wet 146.95' bedding plane fracture; very tight; clean; wet	
				Total: 100%; Solid: 98%	94		149.20' bedding plane fracture; narrow; trace cohesive sediment; moist 149.50' bedding plane fracture; narrow; trace cohesive sediment; moist 151.20' bedding plane fracture; very narrow; not healed; clean; smooth; wet 152.18' bedding plane fracture; very narrow; not healed; clean; smooth; wet	
				Total: 100%; Solid: 100%	100		153.65' bedding plane fracture; very narrow; not healed; clean; smooth; wet 154.30' bedding plane fracture; very narrow; not healed; clean; smooth; wet 155.70' bedding plane fracture; very narrow; not healed; clean; smooth; wet	
140				Total: 100%; Solid: 100%	100		156.50-156.60' bedding plane fractures; narrow; clean; trace cohesive sediment; wet 157.60' bedding plane fracture; very narrow; not healed; clean; smooth; wet 159.00' bedding plane fracture; very narrow; not healed; clean; smooth; wet 159.75' bedding plane fracture; moderately narrow; not healed; clean; smooth; wet	
				Total: 100%; Solid: 100%	95		160.13' void; no return 160.50' driller reported bit dropping ~0.5' 161.50-162.50' fracture zone; bedding plane and vertical fractures with micro joints; healed; cohesive sediment; wide to very tight; wet	
				Total: 100%; Solid: 100%	80			
				Total: 88%; Solid: 84%	28			
160				Total: 90%; Solid: 80%	50			
							Bottom of boring at 163.7 feet.	

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Wells installed in AOC-1 as part of the DPE treatment system expansion will be included with the final SMP

APPENDIX

E NCR SEWER AND DEED RESTRICTION

Tompkins County Clerk Recording Page

Return To

FIRST AMERICAN TITLE NCS ST. LOUIS
8182 MARYLAND AVE., STE 400
SAINT LOUIS, MO 63105

Maureen Reynolds, County Clerk
Tompkins County Clerk
320 North Tioga Street
Ithaca, NY 14850
(607) 274-5431

Document Type: **MISC**

Receipt Number: 18-207602

Party 1
EMERSUB 15 LLC

Party 2
EMERSUB 15 LLC

Fees	
Recording Fee	$20.00
Pages Fee	$95.00
State Surcharge	$20.00
Total Fees Paid:	$135.00

Instrument #: 2018-10180

State of New York
County of Tompkins

Filed on September 6th, 2018 at 12:56:14 PM
with a total page count of **19**.

Tompkins County Clerk

This sheet constitutes the Clerk's endorsement required by section 319 of the Real Property Law of the State of New York

MR

Do Not Detach

DECLARATION of COVENANTS and RESTRICTIONS

THIS DECLARATION (the "Declaration") is made the 6th day of September 2018, by **EMERSUB 15 LLC**, a Delaware limited liability company, having an office for the transaction of business at 8000 West Florissant Avenue, St. Louis, Missouri 63136 ("Owner").

WHEREAS, Owner is the owner of that certain real property located at 620 South Aurora Street and 810 Danby Road, in the Town of Ithaca, County of Tompkins and State of New York (the "State"), which is legally described on **Schedule A** attached to this declaration and made a part hereof, and is further known and designated on the tax map of the County Clerk of Tompkins as tax map parcel numbers: Section 106, Block 1, Lot 8, Section 40, Block 3, Lot 3, and a portion of Section 40, Block 3, Lot 14.2, being the same as that property conveyed to Owner by deeds recorded in the Tompkins County Clerk's Office in Liber 474, Page 68; Liber 556, Page 127; Liber 556, Page 1081; Liber 564, Page 91; Liber 567, Page 446; Liber 2512, Page 5758; and Instrument Number 555134-003 (the "Property"); and

WHEREAS, soil vapor contamination associated with the sewer lines serving the former National Cash Register site to the south of the Property and Ithaca College to the east of the Property was identified during past environmental investigations, which sewer lines comprise the main sanitary sewer trunk and the lateral sanitary sewer trunk and are located on a portion of the Property (collectively, the "NCR Sewer Line Area"); and

WHEREAS, the NCR Sewer Line Area comprises approximately +/- 2.983 acres, and is hereinafter more fully described in the Land Title Survey dated July 25, 2018, prepared by Richard M. Rybinski, and which is legally described on **Schedule B** attached to this declaration and made a part hereof; and

WHEREAS, the covenants and restrictions contained in this Declaration ensure the protection of public health and the environment.

NOW, THEREFORE, Owner, for itself, its assigns, and subsequent owners of the NCR Sewer Line Area covenants that:

First, the NCR Sewer Line Area subject to this Declaration is as shown on a map attached to this declaration as **Schedule B** and made a part hereof.

Second, prior to any construction activity that involves either connecting to the sewers located within the NCR Sewer Line Area or the erection of any occupied structure that lies partially or wholly within the NCR Sewer Line Area, Owner shall conduct an evaluation of soil vapor intrusion potential in accordance with the State's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" or equivalent and successor methodology or guidance thereto (collectively, the "Guidance"), and implement recommended actions in accordance with such Guidance ("Recommended Actions") if any, to address exposures related to soil vapor intrusion, or in the alternative, the owner may forego the soil vapor intrusion evaluation and install a soil

vapor intrusion mitigation system ("Engineering Controls") in any building on the Property intended for such occupation, as though the evaluation of soil vapor intrusion potential would have justified mitigation under the Guidance.

Third, all Engineering Controls shall be installed prior to occupancy of any structure that lies partially or wholly within the NCR Sewer Line Area or any structure served by a lateral that connects to the sewer located within the NCR Sewer Line Area.

Fourth, all Engineering Controls and Recommended Actions shall be performed, operated, maintained and monitored as specified in the Guidance.

Fifth, all Engineering Controls shall be inspected at a frequency and in a manner defined in the Guidance.

Sixth, data and information pertinent to the Recommended Actions and/or Engineering Controls shall be reported at the frequency and in a manner in accordance with the Guidance.

Seventh, access to the NCR Sewer Line Area shall be provided to agents, employees or other representatives of the State with reasonable prior notice to the Owner to assure compliance with the Guidance.

Eighth, the Recommended Actions and Engineering Controls shall be binding upon the Owner, its assigns, and subsequent owners of the NCR Sewer Line Area. The Recommended Actions and Engineering Controls may be modified in accordance with the State's statutory and regulatory authority. The Owner and all successors in title to the NCR Sewer Line Area, as well as their successors and assigns, assume the burden of complying with the Recommended Actions and Engineering Controls.

Owner shall provide all persons who acquire any interest in the NCR Sewer Line Area notice of the Recommended Actions and Engineering Controls along with any State approvals for the NCR Sewer Line Area.

Ninth, the Owner shall continue in full force and effect any Recommended Actions and Engineering Controls and maintain such controls, unless the Owner first obtains permission to discontinue such controls from the State.

Tenth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the NCR Sewer Line Area, and shall provide that any such owner and its successors and assigns consent to enforcement by the State or other relevant agency of the prohibitions and restrictions set forth in this Declaration, and hereby covenant not to contest the authority of the State to seek enforcement. Nothing contained in this Declaration shall be deemed a gift or dedication of any portion of the NCR Sewer Line Area to the general public or for the general public or for any public purpose whatsoever nor shall anything contained in this Declaration confer any benefits, rights, privileges, claims, actions or remedies to any person or entity as a third-party beneficiary or otherwise

Eleventh, any lease, license, deed of conveyance, or other instrument conveying the NCR Sewer Line Area, or any portion thereof, shall recite, unless the State has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration.

[Signature Page to Follow]

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

EMERSUB 16 LLC

By: _____
Print Name: Stephen L. Clarke
Title: President Date: 8/9/2018

STATE OF MISSOURI)
) ss.:
COUNTY OF St. Louis)

On the 9th day of August, in the year 2018, before me, the undersigned, personally appeared Stephen L. Clarke, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public State of Missouri

SHARON L. HYDE
Notary Public-Notary Seal
State of Missouri, St Louis County
Commission # 11535019
My Commission Expires Nov 21, 2019

Schedule A

The Property

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE COUNTY OF TOMPKINS AND STATE OF NEW YORK, AND DESCRIBED AS FOLLOWS, TO WIT:

PARCEL 1

ALL THAT PORTION OF SOUTH TIOGA STREET LYING SOUTH OF THE CAYUGA AND SUSQUEHANNA RAILWAY, AND EXTENDING TO THE SOUTH BOUNDARY OF THE SAID CITY OF ITHACA, AND

BEGINNING AT THE POINT OF INTERSECTION OF THE EAST LINE OF SOUTH CAYUGA STREET WITH THE SOUTH BOUNDARY LINE OF THE SAID CITY OF ITHACA; THENCE NORTH ALONG THE EASTERLY LINE OF CAYUGA STREET TO THE SOUTH BOUNDARY OF THE CAYUGA AND SUSQUEHANNA RAIL ROAD CO'S LAND NOW OR FORMERLY LEASED TO THE DELAWARE, LACKAWANNA & WESTERN RAIL ROAD CO., THENCE NORTHEASTERLY ALONG THE SOUTH BOUNDARY OF SAID RAIL ROAD CO'S LAND TO THE WEST LINE OF SOUTH TIOGA STREET EXTENDED; THENCE SOUTH ALONG THE WEST LINE OF SAID TIOGA ST. EXTENSION TO THE SOUTH BOUNDARY LINE OF THE CITY OF ITHACA; THENCE WEST ALONG THE SOUTH BOUNDARY LINE OF SAID CITY TO THE PLACE OF BEGINNING, AND

PART OF MILITARY LOT 94 IN SAID CITY BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING ON THE SOUTHEAST SIDE OF THE RIGHT OF WAY OF THE DELAWARE, LACKAWANNA AND WESTERN RAILROAD WEST OF AURORA STREET, AT THE NORTHWEST CORNER OF THE LOT WILLED TO JOSEPH WILLIS MCGRAW BY SARAH A. MCGRAW; THENCE ALONG THE SOUTHEAST LINE OF THE RIGHT OF WAY TO THE EAST LINE OF SOUTH TIOGA STREET, THENCE SOUTH ON THE EAST LINE OF SOUTH TIOGA STREET TO A POINT TWENTY-FIVE (25) FEET FROM THE CENTER LINE OF THE UPPER BRANCH OF THE TURNOUT BUILT BY THE SAID LACKAWANNA RAILROAD COMPANY FOR THE USE OF MORSE CHAIN COMPANY; THENCE NORTHEASTERLY AT A DISTANCE OF TWENTY-FIVE FEET FROM THE CENTER LINE OF SAID TURNOUT TO A POINT ON THE SOUTH LINE OF THE SAID JOSEPH MCGRAW LOT; THENCE WESTERLY ALONG THE SOUTH LINE OF SAID MCGRAW LOT TO THE PLACE OF BEGINNING, AND

THE PORTION OF THE EAST HALF OF SOUTH TIOGA STREET WHICH LIES BETWEEN THE LACKAWANNA RIGHT OF WAY AND THE LINE TWENTY-FIVE FEET EASTERLY FROM THE CENTER LINE OF THE TURNOUT ABOVE DESCRIBED, AND

BEGINNING AT THE POINT OF INTERSECTION OF THE SOUTH BOUNDARY LINE OF THE CITY OF ITHACA WITH THE WEST BOUNDARY LINE OF SOUTH CAYUGA STREET; THENCE WESTERLY ALONG SAID CITY LINE TO THE SOUTHERN BOUNDARY LINE OF LANDS OF THE CAYUGA AND SUSQUEHANNA RAILROAD, (NOW OR FORMERLY LEASED BY THE DELAWARE, LACKAWANNA AND WESTERN RAILROAD); THENCE NORTHEASTERLY ALONG SAID RAILROAD BOUNDARY LINE TO ITS INTERSECTION WITH THE WEST BOUNDARY LINE OF SOUTH CAYUGA STREET; THENCE SOUTHERLY ALONG SAID CAYUGA STREET LINE TO THE PLACE OF BEGINNING, AND

ALL THAT PORTION OF SOUTH CAYUGA STREET EXTENDING FROM THE SOUTHERLY LINE OF THE RIGHT OF WAY OF THE DELAWARE, LACKAWANNA & WESTERN RAILROAD COMPANY TO THE CITY LINE, AND

ON SOUTH HILL, DESIGNATED AS LOT 20 ON A MAP OF SOUTH HILL LANDS MADE BY KIRK P. CRANDALL, DATED MAY, 1905, AND FILED IN THE TOMPKINS COUNTY CLERK'S OFFICE ON THE 31ST DAY OF AUGUST, 1906, SAID LOT 20 BEING BOUNDED AS FOLLOWS: ON THE SOUTH BY THE RIGHT OF WAY OF THE D. L. & W. RAILROAD; ON

THE WEST BY SOUTH CAYUGA STREET, ON THE NORTH BY SOUTH HILL TERRACE AND LOT 21, AND ON THE EAST BY LAND FORMERLY BELONGING TO THE CITY WATER BOARD, AND

COMMENCING ON THE EAST LINE OF SOUTH AURORA STREET IN SAID CITY AT THE SOUTH-WEST CORNER OF LAND OWNED BY PHILIPP STEPHENS AT THE TIME OF HIS DEATH, AND RUNNING THENCE NORTH 26° AND 30' EAST ALONG THE EAST LINE OF SAID SOUTH AURORA STREET 353 ½ FEET TO THE SOUTH LINE OF LANDS DEVISED TO FITCH H. STEPHENS BY SAID PHILIPP STEPHENS BY HIS WILL ADMITTED TO PROBATE MAY 11, 1908, AND RECORDED IN BOOK C. C. OF WILLS AT PAGE 398 IN THE SURROGATE'S OFFICE OF SAID COUNTY OF TOMPKINS; THENCE NORTH 88° 45' EAST 703 FEET TO THE WEST LINE OF LANDS, WHICH BY THE TERMS OF SAID WILL, THE EXECUTOR THEREIN NAMED WAS EMPOWERED TO SELL; THENCE SOUTH 4° 15' WEST ALONG SAID WEST LINE OF SAID LANDS, WHICH SAID EXECUTOR WAS EMPOWERED TO SELL, 316 ½ FEET TO THE SOUTH LINE OF SAID PHILIPP STEPHENS' LAND; THENCE SOUTH 88° AND 15' WEST ALONG THE SOUTH LINE OF SAID LAND OWNED BY SAID STEPHENS AT THE TIME OF HIS DEATH 841 FEET TO THE EAST LINE OF SOUTH AURORA STREET, THE PLACE OF BEGINNING, EXCEPTING THEREFROM TWO LOTS OF 40 FEET BY 200 FEET DONATED BY SAID STEPHENS TO THE CONGREGATIONAL CHURCH AND A LOT 50 FEET BY 200 FEET SOLD BY SAID STEPHENS TO LEVI HOLLISTER AND BEING AND INTENDED TO BE THE SOUTHWEST LOT OF LAND ON SAID SOUTH AURORA STREET DEVISED BY SAID WILL OF PHILIPP STEPHENS, DECEASED, TO ELIZABETH BARTO. ALSO, COMMENCING AT A POINT ON THE EAST SIDE OF SOUTH AURORA STREET IN SAID CITY 110 FEET NORTHERLY FROM A POINT WHERE THE SOUTH LINE OF PREMISES FORMERLY OWNED BY PHILIPP STEPHENS JOINS THE EAST SIDE OF SAID SOUTH AURORA STREET, AND RUNNING FROM THENCE EAST 200 FEET; THENCE NORTHERLY PARALLEL WITH SOUTH AURORA STREET 50 FEET; THENCE WEST 200 FEET TO THE EAST SIDE OF SOUTH AURORA STREET; AND THENCE ALONG THE EAST SIDE OF SOUTH AURORA STREET 50 FEET TO THE PLACE OF BEGINNING. BEING 50 FEET ON SOUTH AURORA STREET BY 200 FEET DEEP EASTERLY AND WESTERLY, AND

ON SOUTH HILL DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHERE A PROLONGATION TO THE SOUTH OF THE WEST LINE OF TIOGA STREET WILL INTERSECT THE NORTH LINE OF THE DELAWARE, LACKAWANNA & WESTERN, RAILROAD; THENCE NORTH ALONG SAID WEST LINE OF SAID PROLONGATION OF TIOGA STREET, 170 FEET, THENCE WEST 210 FEET; THENCE SOUTH PARALLEL WITH SAID LINE ON TIOGA STREET TO THE NORTH LINE OF SAID RAILROAD; THENCE EASTERLY ALONG THE NORTH LINE OF SAID RAILROAD TO THE PLACE OF BEGINNING. BEING KNOWN AS THE SOUTH HILL RESERVOIR SITE, AND

A PART OF MILITARY LOT NO. 94 AND BEING A PART OF LANDS DEEDED TO SARAH MCGRAW BY ABEL BURRITT AND WIFE; RECORDED IN THE CLERK'S OFFICE OF TOMPKINS COUNTY IN LIBER 7 OF ITHACA DEEDS AT PAGE 519, BOUNDED AS FOLLOWS, TO WIT: BEGINNING AT THE INTERSECTION OF THE SOUTH LINE OF WALNUT STREET, WITH THE WEST LINE OF THE OLD OWEGO AND ITHACA TURNPIKE ROAD; THENCE WEST ALONG SAID SOUTH LINE OF WALNUT STREET TO THE EAST LINE OF TIOGA STREET; THENCE SOUTH ALONG TIOGA STREET TO THE LANDS DEVISED TO FRANK SEARS MCGRAW, UNDER THE TERMS OF THE LAST WILL AND TESTAMENT OF SARAH MCGRAW, TO WHICH MORE COMPLETE REFERENCE IS MADE HEREINAFTER; THENCE RUNNING EAST ALONG THE NORTH LINE OF SAID MCGRAW'S LAND TO THE OLD OWEGO AND ITHACA TURNPIKE ROAD; THENCE NORTHEASTERLY ALONG SAID ROAD TO THE PLACE OF BEGINNING, AND

BEGINNING AT THE INTERSECTION OF THE SOUTH LINE OF FOUNTAIN STREET, WITH THE WEST LINE OF THE OLD OWEGO AND ITHACA TURNPIKE ROAD; THENCE SOUTHERLY ON THE WEST LINE OF SAID TURNPIKE TO WALNUT STREET; THENCE WESTERLY ON THE NORTH LINE OF WALNUT STREET TO TIOGA STREET; THENCE NORTHERLY ON THE EAST LINE OF TIOGA STREET TO LANDS PREVIOUSLY DEEDED TO MORSE CHAIN COMPANY BY MARY CELESTIA GAUNTLETT AND GEORGIA MCGRAW CURTISS, AS IS RECORDED AT THE TOMPKINS COUNTY CLERK'S OFFICE IN LIBER 168 OF ITHACA DEEDS AT PAGE 169; THENCE NORTHEASTERLY ALONG SAID MORSE CHAIN COMPANY'S LAND TO THE SOUTH LINE OF FOUNTAIN STREET; THENCE EASTERLY ALONG THE SOUTH LINE OF FOUNTAIN STREET TO THE PLACE OF BEGINNING, AND

A PART OF MILITARY LOT NO. 94 AS FOLLOWS, TO WIT: ALL THAT PART OF WALNUT STREET AND FOUNTAIN STREET, BETWEEN THE OLD OWEGO AND ITHACA TURNPIKE ROAD AND SOUTH TIOGA STREET; AND ALL THAT PART OF SOUTH TIOGA STREET EXTENDING FROM THE NORTH SIDE OF FOUNTAIN STREET TO THE SOUTHWEST CORNER OF LANDS FORMERLY OWNED AND OCCUPIED BY SARAH MCGRAW. SAID WALNUT STREET, BEING THE SAME AS IS INDICATED BY A MAP OF THE BLOODGOOD ESTATE, FILED IN THE CLERK'S OFFICE OF TOMPKINS COUNTY, MARCH 21, 1837. SAID PORTION OF FOUNTAIN STREET AND SOUTH TIOGA STREET BEING THE SAME AS LAID OUT IN A MAP OF ITHACA, BY A.G. BARDIN, DATED 1872, AND

BEGINNING AT THE CENTER OF THE TURNPIKE LEADING FROM ITHACA TO OWEGO, AT A STAKE AND STONES, NOW A POINT IN THE EAST LINE OF SOUTH AURORA STREET, BEING THE SOUTHWEST CORNER OF A SMALL LOT SOLD BY JOHN SCOTT TO MRS. GEE; THENCE RUNNING NORTH 89° 30' EAST 8 CHAINS AND 25 LINKS TO A STAKE AND STONES; THENCE NORTH 22° 30' EAST 1 CHAIN AND 74 LINKS TO A STAKE AND STONES; THENCE SOUTH 89° 30' WEST 7 CHAINS AND 80 LINKS TO THE CENTER OF THE OLD OWEGO TURNPIKE, NOW AURORA STREET, THENCE SOUTH 28° WEST TO THE PLACE OF BEGINNING, EXCEPTING OUT OF THE SOUTH WEST PROPERTY BELONGING TO ABIGAL AND CATHARINE GEE, NOW OR FORMERLY, THE BALANCE HEREBY CONVEYED.

ALSO ALL THAT CERTAIN OTHER PIECE OR PARCEL OF LAND ADJOINING THE ABOVE AND DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A CORNER FORMED BY THE CENTER OF THE OLD OWEGO AND ITHACA TURNPIKE ROAD AND ON THE LINE OF A BOARD FENCE, FROM THENCE NORTH 89° 30' EAST ALONG THE LINE OF JESSIE D. SMITH'S LAND 8 CHAINS AND 25 LINKS TO A POST; THENCE NORTH 22° 30' EAST ON THE LINE OF JAMES TRUESDALL'S LAND 180 TO A POST; THENCE SOUTH 89° 30' WEST 8 CHAINS TO THE CENTER OF SAID TURNPIKE ROAD; THENCE SOUTH 28° WEST TO THE PLACE OF BEGINNING.

ALSO ALL THAT CERTAIN PIECE OR PARCEL OF LAND BEING PART OF LOT NUMBER 3 OF A SUBDIVISION OF A PART OF MILITARY LOT NO. 94 OF THE TOWN OF ULYSSES, NOW ITHACA, MADE BY WILLIAM R. COLLINS AND DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT THE SOUTH WEST CORNER OF SAID SUBDIVISION NUMBER 3 ON THE EAST LINE OF THE OLD ITHACA AND OWEGO TURNPIKE, RUNNING THENCE NORTHERLY ALONG SAID TURNPIKE 3 RODS; THENCE NORTH 89° 30' EAST 6 RODS; THENCE SOUTHERLY ON A LINE PARALLEL WITH SAID TURNPIKE 3 RODS TO THE SOUTH LINE OF SAID SUBDIVISION NO. 3; THENCE WESTERLY ON SAID LINE 6 RODS TO THE PLACE OF BEGINNING. EXCEPTING AND RESERVING FROM THE PREMISES ABOVE DESCRIBED ALL THAT PIECE OR PARCEL OF LAND CONVEYED BY PATRICK WALL AND WIFE TO JAMES HILLICK, JR., AND MARY HILLICK, HIS WIFE, BY DEED DATED JUNE 28, 1911, AND RECORDED IN THE TOMPKINS COUNTY CLERK'S OFFICE IN LIBER 177 OF DEEDS AT PAGE 32, BEING LOT NO. 10 AS LAID OUT ON A MAP OF THE PREMISES ABOVE DESCRIBED.

ALSO ALL THAT TRACT OR PARCEL OF LAND BEGINNING AT THE NORTHEAST CORNER OF LOT NO. 85, OF THE TOWN OF ITHACA, NOW WITHIN THE CITY LIMITS, RUNNING THENCE NORTH ALONG THE EAST LINE OF SOUTH TIOGA STREET EXTENDING TO WHERE IT IS INTERSECTED, BY THE SOUTH LINE OF LANDS NOW OR FORMERLY OWNED BY FRANK E. BROWN AND STELLA BROWN, THENCE EAST ALONG SAID BROWN'S SOUTH LINE TO THE WEST LINE OF SOUTH AURORA STREET; THENCE SOUTHWESTERLY ALONG THE WEST LINE OF SOUTH AURORA STREET TO THE PLACE OF BEGINNING, AND

A PART OF MILITARY LOT NO. 94 AND BEING A PART OF LANDS DEEDED TO SARAH MCGRAW BY ABEL BURRITT AND WIFE, RECORDED IN THE CLERK'S OFFICE AT TOMPKINS COUNTY IN LIBER 7 OF ITHACA DEEDS AT PAGE 519; BOUNDED AS FOLLOWS, TO WIT: BEGINNING AT THE NORTHEAST CORNER OF LAND FORMERLY OWNED BY ABRAM MASTERS, JR.; THENCE NORTHEASTERLY ALONG THE WEST LINE OF THE OLD OWEGO AND ITHACA TURNPIKE ROAD TO THE LANDS DEVISED TO MARY CELESTIA GAUNTLETT AND GEORGIA MCGRAW CURTISS, UNDER THE TERMS OF THE LAST WILL AND TESTAMENT OF SARAH MCGRAW, TO WHICH MORE COMPLETE REFERENCE IS MADE HEREINAFTER, THENCE WEST ALONG THE SOUTH LINE OF SAID GAUNTLETT AND CURTISS LAND TO THE EAST LINE OF TIOGA STREET; THENCE SOUTH ALONG TIOGA STREET TO LAND NOW OR FORMERLY OWNED OR IN THE POSSESSION OF SARAH HITCHCOCK; RUNNING THENCE EAST ALONG THE NORTH LINE OF SAID LAND TO THE SOUTHWEST CORNER OF SAID ABRAM MASTER'S JR., LAND; THENCE NORTH ALONG THE WEST LINE OF SAID MASTER'S LAND 83 FEET; THENCE EAST ALONG THE NORTH LINE OF SAID MASTER'S LAND TO THE PLACE OF BEGINNING, AND

BEGINNING AT A POINT IN THE INTERSECTION OF THE WEST LINE OF SOUTH AURORA STREET AND THE SOUTH LINE OF THE CITY OF ITHACA, NEW YORK; THENCE SOUTHWESTERLY ALONG THE WEST LINE OF SOUTH AURORA STREET, 480 FEET; THENCE WEST, PARALLEL WITH THE CITY LINE TO A POINT IN THE EAST LINE OF CAYUGA STREET EXTENSION; THENCE NORTH ALONG THE EAST LINE OF CAYUGA STREET EXTENSION TO THE SOUTH LINE OF THE CITY OF ITHACA; THENCE EAST ALONG THE SOUTH LINE OF THE CITY OF ITHACA TO THE PLACE OF BEGINNING, AND

ALL THAT TRACT OR PARCEL OF LAND, NOW OR FORMERLY OWNED BY EBENEZER T. TURNER, A WIDOWER,

LYING WESTERLY OF THE EXTENSION OF SOUTH AURORA STREET (FORMERLY KNOWN AS THE OWEGO TURNPIKE), SOUTHEASTERLY O F THE D. L. & W. R. R. RIGHT OF WAY, SOUTH OF THE SOUTH CORPORATION LINE OF THE CITY OF ITHACA AND LANDS OF SUSAN WIGLEY, AND NORTHERLY OF THE BATES FARM, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT IN THE CENTER OF THE OWEGO TURNPIKE IN THE LINE BETWEEN THE LANDS NOW OR FORMERLY OF EBENEZER T. TURNER, WIDOWER, AND THE BATES FARM; RUNNING THENCE WESTERLY ALONG THE NORTH LINE OF THE SAID BATES FARM 84-1/4° WEST 1437 FEET TO A CORNER IN A STONE WALL; THENCE NORTH 7-1/2° EAST 770 FEET TO THE SOUTHEASTERLY LINE OF THE RIGHT OF WAY OF THE D. L. & W. RY.; THENCE NORTHEASTERLY ALONG THE RIGHT OF WAY OF THE SAID D. L. & W. RY. ABOUT 2205 FEET TO THE SOUTH CORPORATION LINE OF THE CITY OF ITHACA; THENCE SOUTH 84-1/4° EAST ALONG THE SOUTH CORPORATION LINE OF THE CITY OF ITHACA 396 FEET TO THE NORTHWEST CORNER OF LAND CONVEYED TO SUSAN WIGLEY BY DEED DATED JANUARY 29, 1907, AND RECORDED IN THE TOMPKINS COUNTY CLERK'S OFFICE IN BOOK 167 OF DEEDS AT PAGE 217; THENCE SOUTH 6-3/4° WEST ALONG THE WEST LINE OF SAID WIGLEY LOT 421 FEET TO THE SOUTHWEST CORNER OF SAID WIGLEY LOT; THENCE SOUTH 84-1/4° EAST ALONG THE SOUTH LINE OF THE SAID WIGLEY LOT 322 FEET, MORE OR LESS, TO THE WESTERLY LINE OF THE EXTENSION OF SOUTH AURORA STREET, KNOWN AS THE DANBY MACADAM ROAD; THENCE ON A CONTINUATION OF THE SAID LAST MENTIONED LINE 27 FEET TO THE CENTER OF SAID ROAD; THENCE SOUTH 33-3/4° WEST ALONG THE CENTER OF SAID MACADAM ROAD 1411 FEET, MORE OR LESS, THENCE SOUTH 23-3/4° WEST 682 FEET TO THE PLACE OF BEGINNING, ACCORDING TO A SURVEY MADE BY CARL CRANDALL, C. E., DATED JULY, 1917, AND,

BEGINNING IN THE EASTERLY LINE OF SPENCER STREET IN SAID CITY AT THE SOUTHWESTERLY CORNER OF LANDS CONVEYED TO EBENEZER T. TURNER TO DANIEL CROWLEY AND HELEN S. CROWLEY BY DEED DATED FEBRUARY 26, 1924, AND RECORDED IN THE TOMPKINS COUNTY CLERK'S OFFICE IN LIBER 196 OF DEEDS AT PAGE 227; RUNNING THENCE EASTERLY ALONG THE SOUTHERLY BOUNDARY OF LANDS OF CROWLEY 123 FEET TO THE SOUTHEASTERLY CORNER THEREOF; THENCE NORTHERLY ALONG THE EASTERLY BOUNDARY OF LANDS OF CROWLEY 22.5 FEET TO THE SOUTHWESTERLY CORNER OF A PARCEL OF LAND CONVEYED BY EBENEZER T. TURNER TO AUGUST KAMINSKY BY DEED DATED NOVEMBER 14, 1923 AND RECORDED IN LIBER 205 OF DEEDS AT PAGE 433; THENCE EASTERLY ALONG THE SOUTHERLY BOUNDARY OF KAMINSKY TO THE SOUTHEASTERLY CORNER OF SAID KAMINSKY IN THE WESTERLY LINE OF SOUTH CAYUGA STREET EXTENSION; THENCE SOUTHERLY ALONG THE WESTERLY LINE OF SOUTH CAYUGA STREET EXTENSION TO THE INTERSECTION WITH THE WESTERLY RIGHT OF WAY LINE OF THE DELAWARE, LACKAWANNA AND WESTERN RAILROAD NEAR THE UNDERPASS BRIDGE; THENCE SOUTHWESTERLY ALONG THE WESTERLY BOUNDARY OF LANDS OF SAID RAILROAD TO THE NORTH LINE OF THE OLD INCLINED PLANE AT A POINT 185 FEET NORTHEASTERLY ALONG THE RAILROAD BOUNDARY FROM ITS INTERSECTION WITH THE SOUTH CORPORATION LINE OF THE CITY OF ITHACA, THE NORTH LINE OF THE OLD INCLINED PLANE BEING THE NORTHERLY BOUNDARY OF THE SECOND PARCEL DESCRIBED IN A CONVEYANCE FROM WILLIAM SHEEHY TO JOHN SHEEHY, DATED NOVEMBER 21, 1921, AND RECORDED IN LIBER 201 OF DEEDS AT PAGE 442; THENCE WESTERLY ALONG THE NORTH LINE OF THE OLD INCLINED PLANE AND NORTHERLY BOUNDARY OF LANDS OF SAID SHEEHY TO THE INTERSECTION WITH THE EASTERLY LINE OF SPENCER STREET; THENCE NORTHERLY ALONG THE EASTERLY LINE OF SPENCER STREET TO THE PLACE OF BEGINNING. EXCEPTING ALL RIGHT, TITLE AND INTEREST OF THE CITY OF ITHACA IN AND TO A WATER MAIN RUNNING ACROSS THE WESTERLY PORTION OF SAID PREMISES AND ALONG THE ABANDONED LOCATION OF SPENCER ROAD, AND

ALL THAT TRACT, PIECE OR PARCEL OF LAND BOUNDED AND DESCRIBED AS FOLLOWS: ON THE NORTH AND WEST BY THE SOUTHERLY AND EASTERLY BOUNDARY LINE OF THE DELAWARE, LACKAWANNA & WESTERN R R. CO.; ON THE EAST AND SOUTH BY SOUTH AURORA STREET AND ITS EXTENSION SOUTHERLY KNOWN AS THE ITHACA-OWEGO TURNPIKE AND THE NORTHERLY LINE OF THE OLD JACOB BATES' FARM SITUATED ADJOINING THE WESTERLY SIDE OF THE SAID TURNPIKE, AND

BEGINNING AT AN IRON PIPE MARKING THE SOUTHEASTERLY CORNER OF LANDS CONVEYED BY MORSE CHAIN COMPANY TO WILLIAM P. RYAN BY DEED DATED APRIL 7, 1925, AND RECORDED IN THE TOMPKINS COUNTY CLERK'S OFFICE IN LIBER 206 OF DEEDS AT PAGE 330, SAID PIPE BEING 130 FEET EASTERLY AT RIGHT ANGLES FROM THE EASTERLY LINE OF SOUTH AURORA STREET AND ALSO BEING IN THE NORTH BOUNDARY OF LANDS NOW OR FORMERLY OF JULIA E. STARKINS; THENCE EAST ALONG THE NORTH BOUNDARY OF LANDS NOW OR FORMERLY OF JULLIA E. STARKINS, ABOUT 54 FEET TO THE NORTHEASTERLY

CORNER OF LANDS NOW OR FORMERLY OF JULIA E. STARKINS; THENCE SOUTHWESTERLY ALONG THE EASTERLY BOUNDARY OF LANDS NOW OR FORMERLY OF JULIA E. STARKINS ABOUT 77 FEET TO THE SOUTHEASTERLY CORNER OF LANDS NOW OR FORMERLY OF JULIA E. STARKINS 10 FEET NORTH OF THE PRESENT OR FORMER NORTH LINE OF A 40 FOOT STREET KNOWN AS WALL STREET; THENCE WEST ALONG A LINE 10 FEET NORTH OF AND PARALLEL WITH SAID NORTH LINE OF WALL STREET 24 FEET TO THE NORTHEASTERLY CORNER OF A 10 FOOT STRIP OF LAND CONVEYED BY MORSE CHAIN COMPANY TO JULIA E. STARKINS; THENCE NORTH 70 FEET IN A STRAIGHT LINE TO THE PLACE OF BEGINNING, AND

BEGINNING AT AN IRON PIPE MARKING THE INTERSECTION OF THE NORTH LINE OF WALL STREET WITH THE EASTERLY LINE OF SOUTH AURORA STREET AND THE SAME POINT OF BEGINNING DESCRIBED IN A CONVEYANCE OF A 10 FOOT STRIP OF LAND BY MORSE CHAIN COMPANY TO JULIA E. STARKINS BY DEED DATED JANUARY 2, 1926; THENCE EAST ALONG THE NORTH LINE OF WALL STREET (40 FEET WIDE) A DISTANCE OF 25 FEET; THENCE NORTHWESTERLY AND NORTHERLY ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 15 FEET FOR 30.9 FEET TO A POINT IN THE EASTERLY LINE OF SOUTH AURORA STREET; THENCE SOUTHWESTERLY ALONG THE EASTERLY LINE OF SOUTH AURORA STREET 25 FEET TO THE PLACE OF BEGINNING, AND

LOT NO. 21 AS LAID OUT ON A MAP OF SOUTH HILL LANDS OF S. B. AND E. T. TURNER, MADE BY KIRK P. CRANDALL DATED MAY, 1905, AND FILED IN THE TOMPKINS COUNTY CLERK'S OFFICE ON THE 31ST DAY OF AUGUST, 1906, AND IN MAP BK B1 PAGE 35.

LOT NO. 33 AS SHOWN ON A MAP OF THE PROPERTY OF S. B. AND E. T. TURNER OF SOUTH HILL MADE BY K.P. CRANDALL, C. E., MAY, 1905, FILED IN TOMPKINS COUNTY CLERK'S OFFICE AUGUST 31, 1906, AND FILED IN MAP BOOK B1 PAGE 33.

BEGINNING AT AN IRON PIPE IN THE NORTHWESTERLY LINE OF SOUTH AURORA STREET AT THE NORTHEASTERLY CORNER OF LANDS NOW OR FORMERLY OF CHARLES GUTENBERGER; THENCE NORTHWESTERLY AT RIGHT ANGLES WITH SOUTH AURORA STREET 100 FEET TO AN IRON PIPE; THENCE NORTHEASTERLY PARALLEL WITH SOUTH AURORA STREET 50 FEET TO AN IRON PIPE; THENCE SOUTHEASTERLY AT RIGHT ANGLES WITH SOUTH AURORA STREET 100 FEET TO AN IRON PIPE SET IN THE NORTHWESTERLY LINE OF SAID STREET; THENCE SOUTHWESTERLY ALONG THE LINE OF SAID STREET 50 FEET TO THE PLACE OF BEGINNING, AND

BEGINNING AT THE SOUTHEAST CORNER OF THE PARCEL CONVEYED BY MORSE CHAIN COMPANY TO ALLEN WALES ADDING MACHINE CORPORATION BY DEED DATED AUGUST 27,1947 AND RECORDED SEPTEMBER 2, 1947 IN LIBER 302 OF DEEDS AT PAGE 170, SAID POINT OF BEGINNING BEING IN THE WEST LINE OF SOUTH AURORA STREET ABOUT 135 FEET NORTHEASTERLY ALONG SAID LINE FROM ITS INTERSECTION WITH THE SOUTH LINE OF THE CITY OF ITHACA; RUNNING THENCE NORTH 81° 33' WEST (MAGNETIC 1947) ALONG THE SOUTH LINE OF SAID PARCEL 272 FEET TO A PIPE; RUNNING THENCE NORTH 37° 30' EAST ALONG A WESTERLY LINE OF SAID PARCEL 389.2 FEET TO A PIPE; RUNNING THENCE SOUTHEASTERLY ABOUT 138 FEET TO A PIPE (PIPE A) AT THE NORTHWESTERLY CORNER OF THE PARCEL KNOWN AS 764 SOUTH AURORA STREET CONVEYED BY THE NATIONAL CASH REGISTER COMPANY TO FRANK J. AND ALICE J. RAPONI, HUSBAND AND WIFE, BY DEED DATED MAY 7, 1956 AND RECORDED JUNE 4, 1956 IN LIBER 387 OF DEEDS AT PAGE 531; RUNNING THENCE SOUTH 36° 24' WEST ALONG THE WESTERLY LINE OF SAID RAPONI PARCEL 40 FEET TO A PIPE; CONTINUING THENCE SOUTH 36° 24' WEST 121.5 FEET TO A PIPE; RUNNING THENCE SOUTH 09° 37' WEST 35.3 FEET TO A POINT; RUNNING THENCE SOUTH 75° EAST 89 FEET TO A PIPE IN THE WEST LINE OF SOUTH AURORA STREET (THE PRECEDING THREE COURSES BEING ALONG LINES OF THE PREMISES KNOWN AS 766 SOUTH AURORA STREET CONVEYED BY THE NATIONAL CASH REGISTER COMPANY TO JOHN R. AND NORMA E. CAPOZZI BY DEED DATED AUGUST 28, 1953 AND RECORDED SEPTEMBER 3,1953 IN LIBER 361OF DEEDS AT PAGE 269); RUNNING THENCE SOUTH 36° 24' WEST ALONG THE WEST LINE OF SOUTH AURORA STREET 48 FEET TO THE POINT OR PLACE OF BEGINNING. TOGETHER WITH A RIGHT OF WAY, IN COMMON WITH OTHERS, ENTITLED NOW OR HEREAFTER TO USE THE SAME, FOR PEDESTRIANS AND VEHICLES FROM THE NORTHEASTERLY CORNER OF THE ABOVE-DESCRIBED PARCEL EASTERLY TO AURORA STREET OVER A STRIP OF LAND DESCRIBED AS FOLLOWS: BEGINNING AT SAID PIPE A; RUNNING THENCE SOUTHEASTERLY ALONG THE NORTH LINE OF SAID RAPONI PARCEL 72.3 FEET; RUNNING THENCE SOUTHEASTERLY AT A SLIGHT ANGLE TO THE RIGHT ALONG THE NORTH LINE OF SAID RAPONI PARCEL 32

FEET TO A PIPE IN THE WEST LINE OF SOUTH AURORA STREET; RUNNING THENCE NORTH 36° 24' EAST ALONG THE WEST LINE OF SOUTH AURORA STREET 28 FEET TO A PIPE; RUNNING THENCE NORTH 64° 44' WEST ALONG THE SOUTHERLY LINE OF THE PARCEL CONVEYED BY THE NATIONAL CASH REGISTER COMPANY TO JOSEPH AND MARIE W. POKERWINSKI BY DEED DATED JANUARY 12, 1954 AND RECORDED JANUARY 26, 1954 IN LIBER 365 OF DEEDS AT PAGE 165,101 FEET TO THE SOUTHWESTERLY CORNER OF SAID POKERWINSKI PARCEL; RUNNING THENCE WESTERLY ABOUT 40 FEET TO A POINT IN THE NORTHERLY LINE OF THE ABOVE DESCRIBED PARCEL (THE 138 FOOT COURSE); RUNNING THENCE SOUTHEASTERLY ALONG SAID NORTH LINE 35 FEET TO PIPE A, AND

LOT NO. 26 AS LAID OUT ON A MAP OF SOUTH HILL LANDS OF S.B. AND E.T. TURNER, MADE BY KIRK P. CRANDALL, DATED MAY, 1905, AND FILED IN THE TOMPKINS COUNTY CLERK'S OFFICE ON AUGUST 31, 1906, AND

ALSO, ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE TOWN AND CITY OF ITHACA, COUNTY OF TOMPKINS AND STATE OF NEW YORK, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE PRESENT CENTER LINE OF STONE QUARRY ROAD (ONCE KNOWN AS TEERS ROAD), SAID POINT OF BEGINNING BEING THE INTERSECTION OF THE PRESENT CENTER LINE OF STONE QUARRY ROAD AND THE NORTHERLY RIGHT OF WAY LINE OF LANDS OF LEHIGH VALLEY RAILROAD (FORMERLY THE DELAWARE, LACKAWANNA AND WESTERN RAILROAD), SAID POINT OF BEGINNING ALSO BEING LOCATED THIRTY-THREE (33) FEET NORTHERLY FROM THE CENTER LINE STATIONS THIRTEEN THOUSAND SIX HUNDRED FORTY-FOUR PLUS NINETY FOUR (13644 + 94) ± AS SHOWN ON MAP ENTITLED "RIGHT OF WAY AND TRACK MAP - ITHACA BRANCH - ITHACA YARD TRACKS - LEHIGH VALLEY R.R. COMPANY", DATED DECEMBER 6, 1956.

RUNNING THENCE (1) ALONG THE NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD NORTH 67° 52' 50" EAST FIFTY-SIX AND FIFTY-SEVEN HUNDREDTHS (56.57) FEET TO A PIPE, SAID PIPE MARKING THE INTERSECTION OF THE NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD AND THE EASTERLY HIGHWAY LINE OF STONE QUARRY ROAD;

RUNNING THENCE (2) ON A CURVE TO THE LEFT ALONG THE LANDS REPUTEDLY OF HOLLISTER A DISTANCE OF TWO HUNDRED SIXTY-SEVEN AND FIFTY HUNDREDTHS (267.50) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 63° 32' 37" EAST TWO HUNDRED SIXTY-SEVEN AND TWENTYFOUR HUNDREDTHS (267.24) FEET;

RUNNING THENCE (3) NORTH 60° 08' 00" EAST ALONG THE REMAINS OF AN OLD FENCE LINE AND CONTINUING ALONG THE LANDS REPUTEDLY OF HOLLISTER, RUNSEY, AND ROEDEL, A TOTAL DISTANCE OF SEVEN HUNDRED FORTY-THREE AND FORTY-NINE HUNDREDTHS (743.49) FEET TO A CONCRETE MONUMENT;

RUNNING THENCE (4) ON A CURVE TO THE LEFT ALONG LANDS REPUTEDLY OF ROEDEL, LUCENTE, WHITING, AND O'NEIL A DISTANCE OF FOUR HUNDRED SIXTY-TWO AND FIFTY-THREE HUNDREDTHS (462.53) FEET, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 56° 03' 51" EAST FOUR HUNDRED SIXTY-TWO AND FOURTEEN HUNDREDTHS (462.14) FEET;

RUNNING THENCE (5) ON A CURVE TO THE LEFT AND ALONG THE LANDS REPUTEDLY OF O'NEIL AND CONSOLIDATED GAS SUPPLY CORPORATION A TOTAL DISTANCE OF SIX HUNDRED FIFTEEN AND SIXTY-FOUR HUNDREDTHS (615.64) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 48° 54' 32" EAST SIX HUNDRED FIFTEEN AND THIRTY-THREE HUNDREDTHS (615.33) FEET;

RUNNING THENCE (6) NORTH 45° 43' 49" EAST ALONG LANDS REPUTEDLY OF CONSOLIDATED GAS SUPPLY CORPORATION, NEW YORK STATE NATURAL GAS CORPORATION, BORG-WARNER CORPORATION AND NEW YORK STATE ELECTRIC AND GAS CORPORATION A TOTAL DISTANCE OF ONE THOUSAND TWO HUNDRED FOUR AND SIXTY-FIVE HUNDREDTHS (1204.65) FEET TO A POINT;

RUNNING THENCE (7) ON A CURVE TO THE RIGHT ALONG LANDS REPUTEDLY OF NEW YORK STATE ELECTRIC

AND GAS CORPORATION AND BORG-WARNER CORPORATION A TOTAL DISTANCE OF FOUR HUNDRED NINETY-FOUR AND ONE HUNDREDTHS (494.01) FEET TO A POINT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 52° 15' 05" EAST FOUR HUNDRED NINETY-TWO AND NINETY-SIX HUNDREDTHS (492.96) FEET;

RUNNING THENCE (8) NORTH 58° 44' 17" EAST ALONG THE NORTHERLY RIGHT OF WAY LINE OF SAID RAILROAD AND ALONG LANDS REPUTEDLY OF BORG-WARNER CORP. FOUR HUNDRED THIRTY-SEVEN AND NINETY-ONE HUNDREDTHS (437.91) FEET TO A PIPE, SAID PIPE MARKING THE INTERSECTION OF THE RAILROAD RIGHT OF WAY AND THE EAST STREET LINE OF TURNER PLACE, THENCE CONTINUING ON SAID COURSE ONE HUNDRED SIXTY-ONE AND EIGHT TENTHS (161.8) FEET TO A PIPE, SAID LINE BEING ALONG PREMISES REPUTEDLY OF ANDREWS, AND SAID PIPE MARKING THE INTERSECTION OF THE RAILROAD RIGHT OF WAY AND THE SOUTH LINE OF FOUNTAIN STREET (AN UNOPENED STREET); THENCE CONTINUING ALONG SAID COURSE EIGHTY AND TWO TENTHS (80.2) FEET TO A PIPE MARKING THE INTERSECTION OF THE RAILROAD RIGHT OF WAY LINE AND THE NORTHERLY LINE OF FOUNTAIN STREET;

RUNNING THENCE (9) SOUTH 89° 17' 06" EAST ALONG THE NORTHERLY LINE OF FOUNTAIN STREET A DISTANCE OF SEVEN AND SIXTY HUNDREDTHS (7.60) FEET TO A PIPE, SAID PIPE MARKING THE SOUTHWEST CORNER OF LANDS CONVEYED TO THE CAYUGA AND SUSQUEHANNA RAILROAD BY GEORGE TALMAN (DEEDS BOOK 63, PAGE 18);

RUNNING THENCE (10) NORTH 08° 33' 52" EAST ALONG THE WEST LINE OF LANDS CONVEYED BY TALMAN A DISTANCE OF SEVEN AND NO HUNDREDTHS (7.00) FEET TO A PIPE, SAID PIPE MARKING THE INTERSECTION OF THE NORTHERLY LINE OF THE RAILROAD RIGHT OF WAY AND THE WEST LINE OF TALMAN, SAID PIPE ALSO MARKING THE SOUTHWEST CORNER OF LANDS REPUTEDLY OF VARAK;

RUNNING THENCE (11) NORTH 62° 27' 22" EAST ALONG THE RAILROAD RIGHT OF WAY THIRTEEN AND FORTY-FOUR HUNDREDTHS (13.44) FEET TO A PIPE;

RUNNING THENCE (12) ON A CURVE TO THE RIGHT, ALONG THE LANDS REPUTEDLY OF VARAK, LEDGER AND SNOWDEN, A DISTANCE OF ONE HUNDRED SIXTY-SEVEN AND TEN HUNDREDTHS (167.10) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 61° 22' 01" EAST, ONE HUNDRED SIXTY-SEVEN AND FOUR HUNDREDTHS (167.04) FEET;

RUNNING THENCE (13) ON A CURVE TO THE RIGHT, ALONG THE LANDS REPUTEDLY OF SNOWDEN, CHACONA, HEAVNER AND STERLING, A DISTANCE OF ONE HUNDRED THIRTY-NINE AND EIGHTEEN HUNDREDTHS (139.18) FEET TO A POINT, SAID POINT HAVING A CHORD BEARING AND DISTANCE OF NORTH 66° 44' 49" EAST, ONE HUNDRED THIRTY-NINE AND EIGHTEEN HUNDREDTHS (139.18) FEET;

RUNNING THENCE (14) ON A CURVE TO THE RIGHT, ALONG THE LANDS REPUTEDLY OF STERLING, A DISTANCE OF FORTY-SIX AND EIGHT HUNDREDTHS (46.08) FEET TO A CONCRETE MONUMENT LOCATED IN THE WESTERLY STREET LINE OF SOUTH AURORA STREET, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF NORTH 70° 13' 23 " EAST, FORTY-SIX AND SIX HUNDREDTHS (46.06) FEET;

RUNNING THENCE (15) SOUTH 05° 42' 23" WEST ALONG THE WESTERLY STREET LINE OF SOUTH AURORA STREET A DISTANCE OF SEVENTY-TWO AND FORTY-TWO HUNDREDTHS (72.42) FEET TO A PIPE, SAID PIPE MARKING THE SOUTHERLY RAILROAD RIGHT OF WAY;

RUNNING THENCE (16) ON A CURVE TO THE LEFT A DISTANCE OF SEVEN AND FIFTY-EIGHT HUNDREDTHS (7.58) FEET TO A PIPE, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH 68° 35' 49" WEST, SEVEN AND FIFTY-EIGHT HUNDREDTHS (7.58) FEET;

RUNNING THENCE (17) ON A CURVE TO THE LEFT, PASSING THROW A CONCRETE MONUMENT AT TWO HUNDRED FIFTY-FOUR AND FIFTY-FOUR HUNDREDTHS (254.54) FEET ALONG THE PREMISES REPUTEDLY OF MARSDEN A TOTAL DISTANCE OF THREE HUNDRED AND FORTY HUNDREDTHS (300.40) FEET TO A POINT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH SIXTY-THREE DEGREES FIFTY-ONE MINUTES SEVENTEEN SECONDS WEST (S 63° 51' 17" W), THREE HUNDRED (300) FEET;

RUNNING THENCE (18) SOUTH FIFTY-EIGHT DEGREES FORTY-FOUR MINUTES SEVENTEEN SECONDS WEST (S 58° 44' 17" W) A DISTANCE OF SEVEN HUNDRED FOUR AND NINE HUNDREDTHS (704.09) FEET TO A POINT;

RUNNING THENCE (19) ON A CURVE TO THE LEFT A DISTANCE OF FOUR HUNDRED SEVENTY-NINE AND TEN HUNDREDTHS (479.10) FEET TO A POINT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH FIFTY-TWO DEGREES FIFTEEN MINUTES SIX SECONDS WEST (S 52° 15' 06" W) A DISTANCE OF FOUR HUNDRED SEVENTY-EIGHT AND FIVE HUNDREDTHS (478.05) FEET;

RUNNING THENCE (20) SOUTH FORTY-FIVE DEGREES FORTY-SIX MINUTES FIFTY SECOND WEST (S 45° 46' 50" W) A DISTANCE OF ONE THOUSAND TWO HUNDRED FOUR AND SIXTY-ONE HUNDREDTHS (1,204.61) FEET TO A CONCRETE MONUMENT;

RUNNING THENCE (21) ON A CURVE TO THE RIGHT A DISTANCE OF SIX HUNDRED TWENTY-TWO AND EIGHTY-FOUR HUNDREDTHS (622.84) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH FORTY-EIGHT DEGREES FORTY-EIGHT MINUTES FIFTY-ONE SECOND WEST (S 48° 48' 51" W), SIX HUNDRED TWENTY-TWO AND FIFTY-THREE HUNDREDTHS (622.53) FEET;

RUNNING THENCE (22) ON A CURVE TO THE RIGHT A DISTANCE OF FOUR HUNDRED SEVENTY-ONE AND EIGHTY-NINE HUNDREDTHS (471.89) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH FIFTY-SIX DEGREES SEVEN MINUTES FOUR SECONDS WEST (S 56° 07' 04" W), FOUR HUNDRED SEVENTY-ONE AND ONE HUNDREDTHS (471.01) FEET;

RUNNING THENCE (23) SOUTH SIXTY DEGREES SEVEN MINUTES THIRTY-SIX SECONDS WEST (S 60° 07' 36" W) ALONG THE LANDS REPUTEDLY OF BORG-WARNER AND BENJAMIN A TOTAL DISTANCE OF SEVEN HUNDRED FORTY-TWO AND NINETY HUNDREDTHS (742.90) FEET TO A CONCRETE MONUMENT;

RUNNING THENCE (24) ON A CURVE TO THE RIGHT AND ALONG THE LANDS REPUTEDLY OF BENJAMIN A DISTANCE OF THREE HUNDRED AND TWENTY-TWO HUNDREDTHS (300.22) FEET TO A CONCRETE MONUMENT, SAID CURVE HAVING A CHORD BEARING AND DISTANCE OF SOUTH SIXTY-FOUR DEGREES SEVENTEEN MINUTES FIFTY-SEVEN SECONDS WEST (S 64° 17' 57" W) TWO HUNDRED NINETY-NINE AND NINETY-SIX HUNDREDTHS (299.96) FEET;

RUNNING THENCE (25) SOUTH SIXTY-SEVEN DEGREES FIFTY-TWO MINUTES FIFTY SECONDS WEST (S 67° 52' 50" W) ALONG THE LANDS REPUTEDLY OF FARRELL, PASSING THROUGH A PIPE AT SEVENTY-THREE AND FORTY-FOUR HUNDREDTHS (73.44) FEET, SAID PIPE BEING NORTH SIXTY-SEVEN DEGREES FIFTY-TWO MINUTES FIFTY SECONDS EAST (N 67° 52' 50" E) TEN (10) FEET FROM THE INTERSECTION OF THE SOUTHERLY RAILROAD RIGHT OF WAY AND THE EASTERLY HIGHWAY LINE OF STONE QUARRY ROAD, A TOTAL DISTANCE OF ONE HUNDRED SEVENTY-THREE AND NINETY-FOUR HUNDREDTHS (173.94) FEET TO THE PRESENT CENTER LINE OF STONE QUARRY ROAD;

RUNNING THENCE (26) NORTHERLY ALONG THE PRESENT CENTER LINE OF STONE QUARRY ROAD THE FOLLOWING COURSES: NORTH FIFTY-FIVE DEGREES FORTY-NINE MINUTES FORTY-TWO SECONDS EAST (N 55° 49' 42" E) SIXTY AND FIFTY-ONE HUNDREDTHS (60.51) FEET; NORTH THIRTY EIGHT DEGREES THREE MINUTES NINETEEN SECOND EAST (N 38° 03' 19" E) FIFTY-TWO AND SIXTY-NINE HUNDREDTHS (52.69) FEET; NORTH THIRTY-THREE DEGREES TWENTY-FIVE MINUTES THIRTY-EIGHT SECONDS EAST (N 33° 25' 38" E) FORTY-THREE AND SIXTY-SIX HUNDREDTHS (43.66) FEET TO THE POINT OR PLACE OF BEGINNING.

ALSO, ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE CITY OF ITHACA, COUNTY OF TOMPKINS, STATE OF NEW YORK, AND MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE WEST LINE OF SOUTH AURORA STREET AT ITS INTERSECTION WITH THE SOUTHERLY LINE OF THE RIGHT OF WAY OF THE FORMER LEHIGH VALLEY RAILROAD, NOW OWNED BY BORG WARNER CORPORATION (SEE LIBER 556 OF DEEDS AT PAGE 1081); THENCE SOUTHERLY ALONG THE WEST LINE OF SOUTH AURORA STREET 152.5 FEET, MORE OR LESS, TO OTHER LANDS OF BORG WARNER CORPORATION; THENCE WESTERLY ALONG A NORTHERLY LINE OF SAID LANDS OF BORG WARNER

CORPORATION 245 FEET, MORE OR LESS, TO THE SOUTHERLY LINE OF SAID RAILROAD RIGHT OF WAY; THENCE NORTHEASTERLY ALONG THE SAID SOUTHERLY LINE OF SAID RAILROAD RIGHT OF WAY TO THE POINT OR PLACE OF BEGINNING.

PARCEL 2

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE CITY OF ITHACA, TOMPKINS COUNTY, NEW YORK, SHOWN ON A SURVEY MAP ENTITLED "BOUNDARY AND TOPOGRAPHIC MAP, NATIONAL CASH REGISTER CO. PROPERTY ON SOUTH AURORA ST., CITY OF ITHACA, TOMPKINS CO., N.Y.", BY THOMAS G. MILLER, ENGINEER AND SURVEYOR, ITHACA, NEW YORK, DATED FEBRUARY 7, 1974, REVISED OCTOBER 14, 1976, A COPY OF WHICH WAS FILED IN THE TOMPKINS COUNTY CLERK'S OFFICE ON FEBRUARY 23, 1977 IN ENVELOPE 144, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A PIPE SET IN THE WESTERLY LINE OF SOUTH AURORA STREET (AT THE WESTERLY EDGE OF THE EXISTING CONCRETE SIDEWALK), SAID PIPE BEING A CHORD DISTANCE OF 114.6 FEET SOUTHERLY ALONG THE WEST LINE OF SOUTH AURORA STREET FROM AN IRON PIPE MARKING THE NORTHEAST CORNER OF PREMISES OF BORGWARNER CORPORATION (SAID LAST MENTIONED PIPE ALSO MARKING THE SOUTHEAST CORNER OF PREMISES DEEDED TO SARAH H. MARSDEN AT 285 DEEDS, PAGE 473);

RUNNING THENCE THE FOLLOWING COURSES AND DISTANCES (MERIDIAN 1947):

1. NORTH 83° 02' WEST A DISTANCE OF 190.5 FEET TO AN IRON PIPE;

2. SOUTH 62° 38' WEST A DISTANCE OF 120.2 FEET TO AN IRON PIPE;

3. NORTH 72° 48' WEST A DISTANCE OF 59.6 FEET TO AN IRON PIPE;

4. NORTH 46° 07' WEST A DISTANCE OF 45.0 FEET TO A NAIL SET;

5. SOUTH 47° 00' WEST A DISTANCE OF 99.0 FEET TO A FOUR INCH DIAMETER GALVANIZED IRON GATE POST;

6. SOUTH 38° 55' WEST A DISTANCE OF 172.3 FEET TO AN IRON PIN (SAID IRON PIN BEING 15.5 FEET FROM THE NORTHWESTERLY FACE OF THE NATIONAL CASH REGISTER BUILDING);

7. SOUTH 37° 08' WEST A DISTANCE OF 183.4 FEET TO AN IRON PIPE (SAID PIPE BEING 4.55 FEET FROM THE NORTHWESTERLY FACE OF THE NATIONAL CASH REGISTER BUILDING);

8. SOUTH 04° 00' EAST ALONG THE WESTERLY FACE OF A CONCRETE WALL A DISTANCE OF 70.00 FEET TO A POINT;

9. THENCE ON A CURVE TO THE RIGHT HAVING A CHORD BEARING OF SOUTH 27° 34' WEST A CHORD DISTANCE OF 60 FEET AND MIDDLE ORDINATE DISTANCE OF 6 FEET TO A POINT;

10. SOUTH 38° 30' EAST A DISTANCE OF 95 FEET TO A POINT ON AN EXISTING FENCE LINE;

11. SOUTH 31° 06' EAST IN PART ALONG SAID FENCE LINE A DISTANCE OF 137.4 FEET TO AN IRON PIPE AT THE NORTHWESTERLY CORNER OF A BLOCK WALL, SAID PIPE MARKING THE NORTHWESTERLY CORNER OF PREMISES REPUTEDLY OF RAPONI.

THE ABOVE COURSES AND DISTANCES ALL BEING ALONG THE SOUTHERLY AND EASTERLY BOUNDARY OF LANDS OF BORG-WARNER CORPORATION;

12. SOUTH 73° 35' EAST ALONG THE NORTHERLY LINE OF SAID RAPONI A DISTANCE OF 72.3 FEET TO AN IRON PIN;

13. SOUTH 55° 48' EAST ALONG THE NORTHERLY LINE OF SAID RAPONI A DISTANCE OF 32.0 FEET TO AN IRON PIN AT THE WESTERLY EDGE OF A CONCRETE WALK AND THE WESTERLY LINE OF SOUTH AURORA STREET;

14. NORTH 36° 24' EAST ALONG THE WESTERLY LINE OF SOUTH AURORA STREET A DISTANCE OF 28.0 FEET TO A POINT MARKING THE SOUTHEAST CORNER OF PREMISES OF POKERWINSKI (DEED BOOK 365 AT PAGE 165), SAID POINT BEING 1.4 FEET NORTHWEST OF AN EXISTING IRON PIN;

15. NORTH 64° 44' WEST ALONG THE SOUTHERLY LINE OF SAID POKERWINSKI A DISTANCE OF 101.0 FEET FROM THE SAID WESTERLY
LINE OF SOUTH AURORA STREET TO AN IRON PIPE AT THE SOUTHWESTERLY CORNER OF SAID POKERWINSKI;

16. NORTH 36° 24' EAST ALONG THE NORTHWESTERLY LINE OF PREMISES OF POKERWINSKI, PEARSON, STANLEY, DYER AND HOOVER, A TOTAL DISTANCE OF 413 FEET TO AN IRON FENCE POST AT THE MOST NORTHERLY CORNER OF SAID HOOVER PREMISES;

17. SOUTH 53° 36' EAST ALONG THE NORTHEASTERLY LINE OF HOOVER A DISTANCE OF 100 FEET TO AN IRON PIPE AT THE WEST EDGE OF THE EXISTING CONCRETE WALK AND THE WESTERLY LINE OF SOUTH AURORA STREET;

18. THENCE NORTHWESTERLY ALONG THE WESTERLY LINE OF SOUTH AURORA STREET AS MARKED BY THE WESTERLY EDGE OF THE EXISTING CONCRETE SIDEWALK AS IT CURVES TO THE LEFT A DISTANCE OF 411.6 FEET TO THE POINT OR PLACE OF BEGINNING.

EXCEPTING PREMISES APPROPRIATED BY THE PEOPLE OF THE STATE OF NEW YORK BY APPROPRIATION RECORDED MAY 10, 1966 IN LIBER 462 OF DEEDS, PAGE 564.

Schedule B

NCR Sewer Line Area

(see attached)

RICHARD M. RYBINSKI, L.S.
8236 Indian Hill Road, ~ Manlius, NY 13104
Phone (315)682-4852 ~ Fax (315)682-4852 ~ Email rmrls@twcny.rr.com

Legal Description:
Emerson Power Transmission Corporation
80 feet NCR AND Ithaca College
Sewer Line Area Easements
Within the Unrestricted Area
Ithaca, NY

80 feet Easement NCR Sewer Line Area
Main Sanitary Sewer Trunk

An 80 feet easement and right of way centered on the existing 20' sanitary sewer right of way recorded in the Tompkins County Clerk's Office in Book of Deeds 395 and Page 489 across and under its premises located on Military Lot 85 in the Town of Ithaca, County of Tompkins and State of New York being a portion of lands of Emerson Power Transmission Corporation recorded in the Tompkins County Clerk's Office in Book of Deeds 2014 and Page 14695 known as the 34.336 acres more or less parcel shown on a map titled ""NCR and Ithaca College Sewer Line Areas through the Unrestricted Lands of Emerson Power Transmission Corp." prepared by Richard M. Rybinski, L.S. dated November 26, 2010 and revised to show the NCR and Ithaca College Sewer Line Areas dated August 23, 2018. A reduced-sized copy of which is attached hereto and made a part hereof.

The centerline of the easement intended to be conveyed herein is more particularly described as follows: beginning at a point on the south line of lands of said Emerson Transmission Corp., said point being S 87°29'58" W and a distance of 30.64' from an iron pipe at the southeast corner of lands of said Emerson, said point also being N 15°32'20" E and a distance of 3.70' from sanitary manhole MH-12 on the lands of South Hill Business Campus, LLC recorded in the Tompkins County Clerk's Office in Book of Deeds 46586 and Page 9001; thence N 15°32'20" E a distance of 964.13' to manhole MH-7; thence N 35°27'06" E a distance of 308.59' to a point on a concrete raceway and a point on the boundary line of the said Unrestricted Area as shown on said map, said point being S 35°27'06" W a distance of 167.42' from manhole MH-6 and is the end point of the said 80 feet easement.

The right of way hereby granted is for a width of 40 feet on each side of the said existing center line of the sanitary sewer right of way with a total width of 80 feet containing 2.260 acres more or less.

Subject to easements, covenants and restrictions of record as the same may now be in force and effect. Bearings are related to NAD83 CNY Zone.

80 Feet Easement Ithaca College Sewer Line Lateral Area
Lateral Sanitary Sewer Trunk

An 80 feet easement and right of way centered on the existing 20' Ithaca College Lateral Sanitary Sewer right of way recorded in the Tompkins County Clerk's Office in Book of Deeds 428 and Page 529 across and under its premises located in the said Unrestricted Area of the said lands of Emerson Power Transmission Corp., the location of such 80 feet Lateral Area easement as shown on a map titled ""NCR and Ithaca College Sewer Line Areas through the Unrestricted Lands of Emerson Power Transmission Corp." prepared by Richard M. Rybinski, L.S. dated November 26, 2010 and revised to show the NCR and Ithaca College Sewer Line Areas dated August 23, 2018. A reduced-sized copy of which is attached hereto and made a part hereof.

The centerline of the easement intended to be conveyed herein is more particularly described as follows: beginning at a point on the northwesterly street line of NYS Route 96B (Ithaca – Danby Road), said point N 20°26'52" E a distance of 100.24' from the southwest corner of New York State Department of Transportation Map No. 6 Parcel 8 and also being a point on the northerly line of Town of Ithaca Tax Map Parcel 40-3-8 as recorded in Tompkins County Clerk's Office in Book 60040 Page 1001 marked by a stone monument; thence N 73°31'23" W parallel with and northerly 100' of the said north line of Tax Map Parcel 4-3-8 a distance of 443.68' through lands of said Emerson Transmission Corporation, now or formerly as recorded in Tompkins County Clerk's Office in Book 2014 Page 14695 to the westerly line of the NCR 20 feet sanitary sewer easement as recorded in Tompkins County Clerk's Office in Book 395 Page 489 and is the end point of the said 80 feet easement.

The right of way hereby granted is for a width of 40 feet on each side of the existing center line of the said sanitary sewer right of way with a total width of 80 feet containing 0.815 acres more or less.

Subject to easements, covenants and restrictions of record as the same may now be in force and effect. Bearings are related to NAD83 CNY Zone.

NCR AND ITHACA COLLEGE SEWER LINE AREAS THROUGH THE UNRESTRICTED LANDS OF EMERSON POWER TRANSMISSION CORP.
CITY AND TOWN OF ITHACA
TOMPKINS COUNTY
NEW YORK

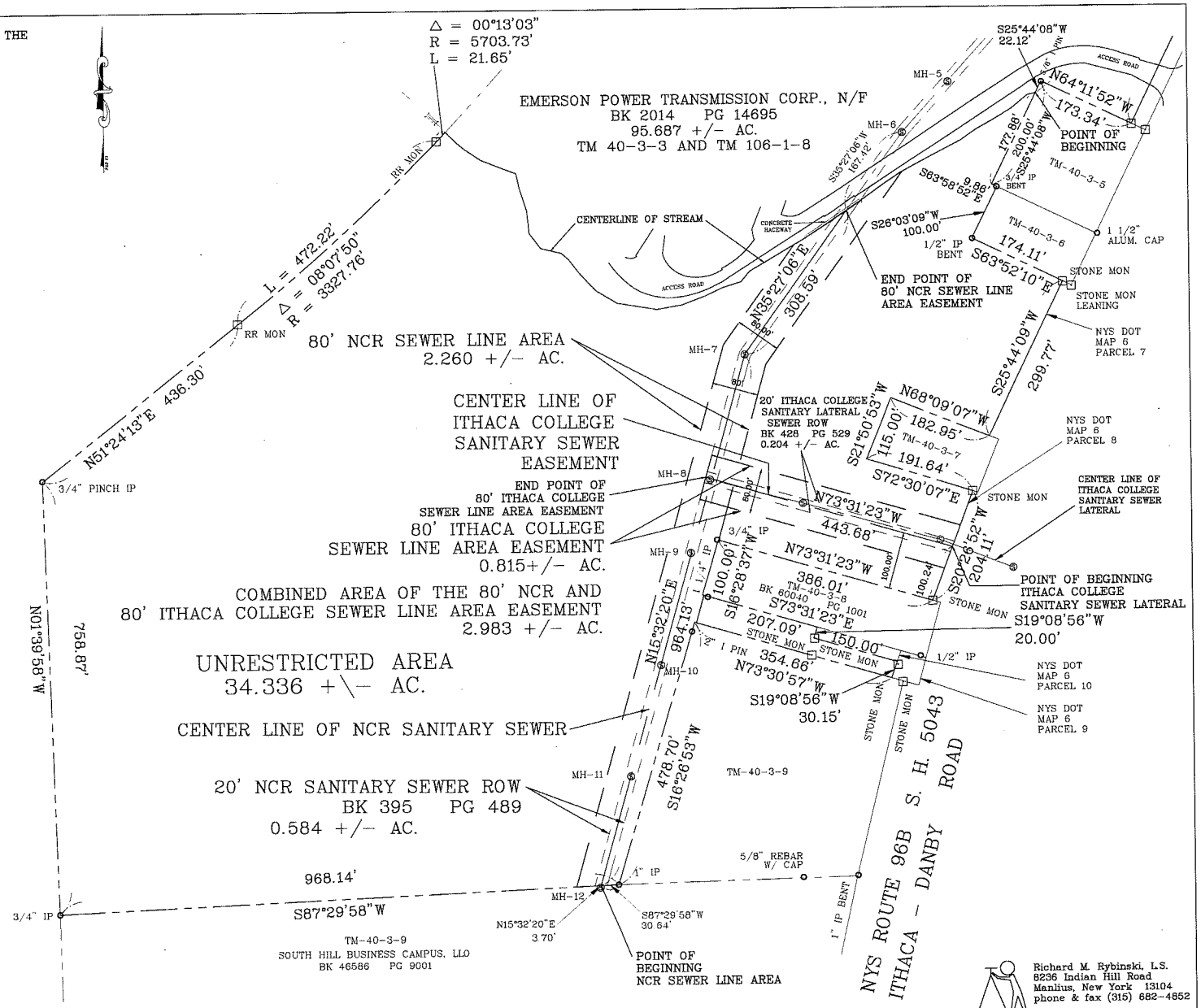
NOVEMBER 26, 2010
APRIL 11, 2917
MAY 9, 2018
JULY 9, 2018
AUGUST 23 2018

GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.

NOTES:
1. THE HORIZONTAL BEARINGS ARE RAD BR. NY CENTRAL ZONE.
2. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE
3. THE BOUNDARY SURVEY WAS PETFORMED NOVEMBER 28, 2010 AND HAS NOT BEEN UPDATED.
4. UNRESTRICTED BOUNDARY LINES REVISED 5/9/18.
5. REVISED SEWER EASEMENT AND GENERAL REVISIONS 8/23/18.

LEGEND

STONE MON	STONE MONUMENT
1/2" IP	IRON PIPE MOMUMENT
	PROPERTY LINE
	80' SANITARY EASEMENT
	20' SANITARY EASEMENT
MH-10	SANITARY SEWER MANHOLE
	STREET LINE
TM-40-3-9	TAX MAP PARCEL NUMBER
	CENTER LINE OF STREAM



"Unauthorized alteration or addition to a survey map bearing a licensed land surveyor's seal is a violation of Section 7209, Subdivision 2, of the New York State Education Law."

"Only copies from the original of this survey marked with an original of the land surveyor's embossed seal shall be considered to be true copies."

"Certifications indicated hereon signify that this survey was prepared in accordance with the existing code of practice for Land Surveys adopted by the New York State Association of Professional Land Surveyors."

Richard M. Rybinski, L.S.
N.Y.S. License No. 49779

Richard M. Rybinski, L.S.
8236 Indian Hill Road
Manlius, New York 13104
phone & fax (315) 682-4852

Bk 14: 26, 28-33 Bk 16: 96 10334 EP181857 dwg

APPENDIX

F EXCAVATION WORK PLAN

APPENDIX F

EXCAVATION WORK PLAN (EWP)

This Excavation Work Plan (EWP) applies to ground intrusive activities conducted at the Site that will penetrate a cap or cover system (hereinafter referred to collectively as "cover system") or otherwise encounter areas of remaining contamination including non-soil areas of remaining contamination such as the barium-impacted building materials (concrete walls) in Building 15. The Excavation Contingency Plan (Section F-12 of the EWP) will apply for previously undetected, unknown, or uncharacterized areas of contamination found as a result of demolition or Site redevelopment activities.

F-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination or breach or alter the Site's cover system, the Site owner or their representative will notify the NYSDEC contacts listed in the table below. Table F-1 includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in Appendix B.

Table F-1: Notifications*

Karen A. Cahill	315-426-7432 karen.cahill@dec.ny.gov
Gary Priscott	315-426-7551 gary.priscott@dec.ny.gov
Margaret Sheen	315-426-7405 margaret.sheen@dec.ny.gov
Kelly Lewandowski (NYSDEC Site Control):	518-402-9569 kelly.lewandowski@dec.ny.gov
Anthony Perretta	518-402-7860 anthony.perretta@health.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent of excavation, plans/drawings for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated, any modifications of truck routes, and any work that may impact an engineering control;
- A summary of environmental conditions anticipated to be encountered in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120 and 29 CFR 1926 Subpart P;
- A copy of the contractor's health and safety plan (HASP), in electronic format, if it differs from the HASP provided in Appendix G of this Interim SMP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with the required request to import form and all supporting documentation including, but not limited to, chemical testing results.

F-2 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed during all excavations into known or potentially contaminated material (remaining contamination) or a breach of a cover system. A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will perform the screening. Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the Certificate of Completion.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil. Further discussion of off-site disposal of materials and on-site reuse is provided in Sections F-6 and F-7 of this Appendix.

F-3 SOIL STAGING METHODS

Soil stockpiles will be continuously encircled with a berm, filter sock, and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

F-4 MATERIALS EXCAVATION AND LOAD-OUT

A qualified environmental professional as defined in 6 NYCRR Part 375, a PE who is licensed and registered in New York State, or a qualified person who directly reports to a PE who is licensed and registered in New York State will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and remedial party (as appropriate) and its contractors are responsible for safe execution of all invasive and other work performed under this Plan. See Appendix C for additional responsibilities of each party under this Interim SMP.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site. A site utility stakeout will be completed for all utilities prior to any ground intrusive activities at the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site, as appropriate. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials. Material accumulated from the street cleaning and egress cleaning activities will be disposed off-site at a permitted landfill facility in accordance with all applicable local, State, and Federal regulations.

F-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks loaded with site materials will exit the vicinity of the site using approved truck routes to be coordinated with the City and Town of Ithaca at the time when work is performed. The most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

F-6 MATERIALS DISPOSAL OFF-SITE

All material excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed off-site in a permitted facility in accordance with all local, State and Federal regulations. If disposal of material from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC project manager. Unregulated off-site management of materials from this site will not occur without formal NYSDEC project manager approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, (e.g. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility). Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include, but will not be limited to: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled consistent with 6 NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted SCOs is prohibited from being taken to a New York State C&D debris recovery facility (6 NYCRR Subpart 360-15 registered or permitted facility).

F-7 MATERIALS REUSE ON-SITE

The qualified environmental professional as defined in 6 NYCRR part 375 will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material (i.e. contaminated) does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for reuse on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Proposed materials for reuse on-site must be sampled for full suite analytical parameters including per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane. The sampling frequency will be in accordance with DER-10 Table 5.4(e)10 unless prior approval is obtained from the NYSDEC project manager for modification of the sampling frequency. The analytical results of soil/fill material testing must meet the site use criteria presented in NYSDEC DER-10 Appendix 5 – Allowable Constituent Levels for Imported Fill or Soil for all constituents listed, and the NYSDEC Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (latest version) guidance values. Approvals for modifications to the analytical parameters must be obtained from the NYSDEC project manager prior to the sampling event.

Soil/fill material for reuse on-site will be segregated and staged as described in Sections F-2 and F-3 of this EWP. The anticipated size and location of stockpiles will be provided in the 15-day notification to the NYSDEC project manager. Stockpile locations will be based on the location of site excavation activities and proximity to nearby site features. Material reuse on-site will comply with requirements of NYSDEC DER-10 Section 5.4(e)4. Any modifications to the requirements of DER-10 Section 5.4(e)4 must be approved by the NYSDEC project manager.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

F-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed off-site at a permitted facility in accordance with applicable local, State, and Federal regulations, except as otherwise approved in the O&M Plan (Appendix I of the Interim SMP). Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

F-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the AROD. The existing cover system is comprised of a demarcation layer and clean fill (minimum 24 inches in restricted residential and 12 inches in commercial and industrial land use areas), asphalt or concrete pavements, or buildings. The demarcation layer consisting of orange snow fencing material, white geotextile, or equivalent material, etc. will be replaced to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in an updated SMP.

F-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional, as defined in 6 NYCRR Part 375, and will be in compliance with provisions in this SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review.

Material from industrial sites, spill sites, other environmental remediation sites, or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6 NYCRR 375-6.7(d) and DER-10 Appendix 5 for restricted residential, commercial, or industrial use as appropriate based on the location on the Site. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in DER-10 Appendix 5. Soils that meet ‘general’ fill requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC project manager. Soil material will be sampled for the full suite of analytical parameters, including PFAS and 1, 4-dioxane. Solid waste will not be imported onto the site. Backfill will conform to DOT specifications and haulers’ permits.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

F-11 STORMWATER POLLUTION PREVENTION

For any excavation or land disturbance activity exceeding 1 acre, coverage under the General Permit for Stormwater Discharges from Construction Activities will be obtained and a Stormwater Pollution Prevention Plan (SWPPP) developed to conform to the requirements of the NYSDEC Division of Water guidelines and NYS regulations. The SWPPP will describe the erosion and sediment controls, installation procedures, and inspection and maintenance requirement for the type of work expected to be performed. At a minimum (e.g., for excavation or land disturbance activities less than 1 acre), the following control measures will be implemented.

Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing or filter socks damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

F-12 EXCAVATION CONTINGENCY PLAN

If grossly contaminated media, underground tanks or structures containing free product, or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager and others listed in Table F-1 will be promptly notified of the discovery.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes [TAL metals, TCL volatiles and semi-volatiles (including 1,4-dioxane), TCL pesticides and PCBs, and PFAS], unless the site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any tanks will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone within two hours to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the Periodic Review Report.

After sampling and notifications are completed, a work plan will be prepared and submitted to the NYSDEC's project manager to remediate the grossly contaminated media, underground tanks or structures containing free product, or other previously unidentified contaminant sources. The content of the remediation work plan will be based on the specific environmental conditions encountered, but will generally include the following information: removal of free product, temporary staging of contaminated materials, compound-specific procedures for community air monitoring, and other items listed below:

- A detailed description of the work to be performed, including the location and areal extent of excavation, estimated volumes of contaminated materials, plans/drawings for removal of free product, excavation and temporary staging of contaminated materials, post-remediation sampling, backfilling and restoration, and installation of additional institutional or engineering controls;
- A schedule for the work, detailing the start and completion of all intrusive work;

- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120 and 29 CFR 1926 Subpart P;
- An updated HASP and CAMP based on the types and contaminant concentrations present;
- Identification of disposal facilities for potential waste streams;
- Identification of sources of any anticipated backfill, along with the required request to import fill and all supporting documentation including, but not limited to, chemical testing results.
- Any other measures required by the NYSDEC.

F-13 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) will be prepared before beginning any intrusive soil management work at the site and will be implemented during active excavation, staging, loading, backfilling, grading and other ground-intrusive activities. A generic CAMP can be obtained in Appendix 1A of the DER-10. The CAMP will include details of the perimeter air monitoring program (VOCs and particulates), methods of monitoring (continuous and periodic), instrumentation (e.g., photoionization detector or dust meter), and action levels to be used.

The CAMP will include a figure showing the location of air sampling stations based on generally prevailing wind conditions. The locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

F-13A SPECIAL REQUIREMENTS FOR WORK WITHIN 20 FEET OF POTENTIALLY EXPOSED INDIVIDUALS OR STRUCTURES

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 part-per-million, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 micrograms per cubic meter, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 micrograms per cubic meter or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

F-13B SPECIAL REQUIREMENTS FOR INDOOR WORK WITH CO-LOCATED RESIDENCES OR FACILITIES

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under “Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures” except that in this instance “nearby/occupied structures” would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be

understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

F-14 ODOR CONTROL PLAN

An odor control plan capable of controlling emissions of nuisance odors off-site will be developed, if necessary, at the time the EWP is implemented. Specific odor control methods to be used on a routine basis are described in the following paragraph.

If nuisance odors are identified at the site boundary or an area of the Site where residents or tenants exist, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the owner's or remedial party's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

F-15 DUST CONTROL PLAN

Particulate monitoring must be conducted according to the Community Air Monitoring Plan (CAMP) provided in Section F-13. If particulate levels at the site exceed the thresholds listed in the CAMP or if airborne dust is observed on the site or leaving the site, the dust suppression techniques listed below will be employed. The owner or remedial party will also take measures listed below to prevent dust production on the site.

- A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:
- Dust suppression will be achieved using a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.
- Excavations and stockpiles will be covered as soon as possible after intrusive activities, especially during dry conditions.
- Vegetation or pavement will be installed as soon as possible after backfilling.

F-16 OTHER NUISANCES

If necessary, based on conditions at the Site, a plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

F-17 BARIUM-IMPACTED BUILDING MATERIALS

Any remediation or removal of barium-impacted building materials (concrete walls) in Building 15 shall be performed in accordance with all applicable laws and regulations, as well as with the relevant provisions of DER-10 and this EWP. The latter includes Subsections F-1, F-4 (but only with respect to excavation load-out), F-5, F-6, F-13, F-15, and F-16. If previously unidentified areas of impacted building materials are found, the requirements in the Excavation Contingency Plan (Section F-12) will apply.

APPENDIX

G HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FORMER EMERSON POWER TRANSMISSION FACILITY
ITHACA, TOMPKINS COUNTY, NEW YORK
NYSDEC SITE NO. 755010

EMERSON

PROJECT NO.:31401545.001
DATE: AUGUST 2022

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1 INTRODUCTION

This Health and Safety Plan (HASP) was prepared by WSP USA Inc. (WSP) for the field activities (see Section 4) associated with the EMERSUB 15, LLC (formerly Emerson Power Transmission, or "EPT") facility property located at 620 South Aurora Street, Tompkins County, Ithaca, New York (Site; Figure 1).

This HASP provides an overview of conditions at the site and describes the safety procedures to be employed during implementation of the activities listed in Section 1.1. The HASP presents the minimum requirements applicable to all WSP employees and WSP's subcontractors; all subcontractors and other environmental consultants are also required to prepare and follow their own HASP and may use more stringent requirements as necessary to fulfill their own corporate requirements.

During the development of this HASP, consideration was given to current safety standards as defined by the United States Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the American Conference of Governmental Industrial Hygienists (ACGIH), and the National Institute for Occupational Safety and Health (NIOSH). In addition, the HASP includes information on health effects and standards for known contaminants and the procedures designed to account for the potential for exposure to unknown substances. Specifically, the following references have been consulted:

- 29 Code of Federal Regulations (CFR) 1910.120 and 40 CFR 311
- OSHA/NIOSH/EPA Occupational Health and Safety Guidelines for Activities at Hazardous Waste Sites
- NIOSH Pocket Guide to Chemical Hazards
- ACGIH Threshold Limit Values

All onsite personnel will be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards associated with field activities. These potential hazards and the planned protective measures are discussed in detail in this HASP.

All WSP personnel conducting work onsite will review and become familiar with all aspects of this HASP. Each employee assigned a responsibility for site work will sign an agreement to comply with the HASP requirements before conducting any activities at the site. A copy of WSP's HASP Certification is provided in Section 16.

In addition to their own HASP, all WSP contractors working at the site will be briefed by WSP's site health and safety coordinator (SHSC) and will be required to become familiar with the following sections of this plan:

- Training Program – Section 11
- Medical Monitoring Program – Section 12
- Emergency Response Plan – Section 13
- Safety Rules and Personal Hygiene – Appendix A
- NIOSH Pocket Guide to Chemical Hazards – Appendix B
- Personal Sampling Pump Procedures – Appendix C
- Heat and Cold Stress Monitoring and Prevention – Appendix D
- Procedures for Putting on and Decontaminating Personal Protective Equipment (PPE) – Appendix E

This HASP may be modified if it becomes evident that the provisions specified are not feasible or adequate to protect the health and safety of personnel, or if supplemental activities are implemented that are not addressed herein. All changes to this HASP shall be documented by completing a HASP modification form (Form 2), and changes should be reviewed by the SHSCs, and Field Team Leaders before implementation onsite. As changes are made to the HASP, WSP must relate all changes and explain how they may change potential exposure hazards to all subcontractor supervisors. A copy of completed HASP modification forms will be included in each copy of the HASP and will be maintained with the project records. The SHSC or their designee will be responsible for informing field personnel of all HASP changes during the daily briefing meetings.

2 SITE BACKGROUND

2.1 SITE LOCATION

The Site consists of three main buildings located on a terraced section of a steep hillside ("South Hill") (Figures 1 and 2). The buildings are located at an elevation of approximately 600 feet above mean sea level. The main buildings are flanked by several smaller buildings to the southwest and a series of access roads and parking lots to the east. South Aurora Street borders the Site to the east followed by the campus of Ithaca College.

Undeveloped woodland borders the Site to the west-southwest along a steep embankment followed by West Spencer Street, which marks the base of South Hill. Residential areas are located west of West Spencer Street and north of the Site. Six Mile Creek, located further to the west, flows north along the base of South Hill and eventually empties into Cayuga Lake approximately 2 miles northwest of the Site (Figure 1).

One of the Site's many parking lots may provide access by air (Figure 2). The Site can be accessed by road from South Aurora Street (i.e., the North or Main Entrance) through a secure and guarded entrance gate. A second entrance (i.e., the South Entrance), is located approximately 1,600 feet to the south of the Main Entrance along South Aurora street, and can be accessed using a site key that must be obtained at the guard shack. A third entrance (i.e., the West Entrance) is located at the eastern end of South Turner Place, adjacent to the Guard Shack, and is accessed using the site key. Parking Lot 3 provides access to the treatment building and is located at the eastern end of Turner Place outside of the perimeter fencing of the site (i.e., unguarded and unlocked).

2.2 SITE HISTORY AND DESCRIPTION

The facility was founded in 1906 by Morse Industrial Corporation, manufacturer of steel roller chain for the automobile industry. Morse operated the facility until approximately 1928 when it was bought by Borg-Warner Corporation, manufacturer of automotive components and power transmission equipment. In 1983, Emerson acquired Morse from Borg-Warner. As a result, the Ithaca facility eventually became part of the former EPT business, a wholly owned subsidiary of Emerson and part of Emerson's Power Transmission Solutions business. EPT continued to manufacture industrial roller chain, bearings, and clutching for the power transmission industry until operations ceased in 2009. The facility was subsequently decommissioned and has been vacant since 2011. In December 2014, Emerson transferred the property to EMERSUB 15, LLC, a wholly owned subsidiary of Emerson, in anticipation of the sale of Emerson Power Transmission Solutions business.

Up until the late 1970s, Borg-Warner used trichloroethene (TCE), a common solvent at the time, for cleaning and degreasing metal parts. An estimated sixty metal piercing and clanking machines were in operation from the early 1950s to 1977. Additional operations included metal finishing, plating, pickling, and salt bath quenching utilizing barium chloride and cyanide salts.

In 1987, groundwater containing elevated concentrations of volatile organic compounds (VOCs), specifically chlorinated VOCs (CVOCs), was discovered, originating from the fire water reservoir (FWR) in the western portion of the property. Subsequent to reporting these findings to NYSDEC, Emerson and EPT entered into a Consent Order on July 12, 1987 with the NYSDEC (Index # A7-0125-87-09; NYSDEC 1988) requiring Emerson to develop and implement a Remedial Investigation and Feasibility Study (RI/FS) followed by a remedial program to address the release of hazardous substances to the environment. An RI Report was completed by Radian Corporation (later Radian International LLC) in 1990 (Radian 1990). A groundwater pump and treat system was installed as an IRM to address VOC-affected groundwater near the FWR; operation began in late 1991. In 1994, the FS completed by Radian proposed a dual-phase groundwater extraction and treatment system as the remedial alternative based on testing that indicated such a system would outperform the existing IRM (Radian 1994). The alternative was approved by NYSDEC and detailed in the 1994 ROD (NYSDEC 1994). The dual-phase extraction (DPE) and treatment system began operating in 1996.

Based on the results of a supplemental remedial investigation (SRI) and Alternatives Analysis performed between 2004 and 2008, NYSDEC issued a ROD Amendment in 2009. In December 2014, EPT transferred the property to EMERSUB 15, LLC, a wholly owned subsidiary of Emerson, in anticipation of the sale of its Power Transmissions Solutions business, of which EPT was a part. In addition, in October 2018 the NYSDEC approved a boundary modification for the Site decreasing the Site size to approximately 61.5 acres. The Site then included two operable units, OU-1 (the former manufacturing plant complex) and OU-2 (the former FWR).

In 2018, in preparation for the conveyance of the property to L Enterprises, LLC, Emerson commenced Interim Remedial Measures (IRMs) to address sixteen (16) areas of concern (AOCs) with soil contamination. This work was completed in 2019. In 2020, Emerson concluded an FS to address other contamination and potential exposure pathways at the Site, including, but not limited to, site-wide chlorinated VOCs, barium, and cyanide in groundwater, isolated areas of site-wide non-aqueous phase liquid (NAPL), seeps containing various chemicals of concerns, a historical underground well, and soil vapor intrusion into Site buildings. Together with the IRM work, the FS laid the foundation for the remedial actions selected in the 2021 ROD Amendment (AROD) which has preceded EMERSUB 15 LLC's transfer of OU-2 (and the Boundary Modification Area) to L Enterprises, LLC.

2.2.1 OU-1

Subsequent to the 2009 ROD Amendment, a variety of activities have occurred in OU-1 including decommissioning the FWR; evaluating the potential presence of NAPL below the FWR; removal of NAPL since 2010; and upgrading the DPE and treatment system. EMERSUB 15, LLC, will retain ownership of that portion of the property coterminous with OU-1.

The pre-existing IRM DPE system (as upgraded in 2009) consisted of 10 wells, 9 were aligned in a north-south direction downgradient of and below the FWR to the west, and 1 well was immediately south of the FWR (EW-9-86C). Of the 10 DPE wells, four wells (EW-4-25B, EW-5-25B, EW-7-25B, and EW-10-25B) were installed in the highly fractured B-zone and the upper C-zone. The remaining six DPE wells (EW-1-62C, EW-2-62C, EW-3-60C, EW-6-60C, EW-8-62C, and EW-9-86C) were installed in the C-zone primarily to intercept and contain impacted groundwater in the lower portion of the C-zone. The OU-1 Groundwater IRM will be a component of the final remedy for the Site.

Following the 2009 ROD Amendment (NYSDEC 2009), several additional investigations were completed in OU-1. The findings indicated that the highest concentrations of CVOCs in groundwater occurred within two bedding plane fractures underlying the reservoir at 550 and 544 feet above mean sea level (amsl). These bedding plane fractures, as well as a deeper bedding plane fracture at 515 feet amsl, were identified as the primary migration pathways for affected groundwater. The pre-2009 system largely addressed these same intervals. In June 2015, the DPE and treatment system was modified and enhanced to include 12 extraction points (abandoning EW-9-86C, and installing EW-9R-72C, EW-11-43C, and EW-12-45C targeting the bedding plane fractures).

2.2.2 OU-2

OU-2 includes several AOCs, including AOC 1 (the Former Department 507 Degreaser in Building 4) where soil and groundwater affected by CVOCs were identified and delineated over the course of several investigations. At the request of NYSDEC, WSP's Phase II SRI Report, dated August 5, 2016, included summary information on this area. Much of the remainder of OU-2 was subject to soil, soil vapor, and groundwater investigations as part of the Phase II SRI. WSP's IRM Work Plan, dated August 8, 2018, was developed to address the excavation of shallow soil in the former degreaser area as well as other areas of OU-2 to reduce potential migration of constituents of concern to groundwater.

A sanitary sewer line was initially constructed across a portion of the Site to serve the former NCR facility to the south. The line extends approximately 2,700 feet from the southern property boundary to the north-northeast across OU-2 and connects to the main city sewer line on South Aurora Street (Figure 2). The line lies within two easements previously granted to NCR by Morse Chain Company. Another easement for a lateral to the NCR sewer line benefits Ithaca College. The original easements extended 10 feet from the center line, for a total width of 20 feet.

In October 2018, the NYSDEC approved a proposal by Emerson to remove 34.34 acres of undeveloped land in the southern portion of the property (Figure 2) from the area subject to the Order on Consent, the Administrative ROD, and the Registry of Inactive Hazardous Waste Sites (NYSDEC 2018d). A condition to the boundary modification was the filing of a deed

restriction requiring soil vapor assessments prior to any habitable structures being connected to or being constructed within 40 feet from the centerline on either side of the sewer running from the former NCR property and the Ithaca College lateral. The New York State Department of Health (NYSDOH) requested the restriction to account for potential vapor intrusion. The deed restriction was filed and recorded on September 6, 2018. As shown in Figure 2, the southern portion of the sewer and the lateral are no longer within the limits of Site No. 755010.

Residual source materials were removed from several manholes and two trench systems within the buildings in 2017 (WSP 2018a). The cleanout was accomplished by physical means (shovel, breaker bars, scrapers, etc.) followed by final removal by high vacuum. The use of water to remove solid residuals from manholes was minimized by temporary plugging to prevent solid residuals and wash water from being discharged to the sanitary sewer system.

The final IRM Work Plan for soils was submitted to and approved by the NYSDEC in August 2018 (WSP 2018b). The primary objectives of the work plan were to remediate soil in OU-2 to meet applicable soil cleanup objectives (SCOs) and to facilitate future use of the property consistent with L Enterprises, LLC redevelopment plans. The IRM activities were completed in August 2019; the Soil IRM Construction Completion Report was submitted to NYSDEC in October 2020. The OU-2 Soil IRM will be a component of the final remedy for the Site while providing for the removal of sources to groundwater contamination. Approximately 4,550 cubic yards of soil were excavated during the IRM. At the request of NYSDEC, the IRM work incorporated actions to further address portions of the sanitary sewer network inside the facility.

Ownership of OU-2 will be conveyed to L ENTERPRISES, LLC.

2.2.3 OU-3

OU-3 consists of the neighborhoods, sewer lines, and residential structures offsite to the north and west of the Site. To evaluate the potential for vapor intrusion, sub-slab and indoor air testing was conducted in homes within OU-3 between 2004 and 2005. Based on the results of the testing, Emerson voluntarily constructed vapor mitigation systems in 59 homes with approval of NYSDEC and New York State Department of Health (NYSDOH). These systems are inspected annually and maintenance is performed as necessary. In October 2010, NYSDEC issued a ROD for OU-3 which incorporated the mitigation of homes previously conducted by Emerson and the removal and replacement of approximately 300 feet of sanitary sewer line (and removal of associated overburden and bedding material) along East Spencer Street. The remedial work plan for the sewer replacement was approved by NYSDEC in July 2011; however, the City of Ithaca has not approved the easement to allow for its implementation. WSP submitted a letter to the NYSDEC in June 2021 requesting, on behalf of Emerson, requesting that the OU-3 ROD be amended to eliminate the requirement for partial sewer line replacement and vent stack installation. As of April 2022, the NYSDEC was in the process of finalizing the Explanation of Significant Differences to complete this request.

2.3 CLIMATE

Ithaca experiences a moderate continental climate characterized by warm, humid summers and long, cold, and snowy winters. Average high temperatures of the warmest months (July and August) are above 79 degrees Fahrenheit (°F), and during at least 6 months the average high temperature is above 59°F. The average high temperature in January, the coldest month is 31°F. Annual precipitation is approximately 37 inches, and summer is typically the wettest season.

Appendix D provides information regarding safety procedures during summer and winter months (extreme heat and extreme cold). These procedures must be followed to prevent adverse health effects due to climate while implementing the Site scope of work.

2.4 CONTAMINANTS OF CONCERN

The following contaminants of concern (COCs) have been identified at the Site:

- 1,2-dichloroethane (1,2-DCA)

- cis-1,2-dichloroethene (cis-DCE)
- trans-1,2-dichlorothene (trans-DCE)
- vinyl chloride
- 1,1,1-trichloroethane (1,1,1-TCA)
- tetrachloroethene (PCE)
- trichloroethene (TCE)

- benzo(a)anthracene (B(a)A)
- benzo(a)pyrene (B(a)P)
- benzo(b)fluoranthene (B(a)F)
- benzo(k)fluoranthene (B(a)K)
- chrysene
- dibenzo(a,h)anthracene (D(a,h)A)
- fluoranthene
- indeno(1,2,3-cd) pyrene (I(123cd)P)

- arsenic
- barium
- cadmium
- chromium
- copper
- nickel
- cyanide

- polychlorinated biphenyls

The maximum concentrations of each COC by media are presented in Table 1.

3 PROJECT ORGANIZATION

A number of roles are required for the safe and efficient operation of a field team. These roles include Client Manager, Site Coordinator, SHSC, Field Team Leader, and Field Personnel, and are described below. A team member may take on more than one role, but the roles must be clearly assigned and must cover all those required. The responsibilities of key technical personnel are described below.

3.1 CLIENT MANAGER – SCOTT HAITZ

The Client Manager has primary responsibility for the completion of project activities. He will be responsible for overall planning, scheduling, and cost control. The Client Manager is responsible for assigning resources to the project, maintaining communication with the client; ensuring compliance with all project programs and protocols; providing oversight; managing the document control process; and maintaining consistency in and reviewing all work products. Mr. Haitz will be directly responsible for the preparation of technical reports and other project documents and for ensuring adherence to the HASP. Mr. Haitz will assist the Site Coordinator in planning, coordinating, and controlling technical aspects of the project. He will be responsible for monitoring the quality of the technical and management aspects of the project, implementing quality assurance procedures, implementing tasks, and maintaining communication with the NYSDEC to ensure that the objectives of the project are met.

Additionally, Mr. Haitz will provide strategic direction during the project regarding client and contract requirements, work quality, and compliance with budget and schedule requirements, as well as review project deliverables.

3.2 SITE COORDINATOR – LISA KELLY

The Site Coordinator is responsible for the day-to-day progress of the project, overall supervision of field personnel, and that this HASP complies with all local, state, and federal regulations, as well as any WSP and Emerson policies and procedures that may be applicable to the proposed work. These responsibilities include organizing field activities, complying with the provisions of the work plan, field documentation and record keeping, and ensuring quality control of field activities. The Site Coordinator will ensure that all necessary equipment and supplies are available to complete the proposed tasks and any necessary accident, incident, and near hit investigations are completed in a safe, thorough, and effective manner. The Site Coordinator must ensure that all field team leaders have the necessary training and equipment to implement their assigned tasks as well as the skills necessary to lead a field crew and manage WSP contractors. Additionally, the Site Coordinator will ensure that all subcontractors have the necessary health, safety, and potential exposure information to safely and effectively complete their onsite tasks. They will ensure that investigations are performed in a safe manner to eliminate hazards and coordinate with personnel and contractors regarding all procedures related to health and safety.

The Site Coordinator will conduct periodic site inspections to ensure that WSP personnel and WSP contractors are complying with all requirements of this HASP and all Site safety policies.

3.3 SITE HEALTH AND SAFETY COORDINATOR - NATHANIEL WINSTON

The SHSC is responsible for observing field activities for compliance with this HASP; ensuring that decontamination procedures are followed and are effective; and maintaining the onsite documentation of WSP employees' medical clearances and emergency medical treatment programs. Additionally, the SHSC will assist in onsite emergencies, if any, and modify the health and safety protocols or terminate field work when unsafe work conditions exist. The SHSC will familiarize personnel with health and safety protocols and observe that field personnel wear appropriate PPE. Data from direct reading instruments, hazards evaluation, and any occurrence of site injury or illness will be recorded by the SHSC. Decontamination procedures will also be monitored by the SHSC.

The SHSC are responsible for monitoring Field Team Leaders and Field Personnel to determine if employees should be removed from the work site. Behaviors such as, but not limited to:

- horse play
- fatigue
- evidence of lack of fitness for duty
- heat or cold stress
- irresponsible behavior
- harassment (physical or verbal threats/abuse) of WSP or other site workers

If unsafe conditions are encountered, if illness or injury occurs, or if the level of protection needs to be changed, the SHSC will consult in a timely manner with the Site Coordinator.

In the event that unsafe acts conducted by WSP's subcontractors are observed, the SHSC will inform the subcontractor and ensure that the subcontractor comply with this HASP. If the subcontractor continues with unsafe practices, the SHSC shall have the authority to stop work until corrective measures are implemented. Subcontractors are responsible for correcting any unsafe conditions created by their activities or acts by their employees in compliance with their HASP and any applicable regulations.

The SHSC will determine if work practices or site conditions require changes in this HASP including, but not limited to, upgrades or downgrades in personal protection; changes in equipment or methodology to more safely accomplish work tasks or monitoring; and implementation of engineering or administrative controls. The SHSC shall notify the Site Coordinator of these changes.

3.4 FIELD TEAM LEADER

The Field Team Leader is assigned by the Site Coordinator and is responsible for the safe implementation of the work plan by the field team. Responsibilities include organization of field activities, compliance with the provisions of site work and sampling plans, field documentation and recordkeeping, quality control of field activities, and communication with the Site Coordinator. In the absence of the SHSC, the Site Coordinator will assign a Field Team leader to assume the responsibilities of the SHSC.

3.5 WSP FIELD PERSONNEL

WSP Field Personnel are responsible for safely implementing the tasks described herein, which includes donning appropriate PPE, conducting assigned site monitoring, performing assigned tasks, and decontamination of field equipment and PPE, all under direction from their respective Field Team Leader. All activities conducted onsite will conform to this HASP. Field personnel will report all safety concerns, task-related problems and successes, and equipment deficiencies/malfunctions directly to their Field Team Leader.

3.6 CONTACT INFORMATION

The responsibilities of key technical personnel are described below; contact information for project personnel is provided in Table 3.1.

Table 3.1 Project Personnel Contact Information

Name	Role	Phone	E-mail
Scott Haitz	Client Manager	Office: +1 703.318.3951 Mobile: +1 571.217.3612	Scott.Haitz@wsp.com

Lisa Kelly	Site Coordinator	Office: +1 212.465.5334 Mobile: +1 703.626.0543	Lisa.Kelly@wsp.com
Nathaniel Winston	SHSC	Mobile: +1 315.420.9973	Nathaniel.Winston@wsp.com
Dave Rykaczewski	Project Professional Engineer	Office: +1 412.375.0282 Mobile: +1 412.418.0140	Dave.Rykaczewski@wsp.com
Jeffrey Baker	Project Engineer (DPE Treatment System)	Mobile: +1 724.882.9723	Jeffrey.Baker@wsp.com

4 PLANNED ACTIVITIES

The following subsections describe the planned activities that may be conducted as part of the field activities for the Site during various investigation or remediation projects. All procedures will be completed in accordance (or noted otherwise) with WSP's standard operating procedures (SOPs), the appropriate NYSDEC guidance, the OU-1 DPE System Operation and Maintenance (O&M) Plan (Appendix I of the Interim Site Management Plan [SMP]), the Monitoring and Sampling Plan OU-1 and OU-2 (Appendix J of the Interim SMP), and any future site-specific work plans. All non-disposable equipment will be decontaminated between locations.

4.1 CONCRETE CORING AND CUTTING OVERSIGHT

To access sub-slab soils and bedrock, concrete floors will need to be cored or cut. Concrete coring or cutting equipment (e.g., concrete saw, diamond core bit, star bit) will be provided and operated by a subcontractor, and WSP field personnel will oversee the activities. Contractor shall collect and contain any contact water, dust or concrete generated and decontaminate all equipment before use and between locations. WSP employees must survey the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.2 VIDEO SURVEY OVERSIGHT

Video surveys may be conducted in subsurface structures, such as sewer lines, manholes and manways. Video surveys entail inserting video equipment to conduct visual inspections of subsurface structures. The video surveys will be conducted by a subcontractor, and a WSP field team member will oversee the activities. Contractor shall decontaminate all equipment before use and between locations. WSP employees must survey the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.3 TRENCHING AND EXCAVATION OVERSIGHT

WSP personnel may periodically be involved in the oversight of intrusive work, including trenching for system modifications or expansions and excavations, to assure compliance with applicable project plans. Trenching and excavations will be conducted by a subcontractor, and a WSP field team member will oversee the activities. The subcontractor will provide the competent person.

Before any intrusive work is initiated, underground utilities will be located by notifying Dig Safely New York and by subcontracting a private utility locator. Utility lines within the work areas may be temporarily de-energized, drained, or removed during excavation work, then restored in kind following completion of the work. Identified utilities that are outside the proposed remediation areas and all overhead utilities will be protected throughout the work. Process lines and equipment found within excavation areas that are confirmed to be inactive and not required for future use of the Site may be removed and not replaced.

Trenching and excavation work may include the use of heavy construction equipment (e.g., excavators, bobcats, etc.) or hand tools (e.g., shovels, breaker bars). Erosion and sediment controls (e.g., silt fence, filter socks, hay bales, erosion mat, earthen berms, diversions, stockpile covers, stabilized construction entrances, inlet and outlet protection, and temporary and permanent seeding) may be installed and maintained. Small trees and brush will be cleared and mulched or disposed of with the excavated soil. Excavated soil will direct-loaded, transferred to roll-off boxes, or stockpiled. The excavated soil will be characterized and disposed of off-site, as necessary. Any water that has the potential of contacting affected materials shall be collected and transferred to holding tanks (e.g., polyethylene tanks or fractionation tanks) equipped with secondary containment. The excavation will be backfilled with clean fill and compacted. A low permeability cap (e.g., bentonite, geomembrane, polyethylene) may be installed in some areas. Surfaces of backfilled areas will be restored with native grasses, gravel or pavement (asphalt or concrete).

Fugitive dust migration will be visually assessed during all work activities. The excavation surfaces will be maintained damp and additional dust suppressant will be applied, as needed, to prevent or reduce dust emissions resulting from construction activities. Dust suppressant will be applied when exposed ground surfaces are dry and wind or vehicular traffic result in visible dust generation. Dust suppressant applications will consist of applying potable water via a mobile broadcast applicator in a controlled manner.

Soil samples may be collected for field screening from roll-offs/stockpiles for characterization purposes, from the base and sidewalls of the excavation to verify that remedial objectives are met, and from backfill material to determine if clean fill requirements are met by WSP oversight personnel. Soil samples may be analyzed in the field for metals using a portable X-ray fluorescence (XRF) analyzer by WSP personnel who have undergone XRF radiation safety training. In addition, water samples may be collected from water that has accumulated in the excavation, roll-off boxes, or stockpiles for disposal characterization purposes.

WSP oversight must inspect the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.4 DPE TREATMENT SYSTEM O&M

The DPE Treatment System consists of DPE wells containing pneumatic pumps to recover groundwater, underground piping (including compressed air delivery lines, soil vapor extraction (SVE) lines, and groundwater conveyance), an air compressor, tankage, filtration units, air stripper, SVE blower, liquid- and vapor-phase carbon units, and a PLC. All piping/ conduit is routed underground to the treatment building where the treatment equipment is housed.

Groundwater is pumped from the extraction wells into a 1,000-gallon aluminum equalization tank, which is intended to equalize the influent flows and minimize downstream cycling of system components. The bag filter feed pump, controlled by the equalization tank level, discharges water from the equalization tank through the bag filter system, and into the air stripper. Under the current operations, the bag filter feed pump processes water in approximately 600 gallon batches, at a flow rate of approximately 10 to 12 gallons per minute. A low-profile, shallow-tray air stripper unit, is used to remove liquid-phase VOCs from the groundwater stream as it passes through the trays to the sump below (integral to the unit). The air stripper is equipped with a sump pump, which discharges water from the air stripper sump, through the liquid-phase granular activated carbon (GAC) units and to the State Pollution Discharge Elimination System Outfall 001 in a single step. Soil vapor is drawn from the DPE wells through a 120-gallon air/water separator, using a positive displacement rotary lobe blower. The blower is equipped with a discharge silencer which reduces the noise coming from the discharge stack. Separated liquids that accumulate in the air/water separator are batch-pumped back to the equalization tank for aqueous treatment. The combined vapor stream (from the vacuum blower and the air stripper) is treated by two 1,000-pound vapor-phase GAC vessels in series before discharge to the atmosphere through the discharge stack.

4.4.1 OPERATION AND MAINTENANCE ACTIVITIES

In order to verify that the system is operating satisfactorily, an O&M contractor conducts periodic site visits, typically on a monthly basis. The following activities are conducted as part of the system monitoring. Some of these activities are performed during each site visit while others are performed on an as- needed basis. WSP personnel may also conduct some of these activities.

DPE WELL VAULTS

- Open each well vault and visually observe the vault interior.
- Check all instrumentation and exercise valves by opening and closing them.
- Check that adequate pressure is being provided to the pneumatic pumps by recording the air pressure gauge reading.
- Record the vacuum reading from the vacuum line header.
- Record the water pressure reading from the water pipe lateral to ensure there is no blockage in the water pipe.
- Adjust the air relief valve, if necessary, to maintain the design vacuum at the wellhead.

- Record the pump stroke displacement data and airline cycle flow counter associated with the pneumatic pump. Verify the heat tape is functioning and pipe insulation is intact.
- Remove any accumulated water from the vault and clear the weep drain if obstructed.

TREATMENT BUILDING

- Inspect each equipment skid and associated piping for leaks and disconnections.
- Manually turn the system on to observe the transfer pumps and listen for unusual sounds.
- Observe the flow meters for proper operation by checking the instantaneous flow measurement. If the flow meters appear to be inoperable, clean the flow meter in accordance with the manufacturer's recommendations.
- Check the stainless steel mounted 4-position float switch assembly in the equalization tank to observe it is hanging properly and free from obstruction. Also, observe the groundwater contained in the equalization tank. Make notes of any unusual odors, floating debris, water clarity, the amount of solids on the bottom of the tank, etc.
- Visually observe and clean, as necessary, the inlet wye strainer to the transfer pump for the equalization tank and air stripper sump.
- Record the pressure readings associated with the bag filter units. Clean and/or replace bag filters as necessary.
- Observe the operation of the air stripper including the blower, transfer pump, and associated appurtenances. Inspect the trays of the air stripper for accumulated sludge. Clean trays as necessary to maintain design performance of the air stripper.
- Record the pressure readings before and after each liquid and vapor phase activated carbon unit. Visually inspect the PLC to ensure it is functioning properly; check for any alarm conditions and address as necessary. Inspect sump in treatment building to ensure it is free of liquid and debris; clean, if necessary. If liquid is present, determine source.
- Ensure exhaust fan, heaters, or louvers are operational, depending on season.
- Check piping entrance into building for damage or leaks.
- Inspect outside of treatment building for damage to vapor exhaust stack, gutters, doors, infrastructure, fencing, and electric panel.
- Check the satellite drum (personal protection equipment and bag filters) for leaks and fastened the drum lid tightly.

GENERAL SYSTEM MAINTENANCE

- Check air compressor oil level in the sight glass.
- Inspect compressor inlet filter.
- Inspect compressor moisture separator.
- Inspect flow sensors.
- Inspect magnahelic differential pressure gauges; disconnect the magnahelic pressure gauge to atmosphere and re-zero, if necessary.
- Remove dirt and grease from air compressor exterior.
- Remove dirt and grease from vacuum blower exterior.
- Inspect and clean compressor motor air ventilation slots to prevent clogging and starving the motor of cooling air.
- Inspect the vacuum blower and clean the compartment vent guards, dampers, motors, and propellers as necessary to prevent decreased airflow and overheating motor.
- Inspect fan blades and bolts for tightness (including exhaust silencer).

AQUEOUS CARBON VESSELS

- Monitor backpressure to determine if blockage is occurring in each vessel.

AIR STRIPPER

- Check operating amps of blower motor.

- Inspect air inlet screen and clean if required.
- Record magnahelic gauge reading for reference.
- As necessary, disassemble and clean trays; also check mist eliminator for fouling.

PUMPS

- Check effluent from pump for excessive air discharge.
- Inspect tubing. Check particulate filter.
- Check membrane dryer for debris.
- Check motor coupling; tighten if necessary.
- Check operating amps of transfer pump motor.
- Inspect shaft seal for leakage.

VACUUM BLOWER

- Inspect and clean the vacuum blower inline particle filter; replace when necessary.
- Inspect and clean the vacuum blower dilution air filter; replace when necessary.
- Determine if the vacuum blower needs an oil change or lubrication based on the run time of the motor.

PERIODIC CARBON MAINTENANCE

Aqueous carbon vessels are monitored for breakthrough by a combination of water samples collected before, between, and after the vessels, and by monitoring water pressure on the vessels. When carbon change-out is necessary, the spent GAC in the vessels will be removed by a vacuum truck or similar means and containerized in 55-gallon United States Department of Transportation (DOT)-compliant drums for proper disposal. WSP may oversee the replacement and containerization activities.

4.4.2 SYSTEM MONITORING

Aqueous phase samples are collected from sample taps located before (influent) the air stripper, and before, between, and after (effluent) the GAC vessels. Approximately, 1 gallon of water will be purged from the tap before grab sample collection for pH, temperature, and VOCs; purged groundwater will be discharged to the equalization tank. pH and temperature will be measured in the field with a calibrated, hand-held water quality meter. VOCs will be collected in a laboratory-provided container and shipped to an off-site laboratory for analysis.

Vapor phase samples are collected from sample ports located before (influent), between, and after (effluent) the GAC vessels with a syringe and injected into an evacuated vial and shipped to an off-site laboratory for VOC analysis.

4.5 VAPOR MITIGATION SYSTEM O&M

Multiple single family residential properties have been equipped with vapor mitigation systems. Sub-slab vapor and crawl space vapor is pumped to the exterior of the residential properties and discharged directly to the atmosphere using radon-style fans and polyvinyl chloride (PVC) piping.

At each residence, a minimum of one vacuum point was installed through the floor slab into the soil underneath or into the crawl space. In some cases, more than one vacuum point was installed to achieve a pressure differential over the entire footprint of the concrete slab. Each vacuum point was sealed to the surrounding concrete slab using an elastomeric joint sealant. Liquid filled manometers were installed on the vertical riser of each vacuum point to measure the vacuum. In addition, shutoff valves were installed to control the flow from each vacuum location. An appropriately-sized fan and exhaust piping were installed on the outside of each home, extending above the roofline in accordance with applicable standards.

On an annual basis, each vapor mitigation system is inspected and maintenance will be performed, as appropriate, to ensure the system is operating satisfactorily. The building's owners or occupants also may report that the warning device (liquid filled manometer) indicates the mitigation system is not operating properly. The following maintenance and monitoring activities may be conducted:

- A visual inspection of the complete system will be conducted including the vent fan, piping, warning device (liquid filled manometers), labeling on the system, and any membranes installed as a soil vapor retarder. The fan will be inspected to ensure proper operation and continued effectiveness at proving the appropriate vacuum. Manufacturer's specifications will be referenced to determine if and when replacement parts and/or system adjustments are required.
- Any leaks identified will be repaired. This will include, at a minimum, inspecting all sealed joints, cracks, etc. on the concrete floor, foundation walls, vacuum points, and soil vapor retarder membrane (where it is attached to the walls and around foundation piers). Smoke tests will be performed as necessary to verify there are no leaks.
- Damage to the mitigation system (e.g., piping, valves, soil retarder membrane, and fan) may require replacement parts and/or system adjustments.
- Exhaust or discharge point from the mitigation system will be inspected to verify no air intakes have been located nearby.

4.6 LNAPL RECOVERY

Before initiating LNAPL recovery polyethylene sheeting will be placed around the wellhead.

4.6.1 ACTIVE RECOVERY

If sufficient LNAPL thickness (i.e., greater than 1-inch) is measured in the monitoring well, a top fill bailer, AMS Product No. 2100.39 (or similar), will be used to skim product at the water table surface. The bailer will be tethered with rope or a stainless steel cabled and lowered below the water table. The product will be skimmed with until the product thickness is less than 1-inch thick or 5-gallons has been removed. Recovered product will be drummed and handled as hazardous waste.

4.6.2 PASSIVE RECOVERY

Rigid oil-only absorbent socks will be placed in select monitoring wells with measurable products. Before placing the sock in the monitoring well, the sock will be weighed with a digital scale (or similar) and the weight recorded in the field book. The sock will be tethered in the well with a dedicated vinyl coated wire rope and attached with a carabineer, and an 8-ounce weight will be secured to the bottom of the sock with a weight clip. The sock and weight will be lowered into the well until approximately 3-inch of the sock extends above the water table. The sock will be secured to the well cap.

The socks will be removed from the well, and disconnected from the tether Holding the sock over a bucket, as much water as possible will be removed from the sock by squeezing. The sock will then be placed in a pre-weighed bucket and weighed with a digital scale (or similar) and the weights recorded in the field book.

4.7 WELL INSTALLATION AND DEVELOPMENT OVERSIGHT

Groundwater monitoring and extraction wells may be installed both indoors and outdoors by a drilling subcontractor. WSP field personnel will oversee monitoring well and extraction well installation and development. Drilling equipment will include direct-push, sonic, hollow stem auger, and air rotary and mud rotary technologies. For some drilling locations, temporary or permanent conductor casing will be installed into competent bedrock to isolate specific water-bearing zones. Soil and rock cores and cuttings returned during drilling may be visually screened for evidence of contamination, described, and screened for organic vapors in the field with a PID. This information will be recorded in a field book. Select samples may be collected for laboratory analyses.

WSP employees must survey the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.7.1 WELL INSTALLATION

Groundwater monitoring wells and extraction wells may be constructed of PVC or stainless steel riser with machine slotted screen. For each monitoring well or extraction well, a clean sand filter pack will be placed from the bottom of the borehole to approximately 2 feet above the top of the screen. An approximate 3-foot-thick bentonite seal (hydrated pellets) will be placed on top of the sand filter pack. The remaining annular space will be backfilled with a cement-bentonite grout mixture (tremie piped from the bottom to the top). The wells will be completed with either flush-mount or stickup assemblies, and secured in a concrete pad. The wells will be equipped with a lockable watertight cap.

4.7.2 WELL DEVELOPMENT

Well development involves removing groundwater from a monitoring well using submersible pumps, bailers, or inertial pumps in conjunction with surging of the well screen with a surge block assembly to remove sediments and ensure effective communication between the well screens and surrounding saturated zones. Well development may be conducted by a subcontractor with WSP oversight or by WSP personnel. WSP field personnel may monitor groundwater level with an electronic water level indicator during development and measure field parameters (e.g., pH, temperature, specific conductance, and turbidity) using a multi-parameter water quality meter.

4.8 WELL ABANDONMENT OVERSIGHT

Before well abandonment, WSP or their subcontractor will remove any downhole equipment (e.g., pumps) and the surface protection materials (e.g., surface casing protection) from each location. The wells will be abandoned in accordance with NYSDEC requirements. Following grout placement, the well casings will be cut at 5 feet below ground surface (bgs) and removed. Following abandonment, the surface around the well will be restored to match the surrounding surface and grade.

A small amount of groundwater may be forced out of the wells as grout is added to the bottom of these structures. Where possible, the groundwater will be collected and will be transported to either the treatment building for processing through the DPE Treatment System. Well construction materials (well casing, steel well protective casings, and concrete pads) will be disposed of offsite as general construction debris, as appropriate.

4.9 DOWNHOLE GEOPHYSICAL SURVEYING OVERSIGHT

Downhole geophysical logging may be conducted in new boreholes following drilling or at existing wells. Geophysical logging entails lowering field (testing) instruments into the existing borehole to measure properties of the formation or borehole fluid. Downhole geophysical logging equipment will be provided and operated by a subcontractor, and WSP field personnel will oversee the activities. Contractor shall decontaminate all downhole equipment before use and between borehole locations. WSP employees must survey the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.10 SURFACE GEOPHYSICAL SURVEYING OVERSIGHT

Surface geophysical surveying may be conducted along the ground surface. Surface geophysical surveying entails setting up survey probes at varying distances from a central location to map the subsurface. Surface geophysical surveying equipment will be provided and operated by a subcontractor, and WSP field personnel will oversee the activities. WSP employees must survey the work area thoroughly and select an observation point that provides adequate clearance from potential hazards.

4.11 SOIL SAMPLING

Soil borings may be installed using direct-push technology (e.g., Geoprobe®, or equivalent), sonic drilling equipment, and hollow-stem auger drilling equipment. Direct-push soil samples will be collected in dedicated acetate liners and the hollow stem auger drilling soil samples will be collected using split-barrel samplers. At locations installed using a sonic drill rig, continuous core samples will be collected with a core barrel advanced ahead of an override casing. The core barrel will be removed from the borehole and the soils will be extruded into low-density polyethylene bags for logging, screening, and sample collection. In addition, hand augers, shovels, and trowels may be used for collection of shallow soil samples by WSP personnel.

Upon recovery, the soils will be visually screened for evidence of contamination, described, and screened for organic vapors in the field with a PID. This information will be recorded in a field book. Select soil samples will be collected for laboratory analyses.

4.12 GROUNDWATER SAMPLING

WSP employees will conduct groundwater sampling at site-wide monitoring wells, and extraction wells. Groundwater purging and sampling may be conducted using peristaltic or submersible pumps connected to in-line water quality meters or bailers. Submersible pumps will be powered by a mobile gasoline-powered generator, compressed gas, or direct-current batteries. Dedicated pumps and tubing installed at select wells may be used for sampling. Groundwater samples collected from extraction wells will be collected via the existing electrical supply and piping. Before sampling, the extraction wells are shut down for approximately 24 hours. The groundwater samples are then collected using either standard or low-flow sampling procedures (see above). Once the samples are collected, they will be prepared for shipment to the offsite laboratory analysis.

Purge water will be transported to either the treatment building for processing through the DPE Treatment System, using an electric sump pump routed to system's equilibration tank via a garden hose or to the 90-day hazardous waste storage area located in Building 33 for characterization and eventual offsite disposal (Figure 2). Access to the 90-day storage area is located on the east side of Building 33 via several loading docks and entryways. Purge water will only be stored in containers larger than a 5-gallon bucket, such as a drum or tote, if the water has been approved for processing through the DPE Treatment System.

4.12.1 WATER LEVEL GAUGING

The water level in each monitoring well or extraction well will be gauged with an electronic water level meter and the measurement recorded in the field book. Select wells will be checked for the presence of LNAPL using an interface probe or bailer.

Gauging of DPE treatment system wells is conducted by opening each steel flush-mount well vault, closing off the vacuum extraction line from each well head with a ball valve on the pope assembly, and removing the 1-inch diameter steel threaded access port on each well cap to provide access for the electronic water level meter.

4.12.2 STANDARD PURGE SAMPLING

Standard well purging will be conducted through the removal of a minimum of 3 well volumes from a monitoring well using one or more of the following equipment:

- Disposable polyethylene or Teflon®-lined bailer connected to a nylon chord
- 12-volt battery-powered electronic submersible pump
- Electronic submersible pump with power supplied using a 120-volt electrical outlet or gasoline-powered portable electric generator

- Bladder pump or air-displacement pump powered by a 12-volt battery-powered gas compressor, a gasoline powered gas compressor, a pressurized carbon dioxide tank, or a pressurized nitrogen tank.
- 12-volt battery-powered or 120-volt electrical peristaltic pump.

Purge water will be contained in 5-gallon buckets, 55-gallon DOT-compliant steel drums, or 250-gallon polyethylene totes. Drums or totes will be loaded into the bed of a pickup truck or the back of a cargo van while empty and transported to each well site to contain purge water. Groundwater quality will be monitored during the purge using a multi-parameter water quality meter (e.g., Horiba U-52 or similar device) in a field measuring cup or inside a flow-through cell. The purge will be complete when field parameters are stable in accordance with WSP's SOPs or a site-specific work plan.

4.12.3 LOW-FLOW PURGE SAMPLING

Low-flow well purging will be conducted using one or more of the following equipment:

- 12-volt battery-powered electronic submersible pump
- Electronic submersible pump with power supplied using a 120-volt electrical outlet or gasoline-powered portable electric generator.
- Bladder pump powered by a 12-volt battery-powered gas compressor, a gasoline powered gas compressor, a pressurized carbon dioxide tank, or a pressurized nitrogen tank.
- 12-Volt battery-powered or 120-volt electrical peristaltic pump.

Purge water will be contained in 5-gallon buckets. Groundwater quality will be monitored during the purge using a multi-parameter water quality meter (i.e. Horiba U-52 or similar device) in a field measuring cup or inside a flow- through cell. The purge will be complete when field parameters are stable in accordance with WSP's SOPs or a site-specific work plan.

4.13 SURFACE WATER SAMPLING

Surface water samples may be collected from ditches (intermittent water flow, less than 6-inches deep) or seeps. The samples will be collected from stable non-erosive areas. The samples will be collected using transfer bottles, dippers, peristaltic pumps, or composite samplers; the method will be selected based on the location, depth of surface water, and intended use of the data.

Unless a peristaltic pump or composite sampler is used to sample surface water, the method-specific sampling vessel will be slowly lowered into the surface water to the desired sampling depth. Surface water will be allowed to slowly enter the sampling vessel until the necessary sample volume has been collected. Once filled, the sampling vessel will be slowly retrieved and transferred directly to the sample containers. When using a peristaltic pump or composite sampler, the tubing will be slowly lowered in to the surface water and pumped directly into the sample containers or transfer container; a particulate filter or check valve may be placed on the sample intake.

Groundwater seeps will be sampled by filling sample containers directly from the seep or transfer bottles.

4.14 WASTEWATER SAMPLING

Samples of wastewater within the sanitary and storm sewers and from the DPE treatment system may be collected. The samples will be collected from stable non-erosive areas; confined space entries are not permitted. The samples will be collected using transfer bottles, bailers, peristaltic pumps, composite samplers, or dedicated sample ports; the method will be selected based on the location, depth of water, and intended use of the data.

If the wastewater sample is collected from a sample port, approximately 1 gallon will be purged to flush settled solids from the pipe, and samples will be collected directly into the sample containers.

For locations without permanent samplers or ports, the sampling vessel (e.g., plastic container, bailer, peristaltic pump) will be slowly lowered into the wastewater body to the desired sampling depth. The wastewater will be allowed to slowly enter

the sampling vessel until the necessary sample volume has been collected. Once filled, the sampling vessel will be slowly retrieved and transferred directly to the sample containers.

4.15 SEDIMENT SAMPLING

Sediment samples may be collected from manholes, ditches, or surface water bodies. The samples will be collected from stable non-erosive areas; confined space entries are not permitted. Samples will be collected using a shovel, hand auger (or similar), grab sampler, or dredge; the method will be selected based on the location, depth of surface water, and intended use of the data.

The sampling equipment will be pushed or driven into the sediment to the desired sampling depth using cleaned equipment. Once filled, the sampling vessel will be slowly retrieved and the sample will be transferred to the sample containers.

4.16 SOIL VAPOR SAMPLING

Soil vapor samples will be collected from soil vapor probes installed using a direct-push drill rig or manual methods (e.g., hand auger). Once the terminal depth is achieved, a stainless-steel screen will be attached to tubing and lowered to the bottom of the open borehole. Approximately 1 foot of quartz sand will be placed in the bottom of the borehole around the screen and tubing. The remainder of the borehole will be sealed with pre- hydrated bentonite chips that will be compacted in the borehole to form a seal. Appropriate fittings (e.g., a 3-way valve) and additional tubing will be placed, as appropriate. Following installation, the tubing will be clamped off to avoid discharging vapor to the air. Steps will be taken to minimize infiltration of surface water and outdoor air and to prevent accidental damage. Sampling will not be attempted until the subsurface equilibrium had been re- established. Soil vapor probes will be tested for leaks using helium, a tracer gas, and a shroud.

The sample probe will be purged of stagnant/ambient air with a personal air sampling pump (or similar). Air purged from the port will be screening with a PID. After all stagnant/ambient air has been removed, the pump will be removed and an evacuated canister fitted with a pneumatic flow controller provided by the analytical laboratory, will be attached using a suitable secure connection. The canister valve will then be opened initiating sample collection. Field personnel will monitor the vacuum of the canister during sample collection; the sample will be collected once the required pressure (as specific by the analytical laboratory) is reached by closing the canister valve.

Physical and visual barriers will be placed around the canisters, as necessary, so that they will not be disturbed during sample collection; these barriers will be placed in a manner so as to not compromise air flow around the canisters.

After the specified amount of time has elapsed from the start of the air sampling, the sampling valve will be closed and the canister set up disassembled and prepared for shipment to the offsite laboratory. The flow regulator will be removed from the canister to complete the sample collection and the canister will be labeled with the sample name. The sample name, location, time and date of sample collection, pre- and post-pressure readings, canister and regulator number, and analytical method were recorded on the chain-of-custody form and in the field log book.

The soil vapor sample probes will be removed after sample collection and the borehole filled with hydrated bentonite. The boring will be repaired to match surrounding conditions.

4.17 SUB-SLAB VAPOR SAMPLING

Sub-slab vapor samples may be collected at the site or at offsite residential locations. The installation of sub-slab vapor probes consists of drilling through the floor with a hand-held hammer-drill, installing a stainless-steel (or similar) sampling port, and once in place, grouted into the hole using a mixture of quick-drying Portland cement and distilled or potable water. Vapor Pin® sampling ports may be hammered in place in lieu of grouting ports in place. Before sampling, the sub-slab probes will be allowed to equilibrate and the cement grout to cure. The sub- slab probes will then be tested for leaks using helium, a tracer gas, and a shroud.

The sample probe will be purged of stagnant/ambient air with a personal air sampling pump (or similar). Air purged from the port will be screening with a PID. After all stagnant/ambient air has been removed, the pump will be removed and an evacuated canister fitted with a pneumatic flow controller provided by the analytical laboratory, will be attached using a suitable secure connection. The canister valve will then be opened initiating sample collection. Field personnel will monitor the vacuum of the canister during sample collection; the sample will be collected once the required pressure (as specific by the analytical laboratory) is reached by closing the canister valve.

Physical and visual barriers will be placed around the canisters, as necessary, so that they will not be disturbed during sample collection; these barriers will be placed in a manner so as to not compromise air flow around the canisters.

After the specified amount of time has elapsed from the start of the air sampling, the sampling valve will be closed and the canister set up disassembled and prepared for shipment to the offsite laboratory. The flow regulator will be removed from the canister to complete the sample collection and the canister will be labeled with the sample name. The sample name, location, time and date of sample collection, pre- and post-pressure readings, canister and regulator number, and analytical method were recorded on the chain-of-custody form and in the field log book.

The sub-slab sample probes will be removed after sample collection and the borehole be repaired to match the surrounding surface conditions.

4.18 INDOOR AIR SAMPLING

Indoor air samples may occasionally be collected inside residential or site buildings. The air samples will be collected inside pre-evacuated canisters over specified periods of time. Each of the indoor air sample canisters will be set to collect the air samples from an appropriate height above the floor of the building to be representative of the breathing zone. Physical and visual barriers will be placed around the canisters, as necessary, so that they will not be disturbed during sample collection; these barriers will be placed in a manner so as to not compromise air flow around the canisters.

After the specified amount of time has elapsed from the start of the air sampling, the sampling valve will be closed and the canister set up disassembled and prepared for shipment to the offsite laboratory. The flow regulator will be removed from the canister to complete the sample collection and the canister will be labeled with the sample name. The sample name, location, time and date of sample collection, pre- and post-pressure readings, canister and regulator number, and analytical method were recorded on the chain-of-custody form and in the field log book.

4.19 INVESTIGATION-DERIVED WASTE HANDLING AND DISPOSAL OVERSIGHT

Four types of investigation-derived waste (IDW) will be generated during the project:

- drill and excavation cuttings
- rinsate from decontamination of equipment
- purge water
- LNAPL
- disposable PPE, sampling, and decontamination equipment

Non-LNAPL liquid waste (i.e., rinsate, purge water) will be contained and may be transferred to the IRM DPE Treatment System for onsite treatment and disposal.

LNAPL waste and solid waste (drill and excavation cuttings, disposable equipment) will be containerized, characterized, and transferred offsite for disposal by licensed non-hazardous and hazardous waste haulers to approved permitted waste treatment, storage, and disposal facilities. All trucks will be lined, covered, and placarded in accordance with DOT regulations. WSP personnel with current DOT training may be present onsite during waste management activities to label waste containers and during truck loading activities to sign shipping documents.

4.20 DECONTAMINATION

Decontamination of equipment will prevent the removal of hazardous chemicals from the site to offsite areas and prevent cross-contamination from dirty to clean areas of the site. Equipment to be decontaminated includes all excavation equipment and tools which may come into contact with the potentially contaminated media and reusable sampling equipment. The decontamination process typically uses a non-phosphate soap and a distilled water rinse to clean equipment.

As necessary, a bermed decontamination pad will be installed at the site. The pad will consist of polyethylene sheeting, or equivalent impermeable material, and a collection sump. Large equipment and vehicles, which require decontamination, will be cleaned inside the decontamination area. Rinsate water derived from decontamination of sampling, excavation, and construction equipment will be contained, transferred, and processed through the DPE Treatment System for treatment and disposal.

5 HAZARD ASSESSMENT

The following subsections describe the potential hazards to which employees may be exposed while performing required tasks onsite (Section 4). Activities will be conducted in areas containing potentially affected environmental media. Some of the protective measures to be implemented during completion of those operations are also identified.

Based on current Site conditions, all tasks may be initiated in personal protection Level D PPE, as defined in Section 6. However, should Site conditions change or monitoring data show evidence of potentially hazardous exposures work, the initiation level of PPE may need to be changed.

For tasks that WSP personnel will perform that have established SOPs referenced in the work plans, all personnel should review the appropriate SOP prior to initiating the task. Some tasks may not have established SOPs, in such cases the tasks will be discussed and hazards will be identified by the field personnel before starting the task.

A job hazard analysis (JHA) was performed for each task described herein (Appendix F). Hazards associated with Site investigation may include, but are not limited to, chemical exposure, physical hazards, and environmental hazards. Hazards will be controlled using the following hierarchy:

- Elimination: physically remove the hazard
- Substitution: replace the hazard
- Engineering controls: isolate people from the hazard
- Administrative controls: change the way people work
- PPE: protect the worker with PPE

5.1 DETAILED DESCRIPTION OF HAZARDS AND HAZARD CONTROLS

Site conditions such as normal operating conditions (e.g., truck and other motorized vehicle traffic), inclement weather, and third party subcontractors working onsite pose a variety of hazards. The only means to prevent injury from these hazards is to maintain control of WSP's work zones and to carefully traverse other areas of the Site. When traversing the site, WSP and its subcontractors will control and secure all equipment and supplies to prevent accidental release, slips, or driver distraction while traversing the Site. Additionally, all mobilization pathways will be visually cleared before equipment or vehicles are moved.

Many of the tasks WSP and their subcontractors will conduct present unique physical hazards that may not be apparent to Site employees, visitors, or other Site subcontractors. Field personnel must be aware of the inherent risk of working near or in the vicinity of heavy equipment (e.g., drill rigs, forklifts), using energized field equipment (e.g., pumps, generators), and using other hand tools (e.g., hand augers, knives). WSP work zones will be continuously monitored to prevent unauthorized entry and to control potential physical hazards within the work zones. For example, WSP subcontractors are expected to use and store their equipment in a manner that prevents accidental movement or falling.

5.1.1 SLIPPING, TRIPPING, AND FALLING HAZARDS

Uneven, wet, or slick surfaces present an increased risk of injury. The key to preventing injuries due to these hazards is to recognize and correct situations where unsecure footing or trip hazards exist.

5.1.2 HEAVY LIFTING

Lifting and carrying equipment and samples incorrectly may result in injury. WSP personnel should be familiar with correct lifting techniques, including:

- Maintain a neutral and straight spine alignment (bend at knees, not the waist)
- Place materials to be manually lifted about mid-thigh to mid-chest (power zone)
- Keep materials close to your body
- Avoid twisting
- Use proper handholds
- Use hand trucks or pallet jacks for heavy loads

5.1.3 HEAVY EQUIPMENT AND TRUCK TRAFFIC

Field personnel should be cognizant of potential physical hazards associated with use of heavy equipment and truck traffic during field operations. Working with, or being near, heavy equipment and large vehicles (e.g., drill rigs, excavators, trucks, backhoes) present a risk of injury due to being struck or crushed by moving machine parts and being present in blind spots as well as excessive noise making it difficult to get the attention of the equipment operators. Heavy equipment shall contain the original manufacturer's machine guarding and safety apparatus such as shrouds, guards, backup warnings, emergency kill switches, mufflers, and spark arresters. Site workers must be aware of the location of working heavy equipment and traffic patterns at the site in relation to WSPs work zone. Machine operators must be made aware of the work plan to raise attention to the location of workers nearby before beginning operation. Other appropriate precautions include the following:

- Use of American National Standards Institute (ANSI)-approved hardhats, safety glasses or goggles, and steel-toe boots will be required at all times onsite.
- Loose clothing that may catch in moving parts will not be worn.
- Hearing protection will be worn if a preliminary noise survey or past experience indicates that maximum noise levels will exceed 85 decibels at any time during site operations.
- Use of DOT-compliant high visibility reflective clothing, such as bright vests with applied reflective tape.

5.1.4 OVERHEAD HAZARDS

Overhead hazards will be generated during the use of heavy equipment onsite. As an example, when drill rig masts are extended equipment such as drilling rods are raised to heights that pose overhead hazards in the work zone.

Therefore, a risk of injury due to being struck by falling objects or moving pieces of machinery may be present in the work zone. Additionally, this equipment can contact overhead utilities and cause unsafe conditions. Site workers must be aware at all times of the location of working heavy equipment. Machine operators will be made aware of the presence of all workers nearby before beginning operation.

5.1.5 UNDERGROUND HAZARDS

Underground utilities are present at the Site. Contact with underground utilities during intrusive activities (e.g. drilling, digging) can cause unsafe conditions. WSP's Utility Locating Procedure will be followed prior to commencement of any intrusive activities.

5.1.6 POWERED TOOLS AND EQUIPMENT

Steam-cleaning spray wands or other high-pressure washers may be employed for purposes of decontamination of equipment and vehicles. These present hazards of laceration, burns, noise, and eye injury. Steam-cleaning spray wands discharge hot water and steam at pressures exceeding 1,000 pounds per square inch. The steam can severely lacerate and burn exposed skin, and hurl soil and rocks at high velocity.

All powered tools must be operated and maintained according to the manufacturer's instructions. All protective shrouds, guards, and emergency kill switches must be present and in working order. All powered tools and equipment should be kept dry. Ground fault protectors will be included with connections to portable electrical generators. Before refueling, equipment

should be shut down; fuel must be stored outdoors in a labeled, approved container. Site workers using these tools must wear the PPE specified in 29 CFR, Part 1910, Subpart I.

5.1.7 CONFINED SPACE ENTRY

Confined spaces and confined space entry are not anticipated as part of this project. However, if confined space conditions are identified, a Permit-Required Confined Space Entry Program will be followed and a confined space entry permit will be completed in accordance with applicable regulations. No WSP employee may conduct permit-required confined space entries as assessed by the Director of Environment. No attempt will be made by WSP personnel to enter any type of confined space without prior review and approval of the Director of Environment.

5.1.8 NOISE

Regulations require that hearing protection be used when noise levels exceed 90 dBA averaged over an 8-hour work day. All WSP employees are entered in a Hearing Conservation Program and will don hearing protection when noise is expected above the OSHA action level of 85 dBA. Sources of noise that may exceed 85 dBA during the work at the Site include the following:

- Hydraulic hammer drilling (i.e., Geoprobe®)
- Working around internal combustion engines (e.g., steam wand)
- Working near heavy equipment and hand tools

Hearing protection will be worn when any activities are performed that produce noise loud enough to make conversation difficult without raising the voice at a distance of 3 feet. Foam insert ear plugs or protective ear muffs capable of providing a 33 dBA noise reduction rating are considered minimum protection.

5.1.9 OPERATIONS, MAINTENANCE, AND MONITORING OF THE SYSTEM

Proper installation, operation, and maintenance of the treatment System will help prevent explosion, electrical, ergonomic, and mechanical hazards associated with System operation. System maintenance will be conducted by properly trained personnel in accordance with an O&M plan. Hazardous energies will be controlled (as necessary) by implementing the OSHA lockout/tag out standard (259 CFR 1910.147) during system maintenance. In addition, a fire extinguisher is maintained in the System enclosure in case of fire.

5.1.10 TEMPERATURE

Environmental hazards include temperature extremes (heat or cold) that result in heat stress or exhaustion or cold stress. Heat stress and cold stress preventative measures will be implemented (Appendix D).

5.1.11 ULTRAVIOLET RADIATION

Ultraviolet (UV) rays are a part of sunlight that is an invisible form of radiation. UV rays can penetrate and change the structure of skin cells. There are three types of UV rays: UVA, UVB, and UVC. UVA is the most abundant source of solar radiation at the earth's surface and penetrates beyond the top layer of human skin. Scientists believe that UVA radiation can cause damage to connective tissue and increase a person's risk for developing skin cancer. UVB rays penetrate less deeply into skin, but can still cause some forms of skin cancer. Natural UVC rays do not pose a risk to workers because they are absorbed by the Earth's atmosphere.

Sunlight exposure is highest during the summer and between 10:00 a.m. and 4:00 p.m. Working outdoors during these times increases the chances of getting sunburned. Snow and light-colored sand reflect UV light and increase the risk of sunburn. At work sites with these conditions, UV rays may reach workers' exposed skin from both above and below. Workers are at risk of UV radiation even on cloudy days. Many drugs increase sensitivity to sunlight and the risk of getting sunburn. Some

common ones include thiazides, diuretics, tetracycline, doxycycline, sulfa antibiotics, and nonsteroidal anti-inflammatory drugs, such as ibuprofen.

Workers should follow these recommendations to protect themselves from UV damage:

- Wear sunscreen with a minimum Sun Protection Factor (SPF) of 15.
  - SPF refers to the amount of time that persons will be protected from a burn. An SPF of 15 will allow a person to stay out in the sun 15 times longer than they normally would be able to stay without burning. The SPF rating applies to skin reddening and protection against UVB exposure.
  - SPF does not refer to protection against UVA. Products containing Mexoryl, Parsol 1789, titanium dioxide, zinc oxide, or avobenzone block UVA rays.
  - Sunscreen performance is affected by wind, humidity, perspiration, and proper application.
  - Old sunscreens should be thrown away because they lose their potency after 1-2 years.
- Sunscreens should be liberally applied (a minimum of 1 ounce) at least 20 minutes before sun exposure.
  - Special attention should be given to covering the ears, scalp, lips, neck, tops of feet, and backs of hands.
- Sunscreens should be reapplied at least every 2 hours and each time a person gets out of the water or perspires heavily.
  - Some sunscreens may also lose efficacy when applied with insect repellents, necessitating more frequent application when the two products are used together.
- Follow the application directions on the sunscreen bottle.
- Another effective way to prevent sunburn is by wearing appropriate clothing.
  - Dark clothing with a tight weave is more protective than light-colored, loosely woven clothing.
  - High-SPF clothing has been developed to provide more protection for those with photosensitive skin or a history of skin cancer.
  - Wear wide-brimmed hats and sunglasses with almost 100% UV protection and with side panels to prevent excessive sun exposure to the eyes.

5.1.12 WEATHER

During the health and safety briefing the weather will be discussed if it poses any potential hazard (including heat and cold stress). Work activities must cease during thunderstorms. If thunder is heard after work has already commenced, all field personnel will stop what they are doing and move indoors when it is safe to do so. Field personnel will shelter indoors or in field vehicles for at least 30 minutes after hearing the last sound of thunder.

5.1.13 BIOLOGICAL HAZARDS

Direct contact with poisonous plants (poison ivy) or insect bites can cause skin irritation. Insect or animal bites can transmit disease or inject venom. Field personnel will be mindful of the potential presence of arachnids and insects, particularly when working outside and when opening well vaults. The work area will be inspected for biological hazards and limbs will not be placed into concealed area. Insect repellent containing DEET should be used to prevent tick and mosquito bites. Medical information (i.e. allergies and current medications of field personnel) will be requested before site activities are initiated.

5.1.14 CHEMICAL HAZARDS

Table 1 lists the COCs detected in environmental media from previous investigations. Information available for many of these constituents from the NIOSH Pocket Guide to Chemical Hazards is presented in Appendix B.

COCs of interest identified include VOCs, PAHs, metals, and polychlorinated biphenyls (PCBs; Section 2.4). Depending on concentrations, these substances may be toxic, ignitable, corrosive, and may pose risks to skin, tissues, eyes, and other body parts. Additionally, these constituents, depending on concentrations, may cause chronic illnesses if impacted dust is inhaled over time.

Soils, sediment, surface water, wastewater, groundwater, and bedrock cores generated during drilling or sampling activities may pose absorption, inhalation, or ingestion hazards to these chemicals for field personnel. Handling of equipment that has been exposed to contaminated media, as well as decontamination fluid generated from the cleaning of equipment, may pose an absorption, inhalation, and/or ingestion risk. In addition, sample preservatives (e.g., hydrochloric and nitric acids) may pose absorption, inhalation, or ingestion hazards for field personnel handling preserved sample containers, and coolers/boxes holding sample containers.

WSP will minimize the exposure to toxic substances by properly utilizing PPE, implementing engineering or institutional site controls, adhering to WSP's training requirements and SOPs, following all equipment manufacturer specifications, and modifying the work practices, as necessary, based on the hazard monitoring results.

Field personnel will minimize potential chemical hazards by (1) avoiding direct contact with potentially contaminated media (2) performing air monitoring to determine the necessary level of personal protective equipment to avoid inhalation exposures, and (3) avoiding generation of and ingestion or inhalation of dust and/or aerosolized water.

6 PERSONAL PROTECTIVE EQUIPMENT

WSP contractors will be required to understand the hazards detailed in this HASP and maintain a site-specific HASP that their employer has prepared. Additionally, WSP contractors will be responsible and provide appropriate PPE for their employees. All WSP personnel and WSP contractors will have received training for all assigned PPE before any work task begins.

Most activities are expected to be performed in what WSP considers modified Level D PPE. Modifications to this level of PPE are permitted with review and permission by the Site Coordinator and the SHSC. These changes will be communicated to the Site Coordinator who will then inform other members of the project team. Levels of protection should be selected based on the following:

- type and concentration of the chemical substance in the ambient atmosphere and its toxicity
- potential for exposure to substances in air, liquids, solids, or other materials personnel may come into contact with during the work
- knowledge of chemicals present along with their properties such as toxicity, route of exposure, and contaminant matrix

The current PPE assessment was based on the anticipated hazards of work activities using existing Site characterization data as shown in Table 1. Proper modifications to the level of PPE to be used will be made as necessary. Types of sampling that may be performed include instantaneous and continuous organic vapor monitoring, instantaneous and continuous particulate matter monitoring, and OSHA and NIOSH reference method sampling. This monitoring would be performed at a frequency and duration adequate to assess potential hazards.

6.1 PERSONAL PROTECTION EQUIPMENT

Most activities are expected to be performed in what WSP considers modified Level D PPE. Modifications to this level of PPE are permitted with review and permission by the project manager and the SHSC. These changes will be communicated to the Site Coordinator who will then inform other members of the project team. Levels of protection should be selected based on the following:

- type and concentration of the chemical substance in the ambient atmosphere and its toxicity
- potential for exposure to substances in air, liquids, solids, or other materials personnel may come into contact with during the work
- knowledge of chemicals present along with their properties such as toxicity, route of exposure, and contaminant matrix

The current PPE assessment was based on the anticipated hazards of work activities using existing Site characterization data as shown in Table 1. Proper modifications to the level of PPE to be used will be made as necessary.

Personal protective equipment will be used to reduce employee exposure to chemical, physical, and environmental hazards that cannot be abated through engineering and/or administrative controls.

WSP's Modified Level D PPE will consist of the following equipment:

- ANSI-approved hard hat (when heavy equipment is being used)
- chemical resistant nitrile gloves (when handling contaminated media)
- work (i.e., leather palm) gloves (for handling materials or equipment around the site)
- ANSI-approved safety toed boots
- reflective safety vest (for high traffic areas)
- ANSI-approved safety glasses (when heavy equipment, hand tools, or pressurized equipment are being used)
- safety goggles or a face shield should be used when a foreseeable splash hazard exists (e.g., steam cleaning)
- disposable hearing protection (for high-noise activities)

- Tyvek® or Saranek®-coated Tyvek® coveralls when working in dusty or dirty environments (e.g., excavations within the building)
-

Additional equipment will be readily available to upgrade on-site workers to modified Level C PPE, if necessary. This equipment includes:

- dual-canister full-face air-purifying respirator (NIOSH approved)
  - organics, HEPA, acid gas respirator cartridges (MSA cartridges GMA-H, GMC-H, GMC-S)
- Tyvek® or Saranek®-coated Tyvek® coveralls
- outer latex booties

The fit of the facepiece-to-face seal of the respirator affects its performance. The SHSC will be responsible for ensuring that a good seal is maintained. After each day's use, the respirator will be inspected, cleaned, and stored.

Damaged PPE will be replaced immediately. Backup equipment will be kept onsite for replacement as necessary. Subcontractors will provide their own PPE.

The following protective equipment will be discarded and replaced daily:

- respirator cartridges
- Tyvek® coveralls
- outer booties
- inner surgical gloves
- outer gloves
- safety glasses or equivalent PPE, when working near liquids

Procedures for putting on PPE are given in Appendix E. Item 15 in Appendix E outlines procedures for containerizing PPE and personal decontamination wastes.

6.1.1 INSPECTION

Proper PPE inspection features several sequences of inspection depending on specific PPE articles and its frequency of use. The different levels of inspection are as follows:

- inspection and operational testing of equipment received from the factory or distributor
- inspection of equipment as it is issued to workers
- inspection after use or training
- periodic inspection of stored equipment
- periodic inspection when a question arises concerning the appropriateness of the selected equipment or when problems with similar equipment arise

The primary PPE inspection in use for activities at the site will occur before use and will be conducted by the user. This ensures that the device or article has been checked out by the user and the user is familiar with its use.

6.1.2 MAINTENANCE

Damaged PPE will be replaced immediately. Backup equipment will be kept onsite for replacement as necessary. Subcontractors will provide their own PPE.

The following protective equipment will be discarded and replaced daily:

- respirator cartridges
- Tyvek® coveralls
- outer booties

- inner surgical gloves
- outer gloves
- safety glasses or equivalent PPE, when working near liquids

Procedures for putting on PPE are given in Appendix E. Item 15 in Appendix E outlines procedures for containerizing PPE and personal decontamination wastes.

6.1.3 UPGRADING/DOWNGRADING

The level of protection provided by PPE selection may be upgraded or downgraded by the SHSC based on changes in site conditions or findings of investigations. When a significant change occurs, the hazards will be reassessed. Some indicators of the need for reassessment are as follows:

- the start of a new work phase, such as the start of work on a different portion of the site
- a change in job tasks during a work phase
- a change in work method (e.g., changing equipment being used)
- a change of weather
- encountering contaminants at higher concentrations than expected
- encountering contaminants other than those previously identified
- a change in ambient levels of contaminants
- a change in work scope that affects the degree of contact with contaminants
- inspection

6.2 ONSITE SAFETY EQUIPMENT

Several pieces of safety equipment will be provided near the work area. A PID will be used to detect organic vapors and an aerosol particulate monitor will be used to detect respirable particulates in the breathing zone of the workers upwind and downwind of each sampling location. It will also be used to measure background air concentrations before the start of work. Depending on the site activities, colorimetric tubes for compound-specific air screening may be available for select onsite contaminants. An oxygen monitor and a carbon monoxide detector will be used for indoor work to monitor oxygen and carbon monoxide concentrations in the breathing zone. A first aid kit, eye wash, and fire extinguishers are kept in the onsite treatment building.

A standard first aid kit will be made available at the site for use in the event of an emergency. Such kits will be contained in weatherproof containers with individual sealed packages for each type of item. The kits will contain, as a minimum, the items specified in Appendix A of 29 CFR 1910.151, which are as follows:

- gauze roller bandages, 1 inch and 2 inch
- gauze compress bandages, 4 inch
- adhesive bandages, 1 inch
- triangular bandages, 40 inch
- ammonia inhalants and ampoules
- antiseptic applicators or swabs
- burn dressing
- eye dressing
- wire or thin board splints
- forceps and tourniquet

The designated first aid provider is responsible for checking the kits prior to bringing them to the Site to ensure they are fully stocked. On sites where there is a potential for the eyes or body to be exposed to injurious corrosive materials, a means to

flush the eyes and/or body will be provided. If a plumbed-in-place eye wash fountain/shower is not available, the designated first aid provider will ensure that a portable, gravity feed eye wash fountain is brought to the site along with the standard first aid kit.

Awareness of the location of the nearest telephone, potable water supply, and sanitary facility during each field activity will be acknowledged by all appropriate personnel.

7 MONITORING PROCEDURES

7.1 MONITORING PROCEDURES FOR SITE WORKERS

A literature review was conducted to find ionization potentials (IPs), exposure limits, and concentrations that are immediately dangerous to life and health (IDLH) for contaminants potentially occurring in environmental media at the site. Exposure limit data are expressed as time weighted averages (TWAs) or ceiling limits. TWAs promulgated in the OSHA regulations are referred to as permissible exposure limits (PELs). TWAs found in the NIOSH publications are recommended exposure limits. The ACGIH adopts values for exposure limits referred to as threshold limit values (TLVs). ACGIH further divides some TLVs into TWAs, ceiling limits, and short-term exposure limits.

The COCs detected in environmental media during past investigations at the site are listed in Section 2.4. The exposure limits and concentrations that are IDLH for these COCs are presented in Table 1. This does not preclude the chance of encountering other chemicals while onsite. All activities and associated levels of protection described herein are subject to actual field conditions and thus may change during the field activities.

Many of the COCs listed in Table 1 can enter the body by inhalation, ingestion, eye and skin contact, and absorption through the skin. Table 1 also indicates exposure pathways and short-term effects such as dizziness or eye and skin irritations, which can be identified rather promptly. However, long-term health effects such as kidney and liver damage may not easily be detected until chronic damage has occurred. It is important that all personnel involved in field activities adhere to the recommended personal protective procedures advised by the SHSC to reduce the potential for exposure.

Exposure limits, IPs, and IDLH values are used to establish which monitoring instruments will be needed. For example, collection methods and laboratory analysis methods vary according to the COCs. Based on the data collected to date at the Site, ongoing monitoring with a 10.6 eV PID and an 11.7 eV PID, colorimetric tubes, aerosol particulate monitor (e.g., Personal dataRAM), and a carbon monoxide detector (indoor work, as necessary) will be required. The air monitoring equipment will be calibrated as per manufacturer's specifications. In addition, the other safety equipment will be inspected daily and batteries will be re-charged, as required.

Based on a review of the planned activities, compounds listed in Section 2.4, physical hazards, the hazards for each activity are anticipated to be easily controlled and, generally, potential exposure is expected to be low to moderate; therefore, all site work will be initiated in modified Level D protection (see Section 7.2). This level of protection will be modified, as necessary. The IPs, exposure limits, and concentration data are used to establish action levels when upgrading from modified Level D PPE (i.e., no respiratory protection) to Level C PPE (i.e., dual-cartridge, full-face, tight-sealing, APR) or Level B (i.e., atmosphere supplied respiratory protection) and select the appropriate types of outer garments, gloves, and respirator cartridges. Action levels triggering an upgrade in respiratory protection from Level D to Level C or Level B are established by examining exposure limit data. The action levels and monitoring requirements by volatile and non-volatile compounds are discussed below.

7.1.1 VOLATILE CONTAMINANTS

Employees will determine potential exposures to VOCs during work activities using real-time air monitoring for organic vapors. Action levels for the known and suspected onsite VOCs have been calculated to determine the appropriate level of PPE for site activities. An action level for an upgrade in levels of respiratory protection is determined using the PEL or TLV, whichever is lower. The appropriate action levels and upgrade triggers are described below.

In addition to breathing zone monitoring, personal air samples (i.e., industrial hygiene samples) may also be used to measure the actual concentration of vinyl chloride to which a site worker is being exposed. This data will be used to better predict site exposure scenarios, monitoring procedures, and PPE requirements. Industrial hygiene samples will be collected using properly calibrated personal air sampling pumps. Calibration of the pumps will be conducted according to NIOSH sampling method 1007 and/or OSHA method 75. The procedures for personal sampling pumps calibration and sample collection are provided in Appendix C. Results of personal air sampling will be reviewed by the Site Coordinator and SHSC, and site monitoring and PPE upgrades may be updated based on these data.

Both chlorinated ethenes and ethanes are COCs for the Site. Therefore, the breathing zone will be monitored with both a 10.6 eV PID, for COCs with an IP less than 10.6 eV (i.e., chlorinated ethenes), and an 11.7 eV PID, for COCs with an IP greater than 10.6 eV, but less than 11.7 eV (i.e., chlorinated ethanes).

CHLORINATED ETHENES

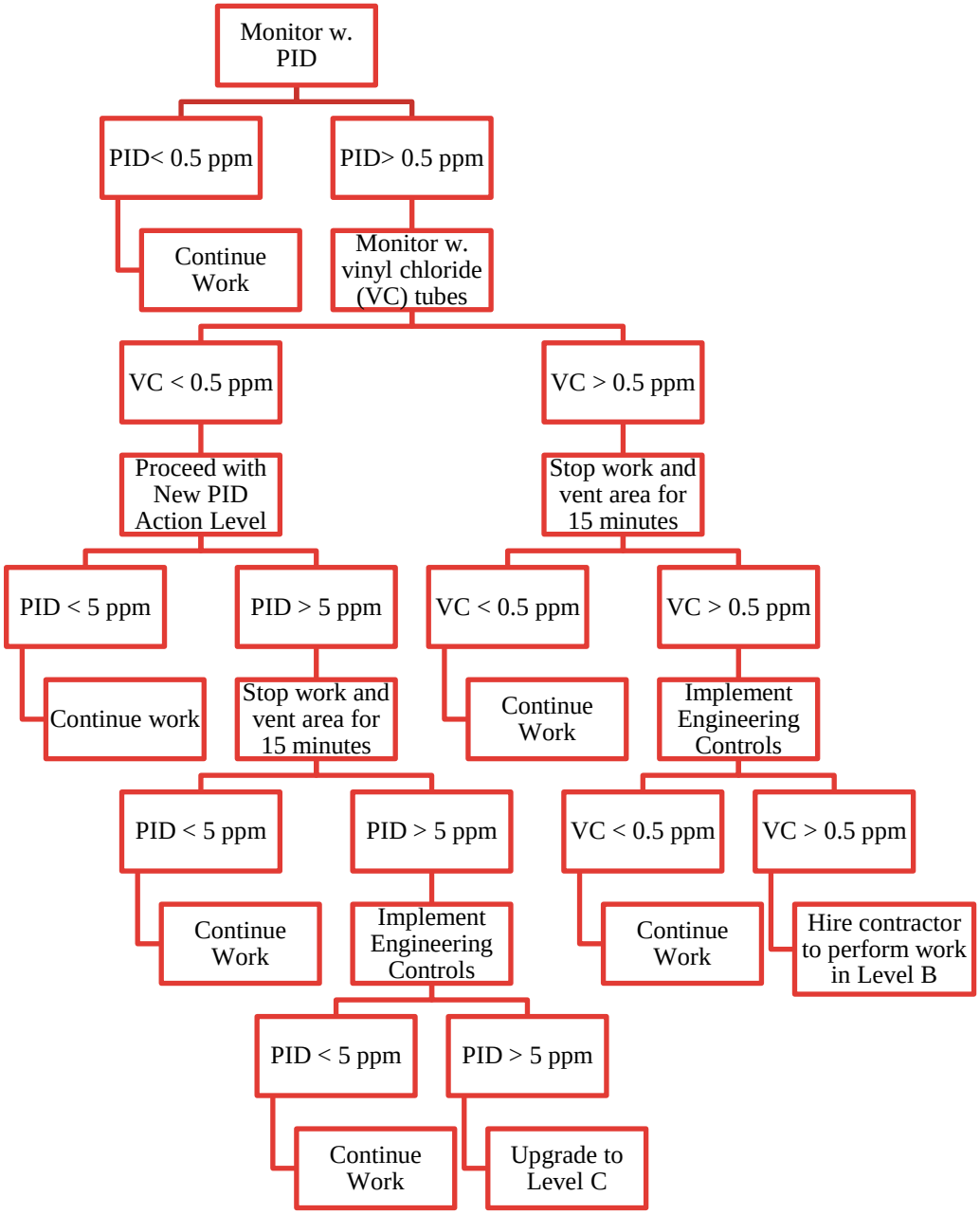
For organic vapors with an IP less than 10.6 eV, the action level will be based on vinyl chloride, which has both a TLV and PEL of 1 part per million (ppm). Site work will be initiated in modified Level D protection. A PID with a 10.6 eV lamp will be used to monitor total VOC concentrations in the breathing zone. VOC measurements in the breathing zone are not expected to exceed background levels; however, if PID readings of 0.5 ppm (1/2 the TLV for vinyl chloride) are sustained for a period of 5 minutes or greater, the breathing zone will be sampled using colorimetric or length of stain indicator tubes for the identification and quantification of vinyl chloride. If vinyl chloride is detected at any concentration greater than or equal to 0.5 ppm, Site activities will cease until constituent-specific personal monitoring (i.e., an ORM or NIOSH reference method) is conducted to determine if an upgrade to Level B PPE is necessary. If constituent-specific monitoring indicates that Level B PPE is required, Site activities will cease and a qualified contractor is retained to perform any Level B work. WSP will continue to monitor activities from outside the exclusion zone during Level B work. If vinyl chloride is not detected above 0.5 ppm, work will proceed with a new respirator protection action level of 5 ppm (based on 1/2 the TLV for TCE, the chlorinated ethene with the next most stringent TLV). If PID readings are sustained at or above 5 ppm for 5 minutes, work must cease until engineering controls can be implemented to abate the build-up of organic vapors. If airborne organic vapor concentrations cannot be controlled, respiratory protection will be upgraded to Level C. Level C respiratory protection includes the donning of a full-face, tight-fitting APR equipped with the appropriate organic vapor cartridge. Respiratory protection may only be downgraded once consistent PID measurements indicate that vapors have decreased below the action level. The SHSC and Site Coordinator will determine when a PPE downgrade may occur.

CHLORINATED ETHANES

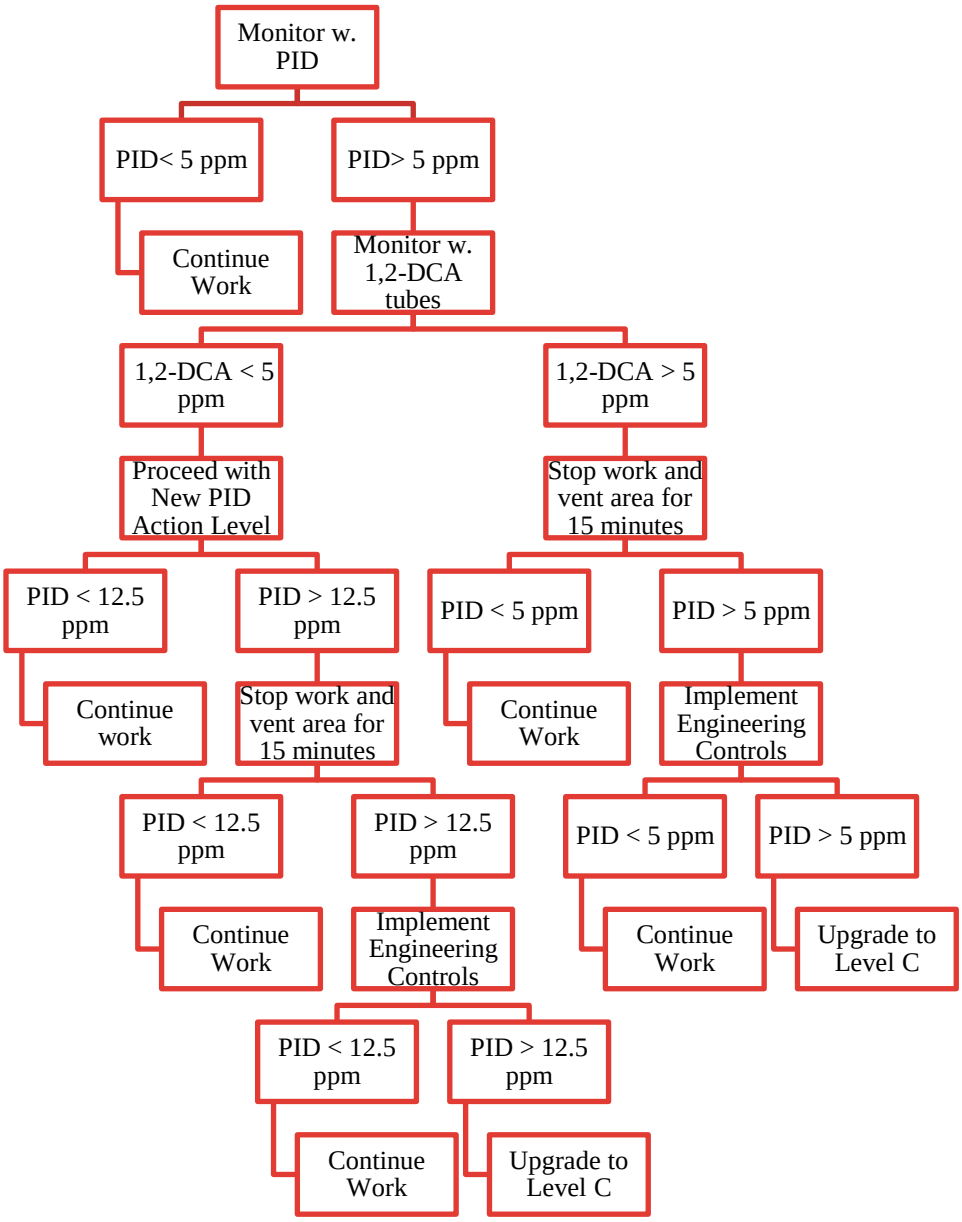
For organic vapors with an IP greater than 10.6 eV, the action level will be based on 1,2-DCA, which has a TLV of 10 ppm. Site work will be initiated in modified Level D protection. A PID with an 11.7 eV lamp will be used to monitor total VOC concentrations in the breathing zone. VOC measurements in the breathing zone are not expected to exceed background levels; however; if PID readings of 5 ppm (1/2 the TLV for 1,2-DCA) are sustained for a period of 5 minutes or greater, the breathing zone will be sampled using colorimetric or length of stain indicator tubes for the identification and quantification of 1,2-DCA. If 1,2-DCA is detected at any concentration greater than or equal to 5 ppm, work must cease until engineering controls can be implemented to abate the build-up of organic vapors. If airborne organic vapor concentrations cannot be controlled, respiratory protection will be upgraded to Level C. Level C respiratory protection includes the donning of a full-face, tight-fitting APR equipped with the appropriate organic vapor cartridge. If 1,2-DCA is not detected above 5 ppm, work will proceed with a new respirator protection action level of 12.5 ppm (based on 1/2 the PEL for methylene chloride). If PID readings are sustained at or above 12.5 ppm for 5 minutes, work must cease until engineering controls can be implemented to abate the build-up of organic vapors. If airborne organic vapor concentrations cannot be controlled, respiratory protection will be upgraded to Level C. Level C respiratory protection includes the donning of a full-face, tight-fitting APR equipped with the appropriate organic vapor cartridge.

Respiratory protection may only be downgraded once consistent PID measurements indicate that vapors have decreased below the action level. The SHSC and project manager will determine when a PPE downgrade may occur.

Tiered Air Monitoring for Ionization Potential Less than 10.6 eV (Chlorinated Ethenes)



Tiered Air Monitoring for Ionization Potential Greater than 10.6 eV (Chlorinated Ethanes)



7.1.2 AIRBORNE PARTICULATES

During activities where the ground surface is disturbed (e.g., drilling, trenching) the breathing zone in the work area will be constantly monitored with a handheld personal dataRAM particulate monitor (PM). Several metals and PCBs have been detected in soil, sediment, and groundwater at the Site. The airborne concentration of dust that would result in an airborne concentration equal to the PEL for a given chemical can be calculated using the following equation:

$$C_{dust} = \frac{PEL_{air}}{C_{soil}} \times 10^6 \frac{mg}{kg}$$

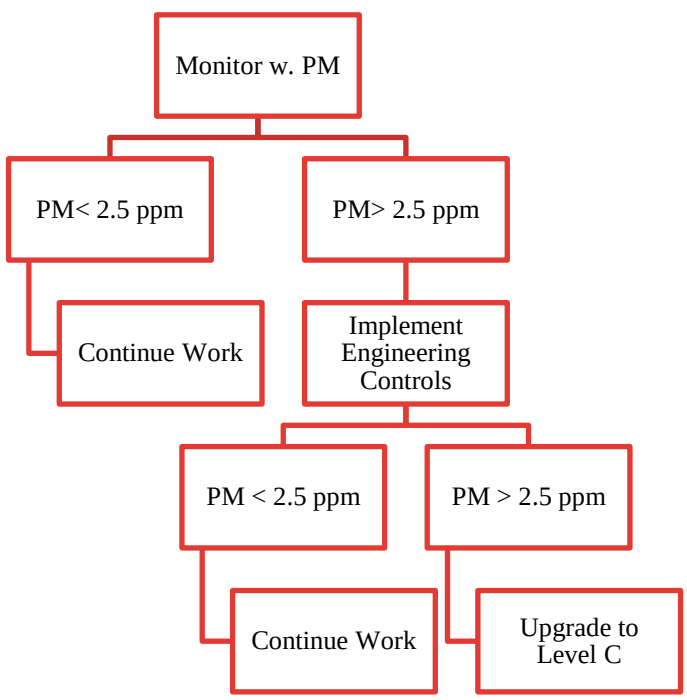
Where:

- C_{dust} = Airborne concentration of dust, expressed in milligrams per cubic meter (mg/m^3), at which the chemical of interest would be at its PEL.
- PEL_{air} = PEL for the chemical of interest expressed in mg/m^3.
- C_{soil} = Estimated soil concentration of the chemical of interest expressed in milligrams per kilogram (mg/kg).

Surrogate action levels are listed in Table 1.

All surrogate action levels exceed the PEL for nuisance dust, therefore the action level will be 2.5 milligrams per cubic meter (mg/m^3) based on the half the PEL for nuisance dust of 5 mg/m^3. If aerosol particulate measurements are sustained at or above 2 mg/m^3, work will cease and engineering controls (e.g., aqueous dust suppression) will be implemented to reduce the amount of airborne dust in the worker's breathing zone. If engineering controls cannot reduce the concentration of airborne particulate, respiratory protection will be upgraded to Level C PPE, which consists of the donning of a tight-fitting full-face piece APR equipped with a HEPA cartridge.

Tiered Air Monitoring for Airborne Particulates



7.1.3 OXYGEN DEFICIENCY AND CARBON MONOXIDE

During indoor activities that require the use of gasoline-driven equipment (e.g., drill rig), oxygen and carbon monoxide levels will be monitored and ventilation will be required. If the oxygen concentration drops to or below 19.5 percent, work will be stopped until the area has been ventilated and the oxygen concentration returns to 20 percent or above. If the carbon monoxide concentration is sustained at 12.5 ppm, half of the TLV for carbon monoxide (25 ppm) for 5 minutes, work will be stopped until the area has been ventilated and the carbon monoxide concentration returns to below 12.5 ppm.

If engineering controls cannot mitigate the hazards, field personnel will contact the Site Coordinator to discuss alternative sampling locations/engineering controls.

7.2 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The New York State Department of Health generic CAMP, provided in Appendix G, will be implemented for the site.

8 SITE CONTROLS AND DECONTAMINATION

The following section defines the measures and procedures for maintaining Site control (i.e., work zone access) and decontamination. Site control is an essential component in the implementation of the health and safety program; decontamination procedures will ensure that hazardous materials are not removed from the work zones and that offsite exposure risks are minimized.

8.1 LONE WORKING

Employees should not be sent out to work alone in the field whenever possible. Should lone working be required, the following must be adhered to:

- Lone work may only be conducted during weekly O&M visits to collect gauge and flow totalizer readings. Any additional maintenance work may require the support of additional personnel should the task not be deemed acceptable as a risk for lone working.
- Communication between field personnel and their home office should be made prior to departure, during the work (for tasks lasting longer than half a day), and upon completion of the task whether returning to the office or going to another location.
- Consideration will be made for the level of competence of the individual being sent to perform the work. Under no circumstances shall interns be sent out to work alone.

8.2 PRE-ENTRY HEALTH AND SAFETY BRIEFING

At the beginning of each work day and before any work starts, the SHSC or their designee will review activities scheduled for the day and the hazards associated with those tasks with all WSP employees, WSP contractors, as well as other Site workers that will be engaged in the implementation of the work plan prior to start of work. The SHSC or their designee will document the pre-entry health and safety briefing in the field log books.

8.3 SITE SECURITY

The site is located at 620 South Aurora Street in Tompkins County in Ithaca, New York (Figure 1). The Site is located in a mixed industrial and residential area of Ithaca. Access to the main plant is restricted by a chain-link fence that surrounds the entire property, gates, including a guard station which is manned 24 hours a day, 7 days a week.

To maintain a safe working environment, all visitors who enter the site shall be informed of the following:

- the presence of potentially hazardous materials and any potential fire, explosion, health, or safety hazards (Section 6)
- the site emergency response procedures (Section 13)
- standard safety rules and personal hygiene procedures (Appendix A)

Access to the site shall be provided at reasonable times to government employees, subcontractors, agents, and consultants for the purposes of inspections and work monitoring. Visitors to the on-property work areas may be permitted, but access to work zones (e.g., drilling locations) will be restricted without evidence of applicable training, medical surveillance, donning of required PPE, and review and certification of this HASP. WSP contractors shall establish a safe perimeter of a minimum of 20 feet around all operating equipment when conducting drilling, soil, surface water, and groundwater sampling.

When working on private property, the Site Coordinator shall work to communicate with property owners, homeowners, residents, or tenants regarding safety procedures during activities performed on or in the vicinity of their property. Visitors to

the offsite work areas may be permitted, but access to work zones (e.g., drilling locations) will be restricted, including private property owners, without evidence of applicable training, medical surveillance, donning of required PPE, and review and certification of this HASP. WSP contractors shall establish a safe perimeter of a minimum of 20 feet around all operating equipment when conducting drilling, soil, surface water, and groundwater sampling. No equipment shall be stored on private property for overnight storage without consent of the private property owner. All IDW generated on private property shall be containerized for disposal in accordance with Section 4.19.

8.4 SITE CONTROL

Site entry will be controlled to reduce the possibility of (1) unauthorized entry and unintended contact with contaminants and (2) removal of contaminants by personnel or equipment leaving the Site. The possibility of exposure to or offsite transportation of COCs will be reduced by:

- excluding unauthorized personnel by establishing site security procedures
- establishing work zones within the Site
- establishing access control points to regulate access to work zones
- minimizing the number of personnel and equipment onsite, consistent with effective and efficient operations
- sampling in a manner to reduce the exposure of personnel, contamination of equipment, and to reduce the potential for airborne and surface water runoff dispersion
- implementing decontamination procedures

Work zones will be established as follows:

Exclusion/Work Zone: All excavation areas and a buffer area of at least 50 feet surrounding the excavation will be considered an exclusion/work zone where all employees will don appropriate PPE and atmospheric monitoring will be conducted to determine worker exposure. This area will be reduced to 20 feet for all other proposed onsite activities. The area will be separated from the rest of the site by caution tape, temporary fencing, or other demarcations to ensure that all site personnel are aware of areas requiring safety training and PPE. As the work progresses, the exclusion/work zone will be moved and marked as appropriate.

Contamination Reduction Zone (CRZ): All decontamination procedures will be conducted within the CRZ, which will be a designated area attached to the exclusion/work zone that leads to a support zone. As with the exclusion/work zone, the CRZ will be moved to ensure that the movement of drums, containers, and contaminated equipment is minimized and that no contamination enters the support zone.

Support Zone: All areas of the site not demarcated as an exclusion/work zone or a CRZ will be considered a support zone. The support zones change as work progresses. Barriers and/or signs will demarcate the edges of the exclusion/work zones will be clearly marked.

8.5 DECONTAMINATION

Decontamination is the process of removing or neutralizing contaminants that accumulated on personnel and equipment during site activities. It is critical to health and safety at sites where the potential for exposure to hazardous chemicals is present. Decontamination protects workers from hazardous substances that may contaminate and eventually permeate the protective clothing, respiratory equipment, sampling equipment, vehicles, and other equipment used onsite. Proper decontamination protects all site personnel by preventing the transfer of harmful materials into clean areas, the mixing of incompatible materials, and the uncontrolled transportation of contaminants from the site.

At the completion of the work task, all personnel will enter the decontamination area through the contaminant reduction zone for general (Level D Modified) decontamination. At the conclusion of each day or work shift, disposable gloves and Tyvek® coveralls will be removed and disposed of in onsite containers. Decontamination at the site will take two forms: equipment and personnel.

This HASP specifies the correct level of PPE to be worn based on the conditions and potential for exposure. Personnel decontamination procedures are provided in Appendix E. These procedures need only be followed if the work performed is

located within the areas of contaminants. Work performed in areas outside the contaminated areas will not require that workers decontaminate their PPE. Determinations of contaminated areas will be made by the project manager and approved by the Site Coordinator or designated person. Training Program

Several levels of health and safety training are required for personnel participating in the implementation of field activities. Documentation of this training will be maintained in the WSP project files and at the site for all personnel who have access to or work at the site. All WSP employees and WSP contractors, with the exception of those contractors who do not have the potential to be exposed to hazardous materials, must have current documentation for the following before field activities commence:

- initial 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training
- current 8-hour HAZWOPER refresher training
- first-aid, cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) training
- participation in a medical monitoring program
- annual qualitative fit-test results for the use of tight-fitting respirators

Documentation of this training will be maintained by WSP for all personnel who have access to or work at the site and is provided in Appendix H.

8.6 HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE TRAINING

Personnel participating in field activities at the site who may be exposed to hazardous materials will receive 40 hours of initial HAZWOPER training and 8 hours of refresher training annually. The training program must comply with the requirements of 29 CFR 1910.120. At a minimum, the training program includes:

- Names of personnel and alternates responsible for site safety and health;
- Safety, health and other hazards present on the site;
- Use of personal protective equipment;
- Work practices by which the employee can minimize risks from hazards;
- Safe use of engineering controls and equipment on the site;
- Medical surveillance requirements including recognition of symptoms and signs which might indicate over exposure to hazards; and
- Elements of a HASP.

8.7 FIRST AID

All WSP personnel who perform fieldwork are required to have current American Red Cross and/or American Heart Association Heartsaver® certifications in first aid, CPR, and use of an AED. Training and certification are provided by WSP at no charge to the employees. WSP's Area Managers are responsible for ensuring that initial and required refresher training is provided to staff as necessary and for maintaining documentation of the training provided.

At all field sites where the response time from the local fire and rescue squad may exceed 4 minutes, the Project Manager must designate an individual to render first aid in the event of an emergency. The location of the nearest medical facility, the directions from the site to the facility, and the telephone number of the facility and the local rescue squad is provided in Section 13.

8.8 SITE SPECIFIC TRAINING

Daily pre-entry briefings will be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the HASP and that it is being followed. The meeting will provide site-specific exposure hazards expected, and will familiarize personnel with health and safety issues, protective equipment, emergency information and supplies, and to discuss special topics.

8.9 VISITOR TRAINING

All visitors to the active work areas will be briefed by the SHSC/FSSC or their designee on health and safety procedures to be followed. The visitors will be provided the HASP to review and, depending on the locations to be visited, will sign a certification that the plan has been provided, reviewed, and understood before visitors enter an active work area.

The Task Leader or his designee will control visitor entry to the active work areas. No visitor will enter these areas without previously notifying the Task Leader or their designee of the visit and providing documentation of training outlined in Section 11.1. The SHSC/FSSC or their designee will ensure that all visitors have the proper level of PPE for downrange activities and training in the use of the equipment; visitors who do not have the appropriate training will not be permitted in areas where the use of PPE is required.

9 MEDICAL MONITORING PROGRAM

All employees that may be exposed to potentially hazardous chemicals, regardless of the level of exposure predicted, are required to participate in the medical monitoring program established by WSP. OSHA regulations state that employees involved in certain activities that may expose them to hazardous materials at or above PELs or above the published exposure limit for greater than 30 days per year, or all employees who wear a respirator are required to participate in the monitoring program.

The purposes of the medical monitoring program are to ensure employees' fitness for duty (i.e., physically able to perform assigned tasks); to identify any illness or condition that might be aggravated by exposure to hazardous materials or work conditions; to determine if site work has had an adverse effect to employees' health; to certify that each employee can use negative pressure respirators as required by OSHA; to ensure that employees withstand heat or cold stress; and to establish and maintain a medical record to monitor for abnormalities that may be related to work exposure that could increase injury risk for the employee. WSP's medical monitoring program includes the following:

- a baseline physical examination
- a medical determination of fitness for duty by a licensed physician, including work restrictions after any injury or illness that may affect employee safety
- a review of potential project-specific exposures to determine the need for specific biological and medical monitoring
- annual and exit physical examinations with attention given to specific exposures or symptoms

9.1 BASELINE PHYSICAL EXAMINATION

A baseline physical examination will be performed on each employee engaged in hazardous site activities as outlined above before any assignment with the potential for exposure to hazardous chemicals. The purposes of this examination are to identify any illness or condition that might be aggravated by exposure to hazardous materials or work conditions; to certify the safe use of negative-pressure respirators (29 CFR 1910.134); and to develop a medical record for the assessment of exposure-related risk. Variable data, such as age, sex, race, smoking, previous employment, and exposure history, that may have a bearing on future examinations after employment begins will be gathered.

The baseline physical examination will include the following:

- medical and occupational histories including completion of a written questionnaire
- a complete physical examination, stressing the central and peripheral nervous system; cardiopulmonary system, spine and other musculoskeletal system, abdomen, rectum, and genitourinary system; and skin, including but not limited to an examination of:
  - height, weight, temperature, pulse, respiration rate, and blood pressure
  - head, nose, neck, and throat
  - chest (heart and lungs)
  - resting 12-lead electrocardiogram
  - chest X-ray (posterior-anterior view)
  - a pulmonary function test (FEV1, FVC, and FEV1/FEV ration)
  - an otoscopic examination and an audiogram at 500, 1,000, 2,000, 3,000, 4,000, and 6,000 hertz pure tone in an approved booth, administered by a qualified technician, and the results read by a qualified physician
  - a multichemistry blood panel (e.g., Chem 24), including kidney and liver function tests, complete blood count (CBC) with differential, and urinalysis with microscopic examination of centrifuged sediment
  - a red blood cell cholinesterase
  - visual acuity testing
- any other tests deemed necessary by the physician due to symptoms, or exposure, or medical history (e.g., blood lead level; urine screen for arsenic, mercury, chromium, and cadmium)

The following information will also be obtained from the employee by the physician to assist in the examination:

- history of respiratory disease
- work history
  - previous occupations
  - problems associated with breathing during normal work activities
  - past problems with respirator use
- any other medical information, such as:
  - psychological problems or symptoms including claustrophobia
  - any known physical deformities or abnormalities including those that may interfere with respirator use
  - past and current use of medication
  - tolerance to increased heart rate, which can be produced by extra weight, increased workload, and heat stress associated with wearing respirators and protective clothing

For all employees who are or will be exposed to airborne concentrations of asbestos fibers, the physical examination will also include completion of a respiratory disease standardized questionnaire per 29 CFR 1910.1001 Appendix D.

9.2 ANNUAL PHYSICAL EXAMINATION

An examination and updated occupational history will be performed annually during the anniversary month of the baseline physical examination. This annual examination serves to recertify that the employee is able to conduct work activities at hazardous waste and similar sites. The content of the examination may vary based on the nature of the work and potential exposure since the previous exam.

The annual physical examination will include the following:

- medical and occupational histories including completion of a written questionnaire
- a complete physical examination, stressing the central and peripheral nervous system; cardiopulmonary system, spine and other musculoskeletal system, abdomen, rectum, and genitourinary system; and skin, including but not limited to an examination of:
  - height, weight, temperature, pulse, respiration rate, and blood pressure
  - head, nose, neck, and throat
  - chest (heart and lungs)
  - resting 12-lead electrocardiogram for employees over 40 years of age at the time of the annual physical
  - chest X-ray (posterior-anterior view) every 5 years or as deemed necessary by a qualified physician. The employee may decline the X-ray unless it is deemed medically necessary by a qualified physician.
  - a pulmonary function test (FEV1, FVC, and FEV1/FEV ration)
  - an annual audiogram is required only for employees subject to high noise exposures (an 8-hour, time-weighted average of 85 dBA or more) or those required to wear hearing protection for extended periods
  - a multichemistry blood panel (e.g., Chem 24), including kidney and liver function tests, CBC with differential, and urinalysis with microscopic examination of centrifuged sediment
  - a red blood cell cholinesterase
- any other tests deemed necessary by the physician due to symptoms, or exposure, or medical history (e.g., blood lead level; urine screen for arsenic, mercury, chromium, and cadmium)

For all employees who are or may be exposed to airborne concentrations of asbestos fibers, the physical examination will also include completion of a respiratory disease standardized questionnaire per 29 CFR 1910.1001 Appendix D.

9.3 RETURN TO WORK EXAMINATION

Any job-related illness or injury will be followed by a medical examination to determine fitness for duty or possible job restrictions based on the physical findings of the medical examiner.

9.4 EXIT PHYSICAL EXAMINATION

When an employee terminates employment with WSP, that employee is required to have an exit physical examination. The content of the exit physical examination will include the following:

- a personal work history (based on specific project histories)
- medical, exposure, and fertility histories
- a complete physical examination, stressing the central and peripheral nervous systems; cardiopulmonary system; spine and other musculoskeletal system; abdomen, rectum, and genitourinary system; and skin, including but not limited to an examination of:
  - height, weight, temperature, pulse, respiration rate, and blood pressure
  - head, nose, neck, and throat
  - chest (heart and lungs)
  - resting 12-lead electrocardiogram
  - chest X-ray (posterior-anterior view)
  - a pulmonary function test (FEV1, FVC, and FEV1/FVC ratio)
  - an otoscopic examination and an audiogram at 500, 1,000, 2,000, 3,000, 4,000, and 6,000 hertz pure tone in an approved booth, administered by a qualified technician, and the results read by a qualified physician
  - a multichemistry blood panel (e.g., Chem 24), including kidney and liver function tests, CBC with differential, and urinalysis with microscopic examination of centrifuged sediment
  - a red blood cell cholinesterase
  - visual acuity testing
- any other tests deemed necessary by the physician due to symptoms, or exposure, or medical history (e.g., blood lead level, urine screen for arsenic, mercury, chromium, and cadmium)

For all employees who were potentially exposed to airborne concentrations of asbestos fibers, the physical examination will also include completion of a respiratory disease standardized questionnaire per 29 CFR 1910.1001 Appendix D.

9.5 OTHER EXAMINATIONS

Medical examinations in addition to those described above may be required by the WSP Health and Safety Leader. Additional examinations could be required before or after a project of long duration or after work at a site with particular exposure concerns. In addition, an employee may request a medical examination at their discretion based on potential exposure history, potential illness, or any condition which may produce a potential health hazard during work activities.

9.6 MEDICAL RECORDS

All medical records will be maintained by the examining physician, as well as the WSP medical monitoring provider. Copies of these records are typically transmitted directly to employees shortly after their annual physicals are completed. WSP's medical monitoring program administrator will maintain the certification of fitness provided by the physician, and the exposure records. Employee medical and exposure records will only be made available on written request by the employee or an authorized representative of the employee. OSHA compliance officers do not need to write a request for records that are

required for them to evaluate compliance. When records are requested, they will be furnished within 15 days of the request. If OSHA requests records in writing, the written request will be posted in a visible location for at least 15 days (29 CFR 1910.20). Medical records will be kept on file for at least 30 years. If WSP ceases to do business without a successor, then OSHA will be notified and may require transfer of the records.

10 EMERGENCY RESPONSE PLAN

Hazard recognition is an essential part of the Emergency Response Plan. The plan provides contingencies and evacuation procedures in case of an unexpected emergency. These procedures will be reviewed each day during the pre-entry briefing. Initiation of the contingency plan relies on the employee's ability to recognize an emergency or potential for an emergency. The following is a list of events that will immediately initiate emergency response procedures:

- Fire/Explosion
- Release of organic vapors or particulates above the action levels
- Personal injury
- Failure or expected failure of run-on/runoff control measures
- Failure or expected failure of groundwater control measures
- Natural occurrences (i.e., severe storms, lightning, tornado, high winds, etc.)
- Spills of hazardous materials

During daily Site briefings, personnel will be reminded of provisions outlined in the emergency response plan, communication systems, and evacuation routes. Additionally, emergency response procedures for WSP work zones and WSP contractors will be outlined daily by the SHSC and noted in the field log book. This will ensure that the WSP employees and WSP contractors know what to do in case of an emergency related to the implementation of the work plan or related to operations/activities on other private properties.

10.1 EMERGENCY COMMUNICATION

At least once per day, all WSP field personnel and WSP contractors shall contact their respective Field Team Leader to report on the day's activities. At this time, any identified health and safety concerns (e.g., accidents, incidents, or near hits) will be reported to the SHSC. Field Team Leaders shall report to the Site Coordinator such that health and safety concerns may be reported to other site personnel and contractors, as appropriate.

A series of three extended car horn blasts will be the emergency signal to indicate that all WSP personnel and WSP contractors must evacuate the WSP work zones. This alarm system may be initiated by any member of the WSP team. Field Team Leaders or SHSCs will use electronic communication (e.g., cell phones) to notify Site personnel, as required by the Site Emergency Evacuation Plan. WSP Field Team Leaders and/or SHSCs will then relate all instructions to WSP field personnel and contractors for the safe evacuation of the site.

Prior to WSP field personnel and/or WSP contractors beginning work on private property, the WSP Field Team Leader will establish communication procedures and evacuation routes with homeowners and/or residents. Local emergency authorities will be contacted as necessary as decided by the Field Team Leaders or SHSCs.

10.1.1 HAND SIGNALS

The following standard hand signals will be used in case injury or circumstance does not allow for verbal or other communication:

- Hand gripping throat = Out of air, can't breathe
- Grip partner's wrist or both hands around waist = Leave area immediately
- Hands on top of head = Need assistance
- Thumbs up = Ok, I'm all right, I understand
- Thumbs down = No, negative

10.1.2 TELEPHONES

Mobile telephones are used for routine communication and to notify offsite agencies of incidents and request assistance. Emergency telephone numbers are identified below in Section 13.4.

10.2 PERSONNEL ROLES AND LINES OF AUTHORITY

Field team leaders and WSP contractor supervisors have primary responsibility for responding to and correcting emergency situations affecting project personnel. Possible actions may involve evacuation of personnel from the work zones or from the entire Site. SHSC are responsible for the proper implementation of this HASP and all of its requirements. Both the field team leaders and the SHSC will work with the Site Coordinator to ensure the safe and effective implementation of the proposed work.

WSP contractors are responsible for addressing any emergencies resulting from their work, establishing the proper incident command structure, and implementing response actions, as necessary. This includes informing WSP employees of the potential hazards related to the operation of their equipment and plans for evacuation if there is an emergency related to the operation or storage of their equipment.

10.3 EVACUATION ROUTES AND PROCEDURES

WSP personnel and WSP contractors must sign-in with the site security each day before entering the site. The site uses these roles in case there in an emergency onsite to ensure that all people working on the property are accounted during an evacuation. The following describes the general emergency evacuation procedures that WSP personnel and WSP contractors will implement.

10.3.1 WSP WORK ZONE-RELATED EVACUATION

It is possible that an emergency could necessitate evacuation of all personnel. If such a situation should arise at a WSP work zone, the designated emergency signal of a series of three extended horn blasts shall be sounded and all personnel will move to the designated meeting location. Electronic communication (e.g., cell phone) will be used to alert workers beyond the range of the horns.

All available vehicles outside the work area would be used in the evacuation of a WSP work zone. All personnel would exit the area, making sure to be upwind of smoke, vapors, or spill location(s) and meet at the main guard house. A second rendezvous point will be selected by the SHSC in case the guard house would be inappropriate based on wind direction, severity, and type of incident. The Field Team Leader or his designee will conduct a head count to insure all personnel have been evacuated safely using the Site sign-in sheet. If someone is missing, the Task Leader or his designee will alert the appropriate personnel and local emergency response personnel.

10.3.2 WEATHER-RELATED EVACUATION

If a weather event occurs, an intermittent, high-pitched horn will sound indicating a required evacuation. WSP personnel and WSP contractors will immediately move to the assigned gathering location.

10.4 EMERGENCY INFORMATION AND TELEPHONE NUMBERS

To obtain medical assistance as soon as possible in case of an emergency, the following telephone numbers, addresses, and directions for the nearest medical treatment facilities will be posted in the temporary office:

Description	Contact	Phone
Ambulance	Bangs Ambulance	911
Fire Department	Ithaca Fire Department	911 or (607) 272-1234
Police	Ithaca Police Department	911 or (607) 272-3245
Hospital	Cayuga Medical Center	911 or (607) 274-4411
Poison Control	The Upstate New York Poison Control Center	1-800-222-1222
Disease Control	Centers for Disease Control 24-hour emergency line	(770) 488-7100

10.5 DIRECTIONS TO HOSPITAL

The nearest hospital with an emergency room is Cayuga Medical Center, 101 Dates Drive, Ithaca, New York. The directions are as follows:

1. Start at 620 S AURORA ST, ITHACA going north toward HILLVIEW PL - go 0.2-mile
2. Turn Left on Prospect St. - go 0.1-mile
3. Continue onto E. Clinton St. – go 0.6-mile
4. Turn right onto S. Meadow St. – go 0.3-mile
5. Turn left onto W. Buffalo St. – go 0.4-mile
6. Continue onto Cliff St. – go 1.0 mile
7. Continue onto Trumansburg Rd. – go 1.2 miles
8. Turn right onto Harris B Dates Dr. Extention – go 260 feet
9. Continue straight onto County Hospital Rd. – go 220 feet
10. Turn left to stay on County Hospital Rd. – go 400 feet
11. Arrive at 101 Dates Dr.

Total Estimated Time: 11 minutes Total Estimated Distance: 3.9 miles

A map showing the route to the hospital is shown in Figure 3.

10.6 EMERGENCY MEDICAL TREATMENT PROCEDURES

In an emergency, the primary concern is to prevent the loss of life or severe injury to site personnel. If immediate medical treatment is required, decontamination will be delayed until the condition of the victim has stabilized. If decontamination can be performed without interfering with first aid or if a worker has been contaminated with an extremely toxic or corrosive material that could cause severe injury, decontamination will be performed immediately. If an emergency caused by a heat-related illness develops, protective clothing will be removed from the victim as soon as possible to reduce heat stress.

The following standard emergency procedures will be used by onsite personnel. The SHSC shall be notified of any onsite emergencies and be responsible for ensuring that the appropriate procedures are followed. These procedures shall be rehearsed regularly as part of the overall program for the site.

Minor injuries: If the injury or illness is minor, full decontamination should be completed and first aid administered before the injured is transported to Cayuga Medical Center.

Major injuries: If the patient's condition is serious, call the Ithaca Fire Department for ambulance and paramedic support. At least partial decontamination should be completed. (i.e., complete disrobing of the victim and redressing

in clean coveralls or wrapping in a blanket). First aid should be administered while awaiting an ambulance or paramedics.

Any person being transported to a clinic or hospital for treatment should take with them information of the chemical or chemicals they have been exposed to at the site.

10.7 MEDICAL EMERGENCIES

Five medical emergencies have been identified as requiring implementation of emergency procedures. These emergencies are cardio-pulmonary emergencies, physical injuries, heat or cold-related injuries, chemical exposures, and snake or spider bites. Heat- and cold-related issues are discussed in Appendix D.

10.7.1 CARDIO-PULMONARY EMERGENCIES

Cardio-pulmonary emergencies are life-threatening situations requiring immediate response of trained individuals to prevent death. At no time will these emergencies be considered less than life-threatening. These emergencies include heart attack, cardiac arrest, or respiratory arrest. Response and emergency treatment will be rendered without regard to protective equipment or decontamination procedures. As a precaution, and if necessary, a representative from the Site will accompany the worker to the hospital to advise on matters of decontamination.

10.7.2 PHYSICAL INJURIES

Physical injuries can range from minor sprains, to internal injuries, to an open compound fracture. Depending on the severity of the injury, treatment may be delayed for decontamination procedures to be performed. If the physical injury is major, decontamination procedures should be supervised by a trained medical professional. The level of decontamination will be directly related to the seriousness of the injury and will be determined by the Task Leader or his designee.

Outside garments can be removed (depending on the weather) if they do not cause delays, interfere with treatment, or aggravate the injury. Respiratory masks and chemically resistant clothing should be removed from the injured person. If the outer contaminated garments cannot be safely removed, the individual should be wrapped in blankets to help prevent contaminating the inside of the ambulance or medical personnel. Outside garments are then removed at the medical facility. One exception would be if it is known that the individual has been contaminated with an extremely toxic or corrosive material which could cause severe injury or loss of life.

If an employee working in a contaminated area is physically injured, appropriate first aid procedures will be followed. Depending on the severity of the injury, emergency medical response may be sought. If the employee can be moved, he/she will be taken to the edge of the work area (on a stretcher, if needed) where contaminated clothing will be removed, additional emergency first aid will be administered, and transportation to a local emergency medical facility will be arranged.

10.7.3 CHEMICAL EXPOSURE

Exposure to chemicals can be divided into two categories:

- injuries from direct contact, such as acid burns or inhalation of toxic chemicals
- potential injury due to gross contamination on clothing or equipment

For inhaled contaminants, treatment can only be provided by qualified physicians. If the contaminant is on the skin or in the eyes, immediate measures must be taken to counteract the substance's effect. First aid treatment usually is flooding the affected area with clean water; however, for a select few chemicals, water may cause more severe problems.

When protective clothing is grossly contaminated, the constituents may be transferred to treatment personnel or the wearer and cause injuries. Unless severe medical problems have occurred simultaneously with splashes, the protective clothing should be washed off as rapidly as possible and carefully removed. Portable eye washes will be available to provide a means of flushing and washing such contamination.

If the injury to the worker results from a chemical splash or uncontrolled release, the following first aid procedures are to be instituted:

Eye Exposure: If contaminated solids or liquids get into the eyes, wash eyes immediately at the emergency eyewash station using large amounts of running or flowing water. Obtain medical attention immediately.

Skin Exposure: If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap or mild detergent and water. Obtain medical attention immediately when exposed to concentrated solids or liquids.

Breathing: If a person breathes in large amounts of contaminants, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration immediately. Keep the affected person warm and at rest. Obtain medical attention as soon as possible.

Swallowing: When contaminated solids or liquids have been swallowed and the person is conscious, attempt to obtain information from the person to aid in identifying the substance swallowed. Contact the poison control center immediately. Under their direction, one or two glasses of milk or water may be administered to dilute the swallowed material. The poison control center may direct a responder to induce vomiting. Do not induce vomiting if: the person is unconscious or semiconscious, or convulsing; if a strong corrosive has been swallowed or if a petroleum product has been swallowed. Vomiting is best induced by administering one tablespoon of Syrup of Ipecac. Transport the person to the hospital and monitor the airway constantly.

10.8 AIR RELEASE OR FIRE/EXPLOSION

On notification of an air release or a fire/explosion, the designated emergency signal of a series of three extended horn blasts shall be sounded and all personnel will travel at a right angle to the upwind direction. Electronic communication (e.g., cell phone) will be used to alert workers outside of the work area. The SHSC will then account for all personnel and notify the proper emergency agencies. The fire department shall be alerted and all personnel moved to a safe distance from the emergency area.

Fire extinguishers are present onsite. If a small, localized fire breaks out, chemical fire extinguishers may be used in an attempt to put out incipient-stage fires. However, WSP employees do not maintain current fire extinguisher training and are not expected to fight a fire in any stage. Local fire-fighting authorities will always be contacted before any attempt to extinguish a fire is made.

If an uncontrolled fire develops releasing potentially toxic gases, onsite personnel and the public in the immediate vicinity will be evacuated. Only personnel trained in fire-fighting and outfitted with proper protective equipment will be allowed in the immediate fire area. The field team leader or his/her designated assistant will alert local fire-fighting companies.

10.9 PERSONAL PROTECTIVE EQUIPMENT FAILURE

If any site worker experiences a failure or alteration of protective equipment that affects the protection factor that person and his/her buddy shall immediately leave the work area. Re-entry shall not be permitted until the equipment has been repaired or replaced.

10.10 OTHER EQUIPMENT FAILURE

If any other equipment onsite fails to operate properly, the field team leader or the SHSC shall be notified to determine the effect of this failure on continuing operations onsite. If the failure affects worker safety or prevents completion of the activity, all personnel shall evacuate the work area until the situation is evaluated and appropriate actions taken.

In all situations when an emergency results in the evacuation of a work area, personnel shall not re-enter the area until the following conditions have been met:

- the conditions resulting in the emergency have been corrected
- the hazards have been reassessed

- the HASP has been reviewed
- site personnel have been briefed on any changes in the HASP

11 SPILL CONTAINMENT PROGRAM

This chapter of the HASP describes the potential for hazardous substance spills at this site and procedures for controlling and containing such spills. The purpose of this chapter of the HASP is to ensure that spill containment planning is conducted and appropriate control measures are established.

The spill containment program is consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii) and addresses the following site-specific information:

- potential hazardous substance spills and available controls
- initial notification and response
- spill evaluation and response
- post-spill evaluation

11.1 POTENTIAL SPILLS AND AVAILABLE CONTROLS

The following have been identified as potential spill sources. These include, but are not limited to:

Potential Spill Source	Preventative Measure
Re-fueling onsite equipment	No long-term storage of fuel will occur onsite. The amount of fuel kept onsite will be limited to the estimated weekly use.
General spill prevention requirements	Accessible spill response stations will be set up containing absorbent pillows, floor dry, shovels and brushes to be used in the event of a spill. Spill response equipment is located near Dock 8 of the main facility building. Additional task-specific locations will be discussed during daily briefings to inform all project personnel.

11.2 INITIAL SPILL NOTIFICATION AND RESPONSE

Any worker who discovers a hazardous substance spill will immediately notify the SHSC; the SHSC will relay the information to the Site Coordinator. The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries. The site Emergency Response Plan (Section 10) will immediately be implemented if an emergency release has occurred.

11.3 SPILL EVALUATION AND RESPONSE

The Site Coordinator is responsible for evaluating spills and determining the appropriate response. When this evaluation is being made, the spill area will be isolated and demarcated to the extent possible. The procedures of the Emergency Response Plan (Section 10) are implemented when the spill is determined to require emergency precautions and action. If necessary to protect nearby community members, notification of the appropriate authorities is made.

When an incidental release occurs, cleanup personnel receive instructions in a pre-cleanup meeting as to spill conditions, PPE, response activities, decontamination, and waste handling. The following are general measures that response/cleanup personnel take when responding to a spill:

- To minimize the potential for a hazardous spill, hazardous substance and contaminated soils, control/absorbent media, drums and containers, and other contaminated materials are properly stored and labeled.
- When a spill occurs, only those persons involved in overseeing or performing spill containment operations will be allowed within the designated hazard areas. If necessary, the area will be roped, ribboned or otherwise blocked off. Unauthorized personnel are kept clear of the spill area.
- Appropriate PPE, as specified during the pre-cleanup meeting, is donned before entering the spill area.
- Appropriate spill control measures are specified in the pre-cleanup meeting and applied during spill response.
- Whenever possible without endangerment of personnel, the spill is stopped at the source or as close to the source as possible.
- Ignition points are removed if fire or explosion hazards exist.
- Surrounding reactive materials are removed.
- Drains or drainage in the spill area will be blocked or surrounded by berms to exclude the spilled waste and any materials applied to it.
- Provisions are made to contain and recover a neutralizing solution, if used.
- For small spills, sorbent materials such as sand, sawdust, or commercial sorbents are placed directly on the waste to prevent further spreading and aid in recovery.
- Large spills are diked at the leading edge of the spill. Berms of earthen or sorbent material are constructed downstream of the leading edge of the spill to contain it. Where feasible, pumps are utilized to transfer the liquid to appropriate containers.
- Spill area is sprayed with appropriate foam where the possibility of volatile emissions exists.
- If the spill results in the formation of a toxic vapor cloud, from vaporization, or reaction with surrounding materials or by the outbreak of fire, further evacuation may be required.
- To dispose of spill waste, all contaminated sorbents, liquid waste, or earthen material will be cleaned up and placed in DOT-compliant drums for proper storage or disposal as hazardous waste.

11.4 POST-SPILL EVALUATION

The spill area is inspected to ensure the area has been satisfactorily cleaned. The use of soil, water, and air sampling is utilized in this determination as necessary. The root cause of the spill is examined and corrective steps taken to ensure the engineering and control measures in place have performed as required. If alternative precautions or measures are needed, they are made available and implemented. All durable equipment placed into use during cleanup activities is decontaminated as specified in the Decontamination chapter of this HASP for future utilization. All spill response equipment and supplies are replenished as required.

12 ACCIDENT AND INCIDENT INVESTIGATION AND REPORTING

Accidents are defined by the National Safety Council as an undesired event that results in personal injury or property damage. Generally, incidents are defined as an unplanned, undesired event that adversely affects completion of a task. Lastly, near hits describe incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred. WSP's health and safety programs and procedures are focused on preventing exposure to hazardous chemicals and potential accidents and incidents. One way of preventing future accidents and injuries is by investigating accidents and incidents as well as tracking near hits.

All accidents and incidents related to the work that WSP and WSP's subcontractors conduct on the Site will be investigated, the root cause determined, and corrective actions implemented. Field personnel will report accidents and incidents to their respective field team leader who will report to the SHSC and Site Coordinator. The Site Coordinator will report all incidents to the host facility and, subsequently, to applicable regulatory agencies within the necessary timeframe to meet regulatory requirements. However, all accidents/incidents will be reported within 24 hours to the WSP online Integrated Safety Management System (iSMS; https://zeroharm.onepb.net/fieldforms). An incident report should be filed using iSMS for the following:

- Occupational injury or illness
- Vehicular accidents
- Near hits/misses
- Environmental events (e.g., spill)
- Quality incidents
- Service or utility strikes
- Visits by regulatory authorities
- Notifications of legal action
- Complaints
- Security issues
- Loss, theft, or damage

Observation reports can be filed using iSMS for a potential safety hazard that has not created a near hit/miss or incident or a good safety practice that should be recognized.

In accordance with OSHA requirements (29 CFR 1904 and 29 CFR 1910.20), all reportable injuries or illnesses should be recorded on the OSHA Form 300 and either the OSHA 301 or equivalent state worker's compensation form within 6 days of the injury.

12.1 VEHICLE INCIDENTS

All vehicle incidents, no matter how minor, must be reported to the Site Coordinator and the WSP employee's Area Manager immediately. In addition to reporting the incident to iSMS, drivers must report incidents to Wheels, Inc. (1-800-477-2211) within 24 hours of the incident. If an employee was injured during the traffic accident, iSMS will be used to report the injury. The injury and the traffic incident can be reported on the same iSMS report.

13 AUTHORIZED CHANGES TO THE HEALTH AND SAFETY PLAN

All changes to the HASP are to be documented by completing a form for Modification of Site Health and Safety Plan (Appendix I). This completed form must be signed by the Project Manager. A copy of all completed forms will be included with each copy of the HASP and maintained with the project files.

14 CERTIFICATION

The HASP satisfies the requirements of OSHA 1910.120, WSP safety policies and procedures.

By their signature below, these and all Site personnel certify that they have read the HASP, and are familiar with, and will comply with, its provisions.

Name	Signature	Company	Phone No.

REFERENCES

- American Conference of Governmental and Industrial Hygienists (ACGIH). 1999. Threshold Limit Values and Biological Exposure Indices for 1999. Cincinnati, Ohio.
- Ansell Edmont Industrial, Chemical Degradation Guide for Gloves and Protective Clothing.
- Forsberg, Krister. 1997. Quick Selection Guide to Chemical Protective Clothing, 3rd Edition. Van Nostrand Reinhold Company, New York.
- National Institute of Occupational Safety and Health/Occupational Safety and Health Administration. 1985. Pocket Guide to Chemical Hazards.
- National Institute of Occupational Safety and Health/Occupational Safety and Health Administration/U.S. Coast Guard/U.S. Environmental Protection Agency. 1985. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.
- NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".
- NYSDEC, 2018a. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Phase II Supplemental Remedial Investigation Report, November 2017. January 12.
- NYSDEC, 2018b. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Interim Remedial Measures (IRM) Work Plan. April 6.
- NYSDEC, 2018c. Emerson Power Transmission (EPT), Ithaca, NY, Site No. 775010, Interim Remedial Measures (IRM) Work Plan, July 2017, revised August 2018. August 22.
- NYSDEC, 2018d. Division of Environmental Remediation, Bureau of Technical Support. October 5.
- NYSDEC, 2010. Record of Decision, Morse Industrial Corporation Site, Operable Unit No. 3, State Superfund Project, City of Ithaca, Tompkins County, New York, Site Number 755010. October.
- NYSDEC, 1994. Record of Decision, Morse Industrial Corporation, Town of Ithaca, Tompkins County, New York, Site Number 755010. December 7.
- NYSDEC, 1988. Order on Consent #A7-0125-87-09 between the New York State Department of Environmental Conservation and Emerson Power Transmission Company and Emerson Electric Co. July 13.
- Occupational Safety and Health Administration (OSHA). 1999. OSHA Technical Manual, Section V: Chapter 2. Rae Systems. 2005. RAE Systems PID Training Outline. San Jose, California.
- Radian Corporation, 1990. Final Report, Remedial Investigation Stages 1 and 2. Emerson Power Transmission (EPT), Ithaca, New York. February.
- Radian International LLC, 1994. Feasibility Study Report, Emerson Power Transmission (EPT), Ithaca, New York. July.
- WSP, 2020. Interim Remedial Measures Construction Completion Report (OU-2) Former Emerson Power Transmission Facility Ithaca, New York Site No. 755010. March 26, 2020.
- WSP, 2018a. Phase I IRM Completion Report – Sanitary Sewers, Former Emerson Power Transmission, Ithaca, New York Letter. January 30.
- WSP, 2018b. Interim Remedial Measure Work Plan, OU-2, Former Emerson Power Transmission Facility, Ithaca, New York. Site No. 755010. August 8.
- WSP. 2017. Phase II Supplemental Remedial Investigation Report. Former Emerson Power Transmission Facility, Ithaca, New York. July 6.
- WSP, 2016. Revised AOC 1 Characterization Report. Emerson Power Transmission Facility, Ithaca, New York. Site No. 7-55-10. August 5.

ACRONYMS

1,1,1-TCA	1,1,1-trichloroethane
1,2-DCA	1,2-dichloroethane
ACGIH	American Conference of Government Industrial Hygienists
AED	automated external defibrillator
ANSI	American National Standards Institute
AOC	area of concern
APR	air-purifying respirator
bgs	below ground surface
CBC	complete blood count
CFR	Code of Federal Regulations
cis-DCE	cis-1,2-dichloroethene
COC	constituent of concern
CPR	cardiopulmonary resuscitation
CRZ	Contaminant Reduction Zone
CVOC	chlorinated volatile organic compound
dBA	decibel
DOT	United States Department of Transportation
DPE	dual phase extraction
EPA	United States Environmental Protection Agency
EPT	Emerson Power Transmission
eV	electron volt
°F	degree Fahrenheit
FSSC	field site safety coordinator
GAC	granular activated carbon
HASP	health and safety plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	high-efficiency particulate air
IDLH	immediately dangerous to life or health
IDW	investigation-derived waste
IP	ionization potential
IRM	Interim Remedial Measure
iSMS	Integrated Safety Management System
LNAPL	light non-aqueous phase liquid
mg/m^3	milligram per cubic meter
NIOSH	National Institute for Occupational Safety and Health
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
OSHA	Occupational Safety and Health Administration
OU	Operable Unit

PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PEL	permissible exposure limit
PID	photoionization detector
PLC	programmable logic controller
PPE	personal protective equipment
ppm	part per million
PVC	polyvinyl chloride
ROD	Record of Decision
SCO	Soil Cleanup Objective
SHSC	site health and safety coordinator
SOLAS	Safety of Life at Sea
SOP	standard operating procedure
SPF	sun protection factor
SRI	Supplemental Remedial Investigation
SVE	soil vapor extraction
TCE	trichloroethene
TLV	threshold limit value
trans-DCE	trans-1,2-dichloroethene
TWA	time weighted average
UV	ultraviolet
UVA	ultraviolet A
UVB	ultraviolet B
UVC	ultraviolet C
VOC	volatile organic compound
XRF	X-ray fluorescence

TABLES

Table 1

Chemical and Physical Characteristics of COCs
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Parameters	Maximum Concentration (ppm)			IP (eV)	IDLH (ppm)	ACGIH 2018 TLV (ppm) (c)	PEL (ppm)	Surrogate Action Levels (mg/m^3)	Route of Exposure	Toxic Effects
	Soil	Groundwater	LNAPL							
Volatile Organic Compounds										
1,1,1-Trichloroethane	< SCO_{UU}	0.0068	-	11	700	350	350	-	INH, ING, CON	Eyes, skin, CNS, cardiovascular, liver
1,2-Dichloroethane	5.87	0.0014	-	11.05	50	10	50	-	INH, ING, CON, ABS	Eyes, skin, kidneys, liver, CNS, cardiovascular
cis-1,2-Dichloroethene	3.3	20.4	34	9.65	1,000	200 (d)	200	-	INH, ING, CON	Eyes, respiratory, CNS
Methylene chloride	0.63	-	-	11.32	2,300	50	25	-	INH, ING, CON, ABS	Eyes, skin, cardiovascular, CNS
Tetrachloroethene	1.36	0.0145	-	9.32	150	25	100	-	INH, ING, CON, ABS	Eyes, skin, respiratory, liver, kidneys, CNS
trans-1,2-Dichloroethene	0.63	0.241	-	9.65	1,000	200 (d)	200	-	INH, ING, CON	Eyes, respiratory, CNS
Trichloroethene	58.2	58.9	0.48	9.45	1,000	10	100	-	INH, ING, CON, ABS	Eyes, skin, respiratory, heart, liver, kidneys, CNS
Vinyl Chloride	9.4	2.04	0.9	9.99	Ca	1	1	-	INH, CON	Liver, CNS, blood, respiratory, lymphatic
Polycyclic Aromatic Hydrocarbons										
Benzo(a)anthracene	74	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	66	-	65	-	80	0.2	0.2	3,049	INH, CON	Respiratory system, skin, bladder, kidneys
Benzo(b)fluoranthene	57	-	81	-	-	-	-	-	-	-
Benzo(k)fluoranthene	57	-	41	-	-	-	-	-	-	-
Chyrsene	71	-	72	-	80	0.2	0.2	2,821	INH, CON	Respiratory system, skin, bladder, kidneys
Dibenz(a,h)anthracene	13	-	-	-	-	-	-	-	-	-
Fluoranthene	147	-	110	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	32	-	23	-	-	-	-	-	-	-
Phenanthrene	115	-	-	-	80	0.2	0.2	1,739	INH, CON	Respiratory system, skin, bladder, kidneys
Pyrene	125	-	120	-	80	0.2	0.2	1,600	INH, CON	Respiratory system, skin, bladder, kidneys
Metals										
Arsenic	495	0.137	0.75	-	-	0.01 (b)	0.5 (b)	1,010	INH, ING, CON	Skin, respiratory, kidneys, CNS, liver, gatrointestinal tract, reproductive system
Barium	5,410	8.11	6.2	-	50 (b)	0.5 (b)	0.5 (b)	92	INH, ING, CON	Eyes, skin, respiratory, heart,CNS
Cadmium	6	0.006	-	-	9	0.002 (b)	0.005 (b)	806	INH, ING	Respiratory, kidneys, prostate, blood
Chromium	749	0.093	1.4	-	250	0.5 (b)	1 (b)	1,335	INH, ING, CON	Eyes, skin, respiratory
Copper	8,240	-	5.2	-	100	1 (b)	1 (b)	121	INH, ING, CON	Eyes, skin, respiratory, liver, kidneys
Nickel	567	-	0.67	-	10	0.2 (b)	1 (b)	1,764	INH, ING, CON	Nasal cavities, lungs, skin

Table 1

Chemical and Physical Characteristics of COCs
Former Emerson Power Transmission Facility
Ithaca, New York (a)

Cyanide											
Cyanide	34.9	1.6	-	-	25 (b)	5 (b)	5 (b)	-	INH, ING, CON, ABS	Eyes, skin, respiratory, cardiovascular, CNS, thyroid, blood
Polychlorinated Biphenyls										
Aroclor 1254	32.2	-	-	-	Ca	0.5 (b)	0.5 (b)	15,528	INH, ING, CON, ABS	Eyes, skin, liver, reproductive system

a/ ppm = parts per million; mg/m^3 = milligrams per cubic meter; < SCO_{UU} = less than unrestricted use soil cleanup objective; IDLH = immediately dangerous to life or health; ACGIH = American Conference of Governmental Industrial
TLV-TWA = Threshold limit value - time weighted average; PEL = Permissible exposure limit, 8-hr, time weighted average; CNS = Central Nervous System; Ca = Carcinogenic;
INH = Inhalation; ING = Ingestion; CON = Contact; ABS = Absorption; ND = not determined.

b/ value in mg/m^3.

c/ values from https://www.osha.gov/dsg/annotated-pels/tablez-1.html; accessed on 10/05/18.

FIGURES

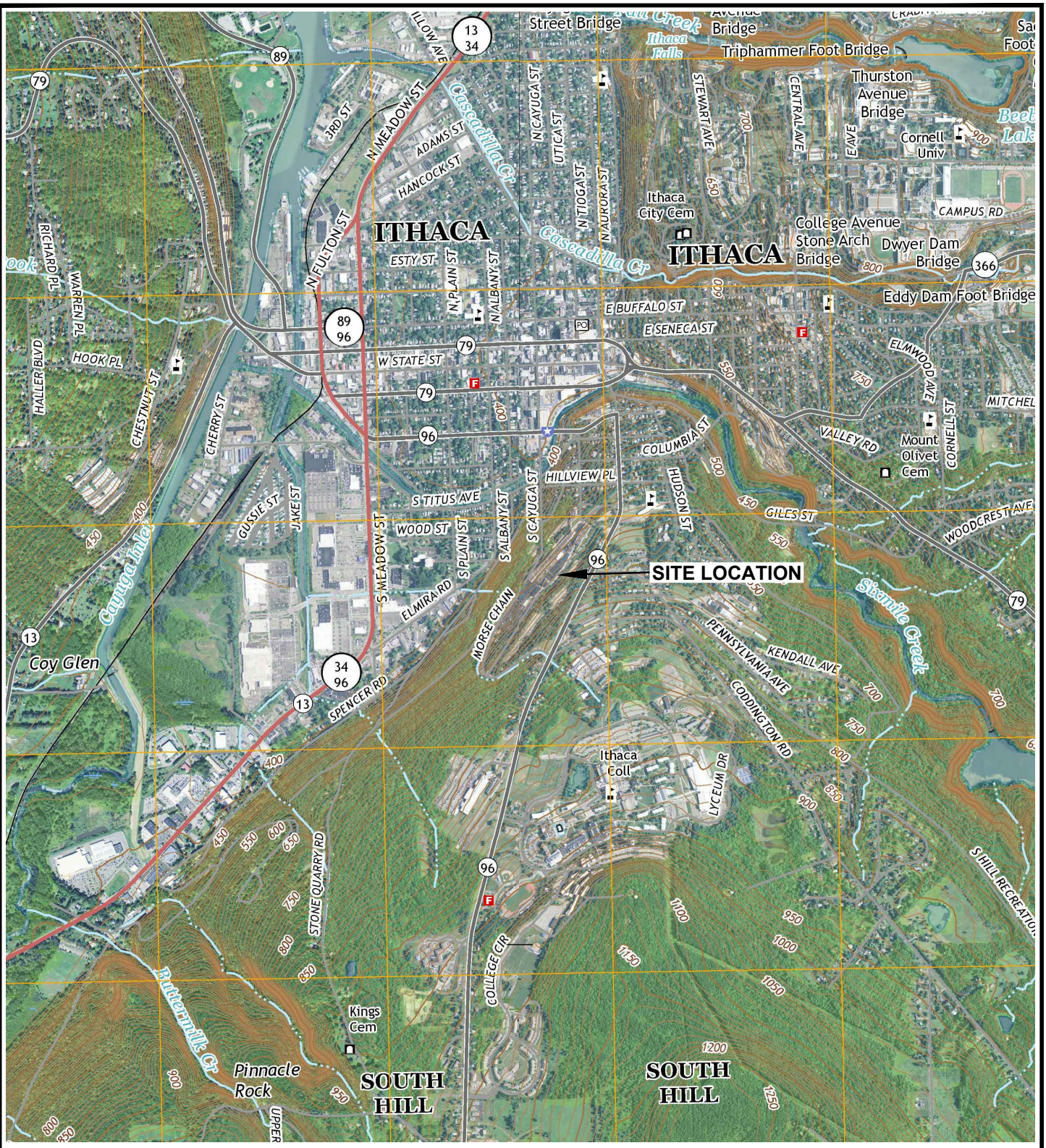
A

Drawn By: RAZ 07/31/2018

Checked: SLB 07/31/2018

Approved:

DWG Name: 314P0551-A02



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USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLES, ITHACA WEST AND ITHACA EAST, N.Y., 2016.
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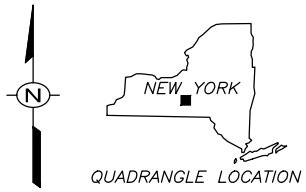

QUADRANGLE LOCATION

0 1000 2000 4000

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WSP USA Inc.
13530 DULLES TECHNOLOGY DR
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TEL: +1 703.709.6500

FIGURE 1

SITE LOCATION

FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

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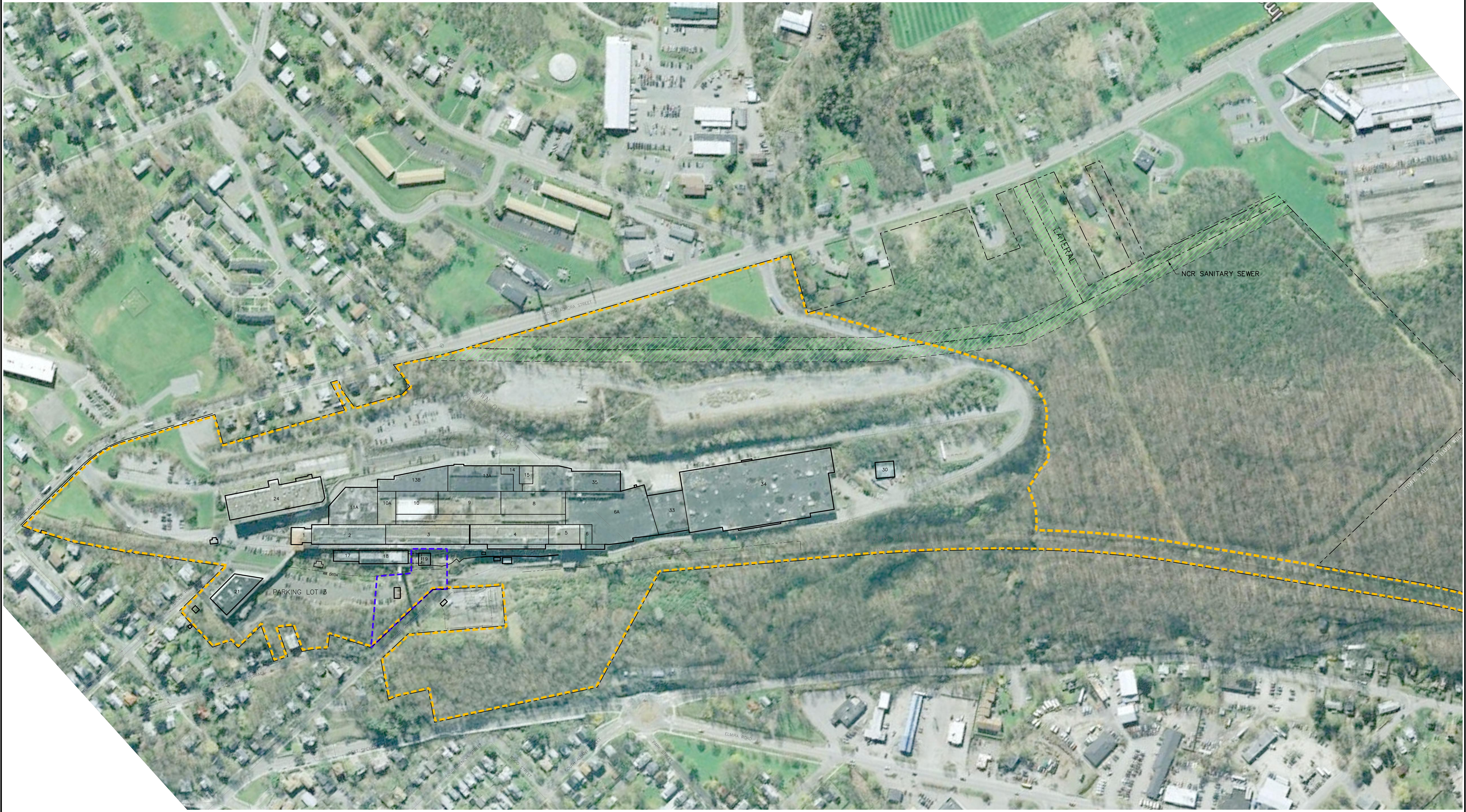

LEGEND

34	BUILDING NUMBER
	SANITARY SEWER
	PROPERTY LINE
	DEED RESTRICTION PLACED BY EMERSON
	BOUNDARY FOR OU–1 (RETAINED PROPERTY)
	BOUNDARY FOR OU–2

N

150 0 150 300

SCALE, FEET

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D

REVISIONS

REV	DESCRIPTION		
1	Revised:	Chkd:	Appr.:
2	Revised:	Chkd:	Appr.:
3	Revised:	Chkd:	Appr.:

SEAL

DATE

DRAWN BY PAZ 03/22/2020

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SITE LAYOUT

SITE MANAGEMENT PLAN
FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK

PREPARED FOR
EMERSON – ST. LOUIS, MISSOURI

WSP USA Inc.
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FIGURE 2

Drawing Number
314P1545.001–D132

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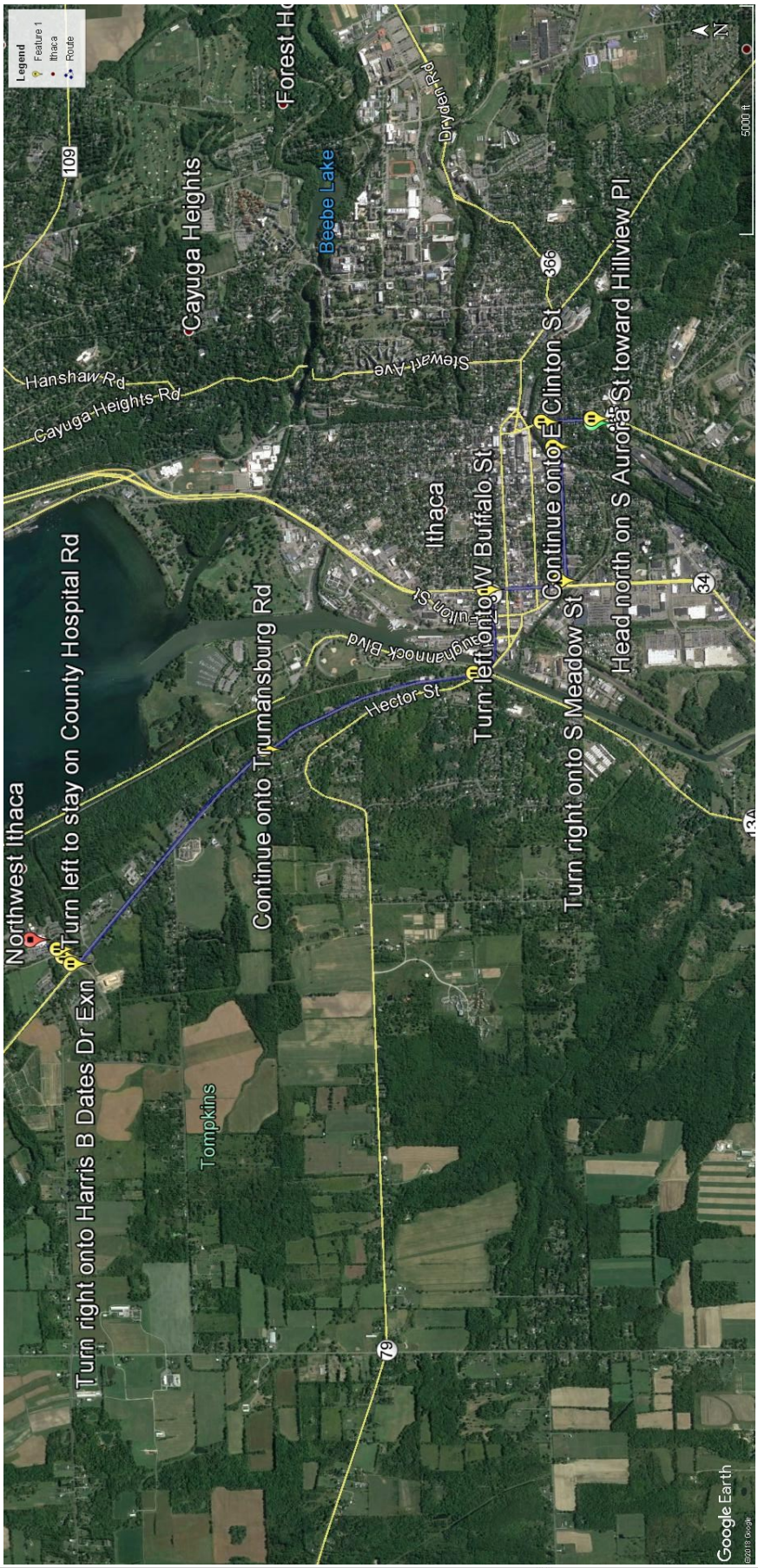

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FIGURE 3

HOSPITAL ROUTE

FORMER EMERSON POWER TRANSMISSION
ITHACA, NEW YORK
PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

APPENDIX

A SAFETY TIPS AND PERSONAL HYGIENE

SAFETY TIPS AND PERSONAL HYGIENE

1. During the pre-work safety meeting, the following information will be discussed:
   a. a description of the scheduled work and any known problem areas
   b. the level of protection required
   c. emergency medical information
   d. the locations of the first aid kit, telephones, nearest water supply, ice, and lavatory
2. Use the nearest lavatory.
3. Lay out and check safety gear.
4. Put on safety gear in the following order:
   a. Steel-toed work boots.
   b. Safety glasses
   c. Hearing protection (when applicable)
   d. Nitrile gloves (when applicable)
5. Select a buddy to act as a safety backup (where applicable).
6. Check your buddy's equipment and have your buddy check yours for rips, tears, or malfunctions.
7. If any equipment or gear gets damaged stop work and replace it immediately.
8. Remove nitrile gloves in the following manner:

Photo credit: https://www.yourglovesource.com

9. Dispose of PPE as prescribed by the HASP.
10. Whenever possible, avoid contact with contaminated or suspected contaminated surfaces.
11. When in the work zone, do not eat, drink, smoke, chew gum or tobacco, or engage in any other practice that increases the probability of hand-to-mouth transfer or ingestion of material.
12. Wash hands and face thoroughly after leaving the work area and before eating, drinking, or any other activities.

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APPENDIX

B NIOSH POCKET GUIDE TO CHEMICAL HAZARDS

Arsenic (organic compounds, as As)	Formula:	CAS#:	RTECS#:	IDLH: N.D.
Conversion:	DOT:			

Synonyms/Trade Names: Synonyms vary depending upon the specific organic arsenic compound.

Exposure Limits:
NIOSH REL: none
OSHA PEL: TWA 0.5 mg/m^3

Measurement Methods (see Table 1):
NIOSH 5022

Physical Description: Appearance and odor vary depending upon the specific organic arsenic compound.

Chemical & Physical Properties:
Properties vary depending upon the specific organic arsenic compound.

Personal Protection/Sanitation (see Table 2):
Recommendations regarding personal protective clothing vary depending upon the specific compound.

Respirator Recommendations (see Tables 3 and 4):
Not available.

Incompatibilities and Reactivities: Varies

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Ing, Con
SY: In animals: irrit skin, possible derm; resp distress; diarr; kidney damage; musc tremor, convuls; possible GI tract, repro effects; possible liver damage
TO: Skin, resp sys, kidneys, CNS, liver, GI tract, repro sys

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash immed
Breath: Resp support
Swallow: Medical attention immed

Barium nitrate (as Ba)	Formula: $Ba(NO_3)_2$	CAS#: 10022-31-8	RTECS#: CQ9625000	IDLH: 50 mg/m^3 (as Ba)
Conversion:	**DOT:** 1446 141			

Synonyms/Trade Names: Barium dinitrate, Barium(II) nitrate (1:2), Barium salt of nitric acid

Exposure Limits:
NIOSH REL*: TWA 0.5 mg/m^3
OSHA PEL*: TWA 0.5 mg/m^3
[***Note:** The REL and PEL also apply to other soluble barium compounds (as Ba) except Barium sulfate.]

Measurement Methods (see Table 1):
NIOSH 7056
OSHA ID121

Physical Description: White, odorless solid.

Chemical & Physical Properties:
MW: 261.4
BP: Decomposes
Sol: 9%
Fl.P: NA
IP: ?
Sp.Gr: 3.24
VP: Low
MLT: 1094°F
UEL: NA
LEL: NA
Noncombustible Solid, but will accelerate the burning of combustible materials.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: Daily

Respirator Recommendations (see Tables 3 and 4):
NIOSH/OSHA
5 mg/m^3: 95XQ/Sa
12.5 mg/m^3: Sa:Cf/PaprHie
25 mg/m^3: 100F/SaT:Cf/PaprTHie/ ScbaF/SaF
50 mg/m^3: SaF:Pd,Pp
§: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: 100F/ScbaE

Incompatibilities and Reactivities: Acids, oxidizers, aluminum-magnesium alloys, (barium dioxide + zinc)
[**Note:** Contact with combustible material may cause fire.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Ing, Con
SY: Irrit eyes, skin, upper resp sys; skin burns; gastroenteritis; musc spasm; slow pulse, extrasystoles; hypokalemia
TO: Eyes, skin, resp sys, heart, CNS

First Aid (see Table 6):
Eye: Irr immed
Skin: Water flush immed
Breath: Resp support
Swallow: Medical attention immed

C

Chlorodiphenyl (54% chlorine)	Formula: $C_6H_3Cl_2C_6H_2Cl_3$ (approx)	CAS#: 11097-69-1	RTECS#: TQ1360000	IDLH: Ca [5 mg/m^3]
Conversion:	DOT: 2315 171			
Synonyms/Trade Names: Aroclor® 1254, PCB, Polychlorinated biphenyl				

Exposure Limits:
NIOSH REL*: Ca
TWA 0.001 mg/m^3
See Appendix A
[***Note:** The REL also applies to other PCBs.]

OSHA PEL: TWA 0.5 mg/m^3 [skin]

Measurement Methods (see Table 1):
NIOSH 5503
OSHA PV2088

Physical Description: Colorless to pale-yellow, viscous liquid or solid (below 50°F) with a mild, hydrocarbon odor.

Chemical & Physical Properties:
MW: 326 (approx)
BP: 689-734°F
Sol: Insoluble
Fl.P: NA
IP: ?
Sp.Gr(77°F): 1.38
VP: 0.00006 mmHg
FRZ: 50°F
UEL: NA
LEL: NA

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: Daily
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv100/ScbaE

Nonflammable Liquid, but exposure in a fire results in the formation of a black soot containing PCBs, polychlorinated dibenzofurans, and chlorinated dibenzo-p-dioxins.

Incompatibilities and Reactivities: Strong oxidizers

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Abs, Ing, Con
SY: Irrit eyes, chloracne; liver damage; repro effects; [carc]
TO: Skin, eyes, liver, repro sys [in animals: tumors of the pituitary gland & liver, leukemia]

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash immed
Breath: Resp support
Swallow: Medical attention immed

C

Coal tar pitch volatiles	Formula:	CAS#: 65996-93-2	RTECS#: GF8655000	IDLH: Ca [80 mg/m^3]
Conversion:	**DOT:** 2713 153 (acridine)			

Synonyms/Trade Names: Synonyms vary depending upon the specific compound (e.g., pyrene, phenanthrene, acridine, chrysene, anthracene & benzo(a)pyrene).
[**Note:** NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products.]

Exposure Limits:
NIOSH REL: Ca
TWA 0.1 mg/m^3 (cyclohexane-extractable fraction)
See Appendix A
See Appendix C
OSHA PEL: TWA 0.2 mg/m^3 (benzene-soluble fraction) [1910.1002]
See Appendix C

Measurement Methods (see Table 1):
OSHA 58

Physical Description: Black or dark-brown amorphous residue.

Chemical & Physical Properties:
Properties vary depending upon the specific compound.
Combustible Solids

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: Daily
Remove: N.R.
Change: Daily

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv100/ScbaE

Incompatibilities and Reactivities: Strong oxidizers

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Con
SY: Derm, bron, [carc]
TO: Resp sys, skin, bladder, kidneys [lung, kidney & skin cancer]

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash immed
Breath: Resp support
Swallow: Medical attention immed

1,2-Dichloroethylene	Formula: ClCH=CHCl	CAS#: 540-59-0	RTECS#: KV9360000	IDLH: 1000 ppm
Conversion: 1 ppm = 3.97 mg/m^3	DOT: 1150 130P			

Synonyms/Trade Names: Acetylene dichloride, cis-Acetylene dichloride, trans-Acetylene dichloride, sym-Dichloroethylene

Exposure Limits:
NIOSH REL: TWA 200 ppm (790 mg/m^3)
OSHA PEL: TWA 200 ppm (790 mg/m^3)

Measurement Methods (see Table 1):
NIOSH 1003
OSHA 7

Physical Description: Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor.

Chemical & Physical Properties:
MW: 97.0
BP: 118-140°F
Sol: 0.4%
Fl.P: 36-39°F
IP: 9.65 eV
Sp.Gr(77°F): 1.27
VP: 180-265 mmHg
FRZ: -57 to -115°F
UEL: 12.8%
LEL: 5.6%
Class IB Flammable Liquid

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet (flamm)
Change: N.R.

Respirator Recommendations (see Tables 3 and 4):
NIOSH/OSHA
1000 ppm: Sa:Cf£/PaprOv£/CcrFOv/GmFOv/ScbaF/SaF
§: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv/ScbaE

Incompatibilities and Reactivities: Strong oxidizers, strong alkalis, potassium hydroxide, copper [**Note:** Usually contains inhibitors to prevent polymerization.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Ing, Con
SY: Irrit eyes, resp sys; CNS depres
TO: Eyes, resp sys, CNS

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash prompt
Breath: Resp support
Swallow: Medical attention immed

Ethylene dichloride	Formula: $ClCH_2CH_2Cl$	CAS#: 107-06-2	RTECS#: KI0525000	IDLH: Ca [50 ppm]
Conversion: 1 ppm = 4.05 mg/m^3	DOT: 1184 131			
Synonyms/Trade Names: 1,2-Dichloroethane; Ethylene chloride; Glycol dichloride				

Exposure Limits:
NIOSH REL: Ca
TWA 1 ppm (4 mg/m^3)
ST 2 ppm (8 mg/m^3)
See Appendix A,
See Appendix C (Chloroethanes)
OSHA PEL†: TWA 50 ppm
C 100 ppm
200 ppm [5-minute maximum peak in any 3 hours]

Measurement Methods (see Table 1):
NIOSH 1003
OSHA 3

Physical Description: Colorless liquid with a pleasant, chloroform-like odor. [**Note:** Decomposes slowly, becomes acidic & darkens in color.]

Chemical & Physical Properties:
MW: 99.0
BP: 182°F
Sol: 0.9%
Fl.P: 56°F
IP: 11.05 eV
Sp.Gr: 1.24
VP: 64 mmHg
FRZ: -32°F
UEL: 16%
LEL: 6.2%
Class IB Flammable Liquid

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet (flamm)
Change: N.R.
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv/ScbaE

Incompatibilities and Reactivities: Strong oxidizers & caustics; chemically-active metals such as magnesium or aluminum powder, sodium & potassium; liquid ammonia [**Note:** Decomposes to vinyl chloride & HCl above 1112°F.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Ing, Abs, Con
SY: Irrit eyes, corn opac; CNS depres; nau, vomit; derm; liver, kidney, CVS damage; [carc]
TO: Eyes, skin, kidneys, liver, CNS, CVS [in animals: forestomach, mammary gland & circulatory sys cancer]

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash prompt
Breath: Resp support
Swallow: Medical attention immed

E

M

Methyl chloroform	Formula: CH_3CCl_3	CAS#: 71-55-6	RTECS#: KJ2975000	IDLH: 700 ppm
Conversion: 1 ppm = 5.46 mg/m^3	**DOT:** 2831 160			
Synonyms/Trade Names: Chlorothene; 1,1,1-Trichloroethane; 1,1,1-Trichloroethane (stabilized)				

Exposure Limits:
NIOSH REL: C 350 ppm (1900 mg/m^3) [15-minute]
See Appendix C (Chloroethanes)
OSHA PEL†: TWA 350 ppm (1900 mg/m^3)

Measurement Methods (see Table 1):
NIOSH 1003

Physical Description: Colorless liquid with a mild, chloroform-like odor.

Chemical & Physical Properties:
MW: 133.4
BP: 165°F
Sol: 0.4%
Fl.P: ?
IP: 11.00 eV
Sp.Gr: 1.34
VP: 100 mmHg
FRZ: -23°F
UEL: 12.5%
LEL: 7.5%
Combustible Liquid, but burns with difficulty.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: N.R.

Respirator Recommendations (see Tables 3 and 4):
NIOSH/OSHA
700 ppm: Sa*/ScbaF
§: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv/ScbaE

Incompatibilities and Reactivities: Strong caustics; strong oxidizers; chemically-active metals such as zinc, aluminum, magnesium powders, sodium & potassium; water
[**Note:** Reacts slowly with water to form hydrochloric acid.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Ing, Con
SY: Irrit eyes, skin; head, lass, CNS depres, poor equi; derm; card arrhy; liver damage
TO: Eyes, skin, CNS, CVS, liver

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash prompt
Breath: Resp support
Swallow: Medical attention immed

M

Methylene chloride	Formula: CH_2Cl_2	CAS#: 75-09-2	RTECS#: PA8050000	IDLH: Ca [2300 ppm]
Conversion: 1 ppm = 3.47 mg/m^3	**DOT:** 1593 160			
Synonyms/Trade Names: Dichloromethane, Methylene dichloride				

Exposure Limits:	**Measurement Methods (see Table 1):**
NIOSH REL: Ca See Appendix A **OSHA PEL:** [1910.1052] TWA 25 ppm ST 125 ppm	**NIOSH** 1005, 3800 **OSHA** 59, 80

Physical Description: Colorless liquid with a chloroform-like odor. [**Note:** A gas above 104°F.]

Chemical & Physical Properties:	**Personal Protection/Sanitation (see Table 2):**	**Respirator Recommendations (see Tables 3 and 4):**
MW: 84.9 **BP:** 104°F **Sol:** 2% **Fl.P:** ? **IP:** 11.32 eV **Sp.Gr:** 1.33 **VP:** 350 mmHg **FRZ:** -139°F **UEL:** 23% **LEL:** 13% Combustible Liquid	**Skin:** Prevent skin contact **Eyes:** Prevent eye contact **Wash skin:** When contam **Remove:** When wet or contam **Change:** N.R. **Provide:** Eyewash Quick drench	**NIOSH** **¥:** ScbaF:Pd,Pp/SaF:Pd,Pp:AScba **Escape:** GmFOv/ScbaE See Appendix E (page 351)

Incompatibilities and Reactivities: Strong oxidizers; caustics; chemically-active metals such as aluminum, magnesium powders, potassium & sodium; concentrated nitric acid

Exposure Routes, Symptoms, Target Organs (see Table 5):	**First Aid (see Table 6):**
ER: Inh, Abs, Ing, Con **SY:** Irrit eyes, skin; lass, drow, dizz; numb, tingle limbs; nau; [carc] **TO:** Eyes, skin, CVS, CNS [in animals: lung, liver, salivary & mammary gland tumors]	**Eye:** Irr immed **Skin:** Soap wash prompt **Breath:** Resp support **Swallow:** Medical attention immed

P

Potassium cyanide (as CN)	Formula: KCN	CAS#: 151-50-8	RTECS#: TS8750000	IDLH: 25 mg/m^3 (as CN)
Conversion:	**DOT:** 1680 157 (solid); 3413 157 (solution)			

Synonyms/Trade Names: Potassium salt of hydrocyanic acid

Exposure Limits:
NIOSH REL*: C 5 mg/m^3 (4.7 ppm) [10-minute]
OSHA PEL*: TWA 5 mg/m^3
[***Note:** The REL and PEL also apply to other cyanides (as CN) except Hydrogen cyanide.]

Measurement Methods (see Table 1):
NIOSH 6010, 7904

Physical Description: White, granular or crystalline solid with a faint, almond-like odor.

Chemical & Physical Properties:
MW: 65.1
BP: 2957°F
Sol(77°F): 72%
Fl.P: NA
IP: NA
Sp.Gr: 1.55
VP: 0 mmHg (approx)
MLT: 1173°F
UEL: NA
LEL: NA
Noncombustible Solid, but contact with acids releases highly flammable hydrogen cyanide.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: Daily
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH/OSHA
25 mg/m^3: Sa/ScbaF
§: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFS100/ScbaE

Incompatibilities and Reactivities: Strong oxidizers (such as acids, acid salts, chlorates & nitrates)
[**Note:** Absorbs moisture from the air forming a syrup.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Abs, Ing, Con
SY: Irrit eyes, skin, upper resp sys; asphy; lass, head, conf; nau, vomit; incr resp rate, slow gasping respiration; thyroid, blood changes
TO: Eyes, skin, resp sys, CVS, CNS, thyroid, blood

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash immed
Breath: Resp support
Swallow: Medical attention immed

S

Sodium cyanide (as CN)	Formula: NaCN	CAS#: 143-33-9	RTECS#: VZ7525000	IDLH: 25 mg/m^3 (as CN)
Conversion:	DOT: 1689 157 (solid); 3414 157 (solution)			

Synonyms/Trade Names: Sodium salt of hydrocyanic acid

Exposure Limits:
NIOSH REL*: C 5 mg/m^3 (4.7 ppm) [10-minute]
OSHA PEL*: TWA 5 mg/m^3
[***Note:** The REL and PEL also apply to other cyanides (as CN) except Hydrogen cyanide.]

Measurement Methods (see Table 1):
NIOSH 6010, 7904

Physical Description: White, granular or crystalline solid with a faint, almond-like odor.

Chemical & Physical Properties:
MW: 49.0
BP: 2725°F
Sol(77°F): 58%
Fl.P: NA
IP: NA
Sp.Gr: 1.60
VP: 0 mmHg (approx)
MLT: 1047°F
UEL: NA
LEL: NA
Noncombustible Solid, but contact with acids releases highly flammable hydrogen cyanide.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: Daily
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH/OSHA
25 mg/m^3: Sa/ScbaF
§: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFS100/ScbaE

Incompatibilities and Reactivities: Strong oxidizers (such as acids, acid salts, chlorates & nitrates)
[**Note:** Absorbs moisture from the air forming a syrup.]

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Abs, Ing, Con
SY: Irrit eyes, skin; asphy; lass, head, conf; nau, vomit; incr resp rate; slow gasping respiration; thyroid, blood changes
TO: Eyes, skin, CVS, CNS, thyroid, blood

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash immed
Breath: Resp support
Swallow: Medical attention immed

Tetrachloroethylene	Formula: $Cl_2C=CCl_2$	CAS#: 127-18-4	RTECS#: KX3850000	IDLH: Ca [150 ppm]
Conversion: 1 ppm = 6.78 mg/m^3	DOT: 1897 160			

Synonyms/Trade Names: Perchlorethylene, Perchloroethylene, Perk, Tetrachlorethylene

Exposure Limits:
NIOSH REL: Ca
Minimize workplace exposure concentrations.
See Appendix A
OSHA PEL†: TWA 100 ppm
C 200 ppm (for 5 mins. in any 3-hr. period), with a maximum peak of 300 ppm

Measurement Methods (see Table 1):
NIOSH 1003
OSHA 1001

Physical Description: Colorless liquid with a mild, chloroform-like odor.

Chemical & Physical Properties:
MW: 165.8
BP: 250°F
Sol: 0.02%
Fl.P: NA
IP: 9.32 eV
Sp.Gr: 1.62
VP: 14 mmHg
FRZ: -2°F
UEL: NA
LEL: NA
Noncombustible Liquid, but decomposes in a fire to hydrogen chloride and phosgene.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: N.R.
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv/ScbaE

Incompatibilities and Reactivities: Strong oxidizers; chemically-active metals such as lithium, beryllium & barium; caustic soda; sodium hydroxide; potash

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Abs, Ing, Con
SY: Irrit eyes, skin, nose, throat, resp sys; nau; flush face, neck; dizz, inco; head, drow; skin eryt; liver damage; [carc]
TO: Eyes, skin, resp sys, liver, kidneys, CNS [in animals: liver tumors]

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash prompt
Breath: Resp support
Swallow: Medical attention immed

T

Trichloroethylene	Formula: $ClCH=CCl_2$	CAS#: 79-01-6	RTECS#: KX4550000	IDLH: Ca [1000 ppm]
Conversion: 1 ppm = 5.37 mg/m^3	**DOT:** 1710 160			
Synonyms/Trade Names: Ethylene trichloride, TCE, Trichloroethene, Trilene				

Exposure Limits:
NIOSH REL: Ca
See Appendix A
See Appendix C
OSHA PEL†: TWA 100 ppm
C 200 ppm
300 ppm (5-minute maximum peak in any 2 hours)

Measurement Methods (see Table 1):
NIOSH 1022, 3800
OSHA 1001

Physical Description: Colorless liquid (unless dyed blue) with a chloroform-like odor.

Chemical & Physical Properties:
MW: 131.4
BP: 189°F
Sol: 0.1%
Fl.P: ?
IP: 9.45 eV
Sp.Gr: 1.46
VP: 58 mmHg
FRZ: -99°F
UEL(77°F): 10.5%
LEL(77°F): 8%
Combustible Liquid, but burns with difficulty.

Personal Protection/Sanitation (see Table 2):
Skin: Prevent skin contact
Eyes: Prevent eye contact
Wash skin: When contam
Remove: When wet or contam
Change: N.R.
Provide: Eyewash
Quick drench

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFOv/ScbaE

Incompatibilities and Reactivities: Strong caustics & alkalis; chemically-active metals (such as barium, lithium, sodium, magnesium, titanium & beryllium)

Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Abs, Ing, Con
SY: Irrit eyes, skin; head, vis dist, lass, dizz, tremor, drow, nau, vomit; derm; card arrhy, pares; liver inj; [carc]
TO: Eyes, skin, resp sys, heart, liver, kidneys, CNS [in animals: liver & kidney cancer]

First Aid (see Table 6):
Eye: Irr immed
Skin: Soap wash prompt
Breath: Resp support
Swallow: Medical attention immed

T

Vinyl chloride	Formula: CH_2=CHCl	CAS#: 75-01-4	RTECS#: KU9625000	IDLH: Ca [N.D.]
Conversion: 1 ppm = 2.56 mg/m^3	**DOT:** 1086 116P (inhibited)			

Synonyms/Trade Names: Chloroethene, Chloroethylene, Ethylene monochloride, Monochloroethene, Monochloroethylene, VC, Vinyl chloride monomer (VCM)

Exposure Limits:
NIOSH REL: Ca
See Appendix A
OSHA PEL: [1910.1017] TWA 1 ppm
C 5 ppm [15-minute]

Measurement Methods (see Table 1):
NIOSH 1007
OSHA 4, 75

Physical Description: Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations. [**Note:** Shipped as a liquefied compressed gas.]

Chemical & Physical Properties:
MW: 62.5
BP: 7°F
Sol(77°F): 0.1%
Fl.P: NA (Gas)
IP: 9.99 eV
RGasD: 2.21
VP: 3.3 atm
FRZ: -256°F
UEL: 33.0%
LEL: 3.6%
Flammable Gas

Personal Protection/Sanitation (see Table 2):
Skin: Frostbite
Eyes: Frostbite
Wash skin: N.R.
Remove: When wet (flamm)
Change: N.R.
Provide: Frostbite wash

Respirator Recommendations (see Tables 3 and 4):
NIOSH
¥: ScbaF:Pd,Pp/SaF:Pd,Pp:AScba
Escape: GmFS/ScbaE

See Appendix E (page 351)

Incompatibilities and Reactivities: Copper, oxidizers, aluminum, peroxides, iron, steel [**Note:** Polymerizes in air, sunlight, or heat unless stabilized by inhibitors such as phenol. Attacks iron & steel in presence of moisture.]

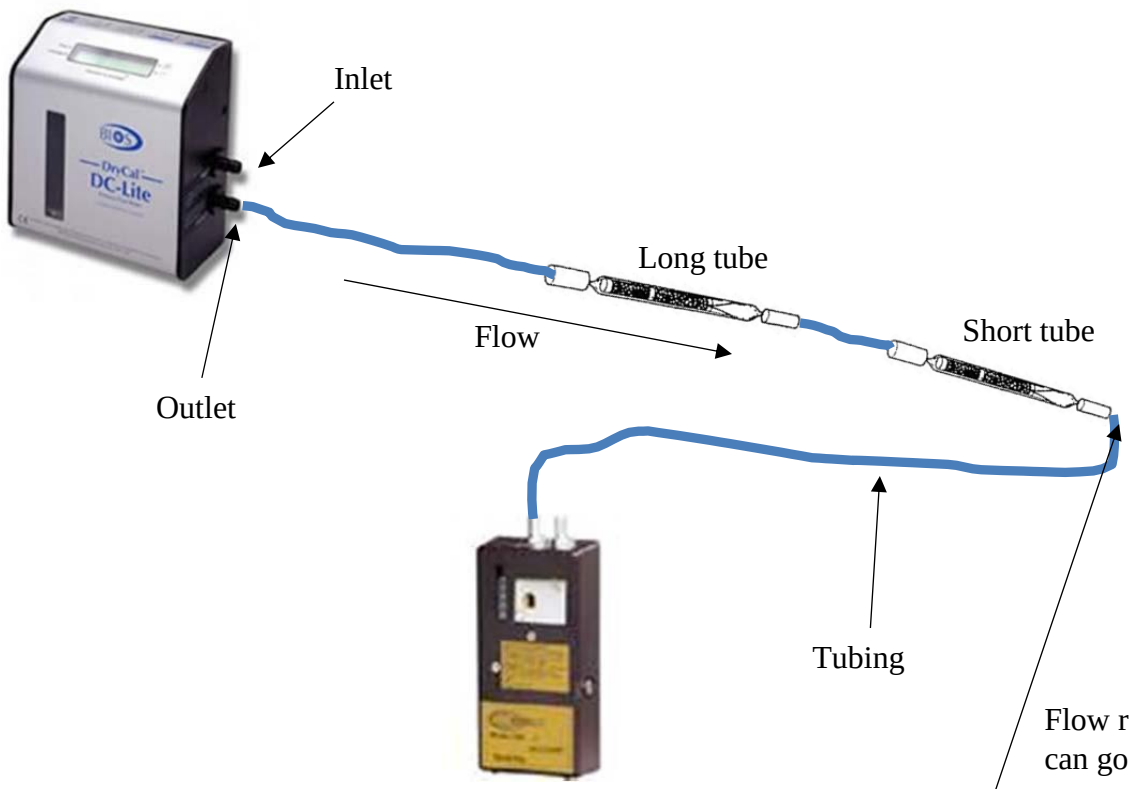
Exposure Routes, Symptoms, Target Organs (see Table 5):
ER: Inh, Con (liquid)
SY: Lass; abdom pain, GI bleeding; enlarged liver; pallor or cyan of extremities; liquid: frostbite; [carc]
TO: Liver, CNS, blood, resp sys, lymphatic sys [liver cancer]

First Aid (see Table 6):
Eye: Frostbite
Skin: Frostbite
Breath: Resp support

APPENDIX

C PERSONAL SAMPLING PUMP PROCEDURES

Vinyl Chloride Calibration Setup



Flow restrictor can go here if you need to adjust flow farther down that set screw will allow.

Sample Tube Placement

Place tape here to secure the tubing and sample tube.

Sample pump on belt or waist band

VINYL CHLORIDE 1007

CH_2=CHCl MW: 62.50 CAS: 75-01-4 RTECS: KU9625000

METHOD: 1007, Issue 2 **EVALUATION: FULL** **Issue 1: 15 February 1984**
Issue 2: 15 August 1994

OSHA : 1 ppm; C 5 ppm
NIOSH: lowest feasible; carcinogen
ACGIH: 5 ppm; carcinogen
(1 ppm = 2.56 mg/m^3 @ NTP)

PROPERTIES: BP -14 °C; vapor density 2.2 (air = 1); lower explosive limit = 4% v/v in air

SYNONYMS: chloroethylene; chloroethethene.

SAMPLING

SAMPLER: SOLID SORBENT TUBE (2 tandem tubes, each with 150 mg activated coconut charcoal)

FLOW RATE: 0.05 L/min

VOL-MIN: 0.7 L
-MAX: 5 L

SHIPMENT: separate primary and backup tubes and cap each

SAMPLE STABILITY: 10 days @ 25 °C

BLANKS: 2 to 10 field blanks per set

ACCURACY

RANGE STUDIED: 1 to 64 mg/m^3 [1]

BIAS: - 6%

OVERALL PRECISION ($\hat{S}_{rT}$): 0.06 [1]

ACCURACY: ± 17.8%

MEASUREMENT

TECHNIQUE: GAS CHROMATOGRAPHY, FID

ANALYTE: vinyl chloride

DESORPTION: 1 mL carbon disulfide; 30 min

INJECTION ALIQUOT: 5 µL

COLUMN: stainless steel, 6.1 m x 3.2 mm, 10% SE-30 on 80/100 mesh Chromosorb W (AW-DMCS)

CARRIER GAS: He, 40 mL/min

TEMPERATURE-INJECTOR: 230 °C
-DETECTOR: 230 °C
-COLUMN: 60 °C

CALIBRATION: solutions of vinyl chloride in CS_2

RANGE: 2 to 200 µg per sample [1]

ESTIMATED LOD: 0.04 µg per sample [1]

PRECISION ($\hat{S}_r$): not determined

APPLICABILITY: The working range is 0.4 to 40 mg/m^3 (0.16 to 16 ppm) for a 5-L air sample. The method is applicable to 15-min samples at concentrations of 1 ppm or higher.

INTERFERENCES: Other than the possibility of loss of sample upon storage of two weeks or more at room temperature, none have been noted.

OTHER METHODS: This is a revision of P&CAM 178 [2].

REAGENTS:

1. Carbon disulfide,* chromatographic quality.
2. Vinyl chloride,*, 99.9%, in lecture bottle fitted with valve and septum.
3. Calibration stock solutions 0.26 mg/mL.
   a. Insert the tip of a gas syringe containing 1 mL vinyl chloride gas under the surface of 5 mL CS_2 in a 10-mL volumetric flask.
   b. Open the valve of the syringe and withdraw the plunger to pull CS_2 into the barrel. (As vinyl chloride dissolves, a vacuum will be created, pulling CS_2 into the syringe.)
   c. Push the solution from the syringe into the flask. Rinse the syringe twice with 1-mL portions of CS_2 and add the washings to the flask.
   d. Dilute to the mark with CS_2.
4. Helium, purified.
5. Hydrogen, purified.
6. Air, filtered.

* See SPECIAL PRECAUTIONS.

EQUIPMENT:

1. Sampler: two tandem glass tubes, 7 cm long, 6-mm OD, 4-mm ID, flame-sealed ends, each containing 150 mg of 20/40 mesh activated (600 °C) coconut shell charcoal. A silylated glass wool plug precedes the charcoal beds and a 3-mm urethane foam plug follows the charcoal beds. Plastic caps are included for sealing after use. Pressure drop across each tube at 1 L/min airflow must be less than 3.4 kPa.
   NOTE: A pair of two-section (100 mg/50 mg) tubes may be used. (SKC ST226-01, or equivalent).
2. Personal sampling pump, 0.05 L/min, with flexible connecting tubing.
3. Gas chromatograph, flame ionization detector, integrator and column (page 1007-1).
4. File.
5. Bent wire for removing plugs from sampling tube.
6. Vials, 2-mL, glass with PTFE-lined septa and crimp-on seals.
7. Volumetric flasks, 10-mL, with polyethylene stoppers.
8. Pipettes, delivery, 1.0-mL, graduated in 0.1-mL increments, 2- and 5-mL, with pipet bulb.
9. Air sampling bags, Tedlar, 10-L.
10. Gas syringe, with gas-tight valve, 0.1- and 1-mL.
11. Syringe, 10-µL, with 0.1-µL graduations.

SPECIAL PRECAUTIONS: Carbon disulfide is toxic and an acute fire and explosion hazard (flash point = -30 °C); work with it only in a hood.

Vinyl chloride is a human carcinogen [3].

SAMPLING:

1. Calibrate each personal sampling pump with a representative sampler in line.
2. Break the ends of the tubes immediately before sampling. Attach two tubes, with ends touching, with a short piece of tubing. Label one tube as the back tube and insert the back tube into the flexible tubing attached to the personal sampling pump.
3. Sample at 0.05 L/min for 15 to 100 min. Do not sample more than 5 L of air.
4. Separate the primary and backup tubes and cap each tube for shipment.

SAMPLE PREPARATION:

5. Add 1.0 mL CS_2 to an empty vial. Loosely cap the vial.
6. Score each sampler tube with a file in front of the glass wool plug. Break the tube at the score line.
7. Transfer the charcoal from the front and back tubes to separate vials. Discard the glass wool and foam plugs. Seal the vials with septum caps immediately.
8. Allow to stand for 30 min, with occasional agitation. Analyze the sample within the next 30-min period.

CALIBRATION AND QUALITY CONTROL:

9. Calibrate with at least six working standards covering the range 0.2 to 200 µg per sample.
   a. Add known amounts of calibration stock solution to CS_2 in 10-mL volumetric flasks and dilute to the marks, using serial dilution as appropriate.
      NOTE: Working standards can be stored at -20 °C for at least three days.
   b. Analyze together with samples and blanks (steps 12 and 13).
   c. Prepare calibration graphs of peak area vs. quantity (µg) of vinyl chloride per tube and peak area vs. quantity (ng) per injection.
10. Determine desorption efficiency (DE) at least once for each lot of charcoal used in the calibration range (step 9). Prepare three tubes at each of five levels plus three media blanks.
   a. Prepare three atmospheres of vinyl chloride in air by injecting 0.01, 0.08, and 0.2 mL vinyl chloride gas into 10 L air in Tedlar bags. The resulting concentrations are approximately 2.6, 21 and 52 mg/m^3.
   b. Following steps 1 through 4, sample these atmospheres according to the following scheme:

Concentration in Bag (mg/m^3)	Volume Sampled (L)	Quantity of Vinyl Chloride (µg)
2.6	0.8	2
	2.2	6
21	0.8	17
	2.2	46
52	2.5	130

      Obtain three samples at each level.
   c. Desorb (steps 6 through 8) and analyze together with working standards (steps 12 and 13). No vinyl chloride should be found on the back tubes.
   d. Analyze the atmospheres in the bags (steps 12 and 13) using 1-mL gas samples to verify concentration.
   e. Prepare a graph of DE vs. µg of vinyl chloride recovered.
11. Analyze three quality control blind spikes and three analyst spikes to ensure that the calibration graph and DE graph are in control.

MEASUREMENT:

12. Set the gas chromatograph according to manufacturer's instructions and to conditions given on page 1007-1. Inject sample aliquot manually using solvent flush technique or with autosampler. The retention time of vinyl chloride is about 1.7 min.
    NOTE: If peak area is above the linear range of the working standards, dilute with CS_2, reanalyze and apply the appropriate dilution factor in calculations.
13. Measure peak area.

CALCULATIONS:

14. Determine the mass, µg (corrected for DE) of vinyl chloride found in the sample front (W_f) and back (W_b) tubes, and in the average media blank (B).
    NOTE: If $W_b > W_f/10$, report breakthrough and possible sample loss.
15. Calculate concentration, C, of vinyl chloride in the air volume sampled, V (L):

$$C = \frac{(W_f + W_b - 2B)}{V}, \text{ mg/m}^3.$$

EVALUATION OF METHOD:

The method was evaluated with single 150-mg coconut shell charcoal tubes (100-mg front beds and 50-mg back) [1]. Atmospheres were generated at four concentrations between 1 and 64 mg/m^3. Recoveries, based on atmosphere concentrations calculated from the volumes of vinyl chloride and dilution air, averaged 94% with a pooled relative standard deviation ($\hat{S}_{rT}$) of 0.06. Samples at the 3-µg level showed no loss of vinyl chloride when stored for 12 days at room temperature or 19 days at -20 °C. There may be significant loss of vinyl chloride from samples stored for 14 days at room temperature [4]. The 1% breakthrough capacity for a 150-mg bed of coconut charcoal, challenged at 100 mL/min with vinyl chloride in air at 16 mg/m^3 and a relative humidity of 70%, was 4.6 L [5].

REFERENCES:

[1] Hill, R. H., Jr., C. S. McCammon, A. T. Saalwaechter, A. W. Teass, and W. J. Woodfin. Anal. Chem., 48, 1395-1398 (1976).
[2] NIOSH Manual of Analytical Methods, 2nd. ed., V. 1, P&CAM 178, U.S. Department of Health and Human Services, Publ. (NIOSH) 77-157-A (1977).
[3] TLVs - Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment 1993-94, ACGIH, Cincinnati, OH (1993).
[4] Cuddeback, J. E., W. R. Burg, and S. R. Birch, Environ. Sci. Technol., 9, 1168-1171 (1975).
[5] Matsumura, Y. Ind. Health, 18, 61-67 (1980).

METHOD WRITTEN BY:

A. W. Teass, Ph.D., NIOSH/DBBS.

VINYL CHLORIDE

Method no.:	75
Matrix:	Air
Target concentration:	1.0 ppm (2.56 mg/m^3) OSHA PEL
Procedure:	Air samples are collected by drawing known volumes of air through glass sampling tubes containing Carbosieve S-III (carbon based molecular sieve) adsorbent. Samples are desorbed with a mixture of 99:1 (v/v) carbon disulfide (CS_2)/dimethylformamide (DMF) in the presence of magnesium sulfate. Samples are analyzed by GC using a flame ionization detector.
Recommended air volume and sampling rate:	3 L at 0.05 L/min
Reliable quantitation limit:	0.020 ppm (0.051 mg/m^3)
Standard error of estimate at the target concentration: (Section 4.7)	6.70%
Special requirements:	Samples are to be stored at reduced temperature after they have been received at the analytical laboratory.
Status of method:	Evaluated method. This method has been subjected to the established evaluation procedures of the Organic Methods Evaluation Branch.

Date: April 1989

Chemist: Donald Burright

Organic Methods Evaluation Branch
OSHA Analytical Laboratory
Salt Lake City, Utah

1. General Discussion

1.1 Background

1.1.1 History

In the past, the procedure for monitoring the employee's exposure required that two standard size charcoal tubes, each containing a total of 150 mg of activated charcoal, be used in series for 20 min at 0.05 L/min. The analysis for vinyl chloride was performed on a GC equipped with a flame ionization detector. (Refs. 5.2 and 5.3)

To eliminate the inconvenience of using two sampling tubes in series, a Carbosieve S-III tube containing 130 mg in the front section and 65 mg in the back section is recommended in this method. This sampling tube also reduces the migration of vinyl chloride during storage to the back section.

Several capillary columns were tested to replace the column packed with SE-30 on Supelcoport that had been used for many years to analyze for vinyl chloride. None of the new capillary columns had as much flexibility to move the vinyl chloride peak as a column packed with SP-1000 on Carbopack B. The ability to move a peak by varying the analytical conditions is important if another compound interferes with the quantification of vinyl chloride.

1.1.2 Toxic effects (This section is for information only and should not be taken as the basis of OSHA policy.)

The following information is quoted from a monograph from the International Agency for Research on Cancer.

> Vinyl chloride is a human carcinogen. Its target organs are the liver, brain, lung and hemo-lymphopoietic system. Similar carcinogenic effects were first demonstrated in rats and were later confirmed in mice and hamsters. Although evidence of a carcinogenic effect of vinyl chloride in humans has come from groups occupationally exposed to high doses of vinyl chloride, there is no evidence that there is an exposure level below which no increased risk of cancer would occur in humans.
>
> Epidemiological reports regarding clastogenic effects among vinyl chloride-exposed workers and a single study of increased fetal mortality among the wives of workers who had been exposed to vinyl chloride suggest that vinyl chloride could be mutagenic to humans. Additional support for this suggestion derives from experimental evidence of its mutagenicity. (Ref. 5.4)

OSHA's health standards for exposure to air contaminants require that an employee's exposure to vinyl chloride not exceed an 8-h time-weighted average of 1.0 ppm (2.56 mg/m^3) in workplace air. During any work shift, an employee's exposure may not exceed a ceiling concentration limit of 5 ppm (12.8 mg/m^3), averaged over any period not to exceed 15 min. (Ref. 5.1)

1.1.3 Workplace exposure

Since vinyl chloride is a gas at room temperature and pressure, the common route of toxic exposure is by inhalation. As with many liquidified gases, contact of the skin or eyes with escaping compressed vinyl chloride can produce freezing frostbite. (Ref. 5.5) An undetermined number of workers are potentially exposed in the workplace to vinyl chloride.

In 1976, over 95% of the vinyl chloride used in the United States was for the production of vinyl chloride homopolymer and copolymer resins. The largest use of polyvinyl chloride resins is in the production of plastic piping and conduit. Other important uses are in floor coverings, in consumer goods, in electrical applications and in transportation applications. (Ref. 5.4) In 1981, over 3 million tons of vinyl chloride were produced in the United States which had a production capacity of 4.4 million tons. (Ref. 5.6)

1.1.4 Physical properties and other descriptive information (Ref. 5.6, unless otherwise stated)

CAS no.:	75-01-4
molecular weight:	62.50

molecular formula:	C_2H_3Cl
melting point:	-153.8°C
boiling point:	-13.4°C
vapor pressure:	164 kPa (1230 mm Hg) at 0°C 337 kPa (2530 mm Hg) at 20°C (Ref. 5.4)
vapor density:	2.2 (air = 1) (Ref. 5.4)
specific gravity:	0.969 at -14.2/4°C
flash point:	-77.75°C (open cup) -78°C (closed cup) (Ref. 5.4)
explosive limit:	4-22%
self-ignition temperature:	472°C
solubility:	slightly soluble in water; soluble in hydrocarbons, oils, chlorinated solvents, and most common organic liquids
synonyms:	chloroethylene; chloroethene; ethylene monochloride; VC; VCM
structural formula:	

The analyte air concentrations throughout this method are based on the recommended sampling and analytical parameters. Air concentrations listed in ppm are referenced to 25°C and 760 mm Hg.

1.2 Limit defining parameters

1.2.1 Detection limit of the analytical procedure

The detection limit of the analytical procedure is 0.760 ng per injection. This is the amount of analyte which gave a vinyl chloride peak whose height is about 9 times the height of a trace contaminant peak. (Section 4.1)

1.2.2 Detection limit of the overall procedure

The detection limit of the overall procedure is 0.152 µg per sample (0.051 mg/m^3 or 0.020 ppm). This is the amount of analyte spiked on the sampling device which allows recovery of an amount equivalent to the detection limit of the analytical procedure. (Section 4.2)

1.2.3 Reliable quantitation limit

The reliable quantitation limit is 0.152 µg per sample (0.051 mg/m^3 or 0.020 ppm). This is the smallest amount of analyte spiked on the sampling device which can be quantitated within the requirements of a recovery of at least 75% and a precision (±1.96 SD) of ±25% or better. (Section 4.3)

The reliable quantitation limit and detection limits reported in the method are based upon optimization of the instrument for the smallest possible amount of the analyte. When the target concentration of the analyte is exceptionally higher than these limits, they may not be attainable at the routine operating parameters.

1.2.4 Instrument response to the analyte

The instrument response over the concentration range of 0.43 to 2 times the target concentration is linear. (Section 4.4)

1.2.5 Recovery

The recovery of vinyl chloride from samples used in the 15-day storage test remained above 103.8% when the samples were stored in a refrigerator at about 4°C. (Section 4.5) The recovery of an analyte from the collection medium during storage must be 75% or greater.

1.2.6 Precision (analytical procedure only)

The pooled coefficient of variation obtained from replicate injections of analytical standards at 0.43, 1 and 2 times the target concentration is 0.011. (Section 4.6)

1.2.7 Precision (overall procedure)

The precision at the 95% confidence level for the refrigerated 15-day storage test is ±13.1%. (Section 4.7) This includes an additional ±5% for sampling error. The overall procedure must provide results at the target concentration that are ±25% or better at the 95% confidence level.

1.2.8 Reproducibility

Six samples, spiked with vinyl chloride, and a draft copy of this procedure were given to a chemist unassociated with this evaluation. The samples were analyzed after 1 day of storage at about 22°C. No individual sample result deviated from its theoretical value by more than the precision reported in Section 1.2.7. (Section 4.8)

1.3 Advantages

1.3.1 This sampling procedure has improved storage stability over existing coconut shell charcoal samplers due to the lower migration rate to the back section.

1.3.2 The recommended air volume has been increased to 3 L over the old procedtire's 1-L air volume. This allows for fewer samples to taken and results in lower costs.

1.4 Disadvantages

1.4.1 Currently the Carbosieve S-III tube is commercially available only by special order from Supelco Inc.

1.4.2 The fine mesh size of Carbosieve S-III (60/80) results in a greater pressure drop across the sample tube than occurs with the conventional coconut shell charcoal sampling tube. This results in the need for the 0.05 L/min sampling rate.

2. Sampling Procedure

2.1 Apparatus

2.1.1 Samples are collected by use of a personal sampling pump that can be calibrated to within ±5% of the recommended flow rate with the sampling device attached.

2.1.2 Samples are collected on 4-mm i.d. × 6-mm o.d. × 70 mm sampling tubes packed with two sections of 60/80 mesh Carbosieve S-III. The tubes are packed with 130 mg and 65 mg of adsorbent in the front and back sections respectively. Silanized glass wool plugs are used in the middle and at both ends of the tube to separate and contain the two sections. The sampling tubes are sealed with 7/32 in. plastic caps.

2.2 Reagents

No sampling reagents are required.

2.3 Sampling technique

2.3.1. Attach the sampling device to the sampling pump with plastic tubing such that the large front section of the sampling tube is exposed directly to the atmosphere. Do not place any tubing in front of the sampler. Attach the sampler vertically in the worker's breathing zone in such a manner that it does not impede work performance or safety.

2.3.2 After sampling for the appropriate time, remove the sampling device and seal the tube with plastic end caps. Wrap each sample end-to-end with a Form OSHA-21 seal.

2.3.3 With each set of samples submit at least one blank sample. Handle the blank sample in the same manner as the other samples except draw no air through it.

2.4 Sampler capacity

The sampling capacity of the front section of a Carbosieve S-III sampling tube was determined by sampling a test atmosphere of 2.57 ppm (6.57 mg/m^3) vinyl chloride at ambient temperature and 81% relative humidity. The sampling rate was 0.05 L/min. The 5% breakthrough air volume was

5.3 L. The breakthrough for each air volume tested (2.5 - 8.5 L) was determined by dividing the amount found on the back section by the amount found on the entire tube. (Section 4.9)

2.5 Desorption efficiency

2.5.1 The average desorption efficiency for vinyl chloride over the range of 0.43 to 2 times the target concentration from Carbosieve S-III adsorbent was 100.0%. (Section 4.10)

2.5.2 Desorbed samples, after 24 h, show a loss of about 12.6%. (Section 4.10)

2.6 Recommended air volume and sampling rate

2.6.1 The recommended air volume is 3 L.

2.6.2 The recommended air sampling rate is 0.05 L/min.

2.6.3 When short-term air samples are required, the reliable quantitation limit for a 15-min sample is 0.24 ppm (0.63 mg/m^3) at the recommended sampling rate.

2.7 Interferences (sampling)

Suspected interferences should be reported to the laboratory with submitted samples.

2.8 Safety precautions (sampling)

2.8.1 The sampling equipment should be attached to the worker in such a manner that it will not interfere with work performance or safety.

2.8.2 All safety practices that apply to the work area being sampled should be followed.

3. Analytical Procedure

3.1 Apparatus

3.1.1 A GC equipped with a flame ionization detector (FID). For this evaluation a Hewlett-Packard 5890 Cas Chromatograph equipped with a 7673A Autosampler and an FID was used.

3.1.2 A GC column capable of separating the vinyl chloride peak from potential interferences. A 10-f t × 1/4-in. o.d. × 2-mm i.d. glass column packed with 1% SP-1000 on 60/80 Carbopack B (Supelco Inc.) was used in this evaluation.

3.1.3 An electronic integrator or other suitable means of measuring detector response. A Hewlett-Packard 5895A GC Chem-Station was used in this evaluation.

3.1.4 Two-milliliter vials with PTFE-lined caps were used for sample desorption and standard preparation.

3.2 Reagents

3.2.1 Vinyl chloride. The vinyl chloride used in this evaluation to prepare standards was 99.9% pure. The concentration of the vinyl chloride cylinder used to generate a dynamic test atmosphere was 101 ppm in nitrogen. Both tanks were purchased from Alphagaz Liquid Air (Walnut Creek, CA).

3.2.2 Carbon disulfide. Reagent grade or better CS_2 should be used. In this evaluation, benzene-free CS_2 was used. The CS_2 had been passed through Molecular Sieve 13X (45/60 mesh) to remove the benzene contamination. Fifty grams of molecular sieve will remove the benzene from 1 L of carbon disulfide.

3.2.3 Dimethylformamide Reagent grade or better should be used.

3.2.4 Magnesium sulfate, anhydrous powder, is used as a drying agent. The magnesium sulfate used in this evaluation was purchased from Aldrich Chemical (Milwaukee, WI).

3.2.5 Desorbing solution. This consists of a solution of 99:1 (v/v) benzene-free CS_2/dimethylformamide. An internal standard such as n-heptane can be used.

3.2.6 n-Heptane. This was used as the internal standard in the desorbing solution. The solution is prepared by adding 5 µL of n-heptane to 1 L of desorbing solution. The n-heptane was purchased from Burdick & Jackson (Muskegon, MI).

3.3 Standard preparation

3.3.1 Prepare analytical standards by injecting microliter amounts of pure vinyl chloride gas into capped 2-mL vials containing 130 mg of Carbosieve S-III adsorbent. Force the vinyl chloride gas from the syringe with the opening of the needle under the adsorbent. A standard containing 7.69 µg/mL (at 23°C and 650 mm Hg) could be prepared by injecting 3.5 µL of vinyl chloride onto the adsorbent.

Analytical standards can also be prepared by bubbling vinyl chloride gas from a syringe into a vial containing desorbing solution. This procedure was used to determine the desorption efficiency and was not used for the rest of the tests.

3.3.2 The mass of vinyl chloride gas which was used to prepare standards can be determined by use of the following equations:

MV = (22.41)(760/BP)(273+T)/(273)

where MV = ambient molar volume, L/mole
BP ambient barometric pressure, mmHg
T = ambient temperature, °C
µg/µL = 62.50/MV

µg = (µg/µL)(µL of vinyl chloride injected)(purity)

3.3.3 Wait for 30 min and uncap the vial. Add 1.0 mL of desorbing solution to the vial and immediately recap it.

3.3.4 Shake the vials vigorously by hand several times during the next 30 min.

3.3.5 Prepare at least three standards to generate a calibration curve. Ensure that the amount of vinyl chloride found in the samples is within the range of the standards. Prepare additional standards if necessary.

3.4 Sample preparation

3.4.1 Remove the plastic caps from the sample tube and carefully transfer each section of the adsorbent to separate vials.

3.4.2 Add approximately 150 mg of anhydrous magnesium sulfate powder to each sample.

3.4.3 Add 1.0 mL of desorbing solution to each vial and seal the vials with PTFE-lined caps.

3.4.4 Shake the vials vigorously by hand several times during the next 30 min.

3.5 Analysis

3.5.1 Analytical conditions

GC conditions

temperatures:	40°C (column) 200°C (injector) 220°C (detector)
temp program:	hold initial temp 1.0 min, increase temp at 5°C/min to 60°C, then increase temp at 50°C/min to 240°C, hold temp for 10 min
column gas flow:	30 mL/min (nitrogen) septum
purge:	1.5 mL/min (nitrogen)
injection size:	5.0 µL

column: 10-ft × 1/4-in. o.d. × 2-mm i.d. glass column containing 1% SP-1000 on 60/80 mesh Carbopack B
retention times: 4.8 min (vinyl chloride) 15.5 min (n-heptane)

FID conditions

hydrogen flow: 30 mL/min
air flow: 450 mL/min

chromatogram: Figure 3.5.1

3.5.2 Measure detector response using a suitable method such as electronic integration.

3.5.3 Use an internal standard (ISTD) procedure to prepare a calibration curve using several freshly prepared standards over a range of concentrations. Bracket the samples with analytical standards.

3.6 Interferences (analytical)

3.6.1 Any compound having a similar retention time as the analyte is a potential interference. Generally, chromatographic conditions can be altered to separate an interference from the analyte.

3.6.2 Retention time on a single column is not proof of chemical identity. Analysis by an alternate GC column or confirmation by mass spectrometry are additional means of identification.

3.7 Calculations

3.7.1 When an ISTD method is used, the vinyl chloride concentration of an analytical standard is determined by the following equation.

$$C_a = (A_a)(R_a)(C_i)/(A_i)(R_i)$$

where C = concentration
A = area or peak height
R = response factor
a = analyte
i = internal standard

3.7.2 Prepare calibration curves by plotting the vinyl chloride concentration determined from an ISTD method versus the theoretical analytical standard concentrations. Determine the best-fit line through the data points.

3.7.3 Determine the concentration of a sample by comparing its concentration determined by the ISTD method to the calibration curve. Perform blank corrections for each section before adding the results together. Add any amount of vinyl chloride found on the back section to the amount found on the front section.

3.7.4 The air concentration of vinyl chloride can be expressed in mg/m^3 by using the following equation:

$$mg/m^3 = (A)(B)/(C)$$

where A = µg/mL of vinyl chloride from Section 3.7.2
B = desorption volume (1 mL)
C = liters of air sampled

No desorption correction is required because standards are prepared in the presence of Carbosieve S-III adsorbent.

3.7.5. Convert vinyl chloride results in mg/m^3 to ppm using the following equation:

$$ppm = (mg/m^3)(24.46)/(62.50)$$

where mg/m^3= results from 3.7.3
24.46= molar volume at 760 mm Hg and 25°C

62.50= molecular weight of vinyl chloride

3.8 Safety precautions (analytical)

3.8.1 CAUTION. VINYL CHLORIDE IS OR SHOULD BE CONSIDERED CARCINOGENIC TO HUMANS. Restrict use of pure compounds and concentrated standards to regulated areas. Avoid skin contact and inhalation of all chemicals.

3.8.2 Restrict the use of all chemicals to a fume hood if possible.

3.8.3 Wear safety glasses and a lab coat at all times while in the laboratory areas.

4. Backup Data

4.1 Detection limit of the analytical procedure

The detection limit of the analytical procedure is 0.760 ng per injection, based on a 5.0-µL injection of a 0.152 µg/mL standard. This amount produced a vinyl chloride peak whose height is about 9 times the height of a trace contaminant peak in the chromatogram. A chromatogram of the detection limit of the analytical procedure is shown in Figure 4.1.

4.2 Detection limit of the overall procedure

The detection limit of the overall procedure is 0.152 µg per sample (0.051 mg/m^3 or 0.020 ppm). The injection size recommended in the analytical procedure (5.0 µL) was used in the determination of the detection limit of the overall procedure. Eight vials containing 130 mg of Carbosieve S-III resin were spiked with a syringe containing 0.152 µg of pure vinyl chloride gas. The samples were desorbed about 1 h after being spiked.

Table 4.2
Detection Limit of the Overall Procedure

sample number	theoretical amount µg	amount recovered µg
1	0.152	0.128
2	0.152	0.146
3	0.152	0.157
4	0.152	0.129
5	0.152	0.147
6	0.152	0.119
7	0.152	0.155
8	0.152	0.118

4.3 Reliable quantitation limit data

The reliable quantitation limit is 0.152 µg per sample (0.051 mg/m^3 or 0.020 ppm). The injection size recommended in the analytical procedure (5.0 µL) was used in the determination of the reliable quantitation limit. Eight vials containing 130 mg of Carbosieve S-III resin were vapor-spiked with 0.152 µg of vinyl chloride. Because the recovery of vinyl chloride from the spiked samples was greater than 75% and had a precision of ±25 or better, the detection limit of the overall procedure and reliable quantitation limit are the same.

Table 4.3
Reliable Quantitation Limit
(Based on samples and data of Table 4.2)

percent recovered	statistics
84.2	
96.1	$\bar{X}$ = 90.4
103.3	SD = 10.4
84.9	Precision = (1.96)(±10.4)
96.7	= ±20.4
78.3	
102.0	
77.6	

4.4 Instrument response to vinyl chloride

The instrument response to vinyl chloride over the range of 0.43 to 2 times the target concentration is linear with a slope of 322 area counts per microgram per milliliter. The precision of the response to vinyl chloride was determined by multiple injections of vinyl chloride standards. The data below is presented graphically in Figure 4.4.

Table 4.4
Instrument Response to Vinyl Chloride

× target concn µg/sample	0.43× 3.32	1× 7.75	2× 15.51
area counts	975.3	2444.4	4899.4
	963.3	2440.1	4962.5
	961.8	2419.5	4939.7
	962.5	2416.2	4854.8
	955.3	2374.2	4851.1
	946.9	2374.5	4840.8
$\bar{X}$	960.9	2411.5	4891.4

4.5 Storage data

Forty-eight storage samples were collected by sampling a dynamic-ally generated atmosphere containing 4.95 mg/m^3 or 1.94 ppm of vinyl chloride and 81% relative humidity for 30 min at 0.05 L/min. One-half of the tubes was stored in a refrigerator (4°C) and the other half was stored in a closed drawer at ambient temperature (about 22°C). At 2-4 day intervals, four samples were selected from each of the two storage sets and analyzed. The results are listed below and shown graphically in Figures 4.5.1 and 4.5.2.

Table 4.5
Storage Test

storage time (days)	% recovery (ambient)				% recovery (refrigerated)			
0	110.9	108.5	106.8	110.4	110.9	108.5	106.8	110.4
	106.7	108.1	109.2	100.1	106.7	108.1	109.2	100.1
2	101.1	98.8	101.3	101.3	97.2	96.4	96.2	101.3
6	103.1	101.5	100.9	102.1	103.7		101.4	102.8
9	105.3	101.6	106.4	107.7	112.0	110.4	107.5	106.8
12	103.0	102.3	101.6	13.3	101.7	103.6	104.8	101.5
15	100.5	103.8	102.7	102.8	101.6	102.8	105.6	102.9

The analysis of the back sections of the samples generated for the storage test indicate that the samples do not have to be shipped at reduced temperature but should be stored at reduced temperature because the vinyl chloride starts to migrate to the back section after 9 days of storage at ambient temperature. The average amount of vinyl chloride found on the back sections was 2.5% after 12 days of storage and 5% after 15 days. No vinyl chloride was found on any of the refrigerated back sections.

4.6 Precision (analytical method only)

The precision of the analytical procedure is defined as the pooled coefficient of variation determined from replicate injections of vinyl chloride standards at 0.43, 1 and 2 times the PEL. Based on the data of Table 4.4, the coefficients of variation (CV) for the three levels and the pooled coefficient of variation ($\overline{CV}$) were calculated and are listed below.

Table 4.6
Precision of the Analytical Method
(Based on the Data of Table 4.4)

× target concn µg/sample	0.43× 3.32	1× 7.75	2× 15.5
SD[1]	9.4	30.8	50.9
CV	0.0098	0.0128	0.0104
$\overline{CV}$	0.0111		

[1]standard deviation is in area counts

4.7 Precision (overall procedure)

The precision of the overall procedure is determined from the storage data. The determination of the standard error of estimate (SEE) for a regression line plotted through the graphed storage data allows the inclusion of storage time as one of the factors affecting overall precision. The SEE is similar to the standard deviation except it is a measure of dispersion of data about a regression line instead of about a mean. It is determined with the following equation:

$$SEE = \sqrt{\frac{\Sigma(Y_{obs} - Y_{est})^2}{n - k}}$$

where
n = total number of data points
k = 2 for linear regression
k = 3 for quadratic regression
Y_{obs} = observed % recovery at a given time
Y_{est} = estimated % recovery from the regression line at the same given time

An additional 5% for pump error is added to the SEE by the addition of variances. The precision at the 95% confidence level is obtained by multiplying the SEE (with pump error included) by 1.96 (the z-statistic from the standard normal distribution at the 95% confidence level). The 95% confidence intervals are drawn about their respective regression lines in the storage graphs as shown in Figure 4.5.2. The data for Figure 4.5.2 was used to determine the SEE of ±6.70% for vinyl chloride.

4.8 Reproducibility data

Six samples, collected from a dynamically generated atmosphere containing vinyl chloride, were given to a chemist unassociated with this study. The samples were analyzed after being' stored for 1 day at 22°C. No sample result had a percent deviation greater than the precision of the overall procedure, which is ±13.1%.

Table 4.8
Reproducibility Data

µg spiked	µg recovered	% recovered	% deviation
6.36	7.11	111.8	37.8
6.36	6.63	104.3	
6.36	6.96	109.4	
6.36	6.57	103.3	
6.36	6.84	107.6	
6.36	6.45	101.4	

4.9 Sampler capacity

Sampler capacity was determined by sampling from a dynamically generated atmosphere of about 2.57 ppm (6.57 mg/m^3) vinyl chloride with whole Carbosieve S-III sampling tubes. The relative humidity of the test atmosphere was 81%. The percentage of breakthrough was calculated by dividing the amount found on the back sect ion by the amount found on the entire tube. This percentage was plotted versus the air volume (Figure 4.9) to determine the five percent breakthrough air volume of 5.6 L. These samples were collected over 2 days from different dynamically generated test atmospheres.

Table 4.9
Breakthrough on the Carbosieve S-III Tube

air volume (L)	front section (µg)	back section (µg)	total (µg)	breakthrough (%)
2.5	15.73	0	15.73	0
3.5	20.25	0	20.25	0
4.0	25.47	0	25.47	0
4.5	29.13	0	29.13	0
5.0	34.32	1.05	35.37	2.97
5.5	35.82	1.01	36.83	2.74
6.0	34.42	4.04	38.46	10.5
6.5	38.19	8.17	46.36	17.6
7.0	42.09	4.85	46.94	10.3
7.5	43.09	8.27	51.36	16.1
8.0	43.41	9.80	53.21	18.4
8.5	43.78	11.48	55.26	20.8

4.10 Desorption efficiency and stability of desorbed samples

4.10.1 Desorption efficiency

The desorption efficiency (DE) of vinyl chloride was determined by vapor-spiking 130-mg portions of Carbosieve S-III adsorbent with vinyl chloride at 0.43 to 2 times the target concentration. These samples were stored overnight and then desorbed with desorbing solution and analyzed. The average desorption efficiency over the studied range was 100.0%. The analytical standards used to analyze the desorption efficiency samples were made in vials containing desorbing solution that had been vapor-spiked with vinyl chloride.

Table 4.10.1
Desorption Efficiency of Vinyl Chloride

× target concn µg/sample	0.43× 3.33	1× 7.77	2× 15.6
DE, %	95.4	100.8	99.4
	99.2	100.4	102.2
	104.9	98.4	98.2
	103.1	101.3	101.0
	97.9	98.3	100.9
	98.9	99.4	98.9
	101.1	101.4	100.8
	98.7	101.5	98.2
$\bar{X}$	99.9	100.2	100.0

4.10.2 Stability of desorbed samples

The stability of desorbed samples was investigated by reanalyzing storage test samples, from Day 6, 24 h after initial analysis. The original analysis had been per formed overnight and the vials were recapped the next morning. The samples were reanalyzed with fresh standards. The average recovery, compared to the average recovery of the original analysis, was 88.7% or a -13.5% change.

Table 4.10.2
Stability of Desorbed Samples

initial recovery (percent)	recovery after 24 h (percent)	percent change
103.1	90.3	-12.8
101.5	86.1	-15.4
100.9	87.7	-13.2
102.1	89.6	-12.5
103.7	90.6	-13.1
101.4	89.5	-11.9
102.8	86.8	-16.0

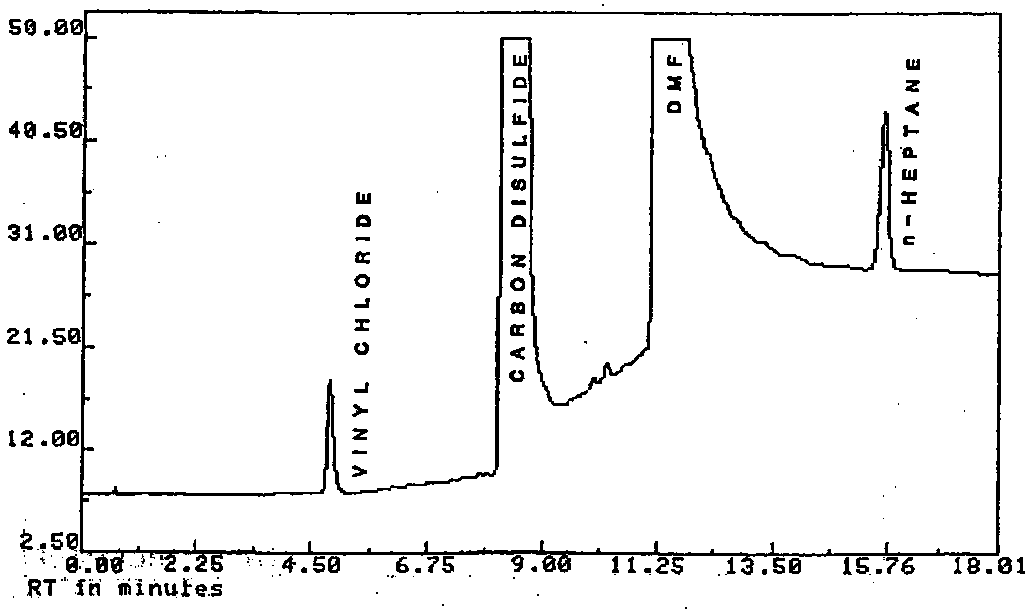


Figure 3.5.1. Chromatogram of vinyl chloride at the target concentration.

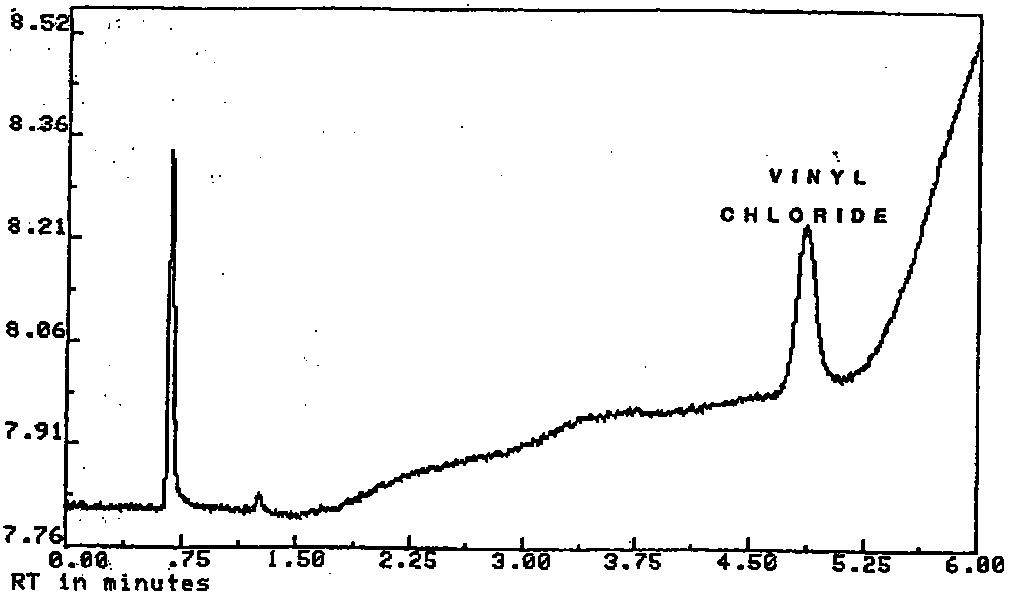


Figure 4.1. Chromatogram of vinyl chloride at the detection limit, 0.760 ng per injection.

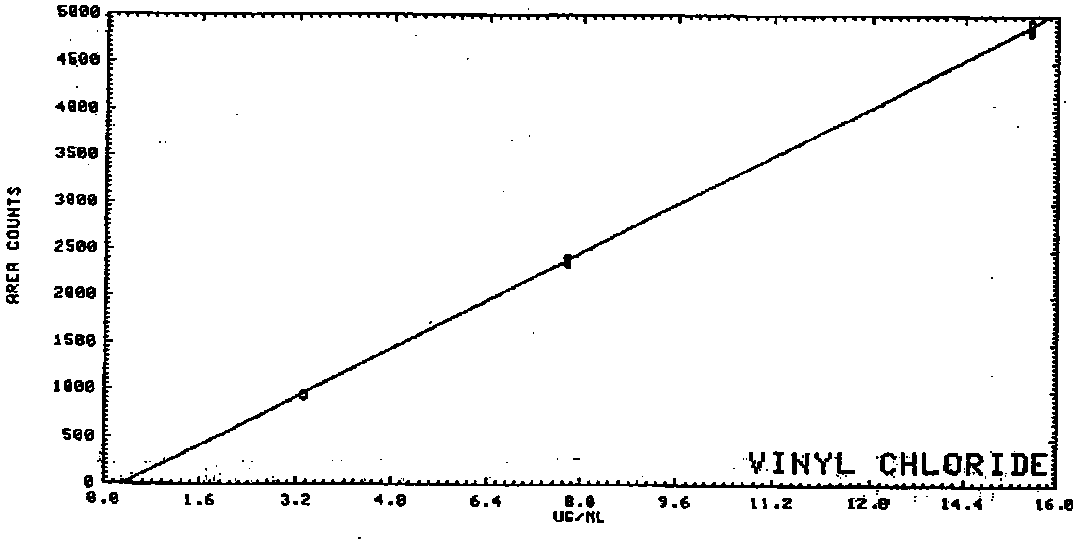


Figure 4.4. Instrument response curve for vinyl chloride, slope = 322 area counts per micrograms per milliliter.

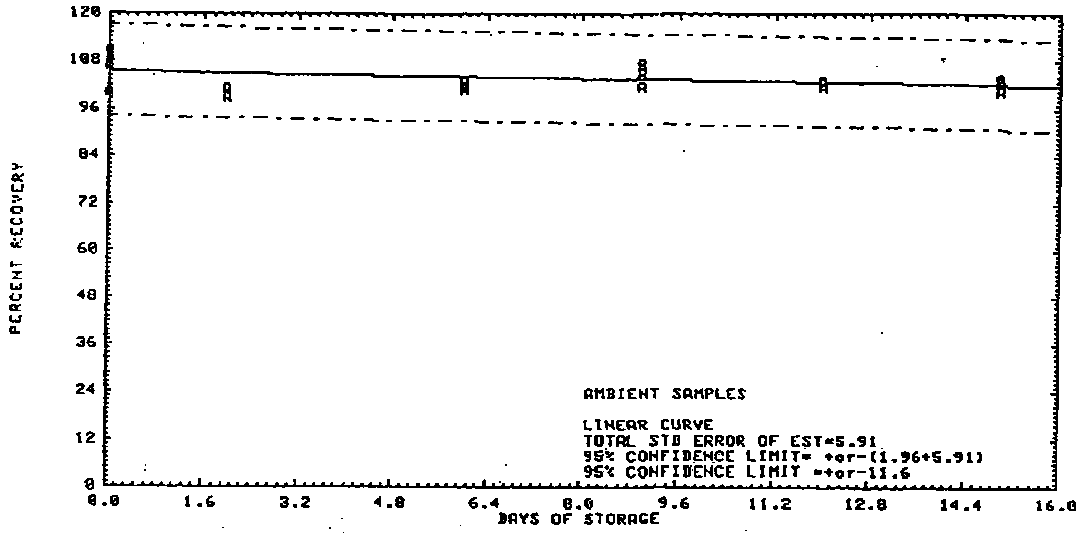


Figure 4.5.1. Ambient storage test for vinyl chloride.

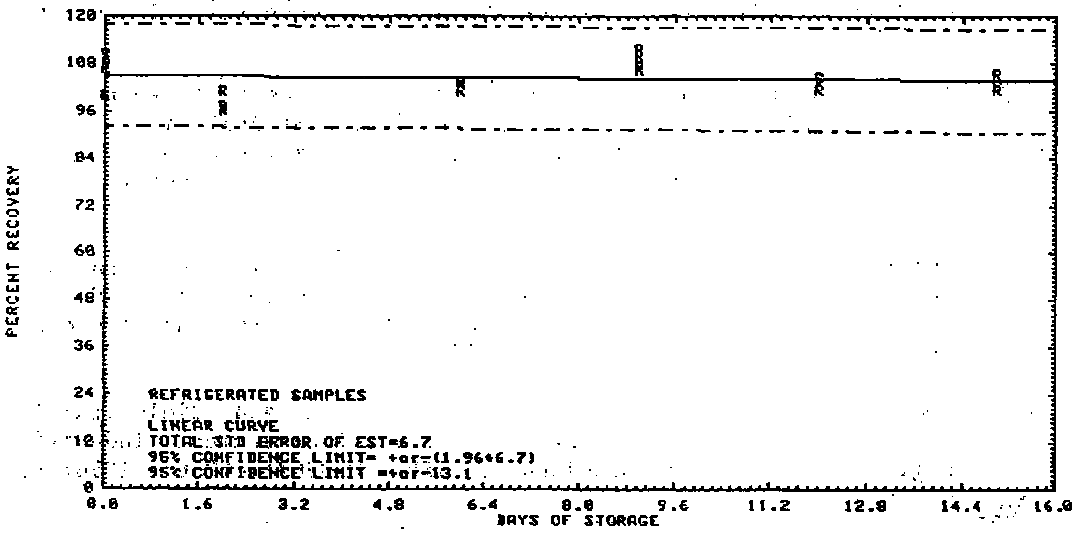


Figure 4.5.2. Refrigerated storage test for vinyl chloride.

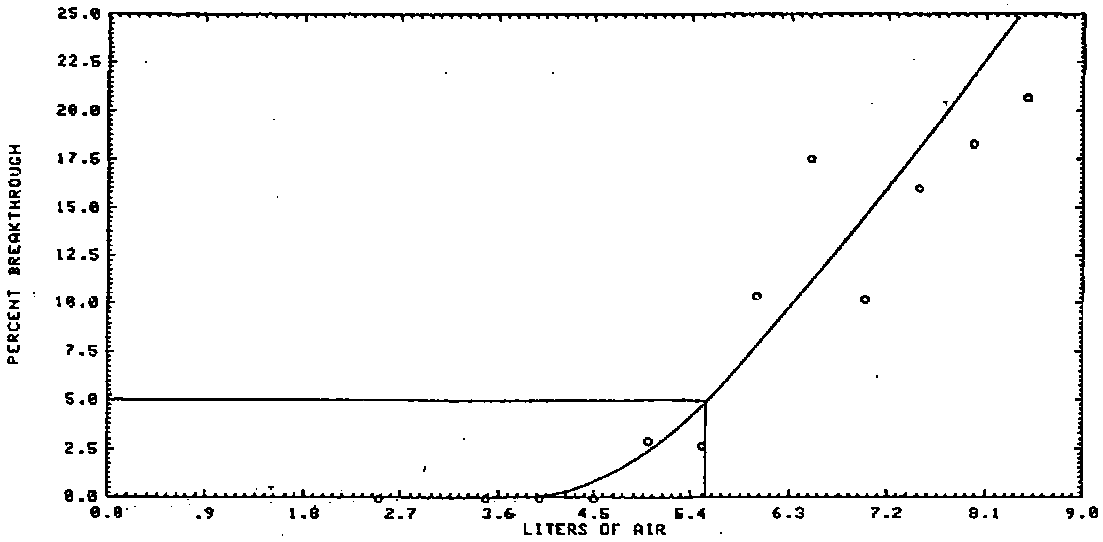


Figure 4.9. Determination of the 5% breakthrough air volume.

5. References

5.1 Code of Federal Regulations, Title 29; 1910.1017, Washington, D.C., 1987, pp. 784-790.

5.2 "NIOSH Manual of Analytical Methods", 3rd ed.; U.S. Department of Health and Human Services, Center for Disease Control, NIOSH; Cincinnati, OH, 1984, Vol. 2, Method 1007, DHHS (NIOSH) Publ. No. 84-100.

5.3 "OSHA Analytical Methods Manual"; U.S. Department of Labor, Occupational Safety and Health Administration; OSHA Analytical Laboratory: Salt Lake City, UT, 1985; Method 4; American Conference of Government Industrial Hygienists (ACCIH): Cincinnati, ISBN: 0-936712-66-X.

5.4 International Agency for Research on Cancer, "IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans: Some Monomers, Plastics and Synthetic Elastomers, and Acrolein", IARC, Lyon, 1979, Vol. 19, pp. 377-419.

5.5 "Documentation of the Threshold Limit Values and Biological Indices", 5th ed.; American Conference of Government Industrial Hygienists (ACCIH): Cincinnati, ISBN: 0-036712-68-6, 1986; pp. 623-626.

5.6 Cowfer, J.A.; Magistro, A.J. in "Kirk-Othmer Encyclopedia of Chemical Technology"; 3rd ed.; Crayson, M., Ed.; John Wiley & Sons, New York, 1983, Vol. 23, pp. 865-884.

APPENDIX

D HEAT AND COLD STRESS MONITORING AND PREVENTION

HEAT STRESS AND HEAT STRESS MONITORING

Heat is one of the most common (and potentially serious) illnesses at hazardous waste sites where PPE is worn; therefore, regular monitoring and other preventive precautions are vital. Shelter from the sun will be provided during rest periods. Below is a list of the signs and symptoms of heat stress. Initial work schedules will be approximately 90 minutes of work followed by 15 minutes of rest. Work intervals will be adjusted to shorter periods based on the assessment of the SHSC Monitoring for heat stress will be conducted by visual observation by the individual team members.

SIGNS AND SYMPTOMS OF HEAT STRESS

Heat rash may result from continuous exposure to heat or humid air.

— Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:
— muscle spasms
— pain in the hands, feet, and abdomen

Heat exhaustion occurs from increased stress on various body organs, including inadequate blood circulation caused by cardiovascular insufficiency or dehydration. Signs and symptoms include:

— pale, cool, moist skin
— heavy sweating
— dizziness
— nausea
— fainting

Heat stroke is the most serious form of heat stress. Temperature regulation fails, and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms include:

— red, hot, usually dry skin
— lack of or reduced perspiration
— nausea
— dizziness and confusion
— strong, rapid pulse
— coma

First-aid remedies for heat stress and heat stroke include removing the worker to a cool place, providing cool water or a commercial sport drink, loosening tight clothing, and calling for an ambulance if victim vomits or starts to lose consciousness.

COLD STRESS PREVENTION

The types of cold-related stress are frostbite, hypothermia, and immersion or trench foot. Personnel performing field tasks in the winter months should be aware of the signs and symptoms of cold-related stress so they can take precautionary measures to avoid cold-induced injury and illness. The following is a brief synopsis of each type of cold-related stress.

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FROSTBITE

Frostbite results when cells are cooled until ice crystals form inside them. Most injuries from frostbite are localized to the exposed part of the body.

- First degree frostbite or frostnip usually strikes the tips of fingers, toes, ears, nose, and chin or cheeks. It is usually painless, and the victim is often unaware of it. The skin turns pale or white from first degree frostbite.
- Second degree frostbite can occur in skin and its underlying tissue. The skin becomes firm and white, waxy, or translucent. As the third injured areas warm, it will become numb, and then will turn blue or purple and swell. The superficial capillaries have been injured, and edema fluid will leak out into the tissue. Stinging and burning pain and superficial blisters may develop. The throbbing, aching, and burning may last for some weeks, and the body part may become permanently red and be extremely sensitive if again exposed to the cold.
- Third degree frostbite involves freezing not only the skin and subcutaneous tissue but even muscle and bone. This serious injury usually involves the hands and feet. The tissues are cold, pale, and frozen to the touch. The injured area usually turns purple or blue and is extremely painful after thawing. Large blisters and tissue death (gangrene) may occur within the first day or two.

HYPOTHERMIA

Generalized, severe, progressive body cooling is known as systemic hypothermia. This may occur at outside temperatures above freezing as well as below freezing. It occurs when the core temperature of the body falls below 95°F (35°C) and results when the body temperature controlling mechanism is overwhelmed. At 96.8°F, the body attempts to compensate for the cold. As core temperatures fall below 95°F, the body is unable to rewarm itself without assistance because of the failure of the temperature control system.

Hypothermia may be of acute duration if someone is suddenly immersed in cold water. Subacute hypothermia may occur in otherwise healthy people, such as skiers, mountain climbers, or lost hunters, subject to prolonged cold exposure and physical exertion. Chronic hypothermia may occur in old people or those who are ill.

Hypothermia may be mild to moderate, when the core temperature is between 81°F and 95°F and the patient is conscious, or it may be severe, when the core temperature is below 80°F and the patient is unconscious.

The symptoms of hypothermia depend on the core temperature and become progressively more severe as the core temperature drops. Between 95°F and 98.6°F, the first symptom is shivering, a subconscious attempt of the body to generate more heat through muscular action. In addition, certain semiconscious activities occur, such as stamping the foot and dancing up and down. Below 95°F, difficulty in speaking, lack of coordination, stumbling, falling, and an inability to use the hands occur. It is at this point that the loss of temperature control occurs and the body is unable to rewarm itself. Below 90°F, shivering decreases and the muscles become progressively rigid. Below 85°F, the victim becomes irrational and may fall into a coma. The pulse and respiration slow. Below 80°F, unconsciousness occurs. The pulse is weaker, and cardiac arrhythmia may be noted. Below 78°F, the respiratory and cardiovascular centers fail, with resulting pulmonary edema and ventricular fibrillation and then cardiac standstill. Ventricular fibrillation is the usual cause of death in these victims.

Even without a thermometer, the level of hypothermia may be noted by observing the victim's mental state. With a few degrees' drop in core temperature, the victim may become withdrawn, discouraged, or mildly depressed. As the temperature drops a few degrees more, to 94°F or below, the victim may become indecisive, confused, or disoriented and may make incorrect decisions. Below 86°F, sleepiness, lethargy, and confusion are obvious. These progressively become more sever until coma occurs. The comatose state, if allowed to continue, results in death. The stages of hypothermia may progress rapidly after the victim's temperature falls below 90°F.

TRENCH FOOT

Trench foot or immersion foot occurs from the wet cooling of an extremity over hours or days at a temperature just above freezing while remaining relatively immobile. It used to been commonly in shipwrecked sailors or soldiers forced to remain in trenches for days at a time. The extremity is cold, swollen, waxy, mottled, and may be numb.

PREVENTIVE WORK GUIDELINES

1. Exposure to cold will be terminated immediately when severe shivering becomes evident.
2. When air temperature falls below 30°F, dry bulb temperature and wind speed will be measured periodically, and the wind chill factor will be calculated. (Weather radios are an adequate substitute.)
3. All work except for emergencies will be terminated when the wind chill is below -18°F.
4. Metal tool handles will be covered with thermal insulating material at temperatures below 30°F.
5. When work is performed continuously in the cold at a wind chill of below 20°F, heated shelter will be made available. A vehicle can be used for shelter if it is kept idling with the heater on.
6. Work will be arranged in such a way that sitting or standing for long periods of time is minimized.
7. Keep warm, dry, and keep moving, but do not become overheated while working in the cold. Exercise fingers and toes.

APPENDIX

E PROCEDURES FOR PUTTING ON AND DECONTAMINATING PERSONAL PROTECTIVE EQUIPMENT (PPE)

PROCEDURES FOR PUTTING ON AND DECONTAMINATING PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Park vehicles outside work boundaries.
2. During the pre-work safety meeting, the SHSC will provide the following information:
   - a description of the site and known problem areas
   - the level of protection required
   - emergency medical information
   - the locations of the first aid kit and fire extinguisher
3. Use the nearest lavatory.
4. Lay out and check safety gear.
5. Check and don modified Level D PPE
6. For work in Level C PPE, put on safety gear in the following order:
   - Coveralls
   - Steel-toed work boots
   - Connect suit and boots with tape
   - Outer booties, if used
   - Air purifying respirators (APRs), if required
7. For work in Level C PPE, put on APRs as follows:
   - Inspect:
     - Inspect before each use to ensure that they have been cleaned adequately.
     - Check material conditions for signs of pliability, deterioration, or distortion.
     - Examine cartridges and ensure that they are the correct type for the intended use, that the expiration date has not passed, and that they have not been opened or used previously.
     - Check face shields for cracks or fogginess.
   - Loosen all harness strap adjustments.
   - Place chin in chin cup and draw back evenly on strap adjustments – the two bottom straps first, then the two top straps, and the center top strap last.
   - Check that the respirator is centered evenly on the face and that the straps are not uncomfortably tight.
   - Check for leaks or proper facial seals.
     - To conduct a negative pressure test, close the inlet part with the palm of the hand so it does not pass air, and gently inhale for about 10 seconds. Any inward rush of air indicates a poor fit. Note that a leaking facepiece may be drawn tightly to the face to form a good seal, giving a false indication of adequate fit.
     - To conduct a positive pressure test, gently exhale while covering the exhalation valve to ensure that a positive pressure can be built up. Failure to build a positive pressure indicates a poor fit.
8. Put on the rest of the gear in the following order:
   - Raise hood
   - Hard hat
   - Surgical gloves
   - Outer gloves
   - Connect gloves and suit with tape
9. Select a buddy to act as a safety backup.
10. Check your buddy's equipment and have your buddy check yours for rips, tears, or malfunctions. Pay special attention to respirators, making sure that seals are good and that cartridges are securely in place.
11. If any equipment or gear gets damaged or if your suit tears badly, GO BACK.
12. If you experience physical discomfort, breathing difficulties, light headedness, dizziness, or other abnormalities, GO BACK.
13. When you return, have your buddy check for external accumulation of contamination and remove it. Also check gear for damage.

DECONTAMINATION WILL BE PERFORMED IN STEPS AS FOLLOWS (AS APPROPRIATE FOR THE PPE BEING UTILIZED):

Step 1 – Segregated Equipment Drop: Deposit equipment used onsite (tools, sampling devices and containers, monitoring instruments, clipboards, etc.) in different containers with plastic liners. Each may be contaminated to a different degree. Segregation at the drop reduces the probability of cross-contamination. This equipment may be reused if properly decontaminated.

Equipment:

- various sizes of containers
- plastic drop cloths

Step 2 – Boot Cover and Outer Glove Wash and Rinse: (Optional – will be used at the SHSC's discretion.)

Equipment:

- pesticide sprayer with nozzle
- two wash basins or tubs
- scrub brush
- water
- Liquinox® non-phosphate soap solution (1%)

Step 3 – Tape Removal: Remove tape around boots and gloves, and deposit in container with plastic liner. Remove boot covers, then outer gloves, and place them in the container.

Equipment:

- container (30-50 gallons)
- plastic liners
- folding chairs

Step 4 – Safety Boot Wash and Rinse: (Optional – will be used at SHSC’s discretion.)

Equipment:

- two wash basins or tubs
- scrub brush
- water
- Liquinox® non-phosphate soap solution (1%)

Step 5 – Protective Coverall Removal: With the assistance of a helper, remove protective coverall. Deposit in container with plastic liner.

Equipment:

- container (30-50 gallons)
- folding chairs
- plastic liners

Step 6 – Respirator Removal: Remove facepiece. Avoid touching face with gloves. If work is completed for the day, discard cartridges in lined container, and wash and rinse respirator.

Equipment:

- container (30-50 gallons)
- plastic liners

Step 7 – Inner Glove Removal: Remove inner gloves and deposit in container with plastic liner.

Equipment:

- container (20-30 gallons)
- plastic liners

14 Respirators will be cleaned daily by hand washing with MSA cleaner-sanitizer solution followed by a thorough rinse and air-drying. NEVER ALLOW A RESPIRATOR TO DRY WITH THE STRAPS PLACED FORWARD ACROSS THE FACESHIELD, BECAUSE THIS MAY CAUSE CHANGES IN THE FACE-TO- RESPIRATOR SEAL SURFACE. The specific procedures to be employed are as follows:

- Remove all cartridges (canisters) and filters plus gaskets and seals not permanently affixed to their seats.
- Loosen harness adjustment straps.
- Remove exhalation valve cover.
- Remove inhalation and exhalation valves.
- Remove protective faceshield cover.
- Wash facepiece in MSA cleaner/sanitizer powder mixed with warm water, preferably at a temperature of 120ºF. Wash components separately from facepiece. Heavy soil may be removed from the facepiece surface using a medium-soft handbrush.
- Remove all parts from the wash solution, and rinse twice in clean, warm water.
- Air-dry all parts in a designated clean area.
- Pat facepieces, valves, and seats to remove any remaining soap residue, water, or other foreign material with a clean, damp, lint-free cloth.
- Reassemble respirator.
- Place respirator in a plastic bag and the respirator box or otherwise store the respirator to prevent exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact.

15 IDW will be handled as follows:

- Expendable material, such as tape, boot covers, inner and outer gloves, coveralls, and expendable sampling items, will be placed in a lined 30- to 33-gallon garbage can. When the container is full, the garbage sack will be removed and promptly placed in a contaminated soil stockpile or placed directly into licensed waste hauler trucks for offsite disposal.
- Wash and rinse waters from personal and equipment decontamination will be containerized in 55-gallon drums.
- All drummed wastes will be labeled "Property of [company name]." Drummed liquids will be treated onsite in an activated carbon system. If drums must be transported offsite, they will be labeled in accordance with DOT shipping regulations contained in 49 CFR Parts 171-179 and transported offsite by a licensed waste hauler.

APPENDIX

F JOB HAZARD ANALYSIS

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Concrete coring and cutting oversight	Concrete core or saw

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2		WSP & Subcontractor
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1		WSP & Subcontractor
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1		WSP & Subcontractor
Locate and mark locations										X																X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1		WSP & Subcontractor
Clear location for utilities							X			X			X	X			X									X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1		WSP & Subcontractor
Set equipment and core or saw concrete				X		X	X			X	X	X	X	X	X	X	X					X			X	X	X	X	X	6	2	12	Stay alert; Inspect concrete corer for unsafe conditions; Use GFCI; Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented; Perform air monitoring as per HASP; Wear steel toe boots, hearing protection, and safety glasses; Wear work gloves when handling equipment or concrete; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1		Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Concrete coring and cutting oversight	Concrete core or saw

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Decontamination		X	X	X			X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	4	3	12	Stay alert; Wear nitrile gloves, steel toe boots, hard hat (if pressure washer in use), hearing protection (if pressure washer in use), and safety glasses or goggles (if pressure washer in use); Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1		Subcontractor
Waste management		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators (if using heavy equipment or forklifts); Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat (if using heavy equipment or forklifts), and safety glasses (if using heavy equipment or forklifts); Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1		WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Video survey (sewers, manholes, etc.) oversight	Pipe inspection camera, monitor, recording device

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm
Level D PPE:	**PPE Upgrades:**	**Health & Safety Equipment:**
Work clothes, steel toe boots, high visibility vest, work glove, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X			X			X	X		X	X							X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X														X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Set up equipment and survey feature							X			X			X	X		X	X				X			X	X	X	X	X	6	3	18	Stay alert; Wear work glove, nitrile gloves (when retrieving camera), and steel toe boots; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Decontamination							X			X	X			X			X	X	X		X			X	X	X	X	X	6	3	18	Stay alert; Wear nitrile gloves, steel toe boots; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Waste management							X			X	X		X	X		X	X	X	X		X			X	X	X	X	X	6	3	18	Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Excavation oversight	Backhoe/excavator (or similar), chain saw, dump truck

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Locate and mark locations										X																X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Clear location for utilities							X			X			X	X			X									X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Fuel vehicles and equipment					X			X		X			X	X			X	X	X							X	X	X	X	X	6	2	12	No smoking; Use DOT approved containers; Turn off equipment before fueling; dispense fuel into containers placed on the ground surface; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropirate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Set up erosion and sedimentation controls		X	X	X		X	X	X		X	X	X	X	X	X	X	X					X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Excavation oversight	Backhoe/excavator (or similar), chain saw, dump truck

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Clearing		X	X	X		X	X	X		X	X	X	X	X	X	X	X							X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Drainage ditch bypass		X	X	X		X	X	X		X	X	X	X	X	X	X	X					X		X	X	X	X	X	6	2	12	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Excavation and segragation		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Follow OSHA Excavation standards; Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented; Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Water managment		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X			X	X	X	X	X	6	2	12	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Excavation oversight	Backhoe/excavator (or similar), chain saw, dump truck

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Field Screening							X	X	X	X				X			X	X			X			X	X	X	X	X	6	2	12	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Confirmation Sampling							X	X	X	X				X			X	X			X			X	X	X	X	X	6	2	12	Follow SOPs; Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Transport and disposal		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Backfilling and compaction		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X				X		X	X	X	X	X	6	2	12	Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented; Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Excavation oversight	Backhoe/excavator (or similar), chain saw, dump truck

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Cap and soil cover		X	X	X		X	X	X		X	X	X	X	X	X	X	X	X				X		X	X	X	X	X	6	2	12	Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented; Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Restoration		X	X	X		X	X	X		X	X	X	X	X	X	X	X	X						X	X	X	X	X	6	2	12	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/18/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	DPE System OM&M	

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, hearing protection (when system running in treatment building), safety glasses/goggles (when system running in treatment building), work	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Inspect DPE well vaults (check instrumentation, adjust values, remove accumulated water)		X	X	X	X		X			X		X	X	X			X	X	X		X			X	X	X	X	X	5	3	15	Inspect work area for unsafe conditions; Use proper lifting techniques; Stay alert; Wear work gloves and steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	2	6	WSP & Subcontractor
Inspect treatment building equipment (skids, piping, pumps, fans, carbon vessel, air stripper, vacuum blower)		X	X	X	X		X			X	X	X	X	X	X		X	X	X		X				X	X	X	X	6	3	18	Inspect work area and equipment for unsafe conditions; Use proper lifting techniques; Stay alert; Wear work gloves, safety glasses, hearing protection, and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	3	2	6	WSP & Subcontractor
Remove dirt and grease from equipment							X			X	X			X			X	X	X		X				X	X	X	X	3	3	9	Use proper lifting techniques; Utilize lockout tagout; Stay alert; Wear work or nitrile gloves, safety glasses, hearing protection, and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	2	2	4	WSP & Subcontractor
Disassemble and clean air stripper trays							X	X		X			X	X			X	X	X		X				X	X	X	X	4	3	12	Power off air stripper (utilize lockout tagout); Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear nitrile gloves, safety goggles, and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	3	2	6	WSP & Subcontractor
Collect influent and effluent samples		X			X		X			X					X		X	X	X	X	X				X	X	X	X	3	2	6	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, safety glasses, hearing protection, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing	2	2	4	WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/18/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Vapor Mitigation System OM&M	Smoke kit, caulk

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Located in off-site residences	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Inspect system			X	X			X	X		X		X	X	X												X	X	X	4	1	4	Meet and discuss inspection procedure with homeowner; Inspect system and work area for unsafe conditions; Stay alert; Wear work gloves and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP
Smoke test							X	X		X				X			X									X	X	X	3	1	3	Use smoke kit in accordance with manufacterers instructions; Stay alert; Wear work gloves and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	2	1	2	WSP
Repair leaks							X	X		X				X			X									X	X	X	3	1	3	Use caulk in accordance with manufacterers instructions; Stay alert; Wear work gloves, safety glasses and steel toe boots; Wear weather-appropriate clothing; Work with appropriate lighting	2	1	2	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/17/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Groundwater Sampling	Sample collection equipment (bailer, electric submerisble pump, pneumatic pump), water level tape, water quality meter, sample containers, gasoline generator (as needed), compressed carbon dioxide (as needed), air compressor (as needed)

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Chemical resistant coveralls, steel toe boots, work gloves, nitrile gloves, high visibility vest (as needed)	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Tailgate meeting (daily)										X															X	X	X	X	X	3	1	3	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Calibrate equipment			X				X			X			X	X				X		X					X	X	X	X	X	3	1	3	Follow SOPs; Inspect equipment; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Wear nitrile gloves; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Remove absorbent sock							X			X			X	X		X	X	X	X		X				X	X	X	X	X	3	1	3	Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, chemical resistant coveralls, goggles, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	
Gauge well			X				X			X			X	X		X	X	X	X		X				X	X	X	X	X	6	3	18	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, chemical resistant coveralls, goggles, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP
Bail well		X	X	X			X	X		X	X	X	X	X	X	X	X	X	X		X				X	X	X	X	X	6	3	18	Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, chemical resistant coveralls, goggles, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/17/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Groundwater Sampling	Sample collection equipment (bailer, electric submerisble pump, pneumatic pump), water level tape, water quality meter, sample containers, gasoline generator (as needed), compressed carbon dioxide (as needed), air compressor (as needed)

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Chemical resistant coveralls, steel toe boots, work gloves, nitrile gloves, high visibility vest (as needed)	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Install absorbent sock							X			X				X		X	X	X	X		X			X	X	X	X	X	6	3	18	Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP
Decontamination							X			X				X			X	X	X		X			X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, chemical resistant coveralls, goggles, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Waste management							X			X			X	X			X	X	X		X			X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves, chemical resistant coveralls, goggles, and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Soil sampling, monitoring well installation oversignt and development	Drill rig (geoprobe, HSA, air, sonic), soil/rock sampler, well construction materials, sample containers, pump (electric submersible, inertial) with tubiring or bailer, surge block, water quality probe, water level tape

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Fuel equipment					X			X		X			X	X			X	X	X							X	X	X	X	X	6	2	12	No smoking; Use DOT approved containers; Turn off equipment before fueling; dispense fuel into containers placed on the ground surface; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropirate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Locate and mark drilling location										X																X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Clear drilling location for utilities							X			X			X	X			X									X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Park the rig on final location						X				X						X															6	2	12	Stay alert; Inspect rig and work area for unsafe conditions; Guide driver to position; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Use wheel chucks (as necessary)	6	1	6	WSP & Subcontractor
Raise mast		X	X	X		X						X	X	X		X										X	X	X	X	X	6	2	12	Location should be cleared for overhead utilities as per SOPs; Notify driller of any unsafe or hazardous conditions observed; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontactor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Soil sampling, monitoring well installation oversignt and development	Drill rig (geoprobe, HSA, air, sonic), soil/rock sampler, well construction materials, sample containers, pump (electric submersible, inertial) with tubiring or bailer, surge block, water quality probe, water level tape

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visiblity	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Begin drilling		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X	6	2	12	Location should be cleared for underground utilities as per SOPs; Notify driller of any unsafe or hazardous conditions observed; Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented when drilling through bedrock; Stay alert; Wear steel toe boots, hard hat, hearing protection, and safety glasses; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear full face respirator if chemical action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Screen and describe soil sample							X			X			X	X			X	X	X		X			X	X	X	X	X	3	2	6	Follow SOPs; Stay alert; Wear nitrile gloves, steel toe boots, hard hat (when mast is raised), hearing protection (when rig is drilling), and safety glasses; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Collect soil samples for laboratory analysis							X			X			X	X			X	X	X	X	X			X	X	X	X	X	3	2	6	Follow SOPs; Inspect equipment; Stay alert; Wear nitrile gloves, steel toe boots, hard hat (when mast is raised), hearing protection (when rig is drilling), and safety glasses; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear full face respirator if action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Install monitoring well		X	X	X			X			X	X	X	X	X		X	X	X	X	X	X			X	X	X	X	X	5	2	10	Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	5	1	5	Subcontractor
Develop monitoring well		X	X	X			X			X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	6	3	18	Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Soil sampling, monitoring well installation oversignt and development	Drill rig (geoprobe, HSA, air, sonic), soil/rock sampler, well construction materials, sample containers, pump (electric submersible, inertial) with tubiring or bailer, surge block, water quality probe, water level tape

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Waste management		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Decontamination		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	6	2	12	Stay alert; Wear nitrile gloves, steel toe boots, hard hat (if pressure washer in use), hearing protection (if pressure washer in use), and safety glasses or goggles; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontracot
Survey							X			X			X	X			X							X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots;	3	1	3	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Monitoring well abandonment oversight	Drill rig (HSA, air, sonic) or cement mixer and grout pump, water level tape

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Fuel equipment					X			X		X			X	X			X	X	X							X	X	X	X	X	6	2	12	No smoking; Use DOT approved containers; Turn off equipment before fueling; dispense fuel into containers placed on the ground surface; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropirate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Clear drilling location for utilities (as necessary)							X			X			X	X			X									X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Core concrete				X		X	X			X	X	X	X	X	X	X	X					X			X	X	X	X	X	6	2	12	Stay alert; Inspect concrete corer for unsafe conditions; Clear location for utilties; Wear steel toe boots and safety glasses; Use GFCI; Core with water for dust suppression; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontracotr
Park the rig and raise mast (as necessary)		X	X	X		X				X		X	X	X		X									X	X	X	X	X	6	2	12	Stay alert; Inspect rig and work area for unsafe conditions; Guide driver to position; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Use wheel chucks (as necessary)	6	1	6	WSP & Subcontractor

Prepared By:	Prepared Date:
Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Monitoring well abandonment oversight	Drill rig (HSA, air, sonic) or cement mixer and grout pump, water level tape

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Begin drilling		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X	X	6	2	12	Location should be cleared for underground utilities as per SOPs; Notify driller of any unsafe or hazardous conditions observed; Stay alert; Wear steel toe boots, hard hat, hearing protection, and safety glasses; Wear high-visibility vest in high traffic areas; Engineering, work practice controls, and required respiratory protection specified in OSHA's Respirable Crystalline Silica standard for general industry must be implemented when drilling through concrete or bedrock; Perform air monitoring as per HASP; Wear full face respirator if chemical action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Grout borehole		X	X	X			X			X	X	X	X	X		X	X	X	X	X	X			X	X	X	X	X	5	2	10	Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	5	1	5	Subcontracotr
Waste management		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Decontamination		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	6	2	12	Stay alert; Wear nitrile gloves, steel toe boots, hard hat (if pressure washer in use), hearing protection (if pressure washer in use), and safety glasses or goggles; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Downhole geophysical survey	Downhole geophysical sonde, tripod and winch (or similar)

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X															X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Set up equipment and profile borehole							X			X			X	X		X	X				X				X	X	X	X	X	6	3	18	Stay alert; Wear nitrile gloves (when retrieving probe), and steel toe boots; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Decontamination							X			X	X			X			X	X	X		X				X	X	X	X	X	6	3	18	Stay alert; Wear nitrile gloves, steel toe boots; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Waste management							X			X			X	X			X	X	X		X					X	X	X		3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP & Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/2/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Surface geophysical survey	Geophysical probes, receiver truck with instrumentation

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside	NA

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, work gloves	NA	NA

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Tailgate meeting (daily)										X															X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Set up probes/Retrive probes							X			X				X		X	X								X	X	X	X	X	6	3	18	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	Subcontractor
Collect Data										X	X			X			X								X	X	X	X	X	3	1	3	Stay alert; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	Subcontractor

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/23/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Groundwater Sampling	Sample collection equipment (bailer, electric submerisble pump, pneumatic pump), water level tape, water quality meter, sample containers, gasoline generator (as needed), compressed carbon dioxide (as needed), air compressor (as needed)

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, work gloves, nitrile gloves, high visibility vest (as needed), hearing protection (as needed)	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Calibrate equipment			X				X			X			X	X				X		X					X	X	X	X	X	3	1	3	Follow SOPs; Inspect equipment; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Wear nitrile gloves; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Gauge well			X				X			X			X	X		X	X	X			X				X	X	X	X	X	6	3	18	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET				WSP
Purge and Sample		X	X	X			X	X		X	X	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X	6	3	18	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Wear high visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP
Decontamination							X			X				X			X	X	X		X				X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP
Waste management							X			X			X	X			X	X	X		X				X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/23/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Surface water and groundwater seep sampling	Sample collection equipment (transfer bottle, bailer, peristaltic pump), water quality meter, sample containers

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, rubber overboots or waders (as needed), work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Calibrate equipment			X				X			X			X	X				X		X					X	X	X	X	X	3	1	3	Follow SOPs; Inspect equipment; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Wear nitrile gloves; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Locate sample location										X			X	X		X	X								X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours; Use insect repellant containing DEET	3	1	3	WSP
Collect sample and field parameters			X				X			X			X	X			X	X		X	X				X	X	X	X	X	3	3	9	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Inspect equipment; Stay alert; Wear nitrile gloves, steel toe boots; Wear rubber overboots or waders; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours; Use insect repellant containing DEET	3	1	3	WSP
Decontamination							X			X				X			X	X	X		X				X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Waste management							X			X			X	X			X	X	X		X					X	X	X		3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/27/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Wastewater sampling	Sample collection equipment (transfer bottle, bailer, peristaltic pump, sample port), water quality meter, sample containers

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, rubber overboots or waders (as needed), work gloves, nitrile gloves, high visibility vest (as needed)	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Tailgate meeting (daily)										X															X	X	X	X	X	3	1	3	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Calibrate equipment			X				X			X			X	X				X		X					X	X	X	X	X	3	1	3	Follow SOPs; Inspect equipment; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Wear nitrile gloves; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Locate sample location, open manhole (as necessary)										X			X	X		X	X								X	X	X	X	X	3	2	6	Stay alert; Use proper tools (as necessary) Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Collect sample and field parameters			X				X			X			X	X			X	X		X	X				X	X	X	X	X	3	3	9	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Inspect equipment; Stay alert; Wear nitrile gloves, steel toe boots; Wear rubber overboots or waders; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Decontamination							X			X				X			X	X	X		X				X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Waste management							X			X			X	X			X	X	X		X					X	X	X		3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP

JOB HAZARD ANALYSIS
WATER & ENVIRONMENT

Prepared By:	Prepared Date:
Erin Huntley	8/27/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Sediment sampling	Sample collection equipment (shovel, hand auger, grab sampler, dredge), sample containers

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5; calibration reagents; sample preservatives	Site is located on a steep hillside	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, rubber overboots or waders (as needed), work gloves, nitrile gloves, high visibility vest (as needed)	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV)

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP
Load/Unload equipment							X			X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Tailgate meeting (daily)										X																X	X	X	X	X	3	1	3	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Calibrate equipment			X				X			X			X	X				X		X					X	X	X	X	X	3	1	3	Follow SOPs; Inspect equipment; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Wear nitrile gloves; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Locate sample location, open manhole (as necessary)										X			X	X		X	X									X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Collect sample			X				X			X			X	X			X	X		X	X				X	X	X	X	X	3	3	9	Follow SOPs; Inspect equipment; Perform air monitoring as per HASP; Inspect equipment; Stay alert; Wear nitrile gloves, steel toe boots; Wear rubber overboots or waders; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Decontamination							X			X				X			X	X	X		X				X	X	X	X	X	3	3	9	Follow SOPs; Perform air monitoring as per HASP; Stay alert; Wear nitrile gloves, steel toe boots; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP
Waste management							X			X			X	X			X	X	X		X					X	X	X		3	3	9	Follow SOPs; Perform air monitoring as per HASP; Use proper lifting techniques; Stay alert; Wear work or nitrile gloves and steel toe boots; Use hand tools properly; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP

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WATER & ENVIRONMENT

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Erin Huntley	9/12/2018
Approved By:	**Approved Date:**
Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Soil gas probe installation and sampling	Drill rig (geoprobe, HSA, air, sonic), probe construction materials, sample containers, pump (battery/hand operated), PID

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																												Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
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Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X															X	X	X	X	X	3	1	3	Wear steel toe boots; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Fuel equipment					X			X		X			X	X			X	X	X						X	X	X	X	X	6	2	12	No smoking; Use DOT approved containers; Turn off equipment before fueling; dispense fuel into containers placed on the ground surface; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropirate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Locate and mark drilling location										X															X	X	X	X	X	3	2	6	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Clear drilling location for utilities							X			X			X	X			X								X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Core concrete				X		X	X			X	X	X	X	X	X	X	X					X			X	X	X	X	X	6	2	12	Stay alert; Inspect concrete corer for unsafe conditions; Clear location for utilties; Wear steel toe boots and safety glasses; Use GFCI; Core with water or dust suppression device; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Park the rig on final location						X				X						X														6	2	12	Stay alert; Inspect rig and work area for unsafe conditions; Guide driver to position; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Use wheel chucks (as necessary)	6	1	6	WSP & Subcontractor

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Erin Huntley	9/12/2018
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Glen Rieger	10/3/2018

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Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
Former Emerson Power Transmission	31400551	Ithaca, NY	Soil gas probe installation and sampling	Drill rig (geoprobe, HSA, air, sonic), probe construction materials, sample containers, pump (battery/hand operated), PID

Chemicals of Concern:	Site-Specific Hazards:	Action Levels:
See HASP Section 2.5	Site is located on a steep hillside.	Organic Vapors - < 10.6 eV = 1 ppm, > 10.6 eV = 5 ppm; Particulates - 2 mg/m^3

Level D PPE:	PPE Upgrades:	Health & Safety Equipment:
Work clothes, steel toe boots, high visibility vest, hard hat, hearing protection, safety glasses, work gloves, nitrile gloves	Full face respirator with combination cartridge, chemical resistant coveralls	PID (10.6 eV and 11.7 eV), particulate aerosol monitor

Basic Job Step	Potential Hazards (From HASP)																											Baseline Risk Score			Hazard Controls Protection Measures	Controlled Risk Score			Persons Affected
	Explosion (Chemical Reaction)	Explosion (Over Pressurization)	Electrical (Shock/Short Circuit)	Electrical (Fire)	Electrical (Static)	Electrical (Loss of Power)	Ergonomics (Strain)	Ergonomics (Human Error)	Excavation (Collapse)	Fall (Slip, Trip)	Fire/Heat	Mechanical/Vibration (Chafing/Fatigue)	Mechanical Failure	Mechanical	Noise	Struck By (Mass Acceleration)	Struck Against	Chemical (Toxic)	Chemical (Ignitable)	Chemical (Corrosive)	Chemical (Volatile)	Respirable Particulate	Radiation (Ionizing)	Radiation (Non-Ionizing)	Temperature Extreme (Heat/Cold)	Visibility	Weather Phenomena (Snow/Rain/Wind/Ice)	Biological Hazards (Venomous/Disease-Carrying Animals/Insects, Poisonous Plants)	Severity	Likelihood	Risk Score	Color Key: §No shading indicates acceptable risk - no action needed. §Green shading indicates low risk - review the operation/activity and take any steps necessary to reduce & control the risks. §Yellow shading indicates medium risk - inform H&S management & seek further advice before proceeding any further with the operation/activity. §Red shading indicates high risk - HALT the activity immediately, review and reduce the risks identified.	Severity	Likelihood	Risk Score	
Raise mast		X	X	X		X						X	X	X		X								X	X	X	X	X	6	2	12	Location should be cleared for overhead utilities as per SOPs; Notify driller of any unsafe or hazardous conditions observed; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontactor
Begin drilling		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	6	2	12	Location should be cleared for underground utilities as per SOPs; Notify driller of any unsafe or hazardous conditions observed; Stay alert; Wear steel toe boots, hard hat, hearing protection, and safety glasses; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear full face respirator if chemical action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor
Install soil gas probe							X			X			X	X			X	X	X	X	X			X	X	X	X	X	4	2	8	Follow SOPs; Stay alert; Wear nitrile gloves, steel toe boots, hard hat (when mast is raised), and safety glasses; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP
Leak test probe		X					X			X			X	X			X	X	X		X			X	X	X	X	X	4	2	8	Follow SOPs; Inspect equipment; Stay alert; Wear nitrile gloves, steel toe boots, Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear full face respirator if action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP
Purge and sample probe							X			X			X	X			X	X	X		X			X	X	X	X	X	3	2	6	Follow SOPs; Inspect equipment; Stay alert; Wear nitrile gloves and steel toe boots; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear full face respirator if action levels exceeded as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	Subcontractor

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Erin Huntley	9/12/2018
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Glen Rieger	10/3/2018

Project Name:	Project No:	Project Location:	Project/Task Description:	Project/Task Equipment:
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Waste management		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X	6	3	18	Inspect equipment before use; Use equipment in accordance with manufacturer's instructions; Use trained operators; Use proper lifting techniques; Perform air monitoring as per HASP; Stay alert; Wear steel toe boots, hard hat, and safety glasses; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontractor
Decontamination		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	6	2	12	Stay alert; Wear nitrile gloves, steel toe boots, hard hat (if pressure washer in use), hearing protection (if pressure washer in use), and safety glasses or goggles; Wear high-visibility vest in high traffic areas; Perform air monitoring as per HASP; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	WSP & Subcontracot
Survey							X			X			X	X			X							X	X	X	X	X	3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots;	3	1	3	Subcontractor

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Glen Rieger	10/3/2018

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Mobilize/Demobilize					X	X	X	X		X	X	X	X	X		X	X		X							X	X		6	3	18	Inspect vehicle for unsafe conditions; Stay alert; Be aware of other traffic; Obey traffic laws; Do not drive when tired; Reduce speed in inclement weather; Park WSP vehicle outside of work zone.	6	2	12	WSP & Subcontractor
Load/Unload equipment							X	X		X			X	X		X	X								X	X	X	X	X	6	2	12	Use proper lifting techniques; Stay alert; Park in designated parking/loading area; Wear work gloves and steel toe boots; Wear high visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	WSP & Subcontractor
Tailgate meeting (daily)										X																X	X	X		3	1	3	Wear steel toe boots; Wear weather-appropriate clothing;Work with appropriate lighting	3	1	3	WSP & Subcontractor
Locate and mark drilling location										X																X	X	X		3	2	6	Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing;Work with appropriate lighting	3	1	3	WSP & Subcontractor
Clear drilling location for utilities							X			X			X	X			X									X	X	X		3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Work with appropriate lighting	3	1	3	WSP & Subcontractor
Core or drill concrete				X		X	X			X	X	X	X	X	X	X	X					X				X	X	X		6	2	12	Stay alert; Inspect concrete corer/drill for unsafe conditions; Clear location for utilties; Wear steel toe boots and safety glasses; Use GFCI; Core/drill with water or dust suppression device; Use vacuum with HEPA filter; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Work with appropriate lighting	6	1	6	Subcontractor
Install sub-slab soil gas probe							X			X			X	X			X	X	X	X	X					X	X	X		4	2	8	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Work with appropriate lighting	6	1	6	WSP & Subcontractor
Leak test probe		X					X			X			X	X			X	X	X		X					X	X	X		4	2	8	Follow SOPs; Inspect helium tank for damage; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Work with appropriate lighting	6	1	6	Subcontactor
Purge and sample probe							X			X			X	X			X	X	X		X					X	X	X		3	2	6	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Work with appropriate lighting	6	1	6	Subcontractor

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Collect indoor/outdoor air sample										X														X	X	X	X	X	3	1	3	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP
Waste management			X	X			X			X	X		X	X	X		X					X		X	X	X	X	X	6	3	18	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	4	1	4	WSP
Decontamination		X	X	X		X	X			X	X	X	X	X	X	X	X	X	X		X			X	X	X	X	X	6	2	12	Follow SOPs; Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	3	1	3	Subcontractor
Survey							X			X			X	X			X							X	X	X	X	X	3	2	6	Use proper lifting techniques; Stay alert; Wear steel toe boots; Wear high-visibility vest in high traffic areas; Wear weather-appropriate clothing; Use SPF 15 or higher sunscreen; Work during daylight hours or with appropriate lighting; Use insect repellant containing DEET	6	1	6	Subcontractor

APPENDIX

G COMMUNITY AIR MONITORING PLAN

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX

H WSP PERSONNEL TRAINING RECORDS

APPENDIX

I MODIFICATION FORM

MODIFICATION OF THE HEALTH AND SAFETY PLAN

Site :	Former EPT Facility
Location :	Ithaca, New York
Change Number :	
Date :	
Section(s) of HASP Affected :	

Modification:

Approved:

_____ _____

Nathaniel Winston Date

Site Health and Safety Coordinator

_____ _____

Lisa Bryda Date

Site Coordinator

APPENDIX

H OPERATION AND MAINTENANCE PLAN

Provided Under Separate Cover Due to File Size

APPENDIX

I PERMITS AND PERMIT EQUIVALENTS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Water, Bureau of Water Permits
625 Broadway, Albany, New York 12233
www.dec.ny.gov

Emerson Electric Co.

Project Site Remediation
Wastewater Discharge SPDES Permit Equivalent

DRAINAGE BASIN: **07 / 05**

DER Site No: 7-55-010
Effective Date: **August 1, 2022**
Expiration Date: **July 31, 2027**

Discharger Name and Address:

Emerson Electric Co.
ATTN: Steve Clarke
8000 W. Florissant Ave, Station 1963
(314) 553 1953
Contact Email Address: steve.clarke@emerson.com

is authorized to discharge from the facility described below:

Emerson Electric Co.
620 South Aurora St.
Ithaca, NY 14850

From the following outfall(s):

Outfall No.	Outfall Description	Location	Receiving Water	WIN *	Class
01A	Treated Remediation Wastewater	42°25'57.18"N 76°29'53.95"W	Tributary of Cayuga Lake	0-66-12-P296-75-6	C
001	Stormwater, Ground water seepage and treated remedial wastewater	42°25'56.03"N 76°29'54.85"W	Tributary of Cayuga Lake	0-66-12-P296-75-6	C
009	Stormwater and Groundwater Seepage	42°25'51.67"N 76°29'59.86"W	Tributary of Cayuga Lake	0-66-12-P296-75-6	C
011	Groundwater seepage	42°25'56.46"N 76°29'55.25"W	Tributary of Cayuga Lake	0-66-12-P296-75-6	C

* Water Index Number

The discharges from the treatment facility shall be limited and monitored by the operator as specified below:

Outfall No. and Parameter	CAS No.	Discharge Limitations		Units	Minimum Monitoring Requirements		FN
		Monthly Avg.	Daily Max		Measurement Frequency	Sample Type	
Outfall 01A - Treated Remediation Discharge							
Flow		Monitor	Monitor	GPD	Monthly	Totalizer	
pH (range)	NA	6.5 – 8.5		SU	Monthly	Grab	
Temperature	NA		Monitor	°F	Monthly	Grab	
Tetrachloroethylene	00127-18-4		0.001	mg/l	Monthly	Grab	
Trichloroethylene	-		0.01	mg/l	Monthly	Grab	
Sum of Dichlorobenzenes	-		0.01	mg/l	Monthly	Grab	
Bromoform	00075-25-2		0.01	mg/l	Monthly	Grab	
Chlorobenzene	00108-90-7		0.005	mg/l	Monthly	Grab	
Chlorodibromomethane	00124-48-1		0.01	mg/l	Monthly	Grab	
Chloroform	00067-66-3		0.01	mg/l	Monthly	Grab	
Cyanide, Free	-	5.2	22	ug/l	Monthly	Grab	1
Dichlorobromomethane	00075-27-4		0.01	mg/l	Monthly	Grab	

1,1 Dichloroethane	00075-34-3		0.01	mg/l	Monthly	Grab	
1,1 – Dichloroethylene	00075-35-4		0.01	mg/l	Monthly	Grab	
Methylene Chloride	00065-09-2		0.01	mg/l	Monthly	Grab	
1,1,2,2- Tetrachloroethane	00079-34-5		0.01	mg/l	Monthly	Grab	
Toluene	00108-88-3		0.05	mg/l	Monthly	Grab	
1,2-(trans)-Dichloroethylene	00156-60-5		0.01	mg/l	Monthly	Grab	
1.2-(cis)-Dichloroethylene	00156-59-2		0.01	mg/l	Monthly	Grab	
1,1,1-Trichloroethane	00071-55-6		0.01	mg/l	Monthly	Grab	
Xylenes, Total	00095-47-6 00108-38-3 00106-42-3		0.01	mg/l	Monthly	Grab	
Vinyl Chloride	00075-01-4		0.01	mg/l	Monthly	Grab	
Benzene	00071-43-2		0.001	mg/l	Monthly	Grab	

Outfall No. and Parameter	CAS No.	Discharge Limitations		Units	Minimum Monitoring Requirements		FN
		Monthly Avg.	Daily Max		Measurement Frequency	Sample Type	
Outfall 001 - Stormwater, Groundwater Seepage and Treated Groundwater							
Flow	NA		Monitor	GPD	Monthly	Estimate	
pH (range)	NA	6.5 – 8.5		SU	Monthly	Grab	
Total Barium	07440-39-3		Monitor	mg/l	Quarterly	Grab	
Total Lead	07439-92-1		7.4	ug/l	Monthly	Grab	
Mercury	07439-97-6		Monitor	ng/l	Quarterly	Grab	2
Tetrachloroethylene	00127-18-4		0.001	mg/l	Monthly	Grab	
Trichloroethylene	-		0.01	mg/l	Monthly	Grab	
Cyanide, Free		5.2	22	ug/l	Quarterly	Grab	1

Outfall No. and Parameter	CAS No.	Discharge Limitations		Units	Minimum Monitoring Requirements		FN
		Monthly Avg.	Daily Max		Measurement Frequency	Sample Type	
Outfall 009 – Stormwater and Groundwater Seepage							
Cyanide, Free	-	5.2	22	ug/l	Quarterly	Grab	1

Footnotes: (see on the next page)

1: Free Cyanide is the sum of HCN and CN, expressed as CN. The WQBEL of 5.2 ug/l Monthly Average and 22 ug/l Daily Max for Cyanide will become effective on August 1, 2025. An interim limit of Monitor Only shall apply from August 1, 2022, until July 31, 2025.

2. Mercury shall be analyzed using USEPA Method 1631

Schedule of Compliance for Cyanide: The permittee shall comply with the following schedule:

Outfall No.	Parameters	Compliance Action	Due Date
009	Cyanide	The permittee shall monitor for Free Cyanide at the frequency specified in the effluent limit tables.	August 1, 2022
		Following 2 years of monitoring, permittee shall submit a report summarizing free Cyanide trends and if the final effluent limits are exceeded, measures to be taken to meet final limits and a schedule to be made enforceable under this permit equivalent. The schedule to address free cyanide exceedances shall not exceed 18 months.	September 30, 2024
		The facility shall meet effluent discharge limitations for Cyanide.	November 1, 2025
011	Cyanide	The discharge from Outfall 011 shall be sampled for Free Cyanide. A sample shall be collected during the first discharge of each month from Outfall 011 until three (3) samples have been collected. Sampling results shall be submitted to the DER project engineer.	March 1, 2023

<u>Additional Conditions:</u>

1. Discharge is not authorized until such time as an engineering submission showing the method

of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. A summary of the monthly monitoring data shall be submitted to the Department twenty-eight (28) days following the end of each monthly monitoring period. All monitoring data, engineering submissions and modification requests must be submitted to:

Karen A Cahill
Division of Environmental Remediation
NYSDEC R7
615 Erie Blvd West
Syracuse, NY 13204-2400
Tel: 315-426-7432
Email: karen.cahill@dec.ny.gov

2. Samples and measurements, to comply with the monitoring requirements specified above, must be taken from the effluent side of the final treatment unit prior to discharge to the receiving water body unless otherwise noted above.

3. Monitoring and analysis shall be conducted using sufficiently sensitive test procedures approved under 40 CFR Part 136 unless other test procedures have been specified in this permit equivalent.

4. Only site generated wastewater is authorized for treatment and discharge.

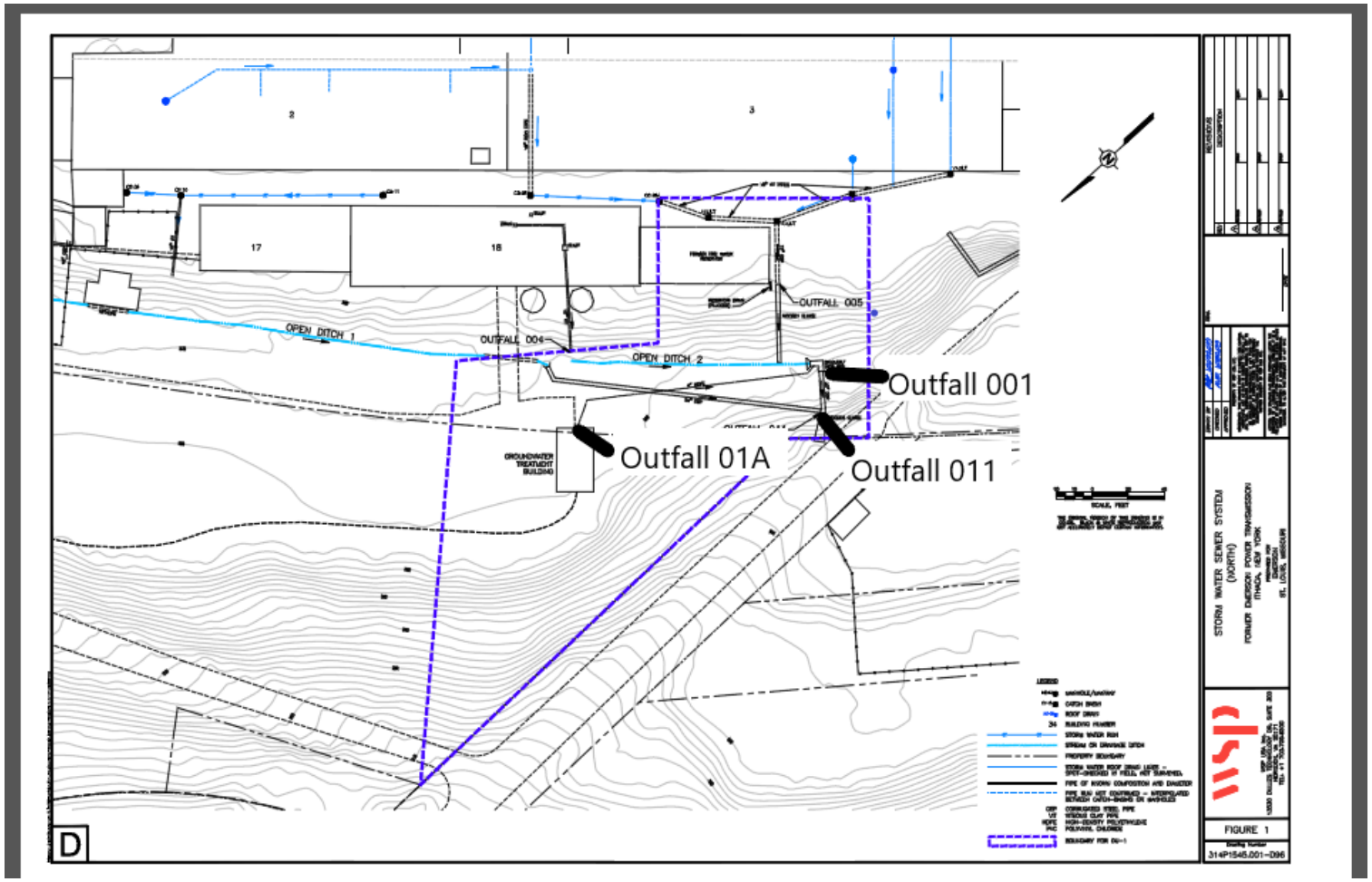
5. Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.

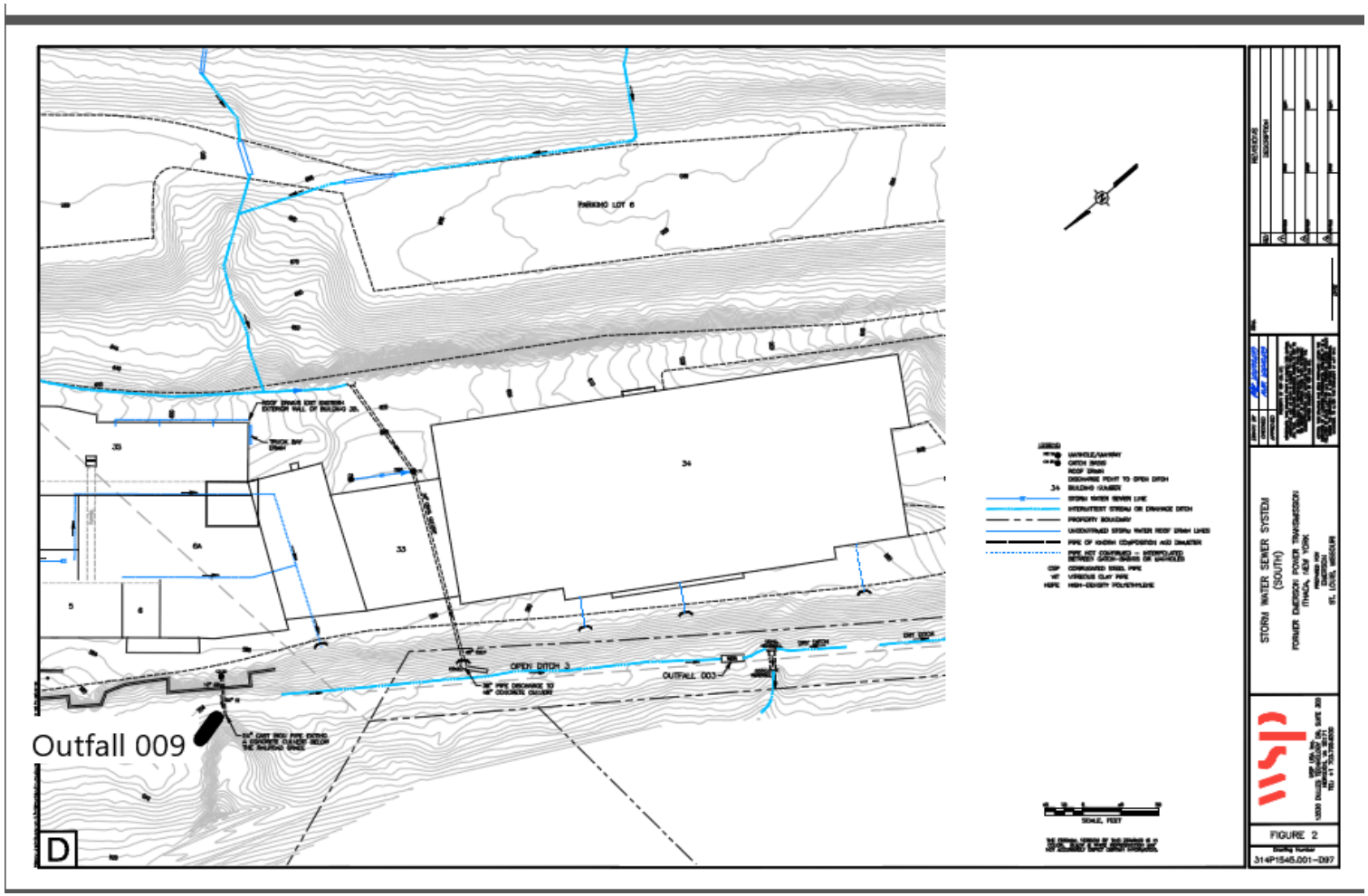
6. Any use of corrosion/scale inhibitors, biocidal-type compounds, or other water treatment chemicals used in the treatment process must be approved by the department prior to use.

7. This discharge and administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.

MONITORING LOCATIONS:

Outfall 001 and 01A




PARKING LOT 6
OPEN DITCH 3
OUTFALL 003
Outfall 009
D
STORM WATER SEWER SYSTEM
(SOUTH)
FIGURE 2
314P1545.001-D97

APPENDIX

J MONITORING AND SAMPLING PLAN

Provided Under Separate Cover Due to File Size

APPENDIX

K SITE MANAGEMENT FORMS

APPENDIX K

SITE INSPECTION FORM

Site Name:	Former Emerson Power Transmission Facility	**Site No.:**	755010		
Address	620 South Aurora Street	**City:**	Ithaca		
County:	Tompkins	**State:**	NY	**Zip:**	14850

Inspector's Contact Information

Name:		**Affiliation:**	
E-mail		**Phone:**	
Address:		**City:**	**State:** **Zip:**

Inspection Information

Type: ☐ Site-Wide Inspection (routine) ☐ Non-routine/Emergency

Date: _____ **Arrival Time:** _____ **Departure Time:** _____

Weather: _____

Event Description (if non-routine or emergency):

SECTION 1 – INSTITUTIONAL CONTROLS

Institutional Controls (ICs) in the Record of Decision Amendment (AROD) and Interim Site Management Plan (SMP) include:

- The property may be used for: restricted residential; commercial, and/or industrial uses as shown on Figure 10 of the Interim SMP
- All Engineering Controls (ECs) must be operated and maintained as specified in this Interim SMP;
- All ECs must be inspected at a frequency and in a manner defined in the Interim SMP;
- The use of groundwater underlying the property is restricted as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or the Tompkins County Department of Health;
- Groundwater and other environmental or public health monitoring must be performed as defined in this Interim SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this Interim SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this Interim SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this Interim SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this Interim SMP;
- Access to the Site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement;
- The potential for soil vapor intrusion (SVI) must be evaluated for any occupied buildings, existing or new, within the IC boundaries noted on Figure 8 of the Interim SMP, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens shall be performed in raised beds following approval of the NYSDEC. Farming on the Site is prohibited, unless indoors such as a hydroponic growing operation;
- Should a building foundation or building slab be removed in the future, a cover system will be placed in any areas where the upper two feet of exposed surface soil exceed the applicable SCOs in the restricted residential area of the Site, and the upper 1 foot of exposed soil exceeds the applicable SCO in the commercial and industrial areas of the Site;

SITE INSPECTION FORM

- Complete and submit to the NYSDEC a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3); and
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. If new areas of contamination are identified after demolition of existing structures and/or removal of building slabs, the nature and extent of contamination in such areas where access was previously limited or unavailable will be immediately and thoroughly investigated pursuant to either an amended Excavation Work Plan or another NYSDEC-approved work plan. Citizen Participation Plan activities will continue, as necessary, through this process. Any required remediation will be completed prior to or in association with redevelopment.

1. Is the property being used for purposes other than those allowed and where boundaries have been established? Yes ☐ No ☐
2. Are all engineering controls (see next section) in operation and maintained? Yes ☐ No ☐
3. Is the Site groundwater being used for any purpose other than remediation and monitoring? Yes ☐ No ☐
4. Are restricted vegetable gardens or other farm activities present? Yes ☐ No ☐
5. Is there evidence of building demolition, slab removal, soil excavation, or other land disturbance at the Site that were not addressed in accordance with the Interim SMP Appendix F - Excavation Work Plan? Yes ☐ No ☐
6. Is there occupancy of existing buildings or new buildings constructed within the IC boundaries that were not evaluated for soil vapor intrusion and mitigation? Yes ☐ No ☐

If the answer to any of the above questions is yes, notify NYSDEC immediately and describe below:

SECTION 2 – ENGINEERING CONTROLS

A. Cap and Cover System

a. Describe the general condition of the cap and cover system at the facility (See Interim SMP for locations of cap and cover system).

b. Were there any excavations or breaches of the cap and cover system during the reporting period? Yes ☐ No ☐

i. If yes, please describe the excavation or breach :

ii. Date of excavation or breach : _____/_____/_____

iii. Was the NYSDEC notified? Yes ☐ No ☐

c. Is there any damage to the cap and cover system that could compromise its effectiveness? Yes ☐ No ☐

SITE INSPECTION FORM

i. If yes, please describe

d. Were any openings or repair(s) made to the cap and cover system during the reporting period? Yes ☐ No ☐

i. If yes, please describe the openings/repair

ii. Was the NYSDEC notified? Yes ☐ No ☐

e. Are there any visible cracks, fissures, erosion or other damage to the cap and cover system that could compromise its effectiveness? Yes ☐ No ☐

i. If yes, please describe

B. Duel Phase Extraction and Treatment System

a. Describe the general condition of the dual phase extraction and treatment system.

b. Is the dual phase extraction and treatment system performing as designed and does it continue to be protective of human health and the environment? Yes ☐ No ☐

i. If no, please describe the deviation (s) :

c. Is the dual phase extraction and treatment system being operated, maintained, and monitored in accordance with the Interim SMP? Yes ☐ No ☐

i. If no, please describe deviation(s):

d. Is all paperwork associated with operation of the dual phase extraction and treatment system up to date? Yes ☐ No ☐

SITE INSPECTION FORM

i. If no, please describe deviation(s):

C. Petroleum (NAPL) Recovery [Reserved – to be developed when petroleum recovery system installed]

D. Sub-slab Depressurization System [Reserved – to be developed when sub-slab depressurization system installed]

E. Re-route and Monitor Groundwater Seeps [Reserved – to be developed when re-route system installed]

APPENDIX K

SUMMARY OF GREEN REMEDIATION METRICS FOR SITE MANAGEMENT

Site Name: Former Emerson Power Transmission Facility **Site No.:** 755010
Address 620 South Aurora Street **City:** Ithaca
County: Tompkins **State:** NY **Zip:** 14850

Initial Report Period (Start Date of Period Covered by the Initial Report Submittal)
Start Date: _____ **To:** _____

Current Reporting Period
Period From: _____ **To:** _____

Preparer's Contact Information

Name: _____ **Affiliation:** _____
E-mail: _____ **Phone:** _____
Address: _____ **City:** _____ **State:** _____ **Zip:** _____

I. Energy Usage: Quantify the amount of energy used directly on-site and the portion of that derived from renewable energy sources.

	Current Reporting Period	**Total to Date**
Fuel Type 1 (e.g. natural gas (cf))		
Fuel Type 2 (e.g. fuel oil, propane (gals))		
Electricity (kWh)		
Of that Electric usage, provide quantity:		
Derived from renewable sources (e.g. solar, wind)		
Other energy sources (e.g. geothermal, solar thermal (Btu))		

Provide a description of all energy usage reduction programs for the site in the space provided on Page 3.

II. Solid Waste Generation: Quantify the management of solid waste generated on-site.

	Current Reporting Period (tons)	**Total to Date (tons)**
Total waste generated on-site		
OM&M generated waste		
Of that total amount, provide quantity:		
Transported off-site to landfills		
Transported off-site to other disposal facilities		
Transported off-site for recycling/reuse		
Reused on-site		

Provide a description of any implemented waste reduction programs for the site in the space provided on Page 3.

SUMMARY OF GREEN REMEDIATION METRICS FOR SITE MANAGEMENT

III. Transportation/Shipping: Quantify the distances travelled for delivery of supplies, shipping of laboratory samples, and the removal of waste.

	Current Reporting Period (miles)	**Total to Date (miles)**
Standby Engineer/Contractor		
Laboratory Courier/Delivery Service		
Waste Removal/Hauling		

Provide a description of all mileage reduction programs for the site in the space provided on Page 3. Include specifically any local vendor/services utilized that are within 50 miles of the site.

IV. Water Usage: Quantify the volume of water used on-site from various sources.

	Current Reporting Period (gal)	**Total to Date (gal)**
Total quantity of water used on-site		
Of that total amount, provide quantity:		
Public potable water supply usage		
Surface water usage		
On-site groundwater usage		
Collected or diverted storm water usage		

Provide a description of any implemented water consumption reduction programs for the site in the space provided on Page 3.

V. Land Use and Ecosystems: Quantify the amount of land and/or ecosystems disturbed and the area of land and/or ecosystems restored to a pre-development condition (i.e. Green Infrastructure).

	Current Reporting Period (acres)	**Total to Date (acres)**
Land disturbed		
Land restored		

Provide a description of any implemented land restoration/green infrastructure programs for the site in the space provided on Page 3.

APPENDIX K

SUMMARY OF GREEN REMEDIATION METRICS FOR SITE MANAGEMENT

Description of green remediation programs reported above (Attach additional sheets if needed)
Energy Usage:
Waste Generation:
Transportation/Shipping:
Water usage:
Land Use and Ecosystems:
Other:

CERTIFICATION BY CONTRACTOR
I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including that last day of the period covered by this application. _____ **Date** **Contractor**

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APPENDIX L

REMEDIAL SYSTEM OPTIMIZATION FOR FORMER EMERSON POWER TRANSMISSION FACILITY

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