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REPORT

Supplemental Site Investigation Report

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Oneida, New York

December 2001

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BLASLAND, BOUCK & LEE, INC.
engineers & scientists

TECHNICAL REPORT

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1. Introduction

This report summarizes the activities and results of a Supplemental Site Investigation (SSI) conducted at the Oneida (141 Cedar Street) Former Manufactured Gas Plant (MGP) Site (the site) in Oneida, New York (Figure 1) during May, June, and July 2001. Blasland, Bouck & Lee, Inc. (BBL) performed the SSI on behalf of Niagara Mohawk Power Corporation (Niagara Mohawk) to obtain additional information in support of an anticipated remedial program for the site. A previous investigation, the Site Investigation (SI), was performed by BBL between July and December 2000, and the results of this investigation were provided to the New York State Department of Environmental Conservation (NYSDEC) in an April 2001 *Draft Site Investigation Report* (Draft SIR). The Draft SIR concluded that supplemental field activities, discussed herein, were warranted to further delineate the extent of MGP-related materials in the western portion of the site.

The SI, SSI, and anticipated remedial program are being implemented in connection with a Voluntary Cleanup Agreement (VCA) (Index Number D7-0001-99-04) for the site issued by the NYSDEC in February 2000. The remedial program is anticipated to consist of the excavation and off-site treatment and disposal of fill materials/soil from the site. These activities are also being performed to assist the City of Oneida in the redevelopment of the adjacent 129 and 153 Cedar Street properties, as part of a "Brownsfield Program," to the extent practicable or necessary.

The SSI was performed in accordance with the objectives and procedures defined in the following documents:

- Letters from Niagara Mohawk to the NYSDEC, dated May 7, 2001 and June 11, 2001, detailing the scope of work for two phases of SSI field activities (copies of these letters are provided in Appendix A);
- The recommendations of the Draft SIR (BBL, 2001); and
- The field and laboratory protocols provided in BBL's May 2000 *Oneida (Sconondoa Street) Former MGP Site Preliminary Remedial Design Work Plan*, including the *Field Sampling Plan* (FSP), *Quality Assurance Project Plan* (QAPP), and *Health and Safety Plan* (HASP) provided as appendices to that document.

This report is organized into the three main sections, as described below:

- Section 1 – the **Introduction** provides the objectives and procedures of the SSI activities;
- Section 2 – **SSI Field Activities and Results** describes the field tasks completed and the results of the SSI activities; and
- Section 3 – **Conclusions and Recommendations** presents and interpretation of the results and provides recommendations for how the project should proceed.

2. SSI Field Activities and Results

2.1 Overview

This section provides an overview of SSI field activities, followed by a detailed description of SSI activities and results. As identified in the Draft SIR, the lateral and vertical limits of potential MGP-related impacts along Cedar Street were not completely defined. Accordingly, Niagara Mohawk has performed SSI activities to further delineate potential MGP-related impacts in this area. The SSI field activities were performed during three separate mobilizations: May 17, 2001 to May 18, 2001; June 27, 2001; and July 9, 2001 to July 18, 2001. The activities conducted during each mobilization are summarized below.

May 17, 2001 to May 18, 2001

- Excavation of test pits TP-6, TP-7, and TP-8, as shown on Figure 2, to further delineate the lateral and vertical distribution of potential MGP-related constituents detected during the SI; and

- Collection of six soil samples from test pits TP-6 and TP-7 for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and total cyanide, and collection of one soil sample from test pit TP-8 for hazardous waste characterization.

Based on the results of the investigation activities conducted on May 17, 2001 and May 18, 2001, additional field activities were proposed, as detailed in the June 11, 2001 letter from Niagara Mohawk to the NYSDEC, to delineate potential MGP-related constituents within and adjacent to Cedar Street, along the northwest boundary of the site. These activities were conducted during two additional mobilizations, as follows:

June 27, 2001:

- A geophysical investigation to assist in the delineation of subsurface structures (e.g., foundation walls, subsurface utilities) using ground-penetrating radar (GPR) and electromagnetic (EM) surveys.

July 9, 2001 to July 18, 2001:

- Installation of six soil borings (SB-16 through SB-21; Figure 2) and one groundwater monitoring well (141-MW-1; Figure 2) within Cedar Street to evaluate the potential presence of MGP-related constituents in soil and a groundwater; and

- Collection of 15 soil samples from soil borings for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), and total cyanide, and collection of one groundwater sample from monitoring well 141-MW-1 for analysis of TCL VOCs and SVOCs and total cyanide.

The SSI field activities and results are discussed below in terms of geophysical investigation activities and results, subsurface soil investigation activities and results, and groundwater investigation activities and results. A summary of the analytical samples collected during the SSI is provided in Table 1, and the results of the analytical soil samples are presented in Table 2. A Data Usability Summary Report (DUSR) of the analytical soil sampling results was prepared by BBL. The DUSR can be provided upon request.

2.2 Geophysical Investigation Activities and Results

As discussed in Section 2.3, a tarlike material was observed immediately beneath a foundation structure uncovered during the test pit excavation activities conducted from May 17 to 18, 2001. Based on this observation, a geophysical investigation was performed on June 27, 2001 to assist in the delineation of subsurface structures that may be present at the site, thus aiding in the delineation of tarlike material that appeared to be preferentially located in the bedding material below the subsurface structures. The results of the geophysical investigation were provided in a July 26, 2001 letter from Niagara Mohawk to James Bacher, the city engineer for Oneida (a copy of this letter was provided to the NYSDEC and is provided in Appendix B).

As discussed in the July 26, 2001 letter to Mr. Bacher, the electromagnetic (EM) portion of the geophysical investigation identified two small anomalies located near the extreme southwestern corner of the site. These anomalies were not completely delineated by the EM survey, as they were located along the edge of the survey area. The anomalies were located in the same general area as a feature labeled as "G.T.'s" (which presumably indicates the presence of petroleum underground storage tanks [USTs] or gas tanks) on a 1930/1956 Sanborn map of the site area (attached to the July 26, 2001 letter). Previous Sanborn maps, including Sanborn maps that cover the duration when the former MGP operated on the property, do not indicate the presence of the "G.T.'s" (copies of these Sanborn maps are also attached to the July 26, 2001 letter). Therefore, the "G.T.'s" do not appear to be associated with the former 141 Cedar Street MGP. The presence and/or condition of these tanks cannot be determined based on the existing data.

Mr. Bacher provided a July 30, 2001 response letter to Niagara Mohawk. A copy of this letter is provided in Appendix B.

2.3 Subsurface Soil Investigation Activities and Results

Subsurface soil investigation activities were conducted on May 17, 2001 and May 18, 2001, and July 9, 2001 to July 18, 2001. These activities consisted of excavating three test pits (TP-6, TP-7, and TP-8), installing six soil borings (SB-16 through SB-21), and collecting soil samples for laboratory analysis. The locations of the test pits and soil borings are shown on Figure 2.

Soils collected from the test pits and soil borings were characterized by a geologist and screened with a photoionization detector (PID) for the presence of detectable VOCs, if any. Samples were selected at each location for laboratory analysis based on elevated PID readings and the presence of odors, staining, and/or nonaqueous-phase liquid (NAPL) or tar. Analytical samples were also collected from intervals exhibiting no apparent impacts, with the intent of providing a "clean" sample result that would define the limit of the impacted materials. A sample analysis summary for analytical samples collected during the SSI is provided in Table 1. Subsurface conditions encountered at each soil boring and test pit are summarized in the boring logs and test pit field notes provided in Appendix C.

Analytical soil samples collected during the excavation of test pits from May 17, 2001 to May 18, 2001 were submitted to the laboratory for analysis of BTEX, PAHs, and total cyanide. Samples collected from MGP sites are normally analyzed for this suite of constituents, since these constituents are primarily associated with MGP sites. Analytical soil samples collected during the installation of soil borings between July 9, 2001 and July 18, 2001, however, were submitted to the laboratory for analysis of TCL VOCs and SVOCs and total cyanide. The purpose for requesting a report of an expanded list of VOCs and SVOCs was to identify other potential sources that may be located hydraulically upgradient from the site. Non-MGP-related odors were noted during the installation of soil borings upgradient (northwest) of the northern corner of the site; therefore, it was assumed that other sources might be present upgradient from the site. All analyses were performed by an Environmental

Laboratory Approval Program (ELAP)-certified laboratory using U.S. Environmental Protection Agency (USEPA) SW-846 Methods as referenced in the NYSDEC-Analytical Services Protocol (ASP).

The following table summarizes the observations of visually impacted materials encountered during the SSI subsurface soil investigation:

Location	Observation
TP-6	Apparent coal tar observed approximately 65 feet from the southwest end of the pit at 4.5 feet below ground surface (bgs) beneath a foundation wall; black oily substance observed approximately 55 feet from the southwest end of the pit at 3 to 4 feet bgs adjacent to a foundation wall; black staining observed at approximately 47 feet from the southwest end for the pit from 5.5 to 12.5 feet bgs; possible purifier waste was observed near the northeast end of the pit at approximately 1 foot bgs.
TP-7	No impacts observed.
TP-8	Trace amount of apparent coal tar observed approximately 12 feet from the southwest end of the pit at 5 feet bgs beneath a foundation wall; black staining observed at approximately 7 feet from the southwest end pit and 2 feet bgs.
SB-16	Trace to little black staining observed from 11 to 12 feet bgs and from 14 to 15.5 feet bgs; odor from 11 to 13 feet bgs.
SB-17	Little black staining observed from 11 to 14 feet bgs; odor from 10 to 11 feet bgs.
SB-18	No impacts observed.
SB-19	Possible black staining observed from 6.5 to 7 feet bgs.
SB-20	Possible trace black staining observed from 15.5 to 16 feet bgs.
SB-21	Possible trace black staining from 4 to 6 feet bgs and from 8.5 to 10 feet bgs; non-MGP odor from 8 to 12 feet bgs.

As shown in the above table, impacts were observed in several of the subsurface investigation locations. MGP-related impacts, such as occurrences of tars, oily substances, and potential purifier waste, were noted in test pits completed on the site. The vertical extent of these impacts appeared to be localized, as the extent of the impacts was generally constrained by the limits of the test pits. This observation is further corroborated by very low or not detected concentrations of MGP-related constituents in the lowest interval sampled at each investigation location (Figure 3).

The lateral extent of potential MGP-related impacts was constrained by observations made during advancement of the soil borings within Cedar Street, adjacent to the site. As discussed previously, potential non-MGP-related odors were, however, observed during the installation of soil borings (SB-16, SB-17, and SB-21) that were installed upgradient of the northern corner of the site. The strongest odors were noticed in soil boring SB-21, at approximately 8 to 12 feet bgs. An elevated PID reading of 2,962 parts per million (ppm) was also measured at the soil sample collected from 8 to 10 feet bgs.

Analytical results are provided below in terms of detections of total BTEX, total PAHs, and total cyanide. Where applicable, detections of other constituents (other than BTEX, PAHs, and cyanide) are also discussed. Soil analytical results are detailed in Table 2. The distribution of BTEX, PAHs, and total cyanide detected in soil is shown on Figure 3.

2.3.1 BTEX Analytical Results

A total of 21 soil samples (15 off site and 6 on site) were analyzed for BTEX compounds (from test pits) or TCL VOCs (from soil borings) during the SSI. Concentrations of one or more BTEX compounds were detected in 12 of the 21 samples. Detected total BTEX concentrations ranged from 0.004 ppm in samples collected from soil

boring SB-16 (16 to 18 feet bgs) and test pit TP-6 (6.5 feet bgs) to 1,510 ppm in a soil sample collected from soil boring SB-21 (8 to 10 feet bgs). The elevated total BTEX concentration detected in SB-21 (8 to 10 feet bgs) is associated with the observed odor and the elevated PID reading (2,962 ppm) for that sample. This BTEX concentration is more than three times higher than the next highest concentration observed on site. The next highest BTEX concentration was observed from a sample of soil impacted by oily MGP-related material. As shown on Figure 3, detections of BTEX in samples collected upgradient and off site (within Cedar Street) are limited to the area northwest of the northern corner of the site.

Acetone and methylene chloride were the only other VOCs detected in soil during the SSI. As shown in Table 2, only samples from the soil borings located upgradient (off site) included analysis for acetone (samples collected on site were not analyzed for TCL VOCs). As with the off-site detections of BTEX, detections of acetone appear to be limited to the area northwest of the northern corner of the site. Detected acetone concentrations ranged from an estimated concentration of 0.005 ppm at SB-17 (14 to 16 feet bgs) to 0.036 ppm at SB-20 (10 to 12 feet bgs). Methylene chloride was detected in one soil sample, SB-20 (10 to 12 feet bgs) at 0.008 ppm. The detection of methylene chloride is possibly associated with laboratory contamination.

2.3.2 PAHs Analytical Results

A total of 21 soil samples (15 off site and 6 on site) were analyzed for PAH constituents (from test pits) or TCL SVOCs (from soil borings) in soil during the SSI. Concentrations of several PAH constituents were detected in 10 of the 21 samples. Detected total PAH concentrations ranged from 0.144 ppm in an off-site soil sample collected from soil boring SB-17 (10 to 12 feet bgs) to 3,863 ppm in an on-site soil sample collected from test pit TP-6 (3 feet bgs). The elevated total PAHs concentration detected at TP-6 (3 feet bgs) is likely due to the presence of oily MGP-related material observed in this sample. All other on-site soil samples exhibiting concentrations of PAHs had concentrations less than 100 ppm (Figure 3). The highest detected concentration of total PAHs for soil samples collected off site (within Cedar Street) was from SB-21 (8 to 10 feet bgs) at a concentration of 25.6 ppm.

Bis(2-ethylhexyl)phthalate and 4-methylphenol were the only other SVOCs detected in soil samples collected during the SSI. As shown in Table 2, only samples from the soil borings located upgradient (off site) included analysis for bis(2-ethylhexyl)phthalate and 4-methylphenol (samples collected on site were not analyzed for TCL SVOCs). Bis(2-ethlhexyl)phthalate was detected in SB-16 (14 to 15.6 feet bgs) and SB-18 (10 to 12 feet bgs) at concentrations of 0.65 and 0.91 ppm, respectively. 4-methylphenol was detected at a concentration of 0.058 ppm at SB-21 (14 to 16 feet bgs).

2.3.3 Total Cyanide Analytical Results

A total of 21 soil samples were analyzed for total cyanide during the SSI (15 off site and 6 on site). Concentrations of total cyanide were detected in seven of these samples. The detectable concentrations ranged from 0.59 ppm in a soil sample collected from SB-19 (10 to 12 feet bgs) to 129 ppm in soil collected from TP-6 (3 feet bgs).

Detected concentrations of total cyanide in off-site soil samples (collected within Cedar Street) ranged from 0.59 ppm in SB-19 (10 to 12 feet bgs) to 10.5 ppm in soil boring SB-16 (10 to 12 feet bgs). One soil sample collected on site (TP-6 [3 feet bgs] at 129 ppm) contained detectable concentrations of total cyanide. The elevated concentration of total cyanide detected in this sample is likely associated with an oily MGP-related material observed in this sample matrix.

2.3.4 Hazardous Waste Characterization

A hazardous waste characterization sample was collected at TP-8 (5 feet bgs), where soil was observed to contain coal tar. The coal tar was observed in a small area (approximately 2 feet wide) at the base of the test pit. The sample was submitted to the laboratory for Toxicity Characteristic Leaching Procedure (TCLP) analysis of VOCs, SVOCs, polychlorinated biphenyls (PCBs), inorganics, No. 2 fuel oil, kerosene, and lube oil. Table 3 summarizes the results of the TCLP analyses on the sample. The results of this sample will be evaluated for potential treatment and disposal options.

2.4 Groundwater Investigation Activities and Results

The SSI activities also included the installation of a permanent water table monitoring well (141-MW-1) at one soil boring location (SB-17) upgradient of the site, Cedar Street (Figure 2). Monitoring well 141-MW-1 was installed on July 9, 2001, and a groundwater sample was collected from this well on July 18, 2001 for analysis of TCL VOCs and SVOCs and total cyanide, with a "results only" reporting package requested from the laboratory. The well was developed approximately 8 days before sampling.

Trace amounts of benzene (estimated at a concentration of 4 parts per billion [ppb]), ethylbenzene (2 ppb), and total xylenes (1 ppb) were detected in the sample. A trace amount of methylene chloride was also detected at an estimated concentration of 2 ppb; however, methylene chloride was also detected at this concentration in the trip blank, indicating probable laboratory contamination. SVOCs and total cyanide were not detected above the instrument detection limit in the sample.

A round of groundwater levels was measured on July 18, 2001 from the newly installed monitoring well and the existing wells located on the 129 Cedar Street and 153 Cedar Street properties. The water level measurements are summarized in Table 4. As shown on Figure 4, shallow groundwater flows in a southeasterly direction, which corroborates the conclusions presented in the Draft SIR.

3. Conclusions and Recommendations

3.1 Conclusions

The following conclusions are based on the findings of the SSI:

- MGP-related materials (i.e., tars, oils, and/or potential purifier wastes) were observed in shallow soil in test pits TP-6 and TP-8, located approximately 25 and 12 feet southeast of Cedar Street, respectively.

- Obvious MGP-related materials (i.e., tars, oils, and/or potential purifier wastes) were not observed in soils encountered during the installation of soil borings within Cedar Street; however, potential non-MGP-related impacts were observed in soil samples collected upgradient (northwest) of the northern corner of the 141 Cedar Street property. The conclusion that the soil impacts observed off site are not related to the former MGP site are supported by the following:

  - The PAH/BTEX ratio for the off-site sample with the highest concentrations of these constituents (SB-21 [8 to 10 feet bgs]) was 0.02. Conversely, the PAH/BTEX ratio for the on-site sample with the highest concentration of these constituents (TP-6 [3 feet bgs]) was 9.0. This highlights the predominance of BTEX in the off-site sample and the predominance of PAHs in the on-site sample. Additionally, the off-site BTEX concentration was approximately three times higher than the highest BTEX concentration observed anywhere on site;

  - Cedar Street lies hydraulically upgradient of the site;

  - Lower concentrations (compared with samples collected from SB-21 and TP-6) of BTEX and PAHs were detected in the soil samples collected from boring SB-16, located between SB-21 and the site, suggesting that the constituents could not have migrated from the site to the northwest toward SB-21; and

  - Based on field observations (primarily odor), the materials encountered at SB-21 were not MGP-related.

- Trace amounts of benzene, ethylbenzene, and xylenes were detected in a groundwater sample collected from a newly installed monitoring well located upgradient of the 141 Cedar Street property, suggesting potential upgradient impacts from an off-site upgradient source; and

- MGP-related constituents in the western/northwestern portion of the site appear to be constrained by the limits of the 141 Cedar Street property.

3.2 Recommendations

Based on the aforementioned conclusions, the limits of MGP-related impacts at the 141 Cedar Street property are well understood. In accordance with the VCA for the site, Niagara Mohawk proposes to develop a remedial program to address the MGP-related impacts, which will likely include removal and off-site treatment/disposal of the MGP-related impacts observed within and southeast of the retaining wall. A remediation work plan will be developed and submitted to the NYSDEC upon the NYSDEC's acceptance of this SSI report.

Tables

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Table 1

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Sample Summary

Location ID	Depth (ft bgs)	Date	Type	Matrix	Analysis
SB-16	(10 - 12')	7/9/01	FS	Soil	1
SB-16	(14 - 15.6')	7/9/01	FS	Soil	1
SB-16	(16 - 18')	7/9/01	FS	Soil	1
SB-17	(6 - 8')	7/9/01	FS	Soil	1
SB-17	(10 - 12')	7/9/01	FS	Soil	1
SB-17	(14 - 16')	7/9/01	FS	Soil	1
SB-18	(6 - 8')	7/10/01	FS	Soil	1
SB-18	(10 - 12')	7/10/01	FS	Soil	1
SB-18	(10 - 12')	7/10/01	DUP	Soil	2
SB-19	(6 - 8')	7/10/01	FS	Soil	1
SB-19	(10 - 12')	7/10/01	FS	Soil	1
SB-19	(10 - 12')	7/10/01	DUP	Soil	3
SB-20	(10 - 12')	7/10/01	FS	Soil	1
SB-20	(14 - 16')	7/10/01	FS	Soil	1
SB-21	(8 - 10')	7/10/01	FS	Soil	1
SB-21	(14 - 16')	7/10/01	FS	Soil	1
SB-21	(20 - 22')	7/10/01	FS	Soil	1
TP-6	(3')	5/17/01	FS	Soil	4
TP-6	(6.5')	5/17/01	FS	Soil	4
TP-6	(10')	5/17/01	FS	Soil	4
TP-6	(12')	5/18/01	FS	Soil	4
TP-6	(12')	5/18/01	DUP	Soil	4
TP-6	(12.5')	5/17/01	FS	Soil	4
TP-7	(1')	5/18/01	FS	Soil	4
TP-8	(1')	5/18/01	FS	Soil	5
141-MW-1	(7 - 17')	7/18/01	FS	Water	1

Notes:

1 = Analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), and total cyanide.

2 = Analyzed for TCL VOCs.

3 = Analyzed for TCL SVOCs and total cyanide.

4 = Analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and total cyanide.

5 = Analyzed for waste characterization: benzene, Toxicity Characteristic Leaching Procedure (TCLP) SVOCs, TCLP PCBs, TCLP inorganics, and petroleum.

BTEX and TCL VOCs analyses were performed by USEPA Method 8260.

PAHs and TCL SVOCs analyses were performed by USEPA Method 8270.

Total cyanide analysis was performed by USEPA Method 9010.

FS = primary field sample.

DUP = duplicate sample.

bgs = below ground surface.

Table 2

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Soil Analytical Results - Delineation Sampling

Location ID	SB-16	SB-16	SB-16	SB-17	SB-17	SB-17	SB-18	SB-18	SB-18	SB-19	SB-19	SB-19
Depth Range	(10 - 12')	(14 - 15.6')	(16 - 18')	(10 - 12')	(14 - 16')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')
Date Sampled	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	DUP	FS
Volatile Organic Compounds												
1,1,1-Trichloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,1,2,2-Tetrachloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 UJ	0.006 U	--	0.006 U
1,1,2-Trichloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,1-Dichloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,1-Dichloroethene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,2-Dichlorobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
1,2-Dichloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,2-Dichloroethene, Total	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,2-Dichloropropane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
1,3-Dichlorobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
1,4-Dichlorobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Butanone	0.059 U	1.4 U	0.012 U	0.012 UJ	0.012 U	0.012 U	0.012 U	0.012 UJ	0.011 U	0.012 UJ	--	0.011 UJ
2-Hexanone	0.059 U	1.4 U	0.012 U	0.012 UJ	0.012 U	0.012 U	0.012 U	0.012 UJ	0.011 U	0.012 UJ	--	0.011 UJ
4-Methyl-2-pentanone	0.059 U	1.4 U	0.012 U	0.012 UJ	0.012 U	0.012 U	0.012 U	0.012 UJ	0.011 U	0.012 UJ	--	0.011 UJ
Acetone	0.059 U	1.4 U	0.012 U	0.012 UJ	**0.005 J**	**0.021**	0.012 U	**0.01 J**	0.011 U	0.012 UJ	--	0.011 UJ
Benzene	0.029 U	0.72 U	0.006 U	**0.007**	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Bromodichloromethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Bromoform	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 UJ	0.006 U	--	0.006 U
Bromomethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Carbon disulfide	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Carbon tetrachloride	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Chlorobenzene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Chlorodibromomethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Chloroethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Chloroform	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Chloromethane	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-16	SB-16	SB-16	SB-17	SB-17	SB-17	SB-18	SB-18	SB-18	SB-19	SB-19	SB-19
Depth Range	(10 - 12')	(14 - 15.6')	(16 - 18')	(10 - 12')	(14 - 16')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')
Date Sampled	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	DUP	FS
cis-1,3-Dichloropropene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Ethylbenzene	**8.2 DJ**	**22**	**0.001 J**	**0.015**	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Methyl tert-butyl ether	0.029 U	0.72 U	0.006 U	0.006 UJ	0.006 U	0.006 U	0.006 U	0.006 UJ	0.006 U	0.006 UJ	--	0.006 UJ
Methylene chloride	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Styrene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Tetrachloroethene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Toluene	**0.036 J**	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
trans-1,3-Dichloropropene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Trichloroethene	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Vinyl chloride	0.029 U	0.72 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Xylenes, Total	**25. DJ**	**60**	**0.003 J**	**0.003 J**	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	--	0.006 U
Total BTEX	**33.236**	**82**	**0.004**	**0.025**	ND	ND	ND	ND	ND	ND	--	ND
Semivolatile Organic Compounds												
1,2,4-Trichlorobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,2'-oxybis(dichloropropane)	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,4,5-Trichlorophenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,4,6-Trichlorophenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,4-Dichlorophenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,4-Dimethylphenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,4-Dinitrophenol	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
2,4-Dinitrotoluene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2,6-Dinitrotoluene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Chloronaphthalene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Chlorophenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Methylnaphthalene	**0.19 J**	**3**	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Methylphenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
2-Nitroaniline	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-16	SB-16	SB-16	SB-17	SB-17	SB-17	SB-18	SB-18	SB-18	SB-19	SB-19	SB-19
Depth Range	(10 - 12')	(14 - 15.6')	(16 - 18')	(10 - 12')	(14 - 16')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')
Date Sampled	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	DUP	FS
2-Nitrophenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
3,3'-Dichlorobenzidine	0.78 U	0.76 U	0.79 U	0.77 U	0.78 U	0.78 U	0.8 U	--	0.74 U	0.79 U	0.8 U	0.75 U
3-Nitroaniline	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
4,6-Dinitro-2-methylphenol	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
4-Bromophenyl phenyl ether	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
4-Chloro-3-methylphenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
4-Chloroaniline	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
4-Chlorophenyl phenyl ether	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
4-Methylphenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
4-Nitroaniline	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
4-Nitrophenol	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
Acenaphthene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Acenaphthylene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Anthracene	0.39 U	**0.071 J**	0.4 U	0.39 U	0.39 U	**0.042 J**	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Benzo(a)anthracene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	**0.097 J**	**0.055 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Benzo(a)pyrene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	**0.11 J**	**0.06 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Benzo(b)fluoranthene	0.39 U	**0.047 J**	0.4 U	0.39 U	0.39 U	**0.14 J**	**0.076 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Benzo(g,h,i)perylene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	**0.053 J**	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Benzo(k)fluoranthene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	**0.062 J**	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
bis(2-Chloroethoxy)methane	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
bis(2-Chloroethyl)ether	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
bis(2-Ethylhexyl)phthalate	0.39 U	**0.65**	0.4 U	0.39 U	0.39 U	0.39 U	**0.91**	--	0.37 U	0.4 U	0.4 U	0.38 U
Butyl benzyl phthalate	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Carbazole	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Chrysene	0.39 U	**0.044 J**	0.4 U	0.39 U	0.39 U	**0.093 J**	**0.052 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Di-n-butyl phthalate	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Di-n-octyl phthalate	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-16	SB-16	SB-16	SB-17	SB-17	SB-17	SB-18	SB-18	SB-18	SB-19	SB-19	SB-19
Depth Range	(10 - 12')	(14 - 15.6')	(16 - 18')	(10 - 12')	(14 - 16')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')	(10 - 12')	(10 - 12')	(6 - 8')
Date Sampled	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/9/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	DUP	FS
Dibenz(a,h)anthracene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Dibenzofuran	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Diethyl phthalate	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Dimethyl phthalate	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Fluoranthene	0.39 U	**0.084 J**	0.4 U	**0.057 J**	0.39 U	**0.21 J**	**0.14 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Fluorene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Hexachlorobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Hexachlorobutadiene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Hexachlorocyclopentadiene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Hexachloroethane	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Indeno(1,2,3-cd)pyrene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	**0.056 J**	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Isophorone	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
N-Nitroso-di-n-propylamine	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
N-Nitrosodiphenylamine	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Naphthalene	**0.082 J**	**1.8**	0.4 U	0.39 U	0.39 U	**0.078 J**	**0.047 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Nitrobenzene	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Pentachlorophenol	0.98 U	0.95 U	0.99 U	0.96 U	0.97 U	0.98 U	1 U	--	0.92 U	0.99 U	1 U	0.94 U
Phenanthrene	0.39 U	**0.28 J**	0.4 U	**0.048 J**	0.39 U	**0.2 J**	**0.15 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Phenol	0.39 U	0.38 U	0.4 U	0.39 U	0.39 U	0.39 U	0.4 U	--	0.37 U	0.4 U	0.4 U	0.38 U
Pyrene	0.39 U	**0.12 J**	0.4 U	**0.039 J**	0.39 U	**0.18 J**	**0.1 J**	--	0.37 U	0.4 U	0.4 U	0.38 U
Total PAHs	**0.272**	**5.446**	ND	**0.144**	ND	**1.321**	**0.68**	--	ND	ND	ND	ND
Total Cyanide												
Cyanide, Total	**10.5**	**0.7**	0.56 U	0.54 U	0.58 U	0.58 U	**1.1**	--	0.55 U	0.57 U	0.57 U	**0.59**

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-20	SB-20	SB-21	SB-21	SB-21	TP-6	TP-6	TP-6	TP-6	TP-6	TP-6	TP-7
Depth Range	(10 - 12')	(14 - 16')	(14 - 16')	(20 - 22')	(8 - 10')	(10')	(12')	(12')	(12.5')	(3')	(6.5')	(1')
Date Sampled	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	5/17/01	5/18/01	5/18/01	5/17/01	5/17/01	5/17/01	5/18/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	FS	FS
Volatile Organic Compounds												
1,1,1-Trichloroethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	0.006 U	0.006 U	0.03 U	R	0.029 U	--	--	--	--	--	--	--
1,1,2-Trichloroethane	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
1,1-Dichloroethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,1-Dichloroethene	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,2-Dichlorobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
1,2-Dichloroethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,2-Dichloroethene, Total	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,2-Dichloropropane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
1,3-Dichlorobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
1,4-Dichlorobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2-Butanone	0.012 U	0.012 UJ	0.06 U	0.011 U	0.057 UJ	--	--	--	--	--	--	--
2-Hexanone	0.012 U	0.012 UJ	0.06 UJ	0.011 UJ	0.057 UJ	--	--	--	--	--	--	--
4-Methyl-2-pentanone	0.012 U	0.012 UJ	0.06 UJ	0.011 UJ	0.057 UJ	--	--	--	--	--	--	--
Acetone	**0.036**	**0.009 J**	0.06 UJ	**0.004 J**	0.057 UJ	--	--	--	--	--	--	--
Benzene	0.006 U	0.006 U	**0.14**	0.006 U	**0.16 J**	0.006 U	0.006 U	0.006 U	0.012 U	**4.2**	0.006 U	0.006 U
Bromodichloromethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Bromoform	0.006 U	0.006 U	0.03 U	R	0.029 U	--	--	--	--	--	--	--
Bromomethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Carbon disulfide	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Carbon tetrachloride	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Chlorobenzene	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Chlorodibromomethane	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Chloroethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Chloroform	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Chloromethane	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-20	SB-20	SB-21	SB-21	SB-21	TP-6	TP-6	TP-6	TP-6	TP-6	TP-6	TP-7
Depth Range	(10 - 12')	(14 - 16')	(14 - 16')	(20 - 22')	(8 - 10')	(10')	(12')	(12')	(12.5')	(3')	(6.5')	(1')
Date Sampled	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	5/17/01	5/18/01	5/18/01	5/17/01	5/17/01	5/17/01	5/18/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	FS	FS
Volatile Organic Compounds												
cis-1,3-Dichloropropene	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Ethylbenzene	**0.004 J**	**0.02**	**63. DJ**	**0.001 J**	**160 DJ**	0.006 U	0.006 U	0.006 U	**0.003 J**	**11**	0.006 U	0.006 UJ
Methyl tert-butyl ether	0.006 U	0.006 UJ	0.03 UJ	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Methylene chloride	**0.008**	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Styrene	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Tetrachloroethene	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Toluene	0.006 U	0.006 U	**170 DJ**	**0.015 J**	**460 DJ**	0.006 U	0.006 U	0.006 U	**0.007 J**	**44**	**0.002 J**	0.006 UJ
trans-1,3-Dichloropropene	0.006 U	0.006 U	0.03 U	0.006 UJ	0.029 UJ	--	--	--	--	--	--	--
Trichloroethene	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Vinyl chloride	0.006 U	0.006 U	0.03 U	0.006 U	0.029 UJ	--	--	--	--	--	--	--
Xylenes, Total	**0.017**	**0.077**	**360 DJ**	**0.008 J**	**890 DJ**	0.006 U	0.006 U	0.006 U	**0.24**	**370**	**0.002 J**	0.006 UJ
Total BTEX	**0.021**	**0.097**	**593**	**0.024**	**1,510**	ND	ND	ND	**0.25**	**429**	**0.004**	ND
Semivolatile Organic Compounds												
1,2,4-Trichlorobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,2'-oxybis(dichloropropane)	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,4-Dichlorophenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,4-Dimethylphenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,4-Dinitrophenol	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
2,4-Dinitrotoluene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2-Chloronaphthalene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2-Chlorophenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2-Methylnaphthalene	0.41 U	0.4 U	**0.25 J**	0.38 U	**9.5 D**	0.39 U	0.39 U	0.39 U	**0.86 JD**	**220 D**	0.38 U	0.4 U
2-Methylphenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
2-Nitroaniline	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-20	SB-20	SB-21	SB-21	SB-21	TP-6	TP-6	TP-6	TP-6	TP-6	TP-6	TP-7
Depth Range	(10 - 12')	(14 - 16')	(14 - 16')	(20 - 22')	(8 - 10')	(10')	(12')	(12')	(12.5')	(3')	(6.5')	(1')
Date Sampled	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	5/17/01	5/18/01	5/18/01	5/17/01	5/17/01	5/17/01	5/18/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	FS	FS
Volatile Organic Compounds												
2-Nitrophenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	0.81 U	0.8 U	0.8 U	0.75 U	0.76 U	--	--	--	--	--	--	--
3-Nitroaniline	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
4-Chloroaniline	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
4-Methylphenol	0.41 U	0.4 U	**0.058 J**	0.38 U	0.38 U	--	--	--	--	--	--	--
4-Nitroaniline	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
4-Nitrophenol	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
Acenaphthene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	0.39 U	0.39 U	**0.44 JD**	**22**	0.38 U	0.4 U
Acenaphthylene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	0.39 U	0.39 U	**3.3 JD**	**120 JD**	0.38 U	0.4 U
Anthracene	0.41 U	0.4 U	0.4 U	0.38 U	**0.093 J**	0.39 U	**0.13 J**	0.39 U	**4.1 D**	**110 JD**	0.38 U	0.4 U
Benzo(a)anthracene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.28 J**	**0.041 J**	**5.5 D**	**170 JD**	0.38 U	0.4 U
Benzo(a)pyrene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.22 J**	**0.044 J**	**4.4 D**	**130 JD**	0.38 U	0.4 U
Benzo(b)fluoranthene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.16 J**	**0.054 J**	**5.4 D**	**200 JD**	0.38 U	0.4 U
Benzo(g,h,i)perylene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.2 J**	0.39 U	**2.0 JD**	**53. JD**	0.38 U	0.4 U
Benzo(k)fluoranthene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.063 J**	0.39 U	**2.1 JD**	**69. JD**	0.38 U	0.4 U
bis(2-Chloroethoxy)methane	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Butyl benzyl phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Carbazole	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Chrysene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.29 J**	**0.041 J**	**4.3 D**	**140 JD**	0.38 U	0.4 U
Di-n-butyl phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Di-n-octyl phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Location ID	SB-20	SB-20	SB-21	SB-21	SB-21	TP-6	TP-6	TP-6	TP-6	TP-6	TP-6	TP-7
Depth Range	(10 - 12')	(14 - 16')	(14 - 16')	(20 - 22')	(8 - 10')	(10')	(12')	(12')	(12.5')	(3')	(6.5')	(1')
Date Sampled	7/10/01	7/10/01	7/10/01	7/10/01	7/10/01	5/17/01	5/18/01	5/18/01	5/17/01	5/17/01	5/17/01	5/18/01
Sample Type	FS	FS	FS	FS	FS	FS	FS	DUP	FS	FS	FS	FS
Semivolatile Organic Compounds												
Dibenz(a,h)anthracene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	0.39 UJ	0.39 U	**0.45 JD**	**25. J**	0.38 U	0.4 U
Dibenzofuran	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Diethyl phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Dimethyl phthalate	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Fluoranthene	0.41 U	0.4 U	0.4 U	0.38 U	**0.08 J**	0.39 U	**0.33 J**	**0.08 J**	**14. D**	**440 D**	0.38 U	0.4 U
Fluorene	0.41 U	0.4 U	0.4 U	0.38 U	**0.31 J**	0.39 U	**0.066 J**	0.39 U	**1.9 JD**	**54. JD**	0.38 U	0.4 U
Hexachlorobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Hexachlorobutadiene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Hexachloroethane	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	0.39 U	**0.084 J**	0.39 U	**2.0 JD**	**60. JD**	0.38 U	0.4 U
Isophorone	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
N-Nitroso-di-n-propylamine	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Naphthalene	0.41 U	0.4 U	**0.21 J**	0.38 U	**15. D**	0.39 U	0.39 U	0.39 U	**2.1 JD**	**1,200 D**	0.38 U	0.4 U
Nitrobenzene	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Pentachlorophenol	1 U	1 U	0.99 U	0.94 U	0.95 U	--	--	--	--	--	--	--
Phenanthrene	0.41 U	0.4 U	0.4 U	0.38 U	**0.46**	0.39 UJ	**1.0 J**	**0.045 J**	**9.1 JD**	**560 JD**	0.38 UJ	0.4 UJ
Phenol	0.41 U	0.4 U	0.4 U	0.38 U	0.38 U	--	--	--	--	--	--	--
Pyrene	0.41 U	0.4 U	0.4 U	0.38 U	**0.11 J**	0.39 UJ	**2.2 J**	**0.078 J**	**9.3 JD**	**290 JD**	0.38 UJ	0.4 UJ
Total PAHs	ND	ND	**0.46**	ND	**25.553**	ND	**5.023**	**0.383**	**71.25**	**3,863**	ND	ND
Total Cyanide												
Cyanide, Total	**0.66**	**0.63**	0.57 U	0.55 U	0.54 U	0.59 U	0.58 U	0.55 U	0.58 U	**129**	0.58 U	0.63 U

See Notes on Page 9.

Table 2

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Delineation Sampling

Notes:

1. Concentrations given in milligrams per kilogram (mg/kg); also expressed as parts per million (ppm).
2. Samples analyzed using New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocol (ASP) 95-1, 95-2, and 95-3 Methods.
3. PAHs = polycyclic aromatic hydrocarbons.
4. Soil samples collected from test pits TP-2 through TP-5 were analyzed for PAHs only.
5. NA = Not available.
6. ND = Not detected.
7. -- = Not analyzed.
8. Detections are bolded.

Data Qualifiers:

D = Concentration is based on a diluted sample analysis.
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
R = The sample results are rejected.
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID	TP-8
Depth Range	(5')
Date Sampled	5/18/01
Sample Type	FS
TCLP Volatile Organic Compounds	
Benzene	***4.5***
TCLP Semivolatile Organic Compounds	
1,2,4-Trichlorobenzene	*850 U*
1,2-Dichlorobenzene	*850 U*
1,3-Dichlorobenzene	*850 U*
1,4-Dichlorobenzene	*850 U*
2,2'-oxybis(dichloropropane)	*850 U*
2,4,5-Trichlorophenol	*850 U*
2,4,6-Trichlorophenol	*850 U*
2,4-Dichlorophenol	*850 U*
2,4-Dimethylphenol	*850 U*
2,4-Dinitrophenol	*2100 U*
2,4-Dinitrotoluene	*850 U*
2,6-Dinitrotoluene	*850 U*
2-Chloronaphthalene	*850 U*
2-Chlorophenol	*850 U*
2-Methylnaphthalene	***2600***
2-Methylphenol	*850 U*
2-Nitroaniline	*2100 U*
2-Nitrophenol	*850 U*
3,3'-Dichlorobenzidine	*1700 U*
3-Nitroaniline	*2100 U*
4,6-Dinitro-2-methylphenol	*2100 U*
4-Bromophenyl phenyl ether	*850 U*
4-Chloro-3-methylphenol	*850 U*
4-Chloroaniline	*850 U*
4-Chlorophenyl phenyl ether	*850 U*
4-Methylphenol	*850 U*
4-Nitroaniline	*2100 U*
4-Nitrophenol	*2100 U*
Acenaphthene	***400 J***
Acenaphthylene	***3500***
Anthracene	***1900***
Benzo(a)anthracene	***1500***
Benzo(a)pyrene	***1100***
Benzo(b)fluoranthene	***1300***
Benzo(g,h,i)perylene	***320 J***
Benzo(k)fluoranthene	***480 J***
Benzyl alcohol	*850 U*
bis(2-Chloroethoxy)methane	*850 U*
bis(2-Chloroethyl)ether	*850 U*

See Notes on Page 3.

Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID	TP-8
Depth Range	(5')
Date Sampled	5/18/01
Sample Type	FS
bis(2-Ethylhexyl)phthalate	*850 U*
Butyl benzyl phthalate	*850 U*
Chrysene	***1200***
Di-n-butyl phthalate	*850 U*
Di-n-octyl phthalate	*850 U*
Dibenz(a,h)anthracene	*850 U*
Dibenzofuran	***1800***
Diethyl phthalate	*850 U*
Dimethyl phthalate	*850 U*
Fluoranthene	***3900***
Fluorene	***2200***
Hexachlorobenzene	*850 U*
Hexachlorobutadiene	*850 U*
Hexachlorocyclopentadiene	*850 U*
Hexachloroethane	*850 U*
Indeno(1,2,3-cd)pyrene	***360 J***
Isophorone	*850 U*
N-Nitroso-di-n-propylamine	*850 U*
N-Nitrosodimethylamine	*850 U*
N-Nitrosodiphenylamine	*850 U*
Naphthalene	***9500***
Nitrobenzene	*850 U*
Pentachlorophenol	*2100 U*
Phenanthrene	***6400***
Phenol	*850 U*
Pyrene	***2700***
Total PAHs	***39360***
TCLP Polychlorinated Biphenyls	
Aroclor-1016	*0.048 U*
Aroclor-1221	*0.048 U*
Aroclor-1232	*0.048 U*
Aroclor-1242	*0.048 U*
Aroclor-1248	*0.048 U*
Aroclor-1254	*0.048 U*
Aroclor-1260	*0.048 U*
TCLP Inorganics	
Arsenic	*0.01 U*
Barium	*1 U*
Cadmium	*0.005 U*
Chromium	*0.01 U*
Cyanide, Total	***0.69***
Lead	*0.02 U*

See Notes on Page 3.

Table 3

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Soil Analytical Results - Hazardous Waste Characterization

Location ID	TP-8
Depth Range	(5')
Date Sampled	5/18/01
Sample Type	FS
Mercury	*0.0003 U*
Selenium	*0.02 U*
Silver	*0.01 U*
Waste Characterization	
Fuel Oil 2	*20000 U*
Kerosene	*20000 U*
Lube Oil	*20000 U*

Notes:

TCLP = Toxicity Characteristic Leaching Procedure.

Samples analyzed using USEPA Standard Methods SW846 8260 for benzene, 8270 for TCLP SVOCs, 8082 for TCLP PCBs, and 6010B/7470A for inorganics.

Concentrations given in milligrams per kilogram (mg/kg); also expressed as parts per million (ppm).

U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

Detections are bolded.

FS = Primary field sample.

Table 4

Niagara Mohawk Power Corporation
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Summary of Groundwater Level Measurements

Location ID	Measuring Point Elevation	Ground Surface Elevation	Total Depth	Water Level Measurements 8/24/00		Water Level Measurements 7/18/01	
				Depth to Water	Water Level Elevation	Depth to Water	Water Level Elevation
	ft AMSL	ft AMSL	ft MP	ft MP	ft AMSL	ft MP	ft AMSL
129-MW-1	434.87	435.3	17.2	10.34	424.5	10.36	424.5
129-MW-2	424.79	422.6	16.2	6.94	417.9	6.45	418.3
129-MW-3	422.51	420.4	16.3	6.30	416.2	6.52	416.0
129-MW-4	425.99	423.7	15.4	7.19	418.8	7.03	419.0
153-MW-1	420.94	419.3	15.2	3.71	417.2	*not measured*	NA
153-MW-2	435.13	435.6	17.3	8.51	426.6	8.47	426.7
141-MW-1	434.7	435.7	16.1	*not yet installed*	*not yet installed*	8.62	426.1
PZ-1	425.33	423.1	10.1	4.78	420.6	*abandoned*	NA

Notes:

1. ft AMSL = feet above mean sea level.
2. ft MP = feet below the surveyed measuring point.
3. NA = not available.
4. Measuring point elevations for monitoring wells 129-MW-1, 129-MW-2, 129-MW-3, 129-MW-4, 153-MW-1, 153-MW-2, and PZ-1 were surveyed on August 3, 2000 using conventional methods, in reference to NGVD 1929.
5. The measuring point elevation for monitoring well 141-MW-1 was surveyed on July 18, 2001, using the triangulation method.

Figures

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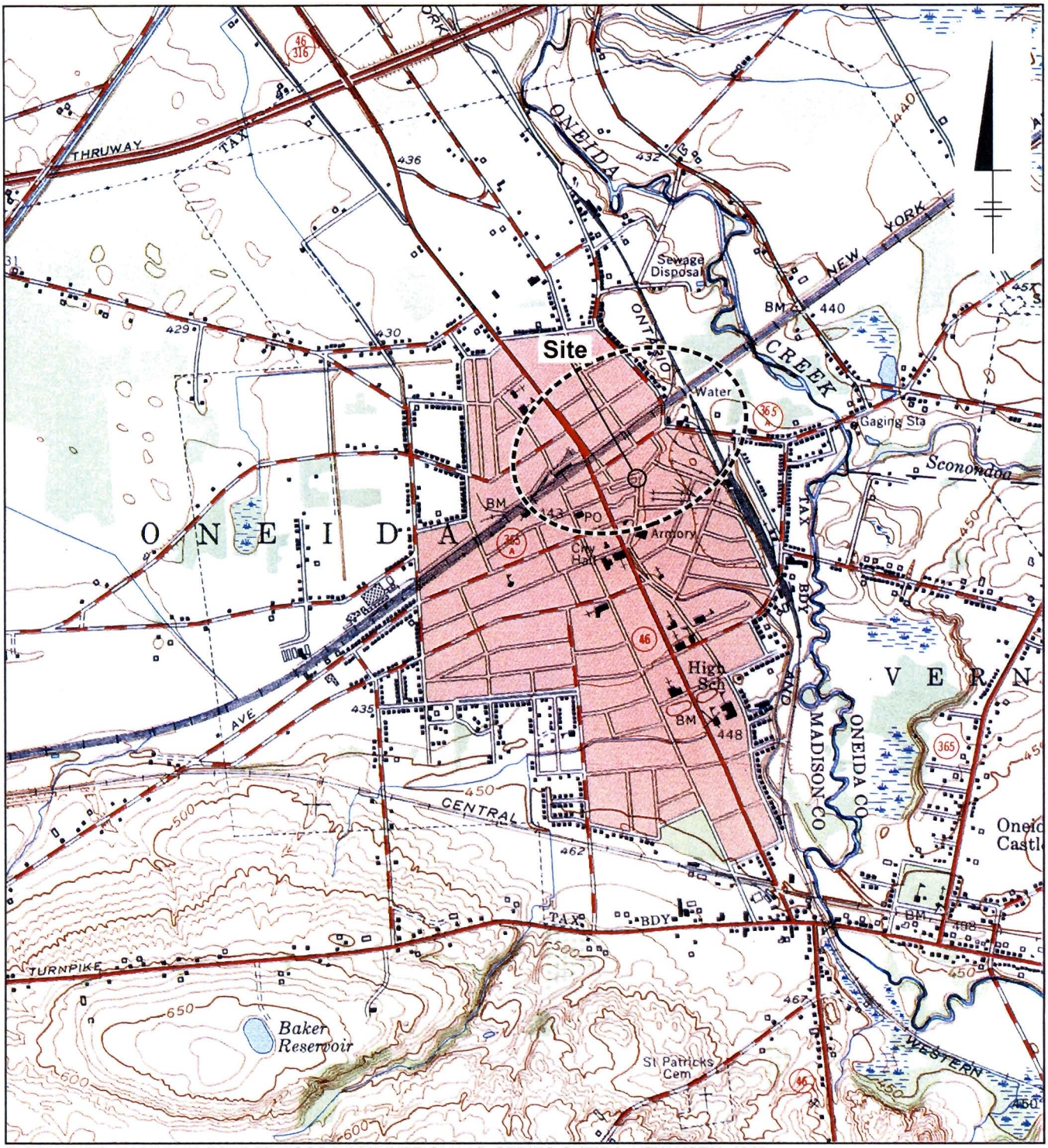
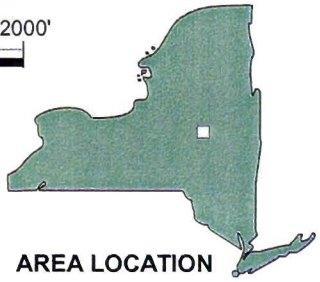


REFERENCE: BASE MAP SOURCE USGS 7.5 MINUTE QUADS. SERIES ONEIDA, NEW YORK, 1955.

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

03/01 SYR-D54-LBR DJH MRC
36456007/36456n01.cdr

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION REPORT

SITE LOCATION MAP

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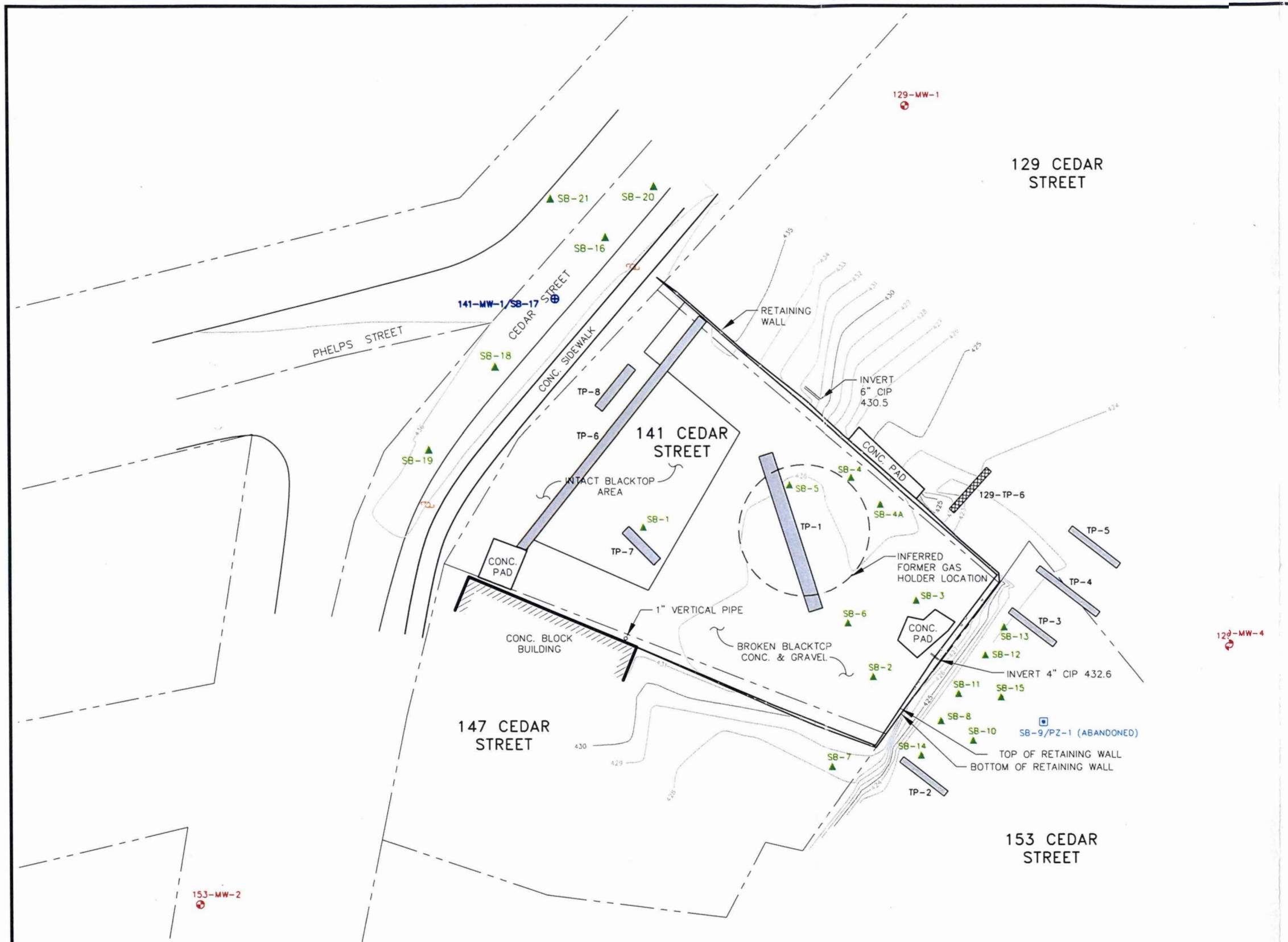
FIGURE
1



LEGEND

141-MW-1/SB-17 ⊕	MONITORING WELL (INSTALLED BY BBL)
129-MW-1 ⊕	MONITORING WELL (INSTALLED BY HARZA)
SB-13 ▲	SOIL BORING
PZ-1 ⊙	TEMPORARY MONITORING WELL
TP-1 ▭	TEST PIT
129-TP-6 ▨	TEST PIT (INSTALLED BY HARZA)
	UTILITY POLE
CIP	CAST IRON PIPE
— — —	APPROXIMATE PROPERTY LINE (SEE NOTE 3)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED. ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. TEST PITS TP-6 TO TP-8, SOIL BORINGS SB-16 TO SB-21, AND MONITORING WELL 141-MW-1 LOCATED ON JULY 18, 2001 BY TRIANGULATION USING THREE PREVIOUSLY SURVEYED SITE FEATURES. ALL OTHER INVESTIGATION LOCATIONS, EXCLUDING 129-TP-6, WERE SURVEYED BY BBL ON JULY 7, 2000. TEST PIT 129-TP-6 LOCATED BASED ON THE FEBRUARY 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT FOR THE 129 CEDAR ST. PARCEL COMPLETED BY HARZA ENGINEERING COMPANY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

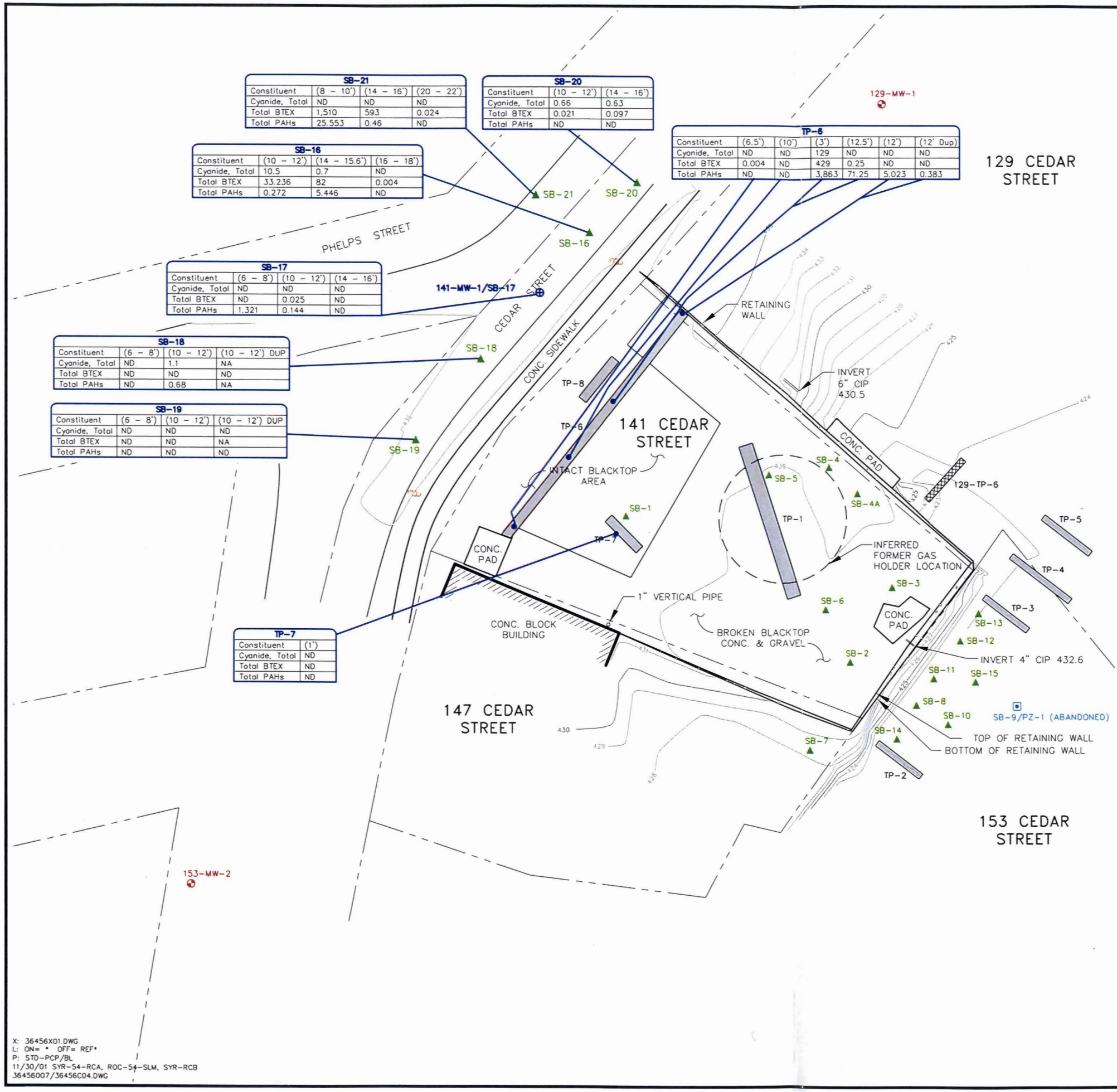
NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION REPORT

SITE MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2

X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
11/01/01 SYR-54-RCA, ROC-54-SLM, SYR-RCB
36456007/36456B01.DWG



X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
11/30/01 SYR-54-RCA, ROC-54-SLM, SYR-RCB
36456007/36456C04.DWG

LEGEND

- 141-MW-1/SB-17 ⊕ MONITORING WELL (INSTALLED BY BBL)
- 129-MW-1 ⊕ MONITORING WELL (INSTALLED BY HARZA)
- SB-13 ▲ SOIL BORING
- PZ-1 ⊙ TEMPORARY MONITORING WELL
- TP-1 TEST PIT
- 129-TP-6 TEST PIT (INSTALLED BY HARZA)
- UTILITY POLE
- CIP CAST IRON PIPE
- APPROXIMATE PROPERTY LINE (SEE NOTE 3)

SB-8	
Constituents	(6.5 – 8')
Cyanide, Total	ND
Total BTEX	35
Total PAHs	R

- SAMPLE ID
- SAMPLE DEPTH, IN FEET BELOW GROUND SURFACE
- ND = NOT DETECTED AT OR ABOVE THE QUANTITATION LIMIT
- TOTAL BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
- TOTAL POLYCYCLIC AROMATIC HYDROCARBONS
- DUP = DUPLICATE ANALYSIS
- R = ONE OR MORE OF THE RESULTS FOR THE PAH COMPOUNDS WAS REJECTED

ANALYTICAL RESULTS GIVEN IN MILLIGRAMS PER KILOGRAM (mg/kg), OR PARTS PER MILLION (ppm)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. TEST PITS TP-6 TO TP-8, SOIL BORINGS SB-16 TO SB-21, AND MONITORING WELL 141-MW-1 LOCATED ON JULY 18, 2001 BY TRIANGULATION USING THREE PREVIOUSLY SURVEYED SITE FEATURES. ALL OTHER INVESTIGATION LOCATIONS, EXCLUDING 129-TP-6, WERE SURVEYED BY BBL ON JULY 7, 2000. TEST PIT 129-TP-6 LOCATED BASED ON THE FEBRUARY 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT FOR THE 129 CEDAR ST. PARCEL COMPLETED BY HARZA ENGINEERING COMPANY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

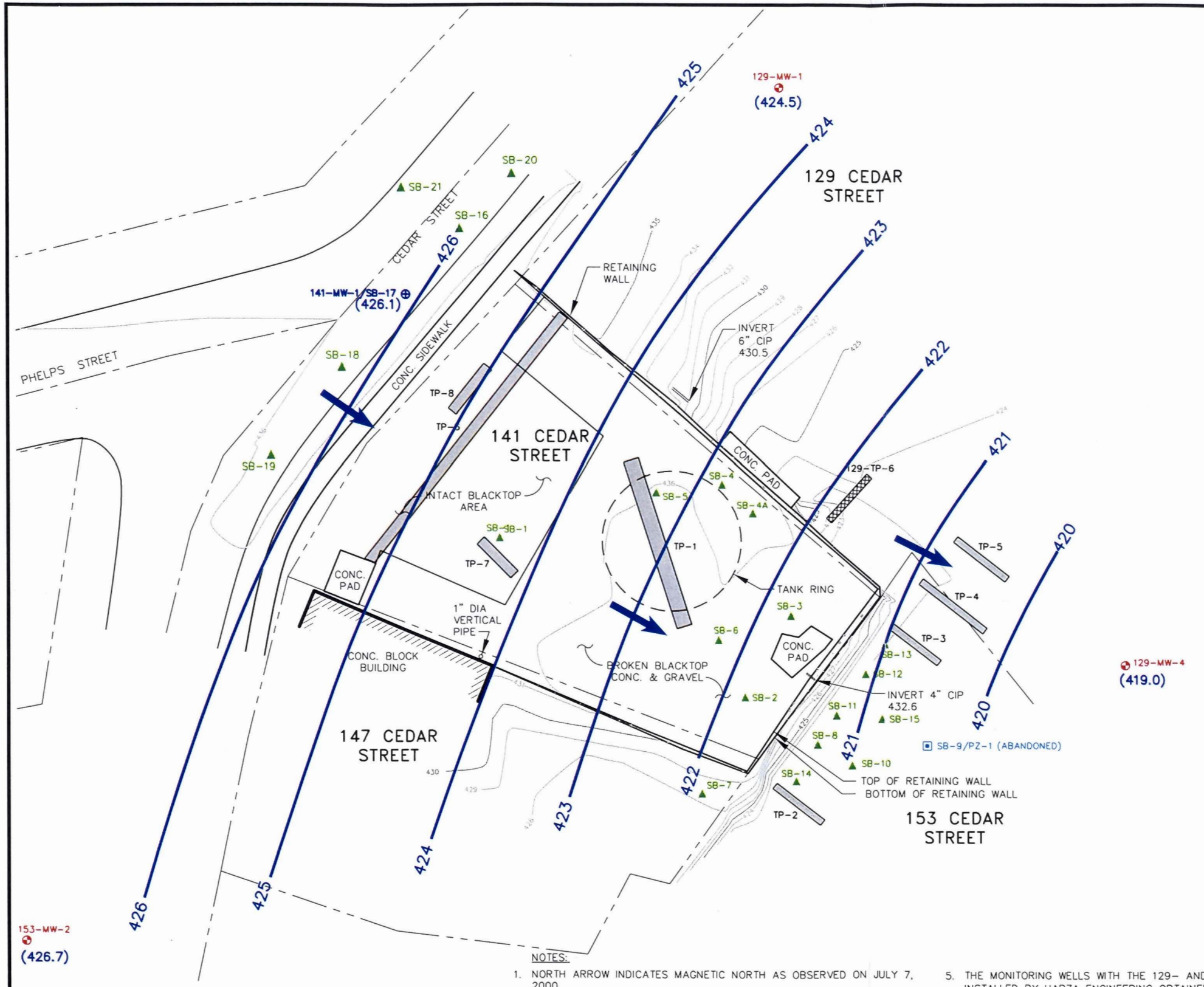
GRAPHIC SCALE

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION REPORT

SUMMARY OF TOTAL BTEX, PAHs, AND CYANIDE DETECTED IN SUBSURFACE SOILS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 3



LEGEND

141-MW-1/SB-17 ⊕	MONITORING WELL (INSTALLED BY BBL)
MW-1 ⊕	MONITORING WELL (INSTALLED BY HARZA)
SB-13 ▲	SOIL BORING
PZ-1 ⊡	TEMPORARY MONITORING WELL
TP-1 ▭	TEST PIT
129-TP-6 ▨	TEST PIT (INSTALLED BY HARZA)
419	INFERRED WATER TABLE ELEVATION CONTOUR
(419.0)	WATER TABLE ELEVATION (IN FEET ABOVE MEAN SEA LEVEL)
→	INFERRED GROUNDWATER FLOW DIRECTION

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. TEST PITS TP-6 TO TP-8, SOIL BORINGS SB-16 TO SB-21, AND MONITORING WELL 141-MW-1 LOCATED ON JULY 18, 2001 BY TRIANGULATION USING THREE PREVIOUSLY SURVEYED SITE FEATURES. ALL OTHER INVESTIGATION LOCATIONS, EXCLUDING 129-TP-6, WERE SURVEYED BY BBL ON JULY 7, 2000. TEST PIT 129-TP-6 LOCATED BASED ON THE FEBRUARY 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT FOR THE 129 CEDAR ST. PARCEL COMPLETED BY HARZA ENGINEERING COMPANY.
5. THE MONITORING WELLS WITH THE 129- AND 153- PREFIX WERE INSTALLED BY HARZA ENGINEERING OBTAINED DURING AN SI/RAR FOR THE 153 CEDAR STREET PARCEL (MAY 2000).
6. MONITORING WELL 141-MW-1 WAS INSTALLED BY BBL IN JULY 2001 AS PART OF THE SUPPLEMENTAL SITE INVESTIGATION.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
11/01/01 SYR-S4-RCA RCB
36456007/36456W02.DWG

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION REPORT

WATER TABLE ELEVATION CONTOURS-7/18/01

BBL BLASLAND, BOUCK & LEE, INC. *engineers & scientists*

FIGURE 4

Appendices

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Appendix A

SSI Work Plans

Niagara Mohawk

Steven P. Stucker
Environmental Analyst

Phone: 315-428-5652
FAX: 315-460-9670
E-mail: stuckers@nimo.com

May 7, 2001

Mr. John Helmeset, P.E.
Bureau of Western Remedial Action
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Re: Supplemental Investigations Scope of Work
Niagara Mohawk
Oneida (141 Cedar Street) Former MGP Site

Dear Mr. Helmeset:

This letter documents our conference call of April 23, 2001, and provides a scope of work for Supplemental Investigations at the Niagara Mohawk (NM) Oneida (141 Cedar Street) Former Manufactured Gas Plant (MGP) site. Cathy Geraci of Blasland, Bouck, & Lee, Inc. (BBL) and George Thomas of BBL also participated in the conference call.

The primary objectives of the conference call were to discuss the remedial timetable and remedial objectives for this site. During the conference call you indicated that the New York State Department of Environmental Conservation (NYSDEC) was interested in having NM initiate remedial activities at the site by early July 2001, to facilitate completion of the remedial activities by the end of July. This timetable would allow for site closure at the 141 Cedar Street parcel coincident with issuance of the "Brownfields" Record of Decision for the 153 Cedar Street parcel, scheduled for September 2001. Also during the call you indicated that the NYSDEC would consider that a "clean closure" for the 141 Cedar Street parcel would be accomplished if the total polynuclear aromatic hydrocarbon (PAH) concentration in site soils and soils on adjacent parcels was reduced to 24 parts per million (ppm) or below. You indicated that 24 ppm was the highest PAH concentrations detected on the City-owned 129 and 153 Cedar Street parcels in soil that will remain onsite following remediation of these parcels. You suggested that a "clean closure" would remove the need for a deed restriction for the 141 Cedar Street parcel.

Based on the Record of Decision (ROD) for the 129 Cedar Street, a deed restriction will be required for the 129 Cedar Street parcel. This deed restriction, contained in the "Warranty Deed with Lien Covenant", states:

"a) The property shall not be used for any purpose other than the following: offices, retail uses, restaurants, transportation uses, cultural, civic or educational facilities

contained within buildings, private or public indoor recreation facilities contained within buildings, parking, streets, or public safety facilities, without prior written approval by the NYSDEC.

b) The Municipality and successors in title shall implement the following engineering controls over the property:
   i Any proposed soil excavation on the property from below the existing one foot cover or below impervious surfaces would require notification and approval of NYSDEC and must be managed, characterized, and property disposed of in accordance with NYSDEC regulations and directives; and
   ii Any soil on the property that is not covered by an impervious product such as concrete, asphalt or structures must be covered with a one foot layer of clean soil and this soil layer must be vegetated and maintained."

Our discussions with Mr. James Bacher, Oneida City Engineer, indicate that the Site Closure for the 153 Cedar Street parcel, while not finalized, will likely include deed restrictions similar to the restrictions on the 129 Cedar Street parcel.

Given that;

- the 129 Cedar Street, 141 Cedar Street, and 153 Cedar Street parcels are all owned by the City of Oneida; and
- the much larger and adjacent 129 Cedar Street and 153 Cedar Street parcels will be deed restricted,

a remedial goal of "clean closure" and unrestricted use (without deed restrictions) on the 141 Cedar Street parcel seems inconsistent.

Based on the above, we propose to utilize the site closure criteria discussed in NM's Draft April 2001 *Oneida (141 Cedar Street) Former MGP Site, Site Investigation Report* as the remedial cleanup goal for this site, combined with deed restrictions for the 141 Cedar Street parcel. As detailed in that report, these criteria, as initially discussed with the NYSDEC in an October 19, 2000 meeting at Oneida City Hall, include the use of a visual MGP-impacted removal criteria combined with a 500 ppm total PAH remediation level. The 500 ppm total PAH remedial cleanup goal, combined with deed restrictions, has been used to implement remedial activities at other MGP sites under the consent of the NYSDEC.

The 500 ppm total PAH concentration limit has already been defined in the offsite areas, therefore no additional investigation activities are required to define the limits of soil removal off site. However, as discussed in the *Site Investigation Report*, additional limited on-site investigation activities are recommended in the area of SB-1 to assess the distribution of PAHs and benzene, toluene, ethylbenzene, and xylenes (BTEX) prior to initiation of remedial activities at the site. The limited investigation activities to be completed are outlined below.

- Excavation of a test trench roughly parallel to and approximately 25 feet from, the southwestern side of Cedar Street, as shown on Figure 1. The purpose of the test trench will be to assess the lateral and vertical distribution of potentially MGP-related constituents in the subsurface in this area of the site. We propose to excavate the

test trench to the base of the fill materials, below the base of potentially MGP-impacted native materials (if any are encountered), or to the physical limitations of the excavation equipment, whichever is encountered first. Field assessment of potential MGP-impacted materials would be made on the basis of significant MGP-type odors, presence of nonaqueous phase liquids (NAPLs), oil sheens, and/or elevated photoionization detector (PID) readings.

- Collection of soil samples for analysis of BTEX and PAHs from the test trench. The actual number of samples collected will be dependent on the nature of the materials observed; however, we anticipate that approximately four samples will be collected from the bottom and/or side of the excavation. If potentially MGP-impacted materials are observed in the northwestern sidewall of the trench (i.e., wall closest to Cedar Street), an additional excavation or excavations, and associated sampling will occur in an attempt to delineate the horizontal and vertical extent of the MGP-related material.

- A test pit will be excavated and at least one soil sample will be collected for analysis of BTEX and PAHs near boring SB-1 (Figure 1) to assess the depth of BTEX and PAH-impacted soil previously observed in boring SB-1.

- Chemical analyses will be completed in accordance with NYSDEC 2000 Analytical Services Protocol with Category B Deliverables. A Data Usability Summary Report will be prepared by BBL following receipt of the full analytical data package.

Following receipt of the DUSR, a letter summary of the data and findings will be prepared and submitted to the NYSDEC. This information will also be used concurrently to develop a remedial approach for this site using the 500 ppm total PAH and visual MGP-impacted removal criteria.

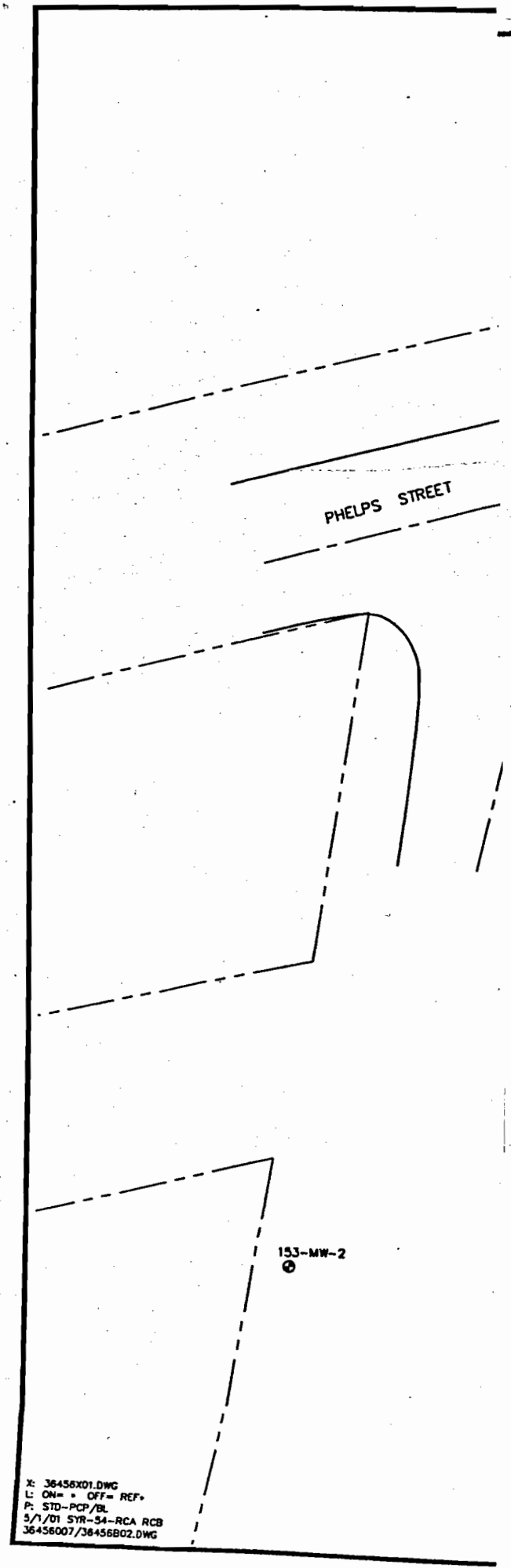
NMPC is interested in initiating field activities as soon as possible. Your prompt approval of this scope of work would be appreciated. Please feel free to contact me if you have any questions or require further assistance.

Sincerely,

Steven P. Stucker, C.P.G.

Attachment

cc: James W. Bacher, P.E.-City of Oneida
Michael W. Sherman-Niagara Mohawk Power Corporation
William C. Weiss-Niagara Mohawk Power Corporation
M. Cathy Geraci-Blasland, Bouck & Lee, Inc.
George M. Thomas-Blasland, Bouck & Lee, Inc.



X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
5/1/01 SYR-54-RCA RCB
36456007/36456B02.DWG

LEGEND

- PROPOSED TEST TRENCH/TEST PIT (LOCATIONS ARE APPROXIMATE)
- SB-13 ▲ SOIL BORING
- PZ-1 ⊡ TEMPORARY MONITORING WELL
- TP-1 ▭ TEST PIT
- 129-TP-6 ▭ TEST PIT INSTALLED BY HARZA
- 129-MW-1 ⊘ MONITORING WELL (INSTALLED BY HARZA)
- UTILITY POLE
- CIP CAST IRON PIPE
- APPROXIMATE PROPERTY LINE (SEE NOTE 3)

SB-8	
Constituents	(6.5 - 8')
Cyanide, Total	ND
Total BTEX	35
Total PAHs	R

- SAMPLE ID
- SAMPLE DEPTH, IN FEET BELOW GROUND SURFACE
  DUP = DUPLICATE ANALYSIS
- ND = NOT DETECTED AT OR ABOVE THE QUANTITATION LIMIT
- TOTAL BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
- TOTAL POLYCYCLIC AROMATIC HYDROCARBONS
  R = ONE OR MORE OF THE RESULTS FOR THE PAH COMPOUNDS WAS REJECTED

ANALYTICAL RESULTS GIVEN IN MILLIGRAMS PER KILLOGRAM (mg/Kg), OR PARTS PER MILLION (ppm)

NOTES:

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3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. MONITORING WELLS SHOWN ON THIS FIGURE ARE FROM THE FEBRUARY, 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT (SI/RAR) FOR THE 129 CEDAR STREET PARCEL (e.g. 129-MW-2) AND THE MAY 2000 DRAFT SI/RAR FOR THE 153 CEDAR STREET PARCEL (e.g. 153-MW-1), COMPLETED BY HARZA ENGINEEERING COMPANY.

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN - 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

NIAGARA MOHAWK POWER CORPORATION
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL INVESTIGATIONS

PROPOSED TEST TRENCH/ TEST PIT LOCATIONS

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1

Niagara Mohawk

Steven P. Stucker
Environmental Analyst

Phone: 315-428-5652
FAX: 315-460-9670
E-mail: stuckers@nimo.com

June 11, 2001

Mr. John Helmeset, P.E.
Bureau of Western Remedial Action
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

Re: Supplemental Site Investigation Scope of Work
Niagara Mohawk
Oneida (141 Cedar Street) Former MGP Site

Dear Mr. Helmeset:

This letter provides a proposed Scope of Work (SOW) for completing a Supplemental Site Investigation (SSI) at the Oneida (141 Cedar Street) Former Manufactured Gas Plant (MGP) Site, located in Oneida, New York. This SOW will be performed by Blasland, Bouck & Lee, Inc. (BBL), on behalf of Niagara Mohawk (NM), to obtain supplemental information to support an Interim Remedial Measure (IRM) at the site. The SSI, along with the subsequent IRM, will be conducted to assist the property owner (City of Oneida) in the redevelopment of this parcel, as well as the adjacent 129 and 153 Cedar Street properties, as part of their on-going "Brownfields" program.

As you are aware, test pitting activities were completed on May 17 and 18, 2001 in accordance with the NYSDEC-approved work plan provided in my May 7, 2001 letter you. Mr. George Thomas of BBL contacted you on May 24, 2001 to you inform of the results of those field activities. Discussions during that telephone conversation indicated that potential MGP-related materials (i.e., viscous tar-like material, staining, odors, potential lime purifier waste material) were observed in a test pit excavated parallel to Cedar Street along the northwestern boundary of the site, approximately 12 feet from the edge of Cedar Street. The tar-like material that was observed in the test pit appeared to be limited to areas that were immediately beneath foundation structures uncovered during the excavation. The structures encountered include several brick and field stone foundations and an approximately 3-feet diameter by 1-foot deep metal cylinder containing fill material. The tar-like material was also observed on the northwestern wall of the test pit, toward Cedar Street. An additional test pit was excavated closer to Cedar Street (approximately 7 feet southeast of the edge of the street) to define the extent of the tar-like material in the direction of Cedar Street. The tar-like material was also observed on the northwestern wall of this test pit. A more

detailed summary report of these field activities will be provided following completion of the investigation activities discussed in this SOW.

The proposed SSI activities will generally follow the procedures described in the following NYSDEC-approved documents:

- The *Field Sampling Plan* (FSP) included in the *Oneida (Sconondoa Street) Former MGP Site Preliminary RD Work Plan* (Sconondoa Street RD Work Plan) (BBL, 2000), which presents field protocols to be used during the SSI;

- The *Quality Assurance Project Plan* (QAPP) included in the Sconondoa Street RD Work Plan, which provides the general laboratory procedures, including quality assurance/quality control (QA/QC) procedures to be used during the SSI; and

- The *Health and Safety Plan (HASP) Addendum,* included as Attachment 1 to the May 24, 2000 letter from NMPC to the NYSDEC, that provided the 141 Cedar Street Site Investigation Work Plan, which augments the HASP provided in the Sconondoa Street RD Work Plan. These documents provide project specific health and safety procedures to be followed by field personnel during the SSI.

SSI Scope of Work

The SSI will consist of a geophysical and soil boring investigation and installation of one monitoring well with a subsequent groundwater sampling event to assess the nature and extent of MGP-related material observed in test pits installed on May 17 and 18, 2001 along the site's northwestern property line, adjacent to Cedar Street. The geophysical investigation will be performed first. The results of the geophysical investigation will be used to assist in the selection of the final proposed soil boring locations. The proposed soil boring locations may be further modified based on site access restrictions, utility locations, and health and safety considerations.

Geophysical Investigation

As discussed previously, tar-like material was observed immediately beneath a foundation structure uncovered during the test pit excavation activities performed on May 17 and 18, 2001. We believe the observed tar-like material may be preferentially located in the coarse-grained bedding material associated with former subgrade foundations located on the site. Therefore, a geophysical investigation will be performed to assist in the delineation of subsurface structures (e.g., foundation walls, utility locations, etc.) that may be present at the site. The geophysical investigation will consist of a ground penetrating radar (GPR) and electromagnetic (EM) surveys. These surveys will be performed following the general procedures provided below.

The EM survey will be conducted on a 10-foot grid across the entire site (the area bound by the retaining wall on the northeast, southeast, and southwest sides, and the southeast side of Cedar Street to the northwest). This survey is designed to identify anomalies that may be associated with buried structures and areas that have decreased or elevated ground conductivity (as compared to background values), which could be correlated to potential MGP-related materials.

The EM survey will be performed using a Geonics EM-31 frequency-domain conductivity meter equipped with a digital data recorder. The EM survey data will be collected using vertical dipole orientation with both quadrature (apparent conductivity) and inphase (metal sensitivity) modes. The EM-31 uses a fixed intercoil spacing of 12.1 feet to provide an exploration depth of approximately 16 feet. This exploration depth should be adequate for evaluating subsurface features of interest at the site.

The EM data will be reduced, contoured, and evaluated at the site and compared with historic information and the previous investigation results to assess whether the anomalies that may be present are potentially associated with buried structures related to historical operations at the site. Areas of decrease or increased EM measurements will be further investigated using GPR.

The GPR survey will be performed to further investigate the EM anomalies and additional locations on the site as identified during the previous investigation activities. The GPR data will be used to help identify potential locations for soil borings.

The GPR survey will be performed using a Subsurface Interfacing Radar (SIR) System 2000, manufactured by Geophysical Survey Systems, Inc. (GSSI). The GPR system transmits high-frequency electromagnetic waves into the ground and detects the energy reflected to the surface. Energy is reflected along boundaries of subsurface interfaces that have different electrical properties. Reflections typically occur at lithologic contacts or at changes in subsurface material having high electrical contrasts, including metal objects, concrete structures, and utility pipes. These reflections are detected by an antenna and processed into an electrical signal that is used to create an image of the subsurface feature. The GPR data will be evaluated in the field to assess the possible location of subsurface features of interest. Subsurface features considered to be of significant interest will be located and marked in the field. Because the tar-like material was observed to be associated with the foundation footers, the geophysical survey information is intended to assess the location of foundations. Assuming the foundations are located, soil borings are proposed for installation outside (and northwest) of the foundation limits.

Soil Borings

Based on our current understanding, we assume that four soil borings will be advanced within Cedar Street along the northwest side of the site to evaluate the potential presence of MGP-related material at and along Cedar Street. The final locations will be determined in the field based on the results of the geophysical investigation, utilities, and access ability. The soil borings are proposed to be spaced approximately 20 feet apart, as measured from the southwest property corner to the northwest corner of the 141 Cedar Street property. The borings will be advanced using a truck-mounted drill rig and hollow-stem auger drilling techniques. Continuous 2-inch diameter, 2-feet long, split-spoon soil sampling will be performed to a depth of approximately 20 feet or refusal, whichever is encountered first. A photoionization detector (PID) will be used to screen the soil samples, and visual observations and descriptions of the samples will be recorded. Up to 3 three soil samples will be collected from each soil boring for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and total cyanide. Analytical samples will likely be collected from

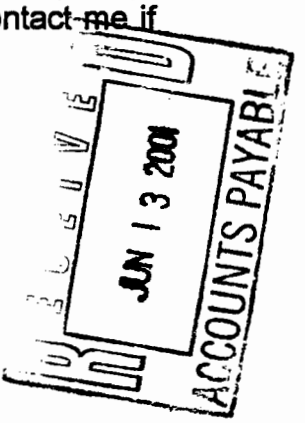
the inferred depth at which MGP-related material was observed during excavation of the test pits along Cedar Street and at the water table. One additional sample may be selected from each soil boring at a depth greater than observed soil impacts (if any) to evaluate the vertical extent of potential MGP-related constituents.

One of the four soil borings will also be converted to a groundwater monitoring well. This monitoring well and used to collect ground water elevation and water quality data. Groundwater will be collected from the new well for laboratory analysis of BTEX, PAHs, and total cyanide. A complete round of groundwater levels will be obtained from the accessible monitoring wells on the 129, 141, and 153 Cedar Street properties. The elevation of the new monitoring well measuring point will be established based on a differential elevation from an existing monitoring well at the site.

Schedule and Reporting

The field activities will be implemented following NYSDEC-approval and after obtaining necessary permits from the City of Oneida to work within Cedar Street. The soil samples will be collected during installation of the borings, and the groundwater sample will be collected approximately one week following installation of the monitoring well. Standard turn around times for the analytical results will be requested. Following receipt of the analytical data package from the laboratory, a data usability summary report (DUSR) will be completed within approximately two weeks. The information collected during this investigation and the field activities completed on May 17 and 18, 2001, will be summarized in a draft letter report to be submitted to the NYSDEC for review approximately two weeks following receipt of the DUSR.

NMPC is interested in initiating field activities as soon as possible. Your prompt approval of this scope of work would be appreciated. Please feel free to contact me if you have any questions or require further assistance.



Sincerely,

Steven P. Stucker, C.P.G.

Attachment

cc: James W. Bacher, P.E.-City of Oneida
Michael W. Sherman-Niagara Mohawk Power Corporation
William C. Weiss-Niagara Mohawk Power Corporation
George M. Thomas-Blasland, Bouck & Lee, Inc.

Appendix B

Geophysical Investigation Correspondence

Niagara Mohawk

Steven P. Stucker
Environmental Analyst

Phone: 315-428-5652
FAX: 315-460-9670
E-mail: stuckers@nimo.com

July 26, 2001

James W. Bacher, P.E.
City Engineer
Engineering Dept. – Public Works
City of Oneida
109 North Main Street
P.O. Box 550
Oneida, New York 13421-0550

Re: Potential UST Status adjacent to Niagara Mohawk's Oneida (141 Cedar Street) Former MGP Site

Dear Jim:

As you discussed on July 11, 2001 with George Thomas of Blasland, Bouck, & Lee, Inc. (BBL), Niagara Mohawk (NM) recently completed limited geophysical investigations at the 141 Cedar Street property. Work was completed on this property as part of NM's Voluntary Cleanup Agreement (VCA) (Index Number: D7-0001-99-04; issued in February 2000) with the New York State Department of Environmental Conservation (NYSDEC) and the City of Oneida.

As per NM's June 11, 2001 letter to the NYSDEC, the geophysical investigation included an electromagnetic (EM) survey of the property, including a transect along the southwestern side of the property. The EM survey results are provided as Figures 1 and 2. As shown on Figure 1, a magnetic anomaly was observed along the southwestern side of the property near Cedar Street. This anomaly was observed in the general area of a feature labeled "G.T.'s" (which presumably indicates the presence of petroleum underground storage tanks (USTs) or "gas tanks") on a 1930/1956 Sanborn map (**copy attached**).

The presence and condition of these USTs cannot be determined based on existing information. If present, it is not known whether these USTs underlie the 141 Cedar Street property, the adjacent property to the southwest, or the Right of Way for Cedar Street. Previous Sanborn maps, including the Sanborn maps which cover the timeframe during which the former manufactured gas plant (MGP) operated on the property, do not indicate the presence of these USTs (copies of these previous Sanborns are also **attached**).

These USTs do not appear to be associated with the former 141 Cedar Street MGP, therefore NM does not assume responsibility for investigation or remediation of any

environmental conditions potentially associated with the presence, or possible presence, of these USTs.

As you are aware, NM is committed to remediation of the environmental conditions associated with the former MGP at the 141 Cedar Street property. If you have any questions or need additional information, then please contact me.

Sincerely,

Steven P. Stucker

Attachments

cc: John Helmeset-NYSDEC
William C. Weiss-Niagara Mohawk
Dave Hale-BBL
Michael W. Sherman-Niagara Mohawk
George M. Thomas-BBL

Niagara Mohawk
Oneida (141 Cedar Street) Former MGP Site
Supplemental Site Investigation

Summary of EM-31 Survey and Results

EM-31 Survey Equipment and Procedures

BBL performed the EM-31 survey using a Geonics EM-31 terrain conductivity meter and a Poycorder 720 data logger. Prior to beginning the survey, the operation and calibration of the instrument was checked in a background area away from physical interferences (i.e., power lines, and fences). The background area used for instrument calibration was located in the northeast area of the site.

Operational instrument checks included the EM-31's battery condition and meter nulling (zeroing). EM-31 calibration consisted of adjusting the in phase setting and the instrument's phasing and sensitivity. All instrument adjustments were made in accordance with the manufacturer's operation manual (Geonics, 1984).

The EM-31 survey data was collected using the vertical dipole orientation with both quadrature (apparent conductivity) and in-phase (metal sensitivity) modes. The EM-31 uses a fixed intercoil spacing of 3.7 meters (12.1 feet) to provide an exploration depth of approximately 16 feet, with vertical dipoles (standard operating position). BBL collected data at 10-foot intervals along each survey line, which were spaced at 10-foot intervals. The base line for the EM-31 survey was located along Cedar Street, the transmitter and receiver orientations were kept parallel to the survey line direction (approximately northwest southeast) during data collection. The survey line measurement grid is shown on the attached Figures 1 and 2. All data was recorded into an Omnidata™ Polycorder 720 data logger during the survey, along with survey line and EM-31 operating information.

The survey data were downloaded to a computer and converted using Geonics Limited software (DAT31, Version 3.40, 1991), and transferred and contoured using Quick Surf, Version 5.1 to produce contour maps of the in-phase (Figure 1) and apparent conductivity (Figure 2) responses.

EM-31 Survey Interpretation and Results

The EM-31 (EM) survey data were interpreted using contour maps of the apparent conductivity and in-phase responses. The apparent conductivity data represents an average value of approximately the upper 16 feet of subsurface materials along each survey line. The EM survey was preformed using a 10-foot grid, with the starting point (0,0) located in Cedar Street near the northwest corner of the site.

Areas of high EM measurements of both apparent conductivity and in-phase in the survey area were used to identify anomalies. The EM data were evaluated and compared to field notes taken during the survey to determine which anomalies were responses caused by surface metal, or subsurface utilities, and which represented anomalies are potentially associated with former site structures. The anomalies identified at the site are summarized below.

Subsurface Utilities

Two linear anomalies identified on both the EM-31 In-phase Contour Map (Figure 1) and the Apparent Conductivity Contour Map (Figure 2) are attributed to subsurface utilities. The first anomaly is a storm sewer line located along the southeastern side of Cedar Street that extends along the northwestern edge of the EM survey grid, as shown on both Figures 1 and 2 (Note: the orientation of the site is tipped relative to north). The second anomaly is a gas line located approximately 10 feet southeast of the storm sewer line beneath in the concrete sidewalk next to Cedar Street.

Surface Features

EM anomalies that are attributed to surface features include the concrete pad located on the southwest side of the site, next to the concrete block building, and the metal support posts along the concrete retaining wall. The anomaly caused by the concrete pad is shown on both Figures 1 and 2. The elevated EM measurements located along the northeast and southwest sides of the concrete retaining wall are attributed to the metal support posts located along the wall.

Potential Underground Features

Two small anomalies are located near the extreme southwestern corner of the site. These anomalies are not completely delineated, as they are located along the edge of the survey area. These anomalies are located in the same general area as gas tanks on an historical site map. Whether these tanks are still present cannot be determined based on the existing data.

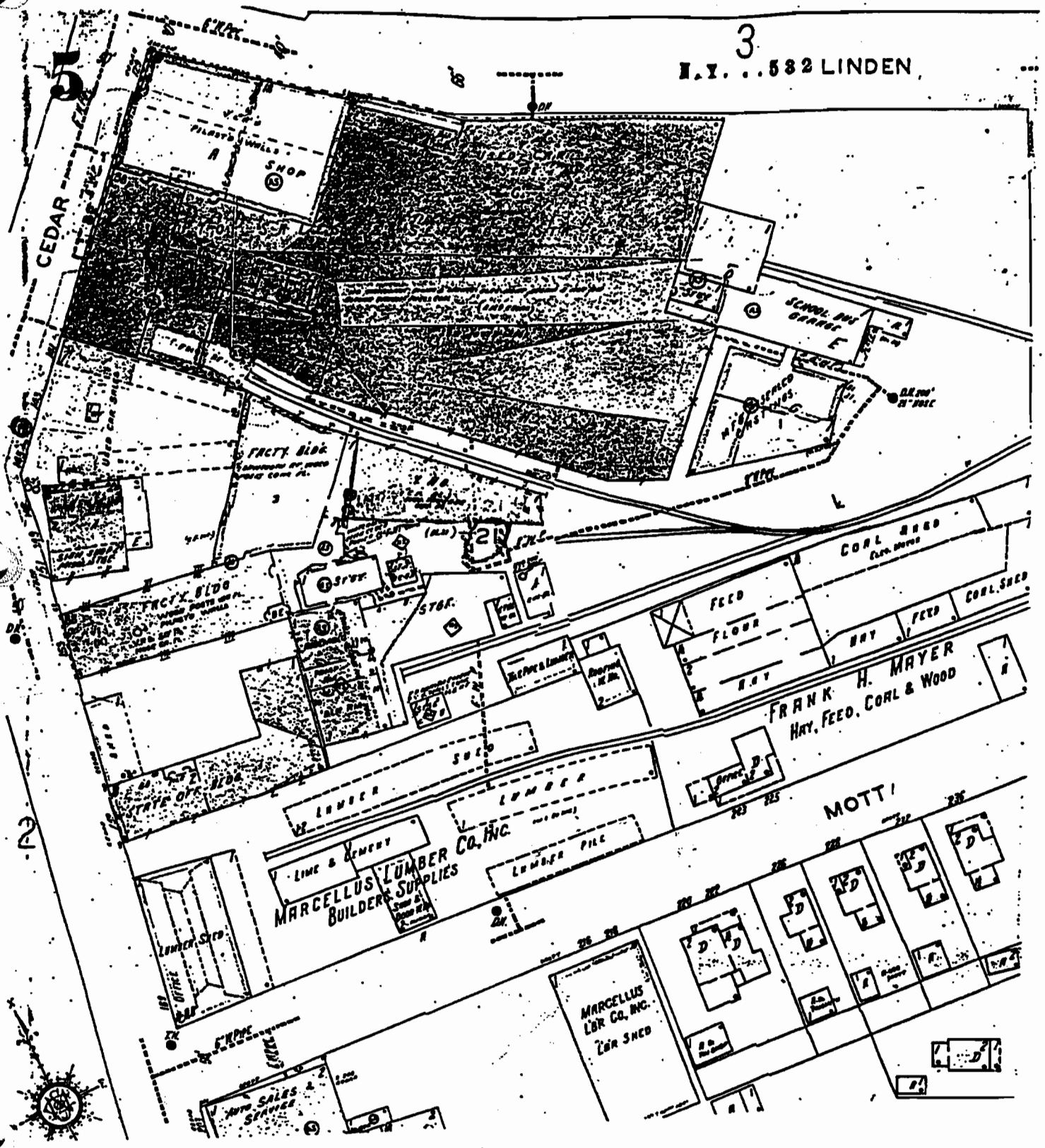
No additional EM anomalies associated with subsurface structures or features were identified at the site.

References

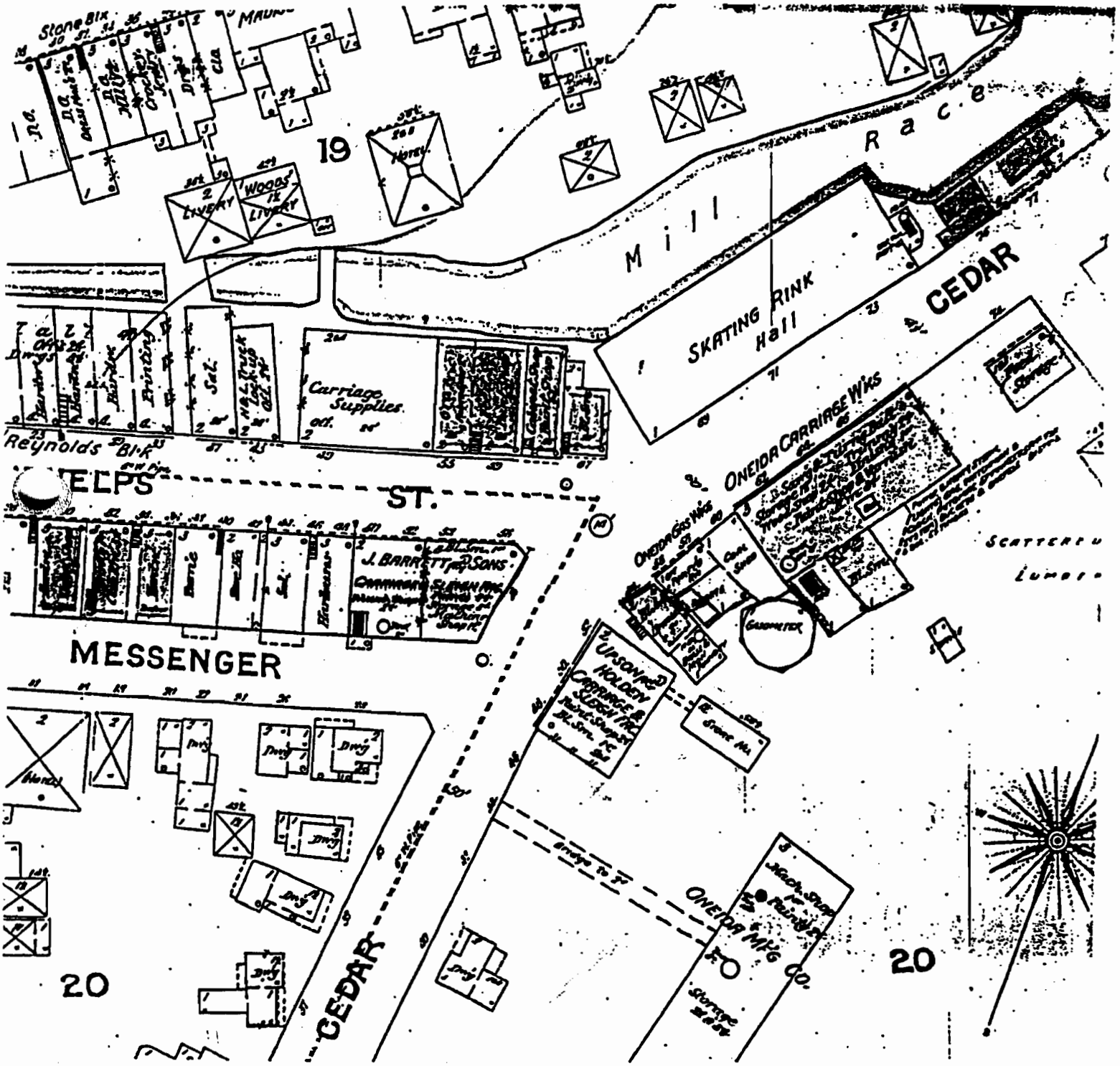
Geonics Limited, 1984, Operating Manual for the EM-31D Non-Contacting Terrain Conductivity Meter, Mississauga, Ontario.

Geonics Limited, 1991, Computer Program Manual – Survey Data Reduction Manual, DAT31, Version 3.40, Mississauga, Ontario.

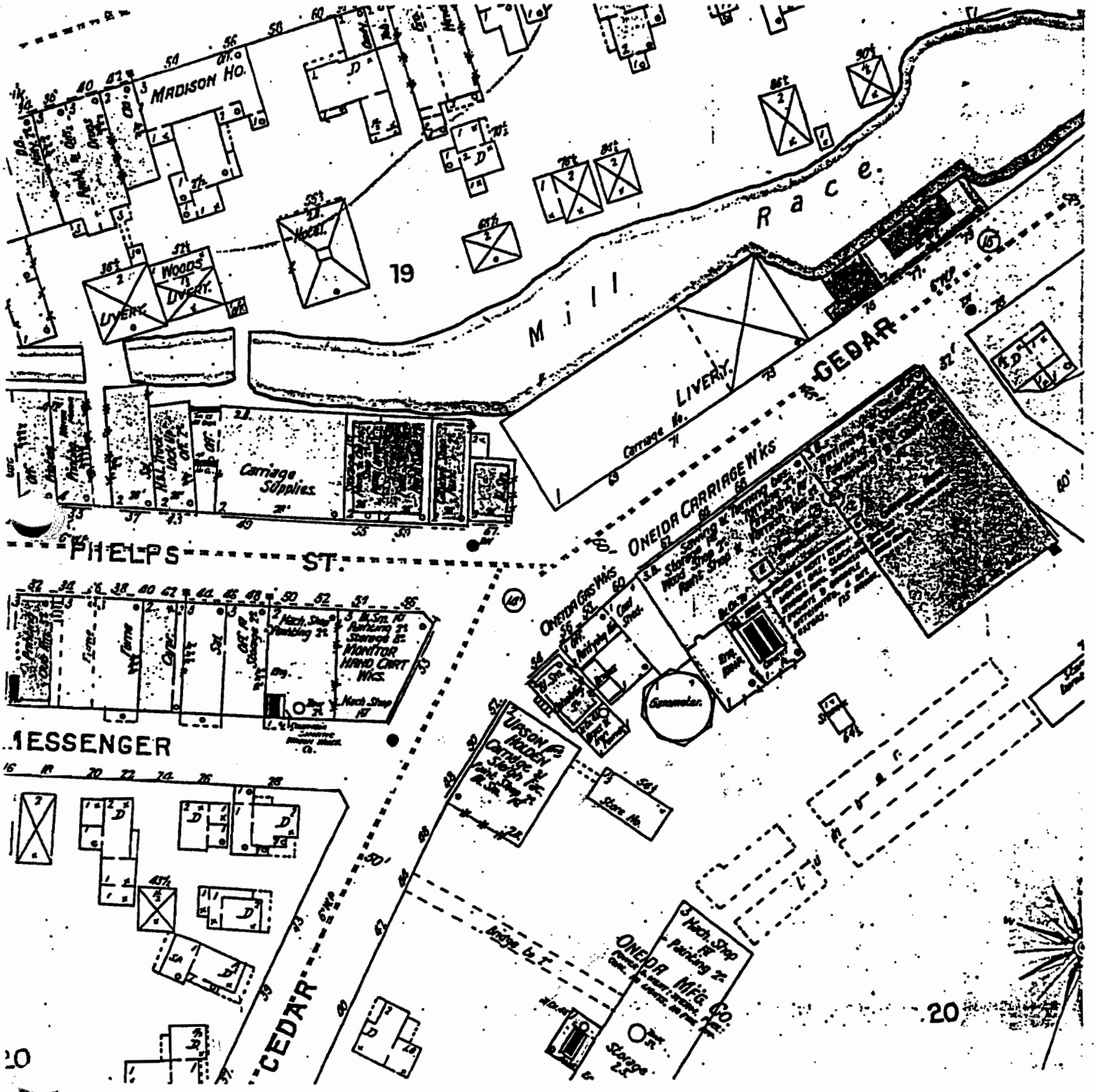
D.12: 1930/1956 Sanborn map, with project area highlighted



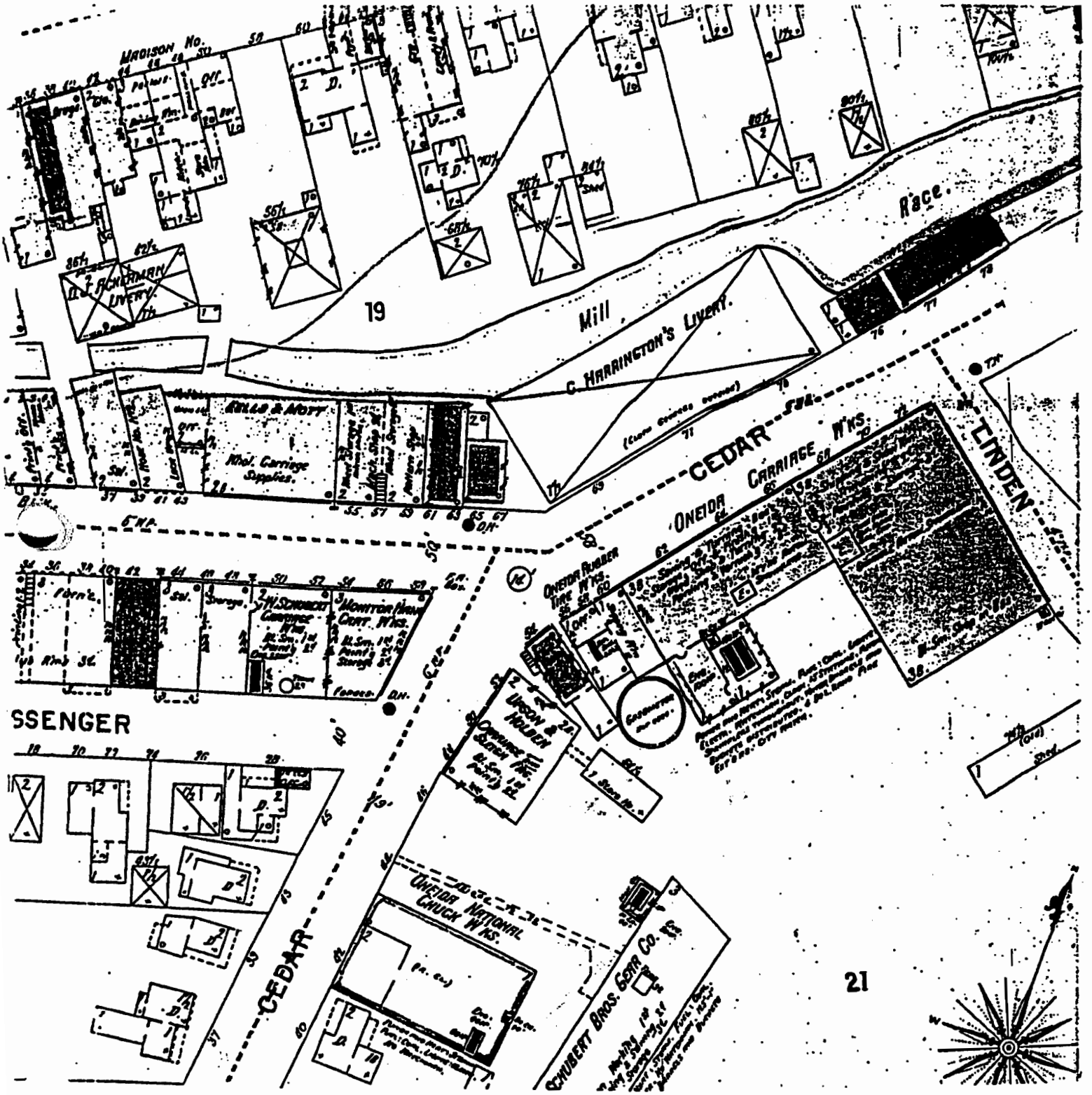
D.4: 1890 Sanborn map, with project area highlighted



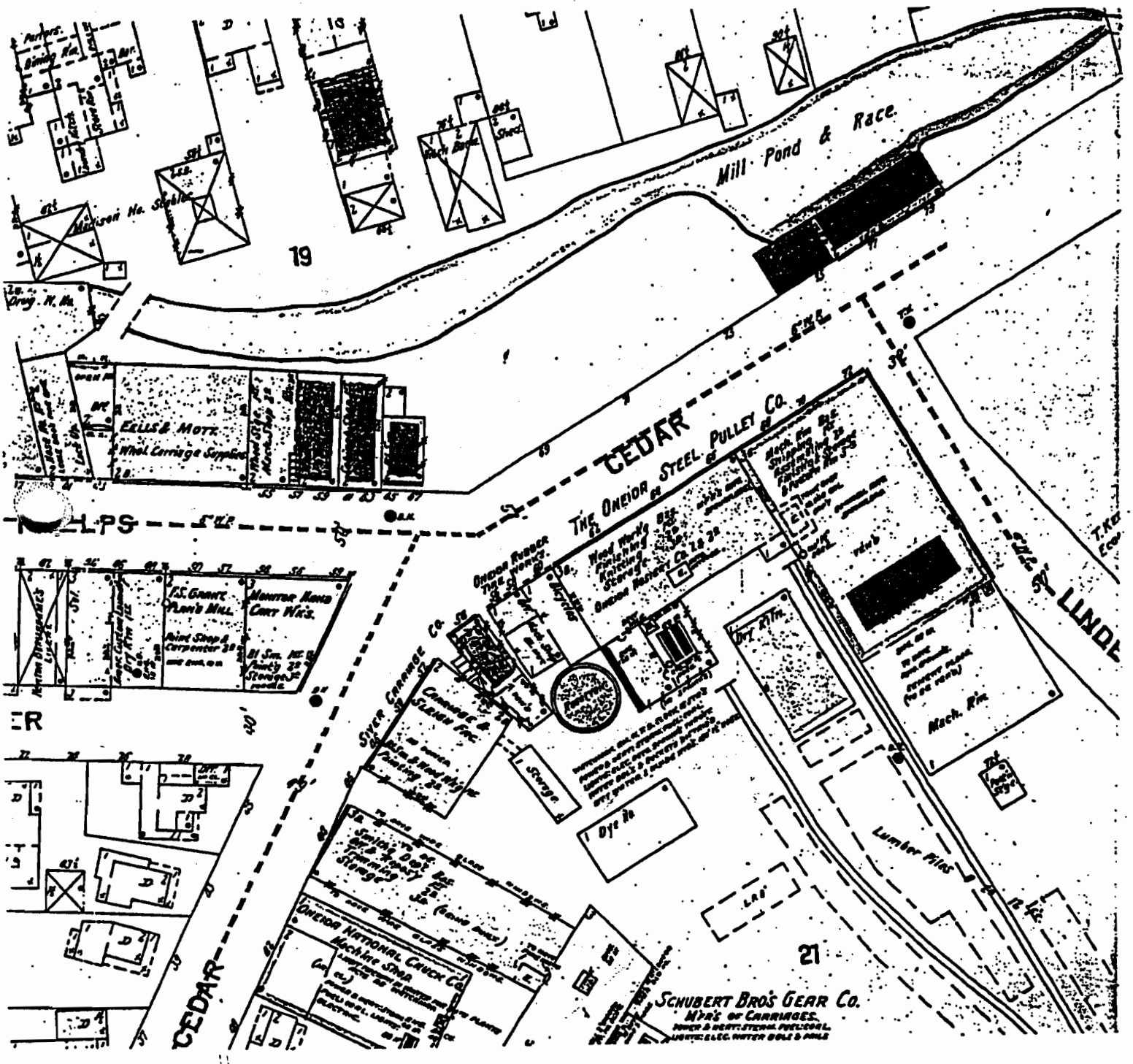
D.5: 1895 Sanborn map, with project area highlighted



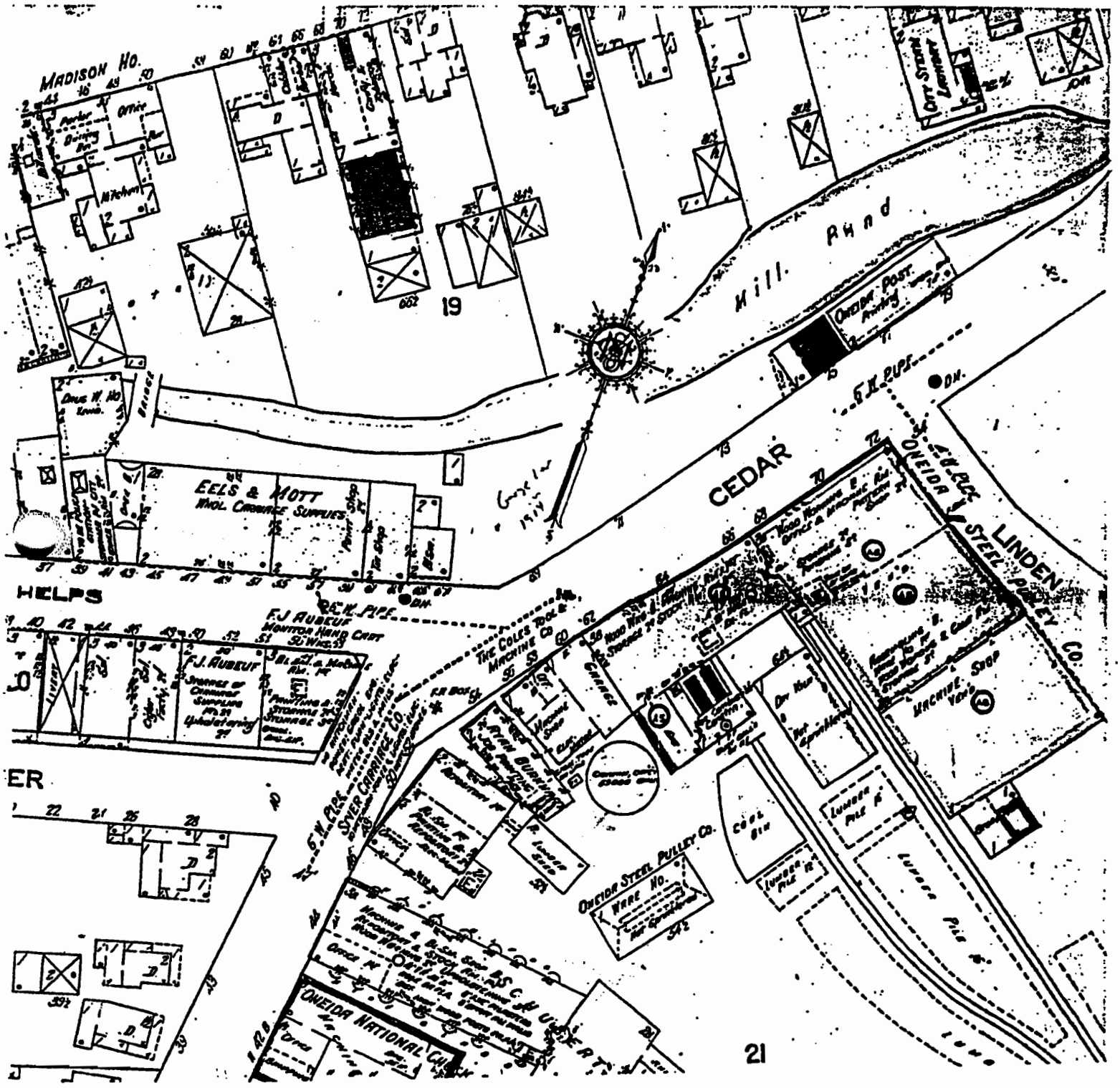
D.6: 1899 Sanborn map, with project area highlighted



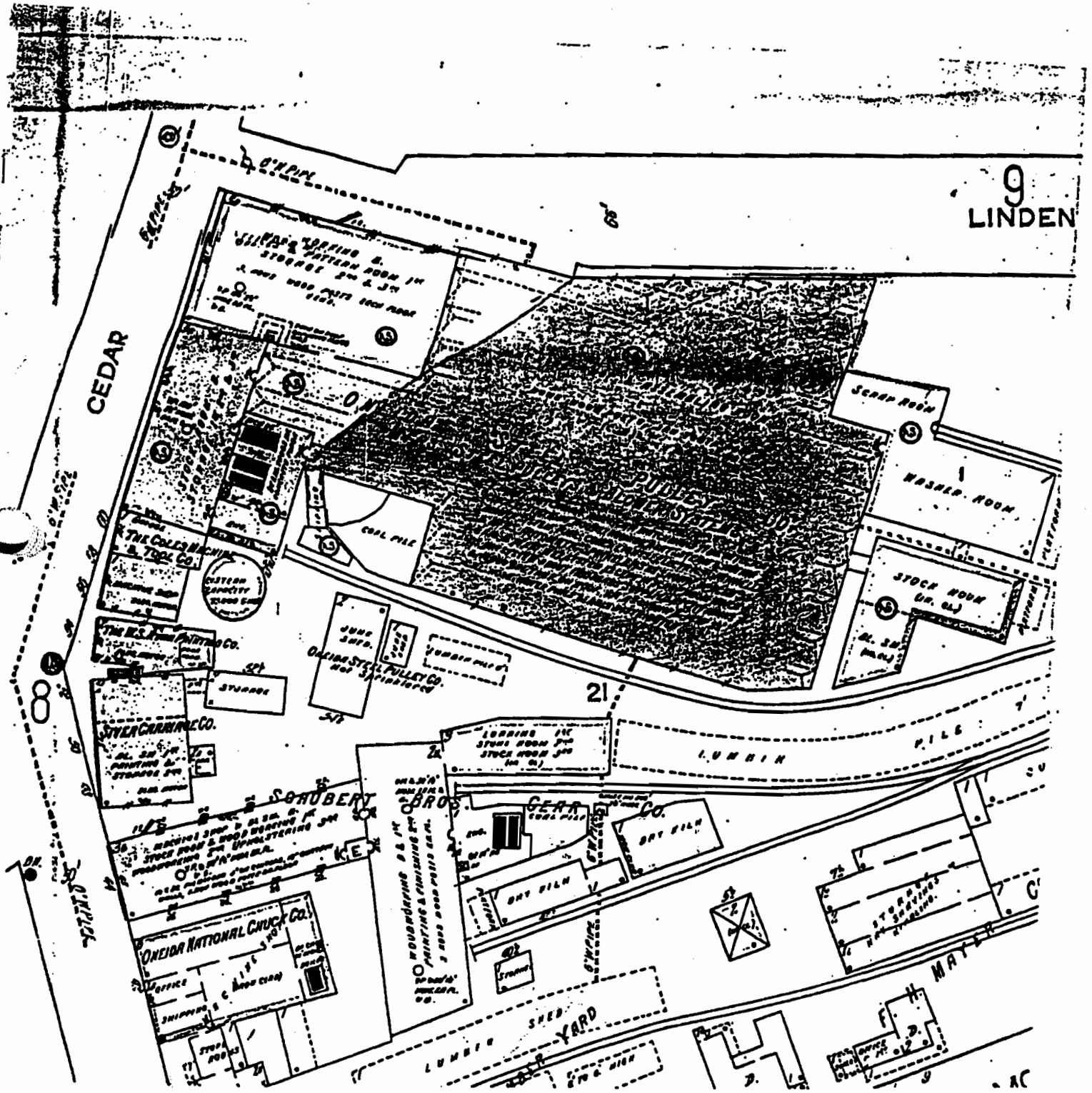
D.7: 1904 Sanborn map, with project area highlighted



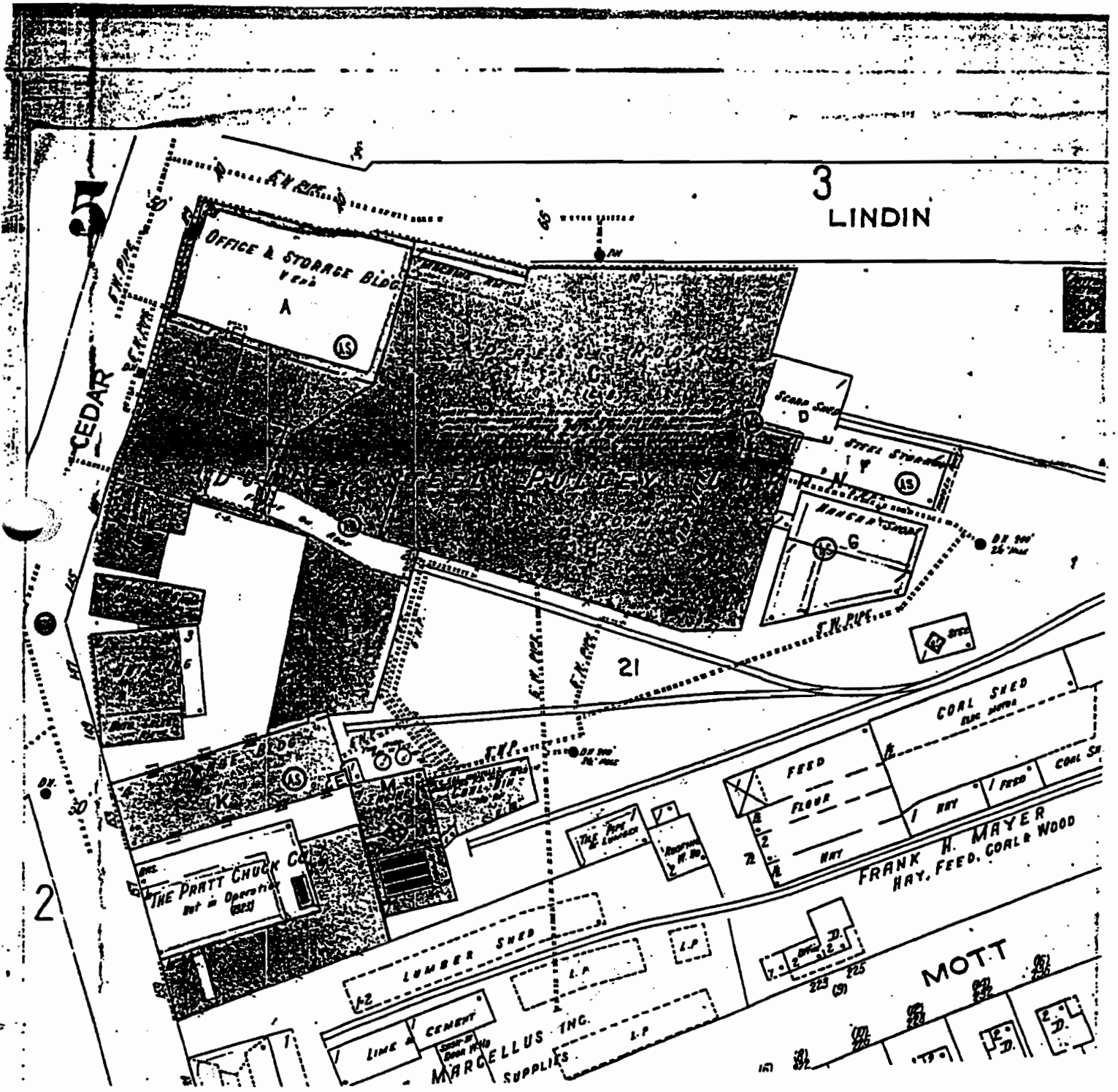
D.8: 1909 Sanborn map, with project area highlighted



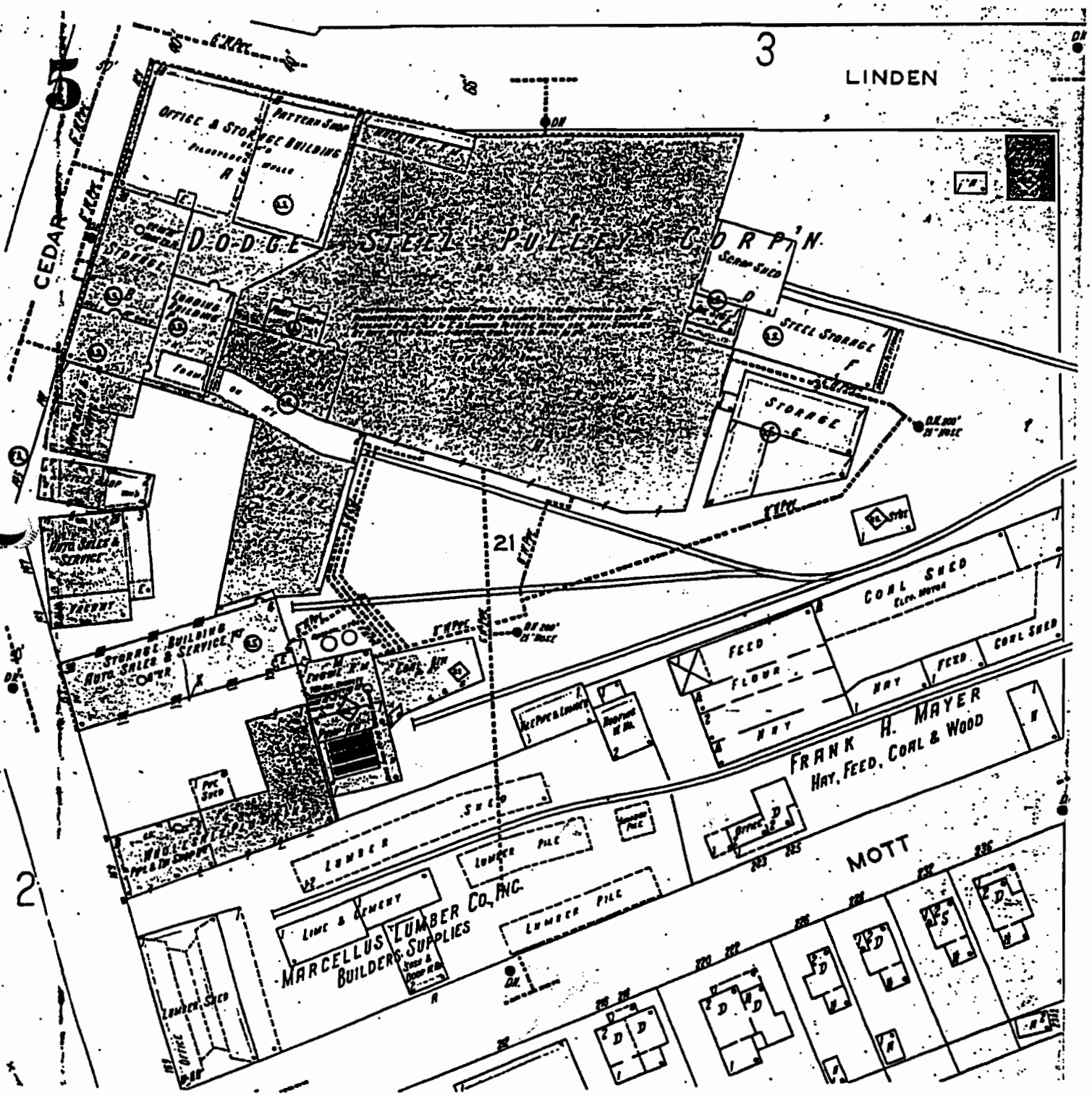
D.9: 1914 Sanborn map, with project area highlighted

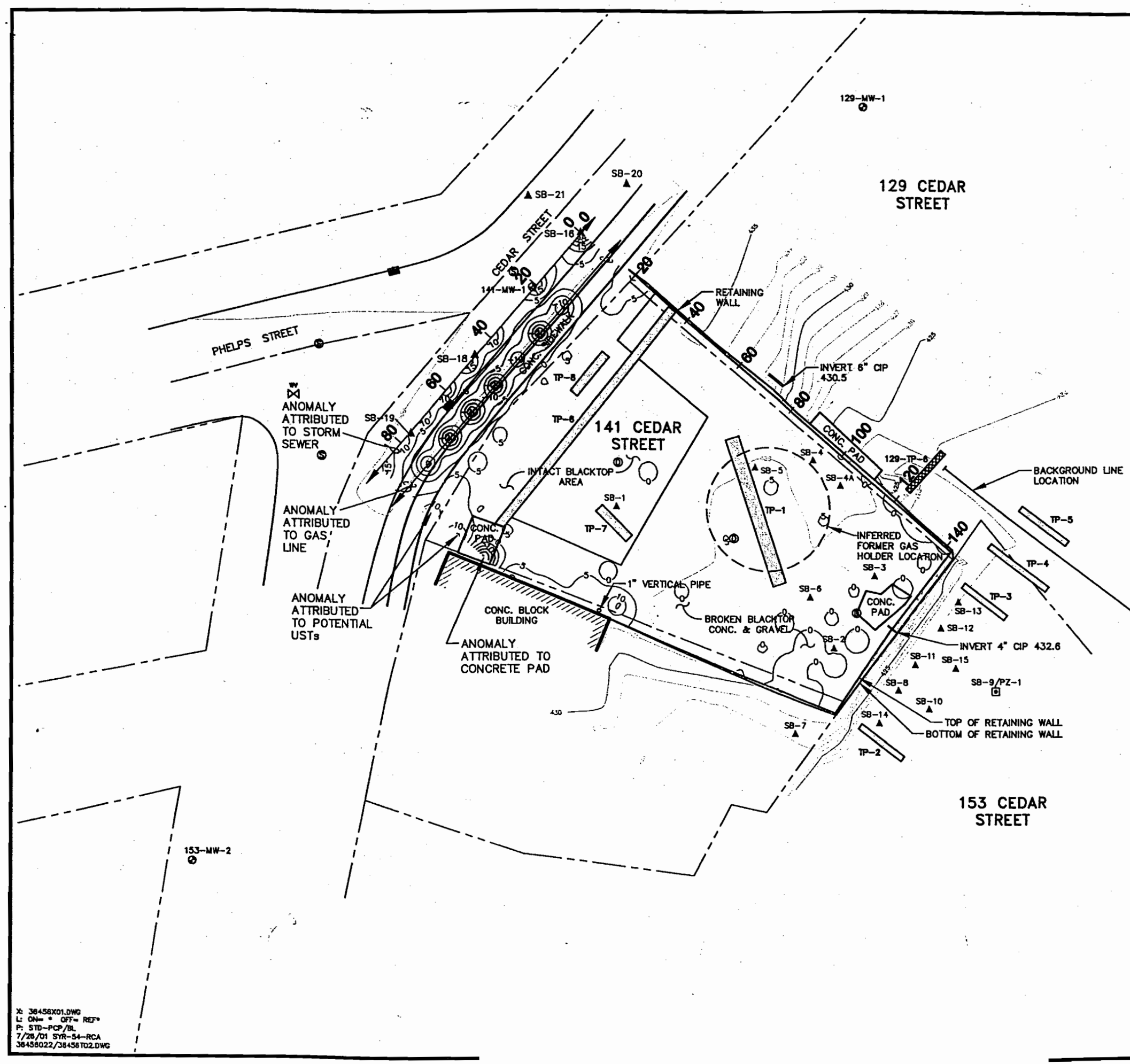


D.10: 1923 Sanborn map, with project area highlighted



D.11: 1930 Sanborn map, with project area highlighted





80 60 LEGEND

- EM-31 MEASUREMENT GRID
- 5 — IN-PHASE CONTOUR INTERVAL (PPT) (MULTI-COLORED FOR CLARITY)
- GROUND SURFACE ELEVATION CONTOUR
- SB-13 ▲ SOIL BORING (INSTALLED BY BBL)
- PZ-1 ⊡ TEMPORARY MONITORING WELL (ABANDONED)
- TP-1 TEST PIT (INSTALLED BY BBL)
- 129-TP-6 TEST PIT (INSTALLED BY HARZA)
- 129-MW-1 MONITORING WELL
- UTILITY POLE
- SANITARY MANHOLE
- DROP INLET
- CATCH BASIN
- WATER VALVE
- CIP CAST IRON PIPE

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. MONITORING WELLS SHOWN ON THIS FIGURE (EXCEPT FOR 141-MW-1) ARE FROM THE FEBRUARY, 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT (SI/RAR) FOR THE 129 CEDAR STREET PARCEL (e.g. 129-MW-2) AND THE MAY 2000 DRAFT SI/RAR FOR THE 153 CEDAR STREET PARCEL (e.g. 153-MW-1), COMPLETED BY HARZA ENGINEEERING COMPANY.
5. PROPERTY NUMBER PREFIX (i.e. 129- AND 1153-) FOR MONITORING WELL INSTALLED BY HARZA WERE ATTACHED HERE FOR CLARITY.
6. LOCATIONS OF SOIL BORINGS SB-16 AND SB-18 THROUGH SB-21, TEST PITS TP-6 THROUGH TP-8, AND MONITORING WELL 141-MW-1 BASED ON FIELD TIE-OFF MEASUREMENTS TO EXISTING SURVEYED SITE FEATURES.
7. AVERAGE BACKGROUND IN-PHASE = 4.2 PARTS PER THOUSAND (PPT).

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

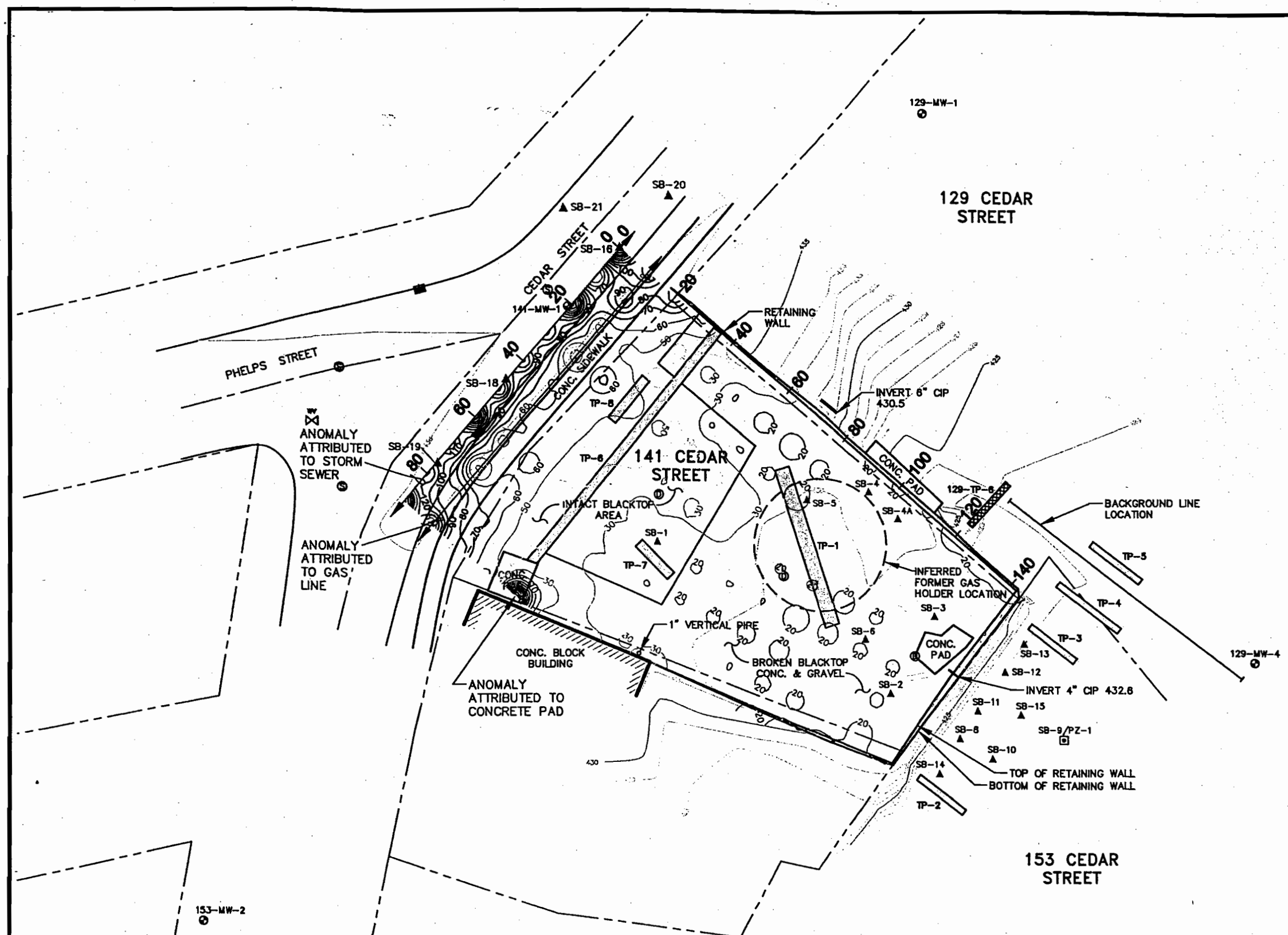
NIAGARA MOHAWK
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION

EM-31 IN-PHASE CONTOUR MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 1

X: 36456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
7/26/01 SYR-54-RCA
36456022/36456T02.DWG



80 60 LEGEND

- EM-31 MEASUREMENT GRID
- 20 APPARENT CONDUCTIVITY CONTOUR INTERVAL (MS/M) (MULTI-COLORED FOR CLARITY)
- GROUND SURFACE ELEVATION CONTOUR
- SB-13 ▲ SOIL BORING (INSTALLED BY BBL)
- PZ-1 ▣ TEMPORARY MONITORING WELL (ABANDONED)
- TP-1 TEST PIT (INSTALLED BY BBL)
- 129-TP-6 TEST PIT (INSTALLED BY HARZA)
- 129-MW-1 MONITORING WELL
- UTILITY POLE
- SANITARY MANHOLE
- DROP INLET
- CATCH BASIN
- WATER VALVE
- CIP CAST IRON PIPE
- APPROXIMATE PROPERTY LINE (SEE NOTE 3)

NOTES:

1. NORTH ARROW INDICATES MAGNETIC NORTH AS OBSERVED ON JULY 7, 2000.
2. VERTICAL DATUM IS REFERENCED TO NGVD 1929. HORIZONTAL DATUM IS ASSUMED.
3. NO BOUNDARY SURVEY WAS CONDUCTED, ANY PROPERTY LINES SHOWN ARE DIGITIZED FROM A PHOTOCOPY OF MADISON COUNTY TAX MAP, DATED 1975, AT AN APPROXIMATE SCALE OF 1"= 100', AND ARE APPROXIMATE ONLY.
4. MONITORING WELLS SHOWN ON THIS FIGURE (EXCEPT FOR 141-MW-1) ARE FROM THE FEBRUARY, 2000 SITE INVESTIGATION AND REMEDIAL ACTION REPORT (SI/RAR) FOR THE 129 CEDAR STREET PARCEL (e.g. 129-MW-2) AND THE MAY 2000 DRAFT SI/RAR FOR THE 153 CEDAR STREET PARCEL (e.g. 153-MW-1), COMPLETED BY HARZA ENGINEEERING COMPANY.
5. PROPERTY NUMBER PREFIX (i.e. 129- AND 1153-) FOR MONITORING WELL INSTALLED BY HARZA WERE ATTACHED HERE FOR CLARITY.
6. LOCATIONS OF SOIL BORINGS SB-16 AND SB-18 THROUGH SB-21, TEST PITS TP-6 THROUGH TP-8, AND MONITORING WELL 141-MW-1 BASED ON FIELD TIE-OFF MEASUREMENTS TO EXISTING SURVEYED SITE FEATURES.
7. AVERAGE BACKGROUND APPARENT CONDUCTIVITY = 56.1 MILLISIEMENS PER METER (MS/M).

REFERENCE DRAWINGS:

1. MAP SHOWING SITE PLAN – 129 CEDAR STREET, BROWNFIELD INVESTIGATION CITY OF ONEIDA, ONEIDA COUNTY, NEW YORK. DATED 11/15/99 BY HARZA NORTHEAST.

0 30' 60'

GRAPHIC SCALE

NIAGARA MOHAWK
ONEIDA (141 CEDAR STREET) FORMER MGP SITE
SUPPLEMENTAL SITE INVESTIGATION

EM-31 APPARENT CONDUCTIVITY CONTOUR MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 2

X: 38456X01.DWG
L: ON= * OFF= REF*
P: STD-PCP/BL
7/25/01 SYR-54-RCA
38456022/38456T01.DWG

Post-it® Fax Note 7671	Date 8/6/01	# of pages ▶ 1
To G. Thomas	From S. Stucker	
Co./Dept. BBL	Co. NM	
Phone #	Phone #	
Fax # 446-8053	Fax #	

CITY OF O
DEPARTMENT OF HIGHWAYS

JAMES W. BACHER, P.E.
City Engineer

Tel: 315-363-7222
Fax: 315-363-9558
E-mail: jbacher@oneidacity.com

July 30, 2001

Mr. Stephen P. Stucker
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202-4250

Re: Your July 26, 2001 Letter - Potential USTs Adjacent to Niagara Mohawk's Oneida 141 Cedar Street Former MGP Site

Dear Steve:

Received the subject letter yesterday. Attempted to call you to discuss but found that you are out of the office until August 6, 2001.

Without actually saying it, you essentially said, that the report submitted with your letter was inconclusive. Seems like the next logical step would be to dig a test pit to confirm or refute the presence of a UST(s)? However, one problem I see is that the 1930/1956 Sanborne Map reflects the "G.Ts" as being out of the right-of-way (i.e. on private property) and straddling the line between City's property & the adjacent property to the south[1]. As such the adjacent property owner would also need to agree to such a test pit being dug on his\her property. At this time I am electing to take a "wait and see what the DEC will require" approach.

I realize that you letter declares NiMo to have "washed its hands" of this matter. However, I will look forward to your thoughts after your August 6th return.

Sincerely,

James W. Bacher
City Engineer

cc. Mayor
City Attorney

[1] Actually the 1939 version Sanbore Map we have in the office reflects the "G.T's" as being more on the private parcel adjacent to the City's parcel.

Appendix C

Boring Logs and Test Pit Logs

BBL
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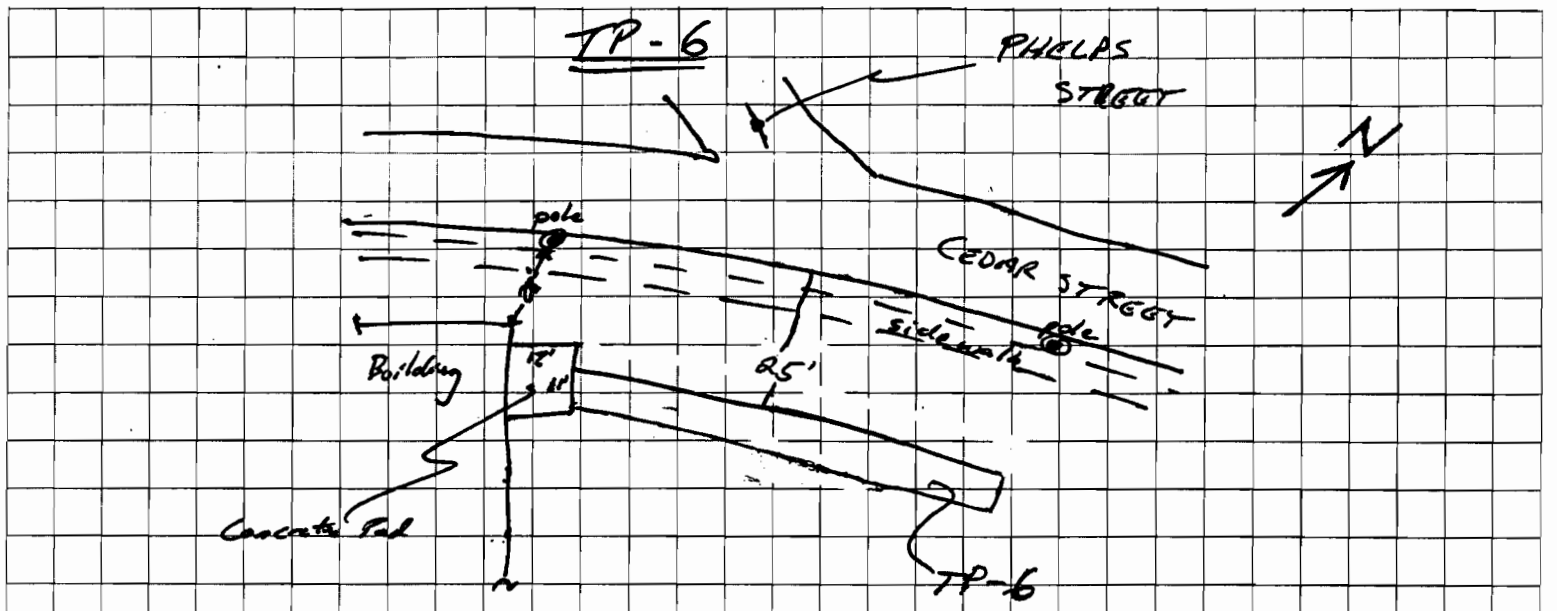
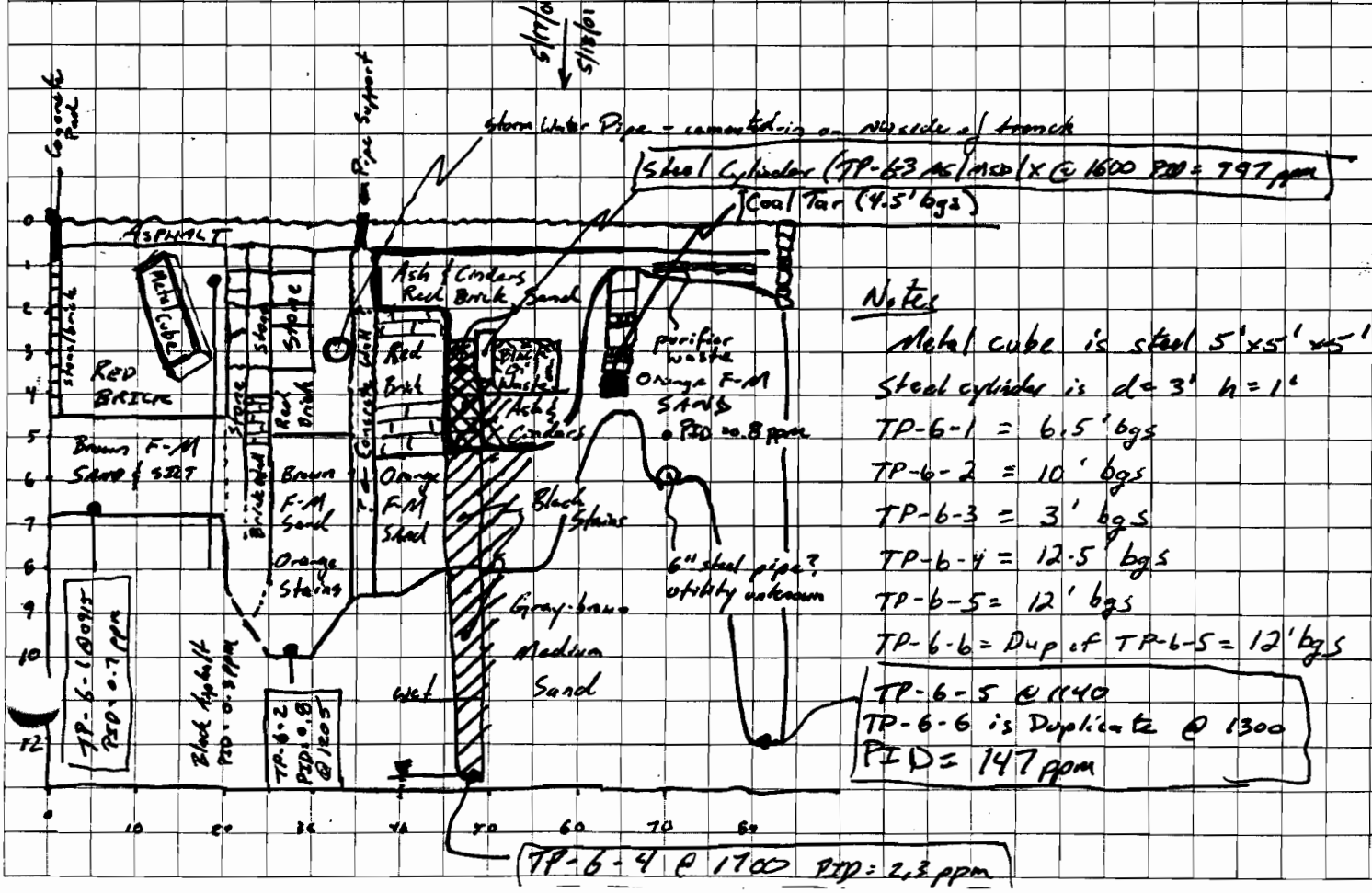
engineers & scientists

SUBJECT	PROJ. NO.	BY	DATE	SHEET
NIAGARA MOHAWK POWER CORP ONEIDA CEDAR STREET (141)	36456.021	JCS	5/17/01	

CS. BY _____; DATE _____ CHECKED BY _____; DATE _____





Notes

Metal cube is steel 5'x5'x5'
Steel cylinder is d = 3' h = 1'
TP-6-1 = 6.5' bgs
TP-6-2 = 10' bgs
TP-6-3 = 3' bgs
TP-6-4 = 12.5' bgs
TP-6-5 = 12' bgs
TP-6-6 = Dup of TP-6-5 = 12' bgs

TP-6-5 @ 1140
TP-6-6 is Duplicate @ 1300
PID = 147 ppm

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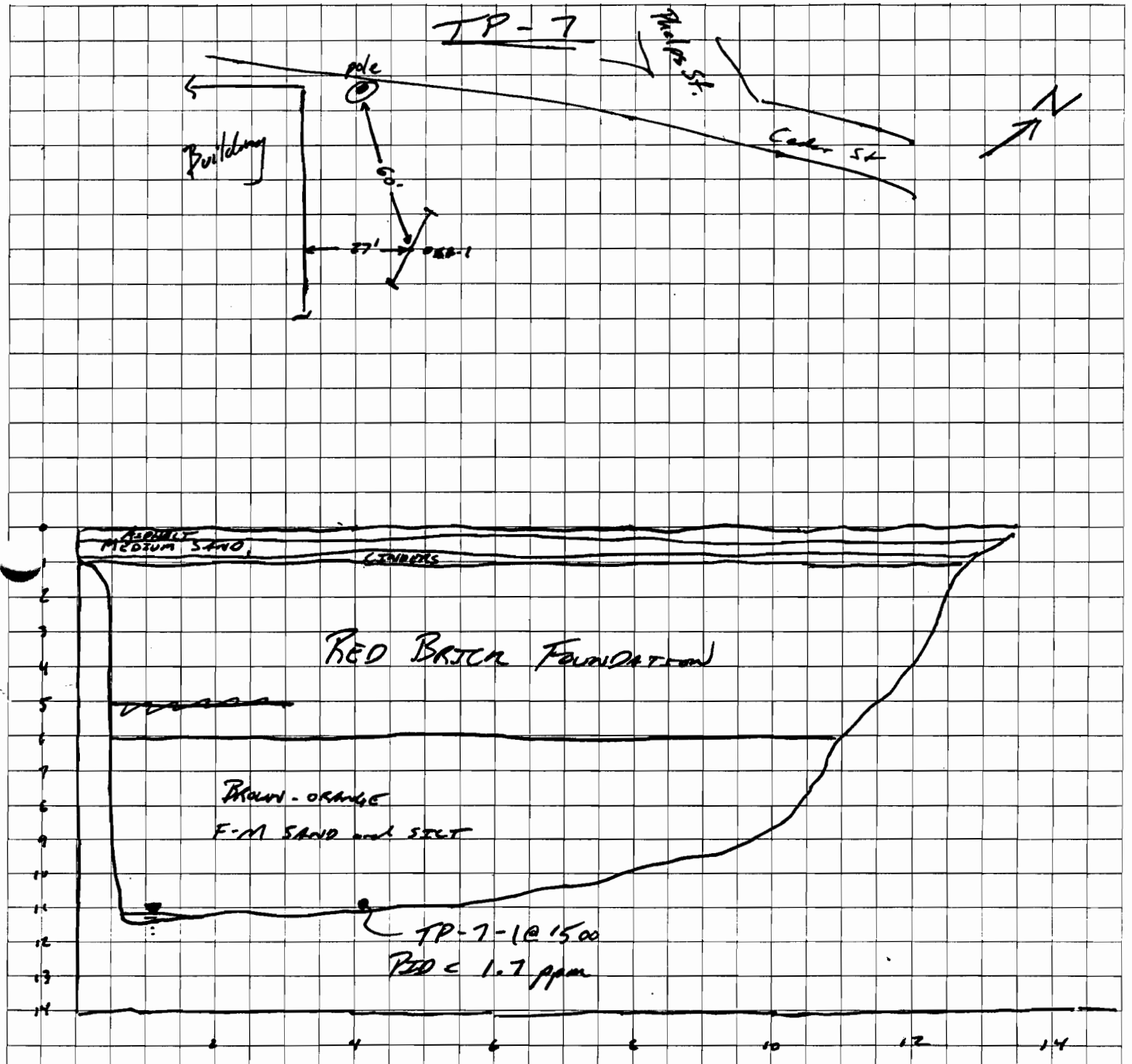
engineers & scientists

SUBJECT	PROJ. NO.	BY	DATE	SHEET
Niagara Mohawk Power Corp Oneida Cedar Street (141)	36456.021	JCS	8/18/02	

LCS. BY _____; DATE _____ CHECKED BY _____; DATE _____



BBL
BLASLAND, BOUCK & LEE, INC.
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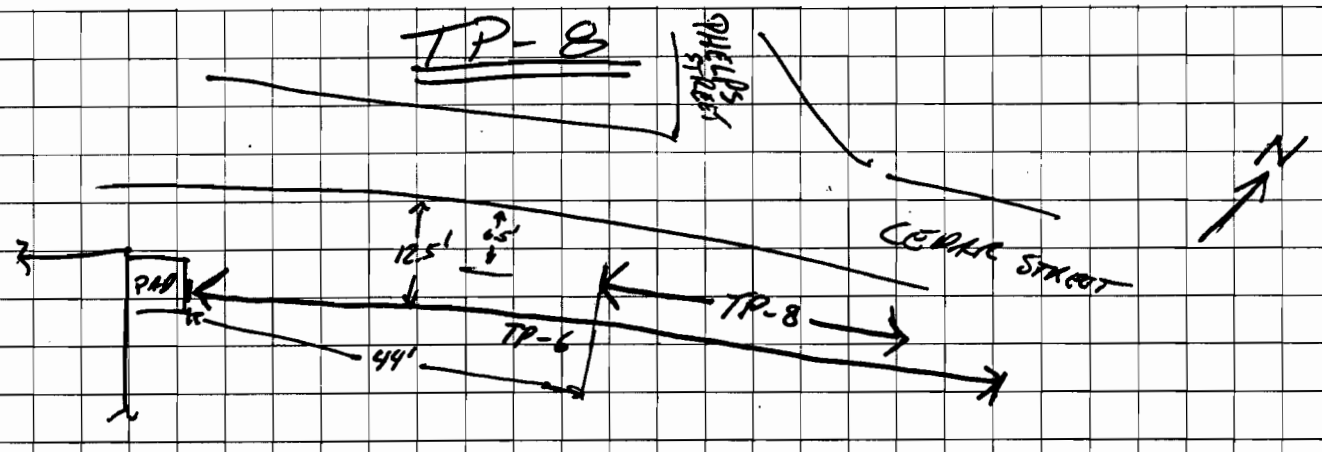
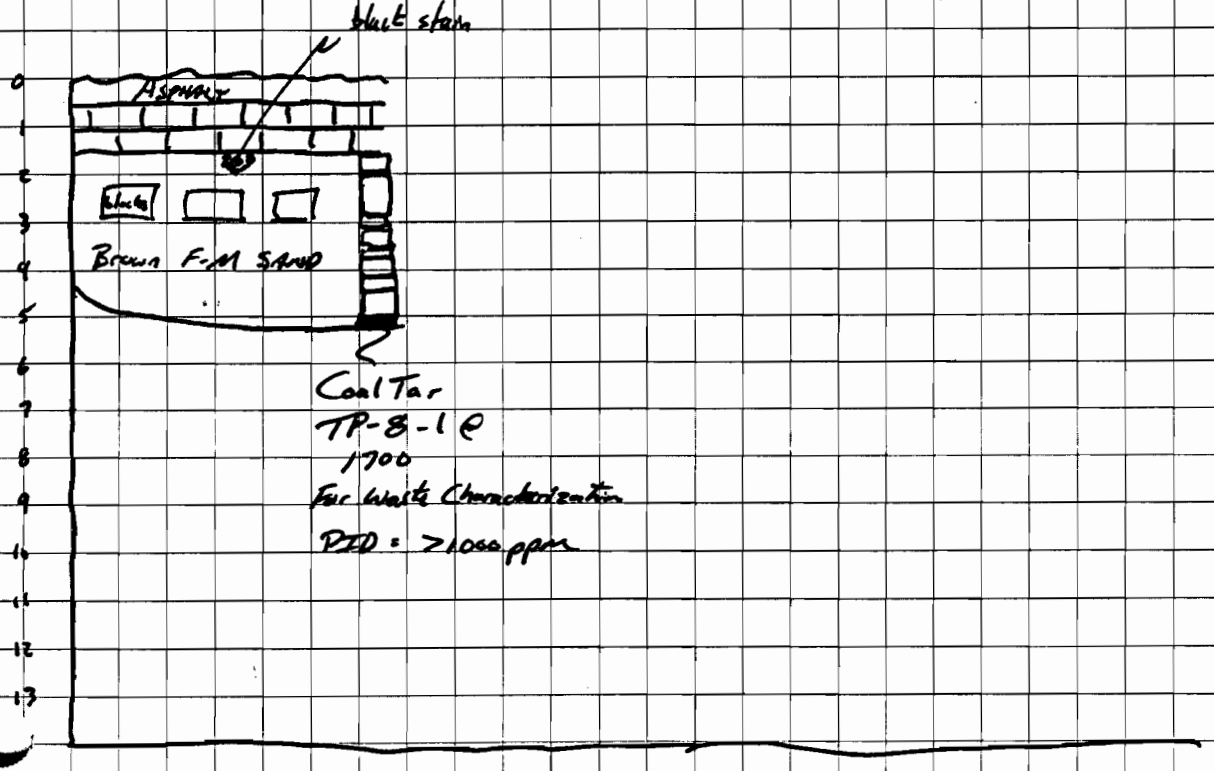
SUBJECT	PROJ. NO.	BY	DATE	SHEET
NIAGARA MOHAWK POWER CORP ONEIDA 141 CEDAR STREET	3649.5L.021	JCS	5/18/04	

CS. BY _____; DATE _____ CHECKED BY _____; DATE _____





Date Start/Finish: 7/9/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Hollow Stem Auger
Bit Size: 6 1/4"
Auger Size: 2 1/4"
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 20 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-16

DRAFT

Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
0 0	1	0-2	0.6	1 5 3	NA	4.2			ASPHALT.		
									Red-brown fine SAND, loose, dry to moist.	Fill	
	2	2-4	0.0	5 3 3 3	6	NA			CONCRETE chunks in shoe.		
5 5	3	4-6	1.3	4 3 2 1	5	7.8			Medium reddish brown fine SAND, trace coarse Sand (Fill traces), brick, very loose, moist.		
	4	6-8	1.1	3 2 2 4	4	4.0			Same as above, with trace Silt laminations.		
	5	8-10	1.5	8 10 9 9	19	10.2	X		Medium red-brown fine SAND, trace coarse Sand and fine rounded Gravel, wet (at approximately 9-10).	Sand	Borehole tremie-grouted to grade with cement/ bentonite slurry. Surface repaired with asphalt/ concrete patch.
10 10	6	10-12	1.5	4 4 6 10	10	180			Black stained fine to medium SAND, wet, odor.		
									Olive SILT, little black staining, wet, slight odor.	Silt	
	7	12-14	1.5	8 19 18 11	37	280			Dark gray to black fine SAND, lenses of olive Silt, wet, odor.	Sand	
									Gray-brown fine SAND, dense, wet, no odor/staining.		
15 15	8	14-16	2.0	9 20 32 11	52	2622	X		Olive-brown, black-stained fine SAND, very dense, wet, odor.		
									Red-brown SILT to very fine SAND, very dense, wet, no staining or odor.	Silt	

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engineers & scientists

Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal
Analytical samples collected at: 10-12, 14-15.6, and 16-18 foot intervals. Depth to water as observed during drilling.

Water Level Data

Date	Depth	Elev.
7/9/01	9' bgs	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Files b-16.dat

Client:
Niagara Mohawk Power Corporation

Site Location:
141 Cedar Street
Oneida, New York

Well/Boring ID: SB-16

Borehole Depth: 20 ft. bgs

DRAFT

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
									odor.		
	9	16-18	1.2	20 15 21 33	36	1.5	X		Red-brown SILT to very fine SAND, blowing Sands, dense, wet, no staining or odor.	Sand	
	10	18-20	1.1	20 9 15 46	24	4.2			Red-brown SILT, little fine Sand, blocky, wet.	Silt	Borehole tremie-grouted to grade with cement/ bentonite slurry.
20 20											
25 25											
30 30											
35 35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal
Analytical samples collected at: 10-12, 14-15.6, and 16-18
foot intervals. Depth to water as observed during drilling.

Water Level Data

Date	Depth	Elev.
7/9/01	9' bgs	

Project: 364.56 Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Date: 10/29/01 Data Filesb-16.dat

DRAFT

Date Start/Finish: 7/9/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Hollow Stem Auger
Bit Size: 8 1/4" OD
Auger Size: 4 1/4" ID
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: 434.70

Borehole Depth: 20 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-17/141 MW-5
Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy
435 / 0										
	1	0-2	0.4	-- -- 2 3	NA	1.9			ASPHALT.	Fill
									Red-brown fine to medium SAND, little coarse Sand, moist.	
	2	2-4	1.0	4 6 6 5	12	1.5			Same as above, Concrete chunks in cuttings.	
430 / 5	3	4-6	0.3	10 6 4 4	10	3.2			Same as above, Concrete chunks lodged in shoe.	
	4	6-8	1.6	4 6 6 15	12	2.7	X		Medium brown fine SAND, little medium to coarse Sand, little fine Gravel. Black very fine SAND, blocky moist to wet, no odor. Medium brown fine to medium SAND, moist.	
	5	8-10	0.3	11 11 6 5	17	4.1	X		Same as above, Concrete chunks lodged in shoe, moist.	
425 / 10	6	10-12	1.2	4 4 3 4	7	5.5			Medium brown fine to medium SAND, little coarse Sand and fine Gravel. Black fine SAND, wet, possible odor.	
									Olive SILT to very fine Sand, blocky, wet, little black staining.	Silt
	7	12-14	2.0	5 5 6 8	11	4.3			Brown-black fine to medium SAND, wet, no odor.	Sand
									Olive CLAY and SILT, blocky, wet, trace black staining, slightly plastic.	Clay&Silt
420 / 15	8	14-16	1.5	8 9 11 16	20	4.6	X		Medium brown fine SAND, little medium Sand, little Silt in partings, wet.	Sand

Well Construction

- 8" diameter by 1.5' deep Steel Flush Mount curb box
- Cement Pad (0-1.5' bgs)
- 2" OD Sch 40 PVC Riser (0.5-5' bgs) with locking expandablewellplug
- Sand Drain (1.5-3' bgs)
- Bentonite Chips (Enviroplug Medium) (3-5' bgs)
- Morie grade 0 Silica Sand (5-18 0' bgs)
- 2" OD Sch 40 PVC 0.010" Slot Screen (7-17' bgs)

BBL
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engineers & scientists

Remarks: ID/OD = inside/outside diameter; ppm = parts per million; ags/bgs = above/below ground surface; AMSL = above Mean Sea Level; PID = photoionization detector; NA = not available; ref = spoon refusal

Analytical samples collected at:
6-8, 10-12, and 14-16 foot intervals.

Water Level Data

Date	Depth	Elev.
7/18/01	8.62' below TIC	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Filesb-17.dat

DRAFT

Client:
Niagara Mohawk Power Corporation

Well/Boring ID: SB-17/141-MW1

Site Location:
141 Cedar Street
Oneida, New York

Borehole Depth: 20 ft. bgs

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
	9	16-18	1.3	5 5 11 12	16	4.6			Medium brown fine SAND, little medium Sand, little Silt in partings, wet.	Sand	2" OD Sch 40 PVC 0.010" Slot Screen (7-17' bgs) PVC Cap Morie grade 0 Silica Sand (5-18.0' bgs)
415	10	18-20	2.0	8 11 11 41	22	3.9			Medium brown SILT, blocky, wet, very stiff, no odor or staining.	Silt	
20											
410											
25											
405											
30											
400											
35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal
Analytical samples collected at:
6-8, 10-12, and 14-16 foot intervals.

Water Level Data

Date	Depth	Elev.
7/18/01	8.62' below TIC	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Filesb-17.dat

FRANK J. ALBANESE - posters

From: TINA GOUMAS
To: ALBANESE, FRANK J.
Date: 10/29/01 3:28 PM
Subject: posters

Frank,
Here are the changes that I got from your earlier e-mail. I juggled around the order a bit. I decided to put it in alphabetical (so no one can complain, why they are last), Plus that was the way it fit best.

Just an FYI, Pat changed the "floating text" along the bottom of the panels. He called me a few minutes ago from the car.

Tina

Date Start/Finish: 7/10/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Hollow Stem Auger
Bit Size: 6 1/4"
Auger Size: 2 1/4"
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 20 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-18

DRAFT

Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
0 0											
	1	0-2	0.4	1 3 3 5	NA	0.7			ASPHALT roadbed. Medium brown fine to coarse SAND, little Gravel, Concrete chunks.	Fill	
	2	2-4	0.6	3 3 3 3	6	0.5			Medium red-brown fine SAND, some medium to coarse Sand, little fine Gravel, Fill (Concrete chunks), moist.		
5 5	3	4-6	1.1	4 3 3 4	6	0.8			Medium red-brown fine SAND, little coarse Sand to fine Gravel, loose, Brick fragments, moist to wet.		
	4	6-8	1.8	3 3 4 4	7	1.7	X		Medium brown fine SAND, loose, well sorted, moist.	Sand	
	5	8-10	0.0	5 6 6 7	12	NA			No recovery (basket failure).		Borehole backfilled to grade with Bentonite pellets. Surface repaired withasphalt/concrete patch.
10 10	6	10-12	1.8	4 9 5 8	14	1.1	X		Medium brown fine SAND, little medium Sand, medium dense, wet. Medium brown SILTY CLAY, blocky, slightly plastic, wet.	Sand Silty Clay	
	7	12-14	1.3	9 14 14 13	28	0.7			Medium brown SILTY CLAY grading to medium brown-olive SILT, little very fine Sand, blocky, wet. Medium brown fine SAND, medium dense, well sorted, wet.	Sand	
15 15	8	14-16	1.1	5 5 10 19	15	1.1					

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal Analytical samples collected at 6-8'
and 10-12' intervals. 10-12' Sample: DUP-1 VOCs only.
Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	10.0	

Client:
Niagara Mohawk Power Corporation

Site Location:
141 Cedar Street
Oneida, New York

Well/Boring ID: SB-18

Borehole Depth: 20 ft. bgs

DRAFT

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
	9	16-18	2.0	8 19 19 21	38	1.7			Medium brown fine SAND, little medium Sand, dense, wet. Fine to very fine SAND.	Sand	Borehole backfilled to grade with Bentonite pellets.
	10	18-20	1.1	7 15 13 12	28	2.6			Medium olive-brown SILT, little Clay, blocky, wet.	Silt	
20 20											
25 25											
30 30											
35 35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal Analytical samples collected at 6-8' and 10-12' intervals. 10-12' Sample: DUP-1 VOCs only.
Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	10.0	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Files:sb-18.dat

Date Start/Finish: 7/10/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Geoprobe Hammer
Bit Size: 6 1/4"
Auger Size: 2 1/4"
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 20 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-19

DRAFT

Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy
0 0										
	1	0-2	0.4	NA	NA	0.7			ASPHALT.	Fill
									Red-brown fine SAND, little medium to coarse Sand, loose, dry.	Sand/Fill
									Medium brown fine SAND, little medium Sand, trace Silt, loose, moist.	
	2	2-4	1.1	NA	NA	1.6				
									Medium red-brown fine SAND, little Silt, medium Sand, moist.	
5 5	3	4-6	0.6	NA	NA	3.0				
									Same as above, moist (possible trace black staining 6.5-7.0' bgs).	
	4	6-8	1.2	NA	NA	2.5	X			
									Medium brown fine SAND, loose, well-sorted, moist.	
	5	8-10	1.6	NA	NA	2.9				
									Medium brown fine to medium SAND, trace coarse Sand, loose, moist.	
10 10									Wet.	
	6	10-12	1.8	NA	NA	4.2	X			
									Medium brown SILT, little Clay, blocky, medium stiff, wet.	Silt
									Medium brown fine SAND, trace Silt, loose, well sorted, wet.	Sand
	7	12-14	2.0	NA	NA	2.2				
15 15	8	14-16	2.0	NA	NA	4.2			Medium brown fine SAND, little black medium Sand, trace black coarse Sand, wet.	
									Medium brown SILT, blocky, wet.	Silt

Well Construction

Borehole backfilled to grade with bentonite pellets. Surface repaired withasphalt/concrete patch.

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal Analytical samples from 6-8' and 10-12' intervals. 10-12' Sample: DUP-2 PAHs & CN only. Water level observed during drilling. Geoprobe used due to OH electric.

Water Level Data

Date	Depth	Elev.
7/10/01	10.0	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Files: b-19.dat

Client:
Niagara Mohawk Power Corporation

Site Location:
141 Cedar Street
Oneida, New York

Well/Boring ID: SB-19

Borehole Depth: 20 ft. bgs

DRAFT

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
	9	16-18	2.0	NA	NA	2.6			Medium brown fine SAND, little medium Sand, trace medium Gravel, dense, wet.	Sand	
									Medium brown Silty very fine SAND, dense.		
									Medium brown fine SAND, well sorted, dense, wet.		Borehole backfilled to grade with bentonite pellets.
	10	18-20	2.0	NA	NA	2.4					
20 20									Medium brown SILT, trace fine Sand, blocky, wet.		
25 25											
30 30											
35 35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal Analytical samples from 6-8' and 10-12' intervals. 10-12' Sample: DUP-2 PAHs & CN only. Water level observed during drilling. Geoprobe used due to OH electric.

Water Level Data

Date	Depth	Elev.
7/10/01	10.0	

Date Start/Finish: 7/10/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Hollow Stem Auger
Bit Size: 6 1/4"
Auger Size: 2 1/4"
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 20 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-20

DRAFT

Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
0 0	1	0-2	0.5	3 3	NA	1.5			ASPHALT.		
									Red-brown fine to medium SAND, little coarse Sand, Brick and Concrete fragments, moist.	Fill	
	2	2-4	1.2	2 2 2 2	4	2.4			Medium brown fine SAND, very loose, moist.		
									Trace fine Gravel, fill traces (Cement chunks), moist.		
5 5	3	4-6	1.1	3 2 2 5	4	2.7					
	4	6-8	1.2	8 5 6 6	11	3.8			Medium brown fine to medium SAND, trace coarse Sand, medium dense, moist.	Sand	Borehole backfilled to grade with bentonite pellets Surface repaired withasphalt/concrete patch.
	5	8-10	0.6	9 9 12 14	21	4.3			Medium brown fine SAND, well sorted, medium dense, wet (inadequate recovery to sample).		
10 10	6	10-12	1.6	4 4 5 9	9	6.9	X		Wet.		
									Medium brown fine SAND with lense of Silt interbedded, no odor or staining, wet.		
	7	12-14	2.0	3 4 8 8	12	11.1			Trace Silt lenses.		
									Medium brown CLAY, little Silt, medium plastic, stiff, wet.		
									Dark grey-black fine SAND, trace Silt.	Sand	
15 15	8	14-16	2.0	8 14 24 32	38	21.0	X		Medium brown fine SAND, little medium Sand, dense, possible trace black staining, wet.		
									Medium brown SILTY very fine SAND, blocky, dense, wet.		

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
Analytical samples from 10-12' and 14-16' intervals.
10-12' Sample: MS/MSD BTEX only. 14-16' Sample: MS/MSD PAH
CN only. Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	8.0' bgs	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Filesb-20.dat

Client:
Niagara Mohawk Power Corporation

Site Location:
141 Cedar Street
Oneida, New York

Well/Boring ID: SB-20

Borehole Depth: 20 ft. bgs

DRAFT

Depth (feet) Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
	9	16-18	1.5	26 31 50/ 0.4'	NA	5.1			Medium brown fine SAND, dense to very dense, well sorted, wet.	Sand	
									Medium brown SILT, blocky, wet.		
									Blowing sands, wet.	Silt	Borehole backfilled to grade with bentonite pellets.
	10	18-20	0.5	29 50/ 0.4'	NA	5.2					
20 20											
25 25											
30 30											
35 35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
Analytical samples from 10-12' and 14-16' intervals.
10-12' Sample: MS/MSD BTEX only. 14-16' Sample: MS/MSD PAH
CN only. Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	8.0' bgs	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Filesb-20.dat

Date Start/Finish: 7/10/01
Drilling Company: Parratt Wolff
Driller's Name: Doug Thomas
Drilling Method: Hollow Stem Auger
Bit Size: 6 1/4"
Auger Size: 2 1/4"
Rig Type: IR A-300
Sampling Method: 2-inch split-spoons (SS)

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 22 ft. bgs
Surface Elevation: NA

Geologist: Michael K. Cobb

Well/Boring ID: SB-21

DRAFT

Client: Niagara Mohawk Power Corporation

Location: 141 Cedar Street
Oneida, New York

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy
0 0										
	1	0-2	1.0	NA	NA	1.3			ASPHALT.	
									Medium reddish brown fine SAND, little medium to coarse Sand, fine Gravel, Brick, Concrete fragments, moist.	Fill
	2	2-4	1.1	3 3 5 5	8	2.7			Medium brown fine SAND, loose, moist to wet.	Sand
									Trace medium Sand, trace possible black staining.	
5 5	3	4-6	1.5	2 2 2 2	4	3.2				
									Moist to wet.	
	4	6-8	2.0	2 3 6 9	9	3.0			Medium olive-brown SILT to very fine SAND, blocky, wet (possible perched water).	Silt
									Black very fine SAND to SILT, blocky, paint-thinner-type odor (PID cal check to confirm hit).	
	5	8-10	1.8	2 7 10 14	17	2962	X		Medium brown fine SAND, wet, trace possible black staining.	Sand
10 10									Little black staining, odor at 10.5' bgs, wet.	
	6	10-12	1.8	3 10 7 3	17	1152			Olive-brown Silty very fine SAND, very stiff, wet.	
									Black fine SAND, possible faint odor.	Sand
	7	12-14	2.0	6 7 11 11	18	1350 27.3			Odor, wet.	
									Medium brown SILT, blocky, very stiff, no apparent odor or staining, wet.	Silt
15 15	8	14-16	1.8	2 3 7 12	10	2682	X		Medium brown fine SAND, medium dense, wet. Medium olive-brown fine SAND, little interbedded lenses of Silt, loose, wet.	Sand

Well Construction

- Borehole backfilled withBentonitepellets from 0-8' bgs.
- Borehole tremie-grouted with Bentonite/cement grout from 8-22' bgs..

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal
Analytical samples collected at 8-10', 14-16', and 20-22' intervals. Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	6.9' bgs	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Filesb-21.dat

Client:
Niagara Mohawk Power Corporation

Site Location:
141 Cedar Street
Oneida, New York

Well/Boring ID: SB-21

Borehole Depth: 22 ft. bgs

DRAFT

Depth (feet) / Elevation (ft. AMSL)	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Hydrostratigraphy	Well Construction
	9	16-18	1.5	7 15 12 12	27	150			Medium brown very fine SAND, little Silt, medium dense, wet.	Sand	Borehole tremie-grouted with Bentonite/cement grout from 8-22' bgs..
	10	18-20	2.0	4 4 8 15	12	1258			Medium brown fine SAND, wet. Medium brown very fine SAND, little Silt, wet.		
20 20	11	20-22	1.5	10 13 17 23	29	4.2	X		Medium olive-brown SILT, blocky, very stiff, no apparent odor, wet.	Silt	
25 25											
30 30											
35 35											

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Remarks: ID/OD = inside/outside diameter ppm = parts per million
ags/bgs = above/below ground surface AMSL = above Mean Sea Level
PID = photoionization detector NA = not available
ref = spoon refusal
Analytical samples collected at 8-10', 14-16', and 20-22' intervals. Water level observed during drilling.

Water Level Data

Date	Depth	Elev.
7/10/01	6.9' bgs	

Project: 364.56
Date: 10/29/01
Template: j:\rockware\logplot2001\36456\bbl1wellnograph.ldf
Data Files:b-21.dat