NYSEG

6 November 1998

Binghamton Court Street MGP Site

NOV 5 1998

Mr. Tom Suozzo, P.E.
Project Manager
New York State Department of
Environmental Conservation
Region 7 Sub-office
1679 NY Route 11
Kirkwood, NY 13795

Subject: 293 & 295 Court Street Property Investigations

Dear Mr. Suozzo:

Enclosed please find one copy each of the draft investigation reports for the subject properties. Although the Order on Consent (Index # D7-001-96-03) does not require NYSEG to investigate these properties, we voluntarily went forward with the investigations to delineate the extent of potential impacts to those properties from the historic MGP operation. NYSEG is providing you with a copy of each report for review and comment.

As was requested in your 1 October 1998 letter to me, the findings of the 293 Court Street (Columbia Gas) investigation are being incorporated into the Draft Supplemental Remedial Investigation Report for the site. For ease of review, you are being provided with a copy of the investigation report for that property before it is melded into the larger report.

Since neither of the subject properties are included in the aforementioned Order on Consent, the requirements of the Order don't apply to them. NYSEG is providing you with the reports for review and comment, however, we reserve the right to accept or reject any comments you may provide. The property owners have also been provided with a draft copy of the report for their review and comment.

Please feel free to call me at 762-8839 if you have any questions regarding this matter.

Sincerely,

Tracy Blazicek

Tracy L. Blazicek, CHMM
Project Environmental Specialist
Licensing & Environmental Operations

cc: w/o enclosures:
J.M. Simone

tlb/suozzo8.wp

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Transmitted Via US Mail *DRAFT*

August 21, 1998

Mr. Tracy Blazicek, CHMM
Project Environmental Specialist
Licensing & Environmental Operations
New York State Electric & Gas Corporation
Corporate Drive, Kirkwood Industrial Park
PO Box 5224
Binghamton, New York 13902

Re: 293 Court Street Property
Subsurface Investigation
Binghamton, New York
BBL Project #: 0130.13036 #2

Dear Mr. Blazicek:

This letter presents the findings of the subsurface investigation conducted at 293 Court Street, a property curently leased by Columbia Gas of New York, located adjacent to the Court Street Former Manufactured Gas Plant (MGP) Site, in Binghamton, New York. This investigation was conducted by Blasland, Bouck & Lee, Inc. (BBL) at the request of the New York State Electric & Gas Corporation (NYSEG), to characterize the subsurface conditions at this property not specifically addressed by the Supplemental Remedial Investigation (SRI) of the Court Street Site (BBL, 1998).

The investigation was conducted in accordance with two work plans. A task-specific letter work plan dated November 11, 1997, was submitted to NYSEG and approved by the New York Sate Department of Environmental Conservation (NYSDEC, March 1998). In addition, the investigation followed the applicable provisions of the more extensive NYSDEC-approved work plan for conducting the Supplemental Remedial Investigation/Feasibility Study (SRI/FS) for the Court Street Former MGP Site (BBL, June 1997).

BBL conducted the investigation at the 293 Court Street Property between May 18th and 22nd, 1998. During that time, four soil borings were advanced to investigate the subsurface soil conditions at locations that coincided with four historic MGP features. Those features, two purifiers, a tar well and a grouping of retorts, are not visible at the surface, but their locations are recorded on historic Sanborn fire insurance maps of the area (dated 1891, 1898, and 1918), and have been overlaid on Figure 1. A review of the Sanborn maps shows that the property once housed part of an electric-generating facility, identified under a string of company names (Binghamton Gas and Electric Company [1891], Binghamton Electric Company [1898], and Binghamton Light, Heat & Power Company [1918]). Though the majority of the historic MGP facility area falls west of the property, a portion the former facility footprint overlaps

the 293 Court Street Property. Of the MGP features investigated, the purifiers appear on the Sanborn map dated 1891; the retorts and tar well first appear on the Sanborn map dated 1918.

A brief review of the pertinent site geology, the details of the subsurface investigation and the laboratory analytical results of the soil samples are discussed in the remainder of this letter.

Geology

In the course of the SRI of the Court Street Former MGP Site, BBL investigated and mapped the local subsurface geology. The data acquired at the former MGP site, and compiled from a number of local offsite sources for the production of the SRI report were sufficient to develop a stratigraphic interpretation of subsurface soils beyond the former MGP site, including the area of the 293 Court Street Property. The following geologic overview is based on the SRI's findings and subsurface data collected during this investigation.

Shale bedrock underlies the area at a depth greater than 80 feet, and is overlain by a mantle of dense till that consists of varying amounts of sand and gravel, supported by a silt and clay matrix. Together, the bedrock and till form the base of the local ground-water flow system, due to their insignificant capacity to transmit groundwater. Beneath the 293 Court Street Property, the till slopes to the northwest, and is interpreted to be as deep as 65 feet below grade in the extreme northwest corner, and as shallow as 40 feet below grade in the extreme southeast corner.

A sand and gravel unit overlies the till, and is the primary water-bearing unit beneath the property. Though somewhat variable, the stratified sediments comprising the unit are reasonably viewed as a single hydrostratigraphic unit with a hydraulic conductivity estimated at over 300 feet per day. The unit appears to be laterally continuous across the site, with an expected thickness of approximately 30 feet.

Above the sand and gravel unit lies a layer of silt, mounded in the center of the 293 Court Street Property, near soil boring location SB-22, and sloping gradually to the north and south. The silt was observed to be shallowest at the SB-22 boring location, just 6 feet below grade. The convex shape of the silt surface, coupled with the unit's low hydrualic conductivity, appear to cause localized mounding of the water table.

293 Court Street Property Investigation Activities

Four soil borings, identified as SB-20 through SB-23, were advanced at the 293 Court Street Property using a hollow-stem auger, and sampled continuously using two-foot-long split-spoon samplers. A BBL geologist examined each soil sample, described the lithology and obvious staining, and recorded those observations in a field book. A portion of each sample was jarred for headspace analysis with a photoionization detector to evaluate the presence or absence of volatile organic compounds (VOCs) in each interval sampled. The field notes were later finalized in subsurface boring logs (Attachment I).

At each boring location, one soil sample from the most heavily impacted interval was collected for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), total and amenable cyanide, and Target Analyte List (TAL) inorganics. In addition, the sample from SB-20 was submitted for analysis of Toxicity Characteristic Leaching Procedure (TCLP) Benzene, the sample from SB-22 for reactive cyanide and sulfide, and the samples from both SB-22 and SB-23 for Total Petroleum

Hydrocarbons (TPH). The methods of laboratory analysis are presented in a table in the analytical results section of this letter.

Upon completion, each soil boring was tremie-grouted to just below ground surface with a cement/bentonite slurry. The surface at each boring location was restored with grass or cement, depending on the nature of the surface. The location of each soil boring was surveyed by a licenced surveryor from Hawk Engineering, Inc. of Binghamton, New York. Survey data are included in the boring logs. The boring locations are presented on Figure 1.

A shallow soil boring, SB-20, was advanced to 11 feet directly inside the mapped location of the former tar well. The letter work plan had called for the boring to be advanced to the water table, or the top of the silt unit, whichever appeared deepest. Soil sampling showed that the water table occurred within the silt unit. When saturated soils were encountered at 11 feet below grade, the boring was terminated. A sample of the silt unit from the 9 to 11-foot interval was submitted for laboratory analysis due to the presence of strong odors and black staining of the soil.

The letter work plan called for the boring near the former retorts (SB-21) to extend to the till, which was expected to occur approximately 55 feet below grade at that location. At the chosen boring location, soil sampling indicated the presence of elevated water levels and fill materials suggestive of a buried foundation at approximately 6 feet below grade. The water inside the borehole rose to 3.5 feet below grade, some 4 feet higher than the expected groundwater table based on the SRI investigations. Because both the water and soil exhibited black oil staining, and because the physical evidence suggested some manner of an enclosed feature, the advancement of SB-21 was terminated 6 feet below grade. Drilling deeper would have risked puncturing the basin, and allowing the downward migration of the apparently trapped water. A second boring, SB-21A, set three feet farther west, was advanced to 8.5 feet, but produced poor sample recovery. Evidence of a buried structure and the shallow occurrence of free water suggested an enclosed feature as in SB-21, therefore the boring was not advanced farther. A sample from the 4 to 6-foot interval of SB-21 consisting of the stained soil was collected for laboratory analysis.

Like the retort soil boring, the work plan called for each of the two borings located by the former purifiers to extend to the till. Boring SB-22 was advanced initially inside the mapped location of a purifier, but struck a concrete slab within a foot below the asphalt surface. During the boring of SB-23, conducted before that of SB-22 and discussed later, a similar slab had been encountered just below grade. After probing the grass area around SB-23 with a metal rod and sledge hammer, it became apparent that the slab was laterally extensive, and that it conformed closely with the mapped location of the former purifier. At SB-22, after striking a slab at the initial location, a new boring location was chosen to the east. Because the asphalt surface cover prevented repeated probing, the new location was chosen approximately 35 feet east, at a spot judged to be safely beyond the purifier's mapped foundation, and beyond buried utilities running beneath the asphalt (Figure 1).

At the new location, SB-22 was advanced to 16 feet below grade, where sampling was discontinued upon encountering soils containing a reddish-brown colored, non-aqueous phase liquid (NAPL). Though the formation had become saturated in the silt unit at 8.3 feet below grade, obvious oily staining did not appear until 12 feet, and the first indication of potentially mobile NAPL did not appear until penetrating the top of the sand and gravel unit at 16 feet below grade. In order to obtain sufficient recovery for laboratory analysis, a sample of the oily stained silt was combined from the two sample intervals between 12 to 16 feet below grade.

As with SB-22, the initial advance of SB-23 was halted by a concrete slab 1.5 feet below grade. After probing the area to deliniate the slab, a new boring location was chosen just east of the former purifier's mapped perimeter. Though the work plan called for drilling to the till, sampling was discontinued 18 feet below grade upon encountering a reddish-black colored NAPL at the top of the sand and gravel unit. For both SB-22 and SB-23, further drilling would have risked mobilization of the NAPL and possible transport into unaffected soils. Like SB-22, the soils in SB-23 became saturated well above the first signs of affected soil. Although the silt became saturated at 7.5 feet below grade, the first signs of oily staining did not appear until 12 feet below grade. At a depth of 15 feet below grade, upon penetrating the sand and gravel unit, free-phase NAPL was observed in the recovered sample. The sample submitted for laboratory analysis from this boring consisted of sand and gravel from the 16 to 18-foot interval.

Subsurface boring logs for the soil borings advanced at the 293 Court Street Property are provided in Attachment 1.

Equipment Decontamination and Materials Handling

Before moving to a new drilling location, all non-dedicated drilling and sampling equipment that came in contact with subsurface materials was thoroughly cleaned according to the proceedures presented in the Supplemental RI/FS Work Plan.

At the direction of NYSEG, decontamination water generated during steam-cleaning of non-dedicated drilling and sampling equipment was disposed of in the recharge pit located on the Court Street Former MGP Site. This pit was constructed during the Task II Remedial Investigation (BBL, June 1996), and was also used during the SRI field activities. All other investigation-derived wastes, including soil cuttings and disposable personal protective equipment, were contained in properly labeled 55-gallon drums, and staged at the Court Street Former MGP Site, in accordance with the the Supplemental RI/FS Work Plan.

Analytical Results

The laboratory analyses of the soil samples were performed by Galson Laboratories, Inc. of East Syracuse, New York. The results of those analyses are presented in Attachment 2, and summarized in Table 1 and on Figure 1. The laboratory methods used to analyze each constituent group are presented in the table below. Chain-of-custody forms are provided as Attachment 3.

Methods of Laboratory Analysis

TCL Volatiles	TCL Semi-Volatiles	TAL Inorganics	Total and Amenable Cyanide	Reactive Cyanide & Sulfide	TCLP Benzene	TPH
NYSDEC ASP 95-1	NYSDEC ASP 95-2	NYSDEC ASP CLP-M	NYSDEC ASP CLP-M	USEPA SW846 7.7.3 & 7.3.4	USEPA SW846 8260 B	USEPA SW846 8015

With the exception of styrene in SB-21(4-to 6-feet), the only VOCs detected were BTEX compounds: benzene, toluene, ethylbenzene, and xylenes. At the highest concentration in each of the four soil boring samples was ethylbenzene, as high as 300 milligrams per kilogram (mg/kg) in SB-21. The total concentration of BTEX for each sample location is shown on Figure 1. In the boring samples SB-20(7-to 10-feet), SB-22(12-to16-feet) and SB-23(16-to18-feet) the total BTEX concentration ranged between 100 and 220 mg/kg. The total in the SB-21 sample far exceeded the others at 910 mg/kg. The results of the TCLP benzene analysis indicated that the SB-20 sample did not exhibit the toxicity characteristic due to benzene.

Of the SVOCs detected, naphthalene appeared in the highest concentrations in all soil boring samples. The total concentration of all detected polynuclear-aromatic hydrocarbons (PAHs), a subset of SVOCs commonly found at MGP sites, is presented on Figure 1. For the samples from SB-20, SB-22 and SB-23, the total PAH concentration ranged between one and two thousand mg/kg. The sum of PAH concentrations in the SB-21 sample was considerably lower, at 323 mg/kg.

Of the ten TAL inorganics analyzed, eight were detected at varying concentrations, ranging from undetectable amounts to 42,700 mg/kg iron in SB-21(4-to 6-feet). Many inorganics are naturally occuring, such as the two inorganics detected at highest concentrations in all submitted samples, iron and calcium. Total and ameable cyanide were detected in only one of the four soil borings. That sample, collected from SB-21, was found to contain of 0.79 mg/kg total cyanide, and had an identical detection for amenable cyanide, indicating that all of the cyanide in the sample was in the amenable form.

Reactive cyanide and reactive sulfide analyses were conducted on the samples taken from soil borings SB-22 and SB-23 to identify the presence of wastes characteristic of MGP purifiers. None of the analytes was detected. An analysis of total petroleum hydrocarbons (TPH) was conducted on the same samples. None of the TPH standard constituents was identified (ie. unleaded gasoline, kerosene, lube oil, or number two fuel oil); however, concentrations of 9,316 mg/kg and 15,315 mg/kg of unknown petroleum hydrocarbons were found in SB-22 and SB-23, respectively.

On June 16, 1998, NYSEG collected a sample of NAPL for TPH analysis from MW-13S, located at the adjacent Court Street site. Galson Laboratories used a gas chromatograph (GC) to compared that sample with the TPH results from the 293 Court Street Property samples. The laboratory reported that the GC signatures of the soil samples matched the GC signature of the NAPL from MW-13S.

If you have any questions regarding the information presented herein, or require additional information, please feel free to contact me at (315) 446-9120.

References

Blasland, Bouck & Lee, Inc. (BBL), 1996. *Task II Remedial Investigation Report. Former Manufactured Gas Plant Site. Court Street, Binghamton, New York.* New York State Electric and Gas Corporation, June 1996.

Blasland, Bouck & Lee, Inc., 1997. *Work Plan for Conducting a Supplemental Remedial Investigation Feasibility Study at the Court Street Site, Binghamton, New York.* New York State Electric and Gas Corporation, June 1997.

Blasland, Bouck & Lee, Inc., 1997. Letter from Frederick J Kirschenheiter, P.E. to Thomas Suozzo, P.E. (NYSDEC) dated November 1997.

Blasland, Bouck & Lee, Inc., 1998. *Supplemental Remedial Investigation Report for the Court Street Site.* New York State Electric and Gas Corporation, June 1998.

New York State Department of Environmental Conservation, 1998. Letter from Thomas S. Suozzo, P.E. to Tracy L. Blazicek, CHMM (NYSEG) dated March 1998.

Sanborn Map and Publishing Co., 1887. *Map of Binghamton, New York.* Sanborn Map and Publishing Co., New York. May, 1887.

Sanborn-Perris Company, Ltd., 1891. *Map of Binghamton, New York.* Sanborn-Perris Company, Ltd., New York. June 1991.

Sanborn-Perris Company, Ltd., 1918. *Map of Binghamton, New York.* Sanborn-Perris Company, Ltd., New York.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

Scott T. Saroff, C.P.G.
Vice President

cc: Frederick. J. Kirschenheiter, P.E., Blasland, Bouck & Lee, Inc.
Keith A. White, Blasland, P.G., Bouck & Lee, Inc.

Enclosures

Table 1 - Summary of Soil Analytical Results

Figure 1 - Analytical Results of Selected Constituents in Soil

Attachment 1 - Subsurface Boring Logs
Attachment 2 - Laboratory Data Report
Attachment 3 - Chain-of-Custody Forms

Tables

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS

293 COURT STREET PROPERTY INVESTIGATION

BINGHAMTON, NEW YORK

Constituents	SB-20 (7 - 10') 5/18/98 FS	SB-21 (4 - 6') 5/20/98 FS	SB-22 (12 - 16') 5/20/98 FS	SB-23 (16 - 18') 5/22/98 FS	SB-23 (16 - 18') 5/21/98 DUP
Volatile Organic Compounds					
1,1,1-Trichloroethane	32 U	72 U	76 U	40 U	3.8 U
1,1,2,2-Tetrachloroethane	32 U	72 U	76 U	40 U	3.8 U
1,1,2-Trichloroethane	32 U	72 U	76 U	40 U	3.8 U
1,1-Dichloroethane	32 U	72 U	76 U	40 U	3.8 U
1,1-Dichloroethene	32 U	72 U	76 U	40 U	3.8 U
1,2-Dichloroethane	32 U	72 U	76 U	40 U	3.8 U
1,2-Dichloroethene (Total)	32 U	72 U	76 U	40 U	3.8 U
1,2-Dichloropropane	32 U	72 U	76 U	40 U	3.8 U
2-Butanone	32 U	72 U	76 U	40 U	3.8 U
2-Hexanone	32 UJ	72 U	76 U	40 U	3.8 U
4-Methyl-2-pentanone	32 U	72 U	76 U	40 U	3.8 U
Acetone	32 UJ	72 U	76 U	40 U	3.8 U
Benzene	17.0J	72 U	76 U	40 U	5.5
Bromodichloromethane	32 U	72 U	76 U	40 U	3.8 U
Bromoform	32 U	72 U	76 U	40 U	3.8 U
Bromomethane	32 U	72 UJ	76 UJ	40 UJ	3.8 UJ
Carbon Disulfide	32 U	72 U	76 U	40 U	3.8 U
Carbon Tetrachloride	32 U	72 U	76 U	40 U	3.8 U
Chlorobenzene	32 U	72 U	76 U	40 U	3.8 U
Chloroethane	32 U	72 U	76 U	40 U	3.8 U
Chloroform	32 U	72 U	76U	40 U	3.8 U
Chloromethane	32 U	72 U	76U	40 U	3.8 U
cis-1,3-Dichloropropene	32 U	72 U	76 U	40 U	3.8 U
Dibromochloromethane	32 U	72 U	76 U	40 U	3.8 U
Ethylbenzene	100	300	100	200	74
Methylene chloride	32 U	72 UJ	76 UJ	40 UJ	3.8 UJ
Methyltertbutylether	32 U	72 U	76 U	40 U	3.8 U
Styrene	32 U	85	76 U	40 U	3.8 U
Tetrachloroethene	32 U	72 U	76 U	40 U	3.8 U
Toluene	5.6 J	180	76 U	4.8 J	1.3 J
trans-1,3-Dichloropropene	32 U	72 U	76 U	40 U	3.8 U
Trichloroethene	32 U	72 U	76 U	40 U	3.8 U
Vinyl chloride	32 UJ	72 U	76 U	40 U	3.8 U
Xylenes, Total	97	430	67 J	64	22
Benzene (TCLP)	0.36	--	--	--	--
Semivolatile Organic Compounds					
1,2,4-Trichlorobenzene	21 U	7.5 U	4 U	46 U	45 U
1,2-Dichlorobenzene	21 U	7.5 U	4 U	46 U	45 U
1,3-Dichlorobenzene	21 U	7.5 U	4 U	46 U	45 U
1,4-Dichlorobenzene	21 U	7.5 U	4 U	46 U	45 U
2,4,5-Trichlorophenol	52 U	19 U	10 U	120 U	110 U
2,4,6-Trichlorophenol	21 U	7.5 U	4 U	46 U	45 U
2,4-Dichlorophenol	21 U	7.5 U	4 U	46 U	45 U
2,4-Dimethylphenol	21 U	7.5 U	4 U	46 U	45 U
2,4-Dinitrophenol	52 UJ	19 UJ	10 UJ	120 UJ	110 UJ
2,4-Dinitrotoluene	21 U	7.5 U	4 U	46 U	45 U
2,6-Dinitrotoluene	21 U	7.5 U	4 U	46 U	45 U
2-Chloronaphthalene	21 U	7.5 U	4 U	46 U	45 U
2-Chlorophenol	21 U	7.5 U	4 U	46 U	45 U
2-Methylnaphthalene	180	71	130 D	84	63
2-Methylphenol	21 U	7.5 U	4 U	46 U	45 U
2-Nitroaniline	52 U	19 U	10 U	120 U	110 U
2-Nitrophenol	21 U	7.5 U	4 U	46 U	45 U
3,3'-Dichlorobenzidine	21 U	7.5 U	4 U	46 U	45 U
3-Nitroaniline	52 U	19 U	10 U	120 U	110 U

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS

293 COURT STREET PROPERTY INVESTIGATION

BINGHAMTON, NEW YORK

Constituents	SB-20 (7 - 10') 5/18/98 FS	SB-21 (4 - 6') 5/20/98 FS	SB-22 (12 - 16') 5/20/98 FS	SB-23 (16 - 18') 5/22/98 FS	SB-23 (16 - 18') 5/21/98 DUP
4,6-Dinitro-2-methylphenol	52 U	19 U	10 U	120 U	110 U
4-Bromophenyl phenyl ether	21 U	7.5 U	4 U	46 U	45 U
4-Chloro-3-methylphenol	21 U	7.5 U	4 U	46 U	45 U
4-Chloroaniline	21 U	7.5 U	4 U	46 U	45 U
4-Chlorophenyl-phenylether	21 U	7.5 U	4 U	46 U	45 U
4-Methylphenol	21 U	7.5 U	4 U	46 U	45 U
4-Nitroaniline	52 U	19 U	10 U	120 U	110 U
4-Nitrophenol	52 UJ	19 UJ	10 UJ	120 UJ	110 UJ
Acenaphthene	210	7.2 J	110 D	150	110
Acenaphthylene	18 J	16	7.5	46 U	5.4 J
Anthracene	89	9.2	37	43 J	33 J
Benzo(a)anthracene	61	6.8 J	22	21 J	16 J
Benzo(a)pyrene	46 J	5.6 J	15 J	15 J	10 J
Benzo(b)fluoranthene	58 J	3.5 J	8.3 J	15 J	12 J
Benzo(ghi)perylene	21 UJ	7.5 U	1.5 J	46 U	45 U
Benzo(k)fluoranthene	22 J	3.6 J	10 J	5.5 J	45 U
Bis(2-chloroethoxy) methane	21 U	7.5 U	4 U	46 U	45 U
Bis(2-chloroethyl) ether	21 U	7.5 U	4 U	46 U	45 U
Bis(2-ethylhexyl) phthalate	21 UJ	7.5 UJ	4 U	46 UJ	45 UJ
Bis(2-chloroisopropyl) ether	21 U	7.5 U	4 UJ	46 U	45 U
Butyl benzyl phthalate	21 UJ	7.5 UJ	4 U	46 UJ	45 UJ
Carbazole	3.8 J	7.5 U	4 U	46 U	45 U
Chrysene	42	5.6 J	14	21 J	16 J
Di-n-butyl phthalate	21 U	7.5 U	4 U	46 U	45 U
Di-n-octyl phthalate	21 UJ	7.5 U	4 UJ	46 U	45 U
Dibenzo(a,h)anthracene	21 UJ	7.5 U	4 UJ	46 U	45 U
Dibenzofuran	17 J	2.5 J	3.7 J	46 U	45 U
Diethyl phthalate	21 U	7.5 U	4 U	46 U	45 U
Dimethyl phthalate	21 U	7.5 U	4 U	46 U	45 U
Fluoranthene	100	13	45	57	42 J
Fluorene	130	14	44	68	49
Hexachlorobenzene	21 U	7.5 U	4 U	46 U	45 U
Hexachlorobutadiene	21 U	7.5 U	4 U	46 U	45 U
Hexachlorocyclopentadiene	21 U	7.5 U	4 U	46 U	45 U
Hexachloroethane	21 U	7.5 U	4 U	46 U	45 U
Indeno(1,2,3-cd)pyrene	21 UJ	7.5 U	1.5 J	46 U	45 U
Isophorone	21 U	7.5 U	4 U	46 U	45 U
N-Nitroso-Di-n-propylamine	21 U	7.5 U	4 U	46 U	45 U
N-nitrosodiphenylamine	21 U	7.5 U	4 U	46 U	45 U
Naphthalene	390 D	93	390 D	690	500
Nitrobenzene	21 U	7.5 U	4 U	46 U	45 U
Pentachlorophenol	52 U	19 U	10 U	120 U	110 U
Phenanthrene	310	47	150 D	170	130
Phenol	21 U	7.5 U	4 U	46 U	45 U
Pyrene	210	27	81 D	70	53
Inorganics					
Aluminum	9,840	6,020	8,910	7,290	6,160
Antimony	1.8 UJ	1.6 UJ	1.7 UJ	2.3 UJ	2.2 UJ
Arsenic	4.1	3.9	4.6	16.3	13.7
Barium	83.4	44 B	37.8 B	83.5	75.2
Beryllium	0.48 B	0.24 B	0.44 B	0.41 B	0.35 B
Cadmium	0.25 U	0.23 U	0.24 U	0.32 U	0.31 U
Calcium	17,200 J	42,700 J	1,270 J	3,430 J	2,410 J
Chromium	15.3	7.7	11.6	11.4	9.6
Cobalt	7.1 B	4.9 B	8.8 B	11.1 B	8.5 B
Copper	20.7	17	17.1	32.4	26.9

TABLE 1

SUMMARY OF SOIL ANALYTICAL RESULTS

293 COURT STREET PROPERTY INVESTIGATION

BINGHAMTON, NEW YORK

Constituents	SB-20 (7 - 10') 5/18/98 FS	SB-21 (4 - 6') 5/20/98 FS	SB-22 (12 - 16') 5/20/98 FS	SB-23 (16 - 18') 5/22/98 FS	SB-23 (16 - 18') 5/21/98 DUP
Iron	16,900	12,800	20,300	30,200	25,100
Lead	115	21.9	10.6	19.9	16.4
Magnesium	3,780	3,520	2,840	3,040	2,560
Manganese	198	482	208	891	679
Mercury	0.11 B	0.08 B	0.06 U	0.08 U	0.07 U
Nickel	24.5	11.1	19.9	27.4	21.9
Potassium	813 B	386 B	604 B	1,030 B	947 B
Selenium	1.1 B	0.68 U	0.73 U	0.97 U	0.92 U
Silver	0.76 U	0.68 U	0.73 U	0.97 U	0.92 U
Sodium	118 U	105 U	113 U	150 U	142 U
Thallium	1.5 U	1.4 U	1.5 U	1.9 U	1.8 U
Vanadium	15.5	10 B	11.8 B	14.3 B	11.9 B
Zinc	133 J	36.4 J	55.2 J	68.6 J	58.2 J
Cyanide, Total	0.61 U	0.79	0.59 U	0.78 U	0.73 U
Cyanide, Amenable	--	0.79	--	--	--
Reactivity					
Reactive Sulfide	--	--	470 J	100 UJ	--
Reactive Cyanide	--	--	100 UJ	100 UJ	--
Total Petroleum Hydrocarbons					
Unknown	--	--	9,316	15,315	--

General Notes:

All concentrations in milligrams per kilogram (mg/kg) or milligrams per liter (mg/L) (TCLP only); equivalent to parts per million (ppm).
FS = Primary field sample.
DUP = Duplicate field sample.
-- = Indicates that the compound was not analyzed for.
TCLP = Toxicity Characteristic Leaching Procedure.

Data Qualifiers

B = The reported value was obtained from a reading less than the contract required detection limit (CRDL), but greater than or equal to the instrument detection limit.
D = Concentrations are based on a diluted sample analysis.
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
U = The compound was analyzed for but not detected. The associated numerical value is the compound quantitation limit.
UJ = The compound was not detected above the reported sample quantitation limit; however, the reported limit is approximate and may or may not represent the actual limit of quantitation.
UJD = The compound was not detected above the reported sample quantitation limit; however, the reported limit is approximate and may or may not represent the actual limit of quantitation. Concentration is based on a diluted sample analysis.

Figure

WEITZMANS & SONS SCRAP YARD

ASPHALT WORKS PLANT

CONRAIL PROPERTY

295 COURT STREET

293 COURT STREET

COURT STREET

COURT STREET FORMER MANUFACTURED GAS PLANT SITE

SUSQUEHANNA RIVER

FLOW

SB-20	
Constituent	7-10 ft.
Cyanide, Total	ND
Total BTEX	219.6
Total PAHs	1,866.0

SB-21	
Constituent	4-6 ft.
Cyanide, Total	0.79
Total BTEX	910.0
Total PAHs	322.5

SB-22	
Constituent	12-16 ft.
Cyanide, Total	ND
Total BTEX	167.0
Total PAHs	1,066.8

SB-23		
Constituent	16-18 ft.	16-18 ft. DUP
Cyanide, Total	ND	ND
Total BTEX	268.8	102.8
Total PAHs	1,409.5	1,039.4

TW97-2D, TW97-2S, TW97-3S, MW97-14D, MW97-14S, MW93-5D, PZ93-1, SB-21, SB-20, MW97-13S, SB-22, MW97-10S, MW97-10D, SB-23, MW98-15S, MW98-16S, MW98-16D, CITY WELL #1, CITY WELL #2, RANNEY WELL, WELL INTAKE LATERALS (TYP.), MW93-3S, MW93-3D, MW93-2D, MW93-2S, MW97-12S, MW97-11S, MW97-8, EXISTING GAS CONTROL BLDG., SEWER MANHOLE AND CONTROL STRUCTURE, PUMP HOUSE, APPROX. PROPERTY LINE, APPROXIMATE EXTENT OF PAVED AREA, APPROXIMATE EXTENT OF GRASS COVER, 24" OUTFALL PIPE, FLOOD WALL, 20" AND 24" DIA. WATER LINES (LOCATION APPROXIMATE)

LEGEND

- FLOOD WALL
- RAILROAD TRACK
- FENCE
- RIGHT-OF-WAY LINE (APPROXIMATE)
- PROPERTY LINES (APPROXIMATE)
- SEWER LINE LOCATION
- SURFACE ELEVATION CONTOUR (FT. AMSL)
- HISTORIC LOCATION
- MONITORING WELL (SHALLOW)
- MONITORING WELL (DEEP)
- PIEZOMETER
- CITY MONITORING WELL
- SOIL BORING

SB-21	
Constituent	4-6 ft.
Cyanide, Total	0.79
Total BTEX	910.0
Total PAHs	322.5

— DEPTH IN FEET
— CONCENTRATIONS ARE mg/Kg (ppm)
ND = NOT DETECTED
DUP = DUPLICATE SAMPLE

NOTES:

1. HISTORIC LOCATIONS ARE APPROXIMATE.
2. BASE MAP PROVIDED BY NYSEG ON JUNE 12, 1997.
3. SURFACE ELEVATIONS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES. PREPARED BY VERNON O. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.
5. ALL MONITORING WELL, SOIL BORING, CITY WELL, AND TEMPORARY MONITORING WELL LOCATIONS SURVEYED BY HAWK ENGINEERING, P.C., BINGHAMTON, N.Y.

0 80' 160'

GRAPHIC SCALE

NEW YORK STATE ELECTRIC & GAS CORP.
BINGHAMTON, NEW YORK

293 COURT STREET PROPERTY INVESTIGATION

ANALYTICAL RESULTS OF SELECTED CONSTITUENTS IN SOIL

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

FIGURE 1

P: BLX.POP
L: ON=*, OFF=REF
8/20/98 SYR-DIVS4-RCB PGL RCB
13036003/13036C01.DWG

Attachment 1 -

Subsurface Boring Logs

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Date Start/Finish: 5/18/98 / 5/18/98
Drilling Company: MAXIM Technologies, Inc.
Driller's Name: Rodney Bush
Drilling Method: Hollow-Stemmed Auger

Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing: 767108.10962
Easting: 1006570.99605

Borehole Depth: 11 ft.
Ground Surface: 844.62 feet

Geologist: Michael Cobb

Soil Boring No: SB-20

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Soil Boring Construction
gs elevation 844.62 ft.									**GROUND SURFACE**	
									Asphalt (pavement)	
	S-1 2" SS		3 1 1 1	2	0.9	1.2			Dark brown to black fine SAND, some Silt and medium Sand, little coarse Sand, trace brick fragments, dry to moist.	
840 — 5	S-2 2" SS		1 1 2 1	3	0.9	2.1			Dark brown to black fine to coarse SAND, some silt and coal cinders, moist.	
	S-3 2" SS		1 1 1 1	2	0.8	23.7			Dark brown to black coarse SAND to fine GRAVEL, some fine to medium SAND, oily staining, odor, moist.	Borehole backfilled with cement/bentonite grout.
	S-4 2" SS		1 1 1 1	2	0.9	12.1			In spoon-tip (5-7' interval), light gray SILT, black oily staining.	
835 — 10	S-5 2" SS		1 1 1 1	2	1.0	12.1			Olive gray SILT and CLAY, little medium to coarse Sand, thick black oily staining, wet, strong odor.	
									Black SILT with stringers of fine to coarse Sand, black oily staining, wet, strong odor.	
830 — 15									Bottom of spoons at 11' bgs. Bottom of boring at 9' bgs.	

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engineers & scientists

Remarks:

bgs = below ground surface. SS = Split-Spoon Samples collected from 7-11' bgs submitted for anaylses of VOCs, SVOCs, TCLP Benzene, Total and Amenable Cyanide, and Metals.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 5/21/98 / 5/21/98
Drilling Company: MAXIM Technologies, Inc.
Driller's Name: Rodney Bush
Drilling Method: Hollow-Stemmed Auger

Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 3 in.

Northing: 767156.49965
Easting: 1006628.23657

Borehole Depth: 6 ft.
Ground Surface: 845.77 feet

Geologist: Michael Cobb

Soil Boring No: SB-21

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Soil Boring Construction
gs elevation 845.77 ft.									**GROUND SURFACE**	
845	S-1 3" SS		6 8 7	14	1.1	0.0			Concrete surface. Light brown fine to coarse SAND and fine GRAVEL, loose, dry.	
	S-2 3" SS		7 22 11 9	33	0.3	629			Poor recovery. Olive gray SILT and fine to coarse SAND, some orange mottling and black staining. Bottom 4" of spoon is covered with black oily liquid. In spoon tip, black stained medium to coarse SAND and fine GRAVEL, strong odor. Water in borehole at 3.5' bgs.	Borehole backfilled with Type I Portland Cement/Bentonite Grout.
5 840	S-3 3" SS		9 6 9 50/.4'	15	0.3	178			Concrete fragments, fine to medium GRAVEL, little medium to coarse SAND, trace copper wire fragments, heavy black oily staining, water and NAPL on spoon, low viscosity, strong odor.	
									Bottom of boring at 6' bgs.	
10 835									Water in borehole interpretted to be perched in a buried foundation, and not necessarily in communication with deeper groundwater.	
15										

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Remarks:

bgs = below ground surface. SS = Split-Spoon. NAPL = Non Aqueous Phase Liquid. Samples collected from 4-6' bgs submitted for analysis of VOCs, SVOCs, Total and Amenable Cyanide, and Metals.

Saturated Zones

Date / Time	Elevation	Depth

Date Start/Finish: 5/20/98 / 5/20/98
Drilling Company: MAXIM Technologies, Inc.
Driller's Name: Rodney Bush
Drilling Method: Hollow-Stemmed Auger

Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 in.

Northing: 767029.22909
Easting: 1006736.02707

Borehole Depth: 16 ft.
Ground Surface: 844.85 feet

Geologist: Michael Cobb

Soil Boring No: SB-22

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Soil Boring Construction
gs elevation 844.85 ft.										**GROUND SURFACE**	
										Concrete surface.	
		S-1	2" SS	8 9 3	17	0.2	1.2			Medium brown fine to coarse SAND and fine GRAVEL, dry.	
		S-2	2" SS	3 4 50/ .4"	50+	0.2	8.0			Strike concrete at 3.4' bgs.	
5	840	S-3	3" SS	17 7 5 6	12	1.2	0.6			Dark reddish brown fine to coarse SAND, little silt concentrated in lenses, trace coal fragments, moist.	
		S-4	2" SS	3 2 3 2	5	1.1	41.4			Dark brown, SILT, some fine to coarse Sand, little coal fragments, grading to black SILT, trace coal fragments, trace red staining, faint odor.	Borehole backfilled with Type I Portland Cement/Bentonite Grout.
		S-5	2" SS	2 2 2 3	4	1.8	88.0			Black stained SILT, some to little fine Sand, no fill traces, faint odor, becoming wet at 8.3'bgs.	
10	835	S-6	2" SS	6 4 2 3	6	1.7	318				
		S-7	2" SS	2 3 6 7	9	2.0	580			Black stained SILT, as above. Oily staining and strong odor, wet.	
15	830	S-8	2" SS	3 5	12	1.9	763				

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Remarks:

bgs = below ground surface. SS = Split-Spoon. Samples combined from 12-16' bgs for analysis of VOCs, SVOCs, Total, Amenable and Reactive Cyanide, Metals, and TPH.

Saturated Zones

Date / Time	Elevation	Depth

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

Soil Boring No: SB-22

Total Depth = 18 ft.

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Soil Boring Construction
		S-8 2" SS		7 20	12	1.9	763			At 14' bgs, Black stained SILT, little fine Sand, slight sheens, strong odor, wet. In spoon tip, fine to coarse SAND and fine GRAVEL, reddish-brown NAPL, strong odor, wet. Bottom of boring at 16' bgs.	
20	825										
25	820										
30	815										
35	810										

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Remarks:

Saturated Zones

Date / Time	Elevation	Depth

Project: 130.36.006
Script: nbblwell
Date: 10/28/98

Date Start/Finish: 5/19/98 / 5/19/98
Drilling Company: MAXIM Technologies, Inc.
Driller's Name: Rodney Bush
Drilling Method: Hollow-Stemmed Auger

Auger Size: ID 4.25 in.
Rig Type: CME 55
Spoon Size: 2 and 3 in.

Northing: 766957.97596
Easting: 1006737.77404

Borehole Depth: 18 ft.
Ground Surface: 843.26 feet

Geologist: Michael Cobb

Soil Boring No: SB-23

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Soil Boring Construction
gs elevation 843.26 ft.										GROUND SURFACE	
		S-1	2" SS	2 2 3 9	5	0.9	0.2			Grass covered surface. Medium brown fine SAND, some Silt, trace fine gravel, little rootlets and organic debris, moist.	
	840	S-2	2" SS	7 7 8 13	15	1.2	0.8			Pale reddish-brown SILT, some to little fine SAND, little rootlets. Reddish brown to black medium to coarse SAND, some fine Sand and fine Gravel-sized cinders, loose, dry to moist.	
5		S-3	2" SS	6 3 2 2	5	0.4	0.2			Medium brown fine to coarse SAND, little Silt, trace fine Gravel, rootlets, loose, moist.	
		S-4	2" SS	3 3 4 5	7	2.0	0.2			Pale reddish brown SILT and fine SAND, trace medium to coarse Sand, moist. Becomes wet at 7.5 bgs.	Borehole backfilled with Type I Portland Cement/Bentonite Grout.
	835	S-5	2" SS	5 4 3 4	7	0.3	0.3				
10		S-6	2" SS	4 4 5 5	9	1.3	0.2			Pale reddish brown SILT, some fine Sand concentrated in seams, trace medium Sand, wet.	
	830	S-7	2" SS	2 2 3 3	5	1.7	1553			As above, grading to black fine SAND, some Silt, oily sheens, petroleum-like odor, wet.	
15		S-8	3" SS	3 5	18	2.0	1340			As above with more SILT, heavy sheens, strong odor, wet.	

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Remarks:

bgs = below ground surface. SS = Split-Spoon. Samples collected from 16-18' bgs submitted for analysis of VOCs, SVOCs, Total, Amenable and Reactive Cyanide, Metals, and TPH.

Saturated Zones

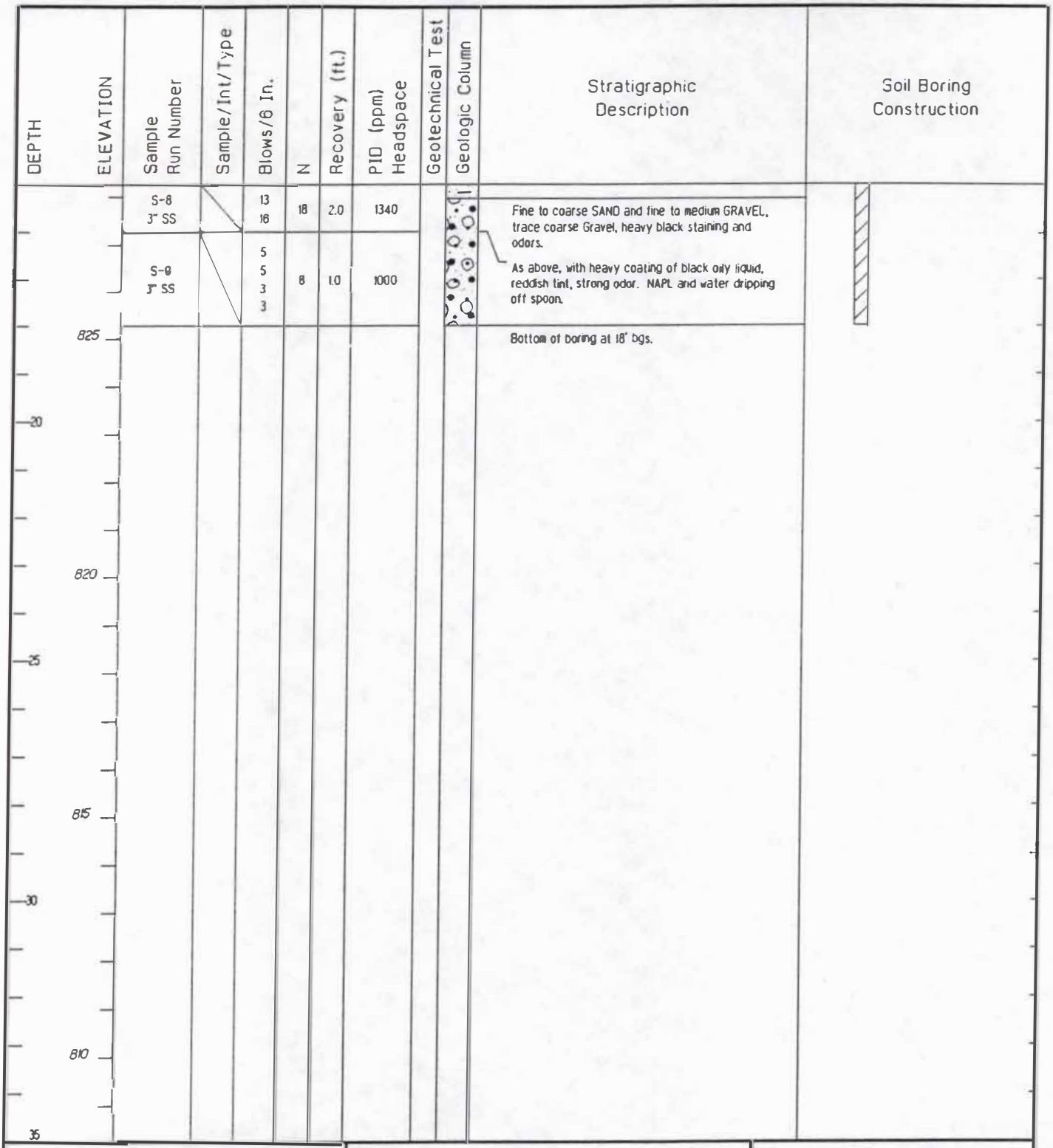
Date / Time	Elevation	Depth

Client:
New York State Electric & Gas

Location:
293 Court Street Property,
Binghamton, New York

Soil Boring No: SB-23

Total Depth = 18 ft.



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Remarks:
NAPL = Non Aqueous Phase Liquid.

Saturated Zones

Date / Time	Elevation	Depth

Project: 130.36.006
Script: nbblwell
Date: 10/28/98