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Woodward-Clyde Consultants

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18 May 1984 84C4048

Mr. James B. Marean New York State Electric and Gas Corp. 87–89 Chenango Street Binghamton, NY 13902



Dear Jim:

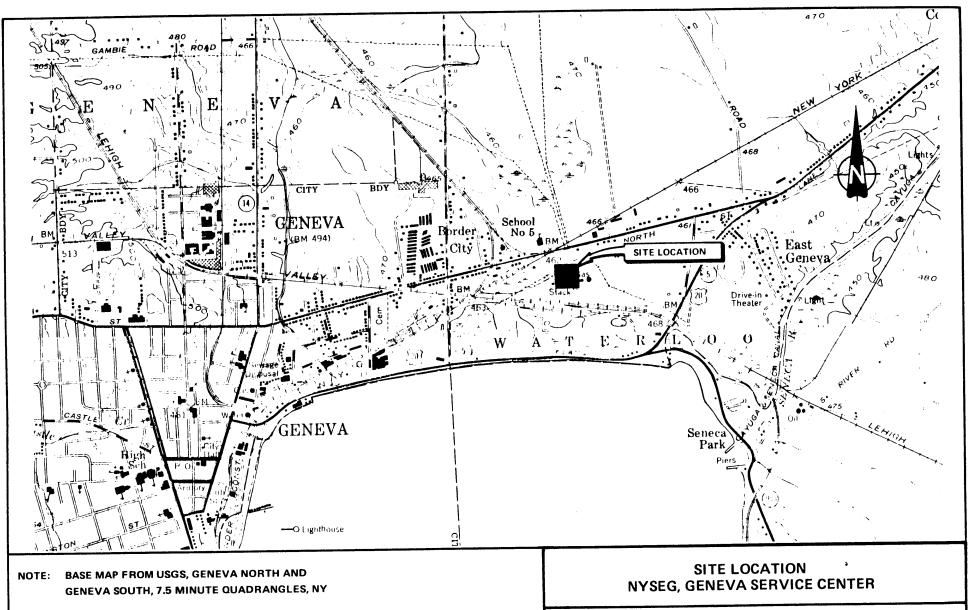
I would like to present the results of our investigation at the New York State Electric and Gas Corporation (NYSEG) Geneva Service Center. The work was performed on 8 May 1984. During the field investigation, a Woodward-Clyde Consultants' (WCC) geologist observed, logged, and measured organic vapor levels for 10 shallow auger borings. In addition, organic vapor levels were measured at various locations across the Geneva facility. The work was performed in accordance with our letter of proposal #84P4048 dated 9 March 1984. It is our understanding that this project was implemented in order to obtain subsurface information at the locations of a planned new service garage and sanitary sewer line.

GENERAL SITE CONDITIONS

The Geneva Service Center is located in the Finger Lakes region of New York State near the north end of Seneca Lake. The specific site location is shown on Figure 1. Based on our understanding of the regional geology, our experience in similar settings and field observations, the following conditions are believed to exist at the site.

Surface materials on the site are, for the most part, fill or reworked site soils. Beneath the various fill layers are organic clayey marsh and swamp deposits which were laid down after the Wisconsin age glacial stage. These sediments are underlain by tills of Wisconsin age and earlier Pleistocene glacial stages. Bedrock beneath the tills consists of Paleozoic age sedimentary rocks.





WOODWARD—CLYDE CONSULTANTS

CONSULTING ENGINEERS, GEOLOGISTS AND ENVIRONMENTAL SCIENTISTS WAYNE, NEW JERSEY

DR. BY:	CIG	SCALE:	1 IN. = 2000 FT	PROJ. NO.:	84C4048
CK'D. BY:	SRH	DATE:	15 MAY 1984	FIG. NO.:	11

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The water table is shallow; 3 to 5 feet below ground level, and should approximately follow the ground surface topography. Downward vertical infiltration is probably limited by the fine grained marsh deposits. The water table surface may deviate from the above model if points of recharge or discharge, such as ponds and wells, exist nearby.

RESULTS

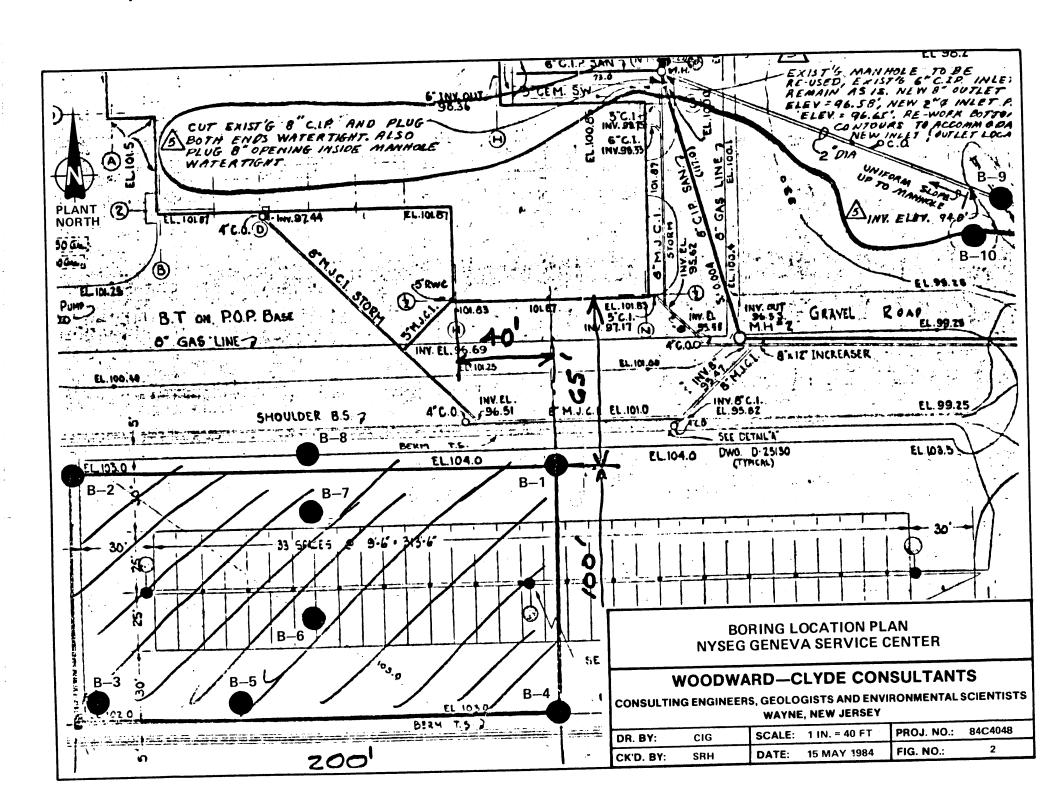
Visual Logging of Auger Borings

The boring locations are shown on Figure 2. Of the 10 borings 8 (B-1 through B-8) were drilled in an existing parking lot which is 2 to 3 feet above the general ground surface. As expected, these borings encountered fill and buried structures to a depth as great as 10.5 feet below ground level. The original ground surface may have been encountered in boring B-4 where the driller reported a "swampy" odor. A large portion of the fill consisted of bricks which presumably were part of the coke oven and loading facility which formerly occupied this area. The open chamber encountered in boring B-1 is also thought to be a remnant of the coke oven facility. Although some unidentified odors were detected, no visible contamination was observed in any of the parking lot borings.

The remaining 2 borings (B-9, B-10) were placed on the planned sewer line and on an old underground tar storage tank. In both of these, liquid coal tar was observed seeping from the borehole walls. The clay encountered in boring B-9 probably represents the original soil. When it was removed from service, the tar storage tank was backfilled with sandy gravel. The boring logs are contained in Appendix A.

Organic Vapor Measurements

Organic vapor measurements were made in the auger boreholes using an Hnu photo ionization organic vapor detector. Readings are given on the boring logs (in



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the center column) in parts per million (ppm) relative to benzene as a standard. The parking lot borings all showed levels below 0.5 ppm on the Hnu. It should be noted that strong winds prevailed during the field work. These would cause volatiles to be rapidly dispersed and tend to lower the Hnu readings. As expected, the readings in borings B-9 and B-10 were higher, up to 0.8 ppm and 6.0 ppm, respectively.

The Hnu was used to survey the organic vapor levels across the Geneva site. At all locations checked, the levels were below the detectable limit of the Hnu. The sensitivity of this survey was probably hindered by the strong winds mentioned earlier.

RECOMMENDATIONS

These recommendations are based on the information obtained from this limited study. It is quite likely that the actual subsurface conditions differ in detail from the simplified model indicated by the 10 borings. For the above reasons, these recommendations cannot be taken as a guarantee of performance for the planned construction. They do, however, represent our best assessment of the situation using the available information.

Service Garage

We do not foresee any major problems with construction of the planned service garage. We would recommend that the possibility of encountering more open chambers be considered in the final design for this structure. As no significant contamination was measured with the Hnu or visibly observed, we do not expect this new construction to adversely affect any future studies of subsurface contamination dealing with Hnu detectable vapors or visible solids/liquids. However, if other types of contaminants are present at this location there could be a problem in the future.

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Sanitary Sewer Line

The planned new sewer line intersects at least one area of coal tar contamination. If constructed, some measures would have to be taken to minimize personnel exposure to coal tar during construction, and to minimize the tendancy of the backfilled trench to act as a pathway for contaminant migration. In light of these potential problems we recommend that an alternative route or use of existing underground piping be considered.

General Site Organic Vapor Levels

Our survey indicated that if any vapors are emminating from the site, they are at very low levels. If more information is desired, we would recommend a more sensitive survey using shallow borings and analysis of head space vapors from jar samples.

If you have any further questions, please do not hesitate to contact me.

Yours very truly, Steffour R.M elling

Steffan R. Helbig,

Assistant Project Geologist

Donald R. Ganser,

Associate

DRG:ydf

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APPENDIX A

LOG OF BORING B-1

SHEET 1 OF 1

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LOG OF BORING B-2

SHEET 1 OF 1

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SAMPLER N/A	DRO			S. Helbig
SAMPLER HAMMER WEIGHT -	2			
DESCRIPTION		DEPTH, F	Karling Roading	REMARKS
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Becoming Wet		-5-	0,4	
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		-13 -14	1	
		-16	4	
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LOG OF BORING B-3

SHEET 1 OF 1

Geneva, NY.				MSL 84C4048
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CASING N/A CASING HAMMER — WEIGHT —	- DR			Vertical
SAMPLER N/A SAMPLER HAMMER WEIGHT -	DR	<u>~ = </u>		5. Helbig
DESCRIPTION	John	DEPTH, FT	Kapenic Kapenis Kadinas	REMARKS
Blacktop Brown Sandy. Fine G. Trace Silt, Moist (Connoced Gravel) Occ. Bricks Brown Sandy Cobbles(2	0.1	Slight Odor reported by driller, No visible contaminate Obtained How readings of O15 to 20 ppm off of Warm Cuttings End Of Boring G.O' Could not penetrate deeper

LOG OF BORING B-A

SHEET 1 OF 1

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Geneva, N.Y.		SL					
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LOG OF BORING B-5

SHEET__1_OF_____

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Geneva, N.Y.	MSL 84C4048			
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CASING HAMMER - WEIGHT SAMPLER V/A				
SAMPLER HAMMER WEIGHT	- DRO	P _		S. Helbig
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LOG OF BORING B-6

SHEET 1 OF 1

LOG OF BORING									
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Geneva, N.Y. 100'W, 42'N OF B-4									
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LOG OF BORING B-7

SHEET 1 OF 1

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LOG OF BORING 8-8

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SAMPLER HAMMER WEIGHT - DRO	<u> </u>	· _2	
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LOG OF BORING 8-9

SHEET 1 OF 1

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Geneva, N.Y.	- Trans								
NYSEG		-				8 May 1984	8 May 1984		
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SAMPLER N/A									
SAMPLER HAMMER WEIGHT	- DA	OP				S.H.	21619		
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Geneva, N.Y. , A+	Centera	t t	gamer	Tark	ink	BLOVATION AND BATHON	~985' MSL	8404048
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SAMPLER N/A							S. He	rtical
SAMPLER HAMMER WEIGHT	<u> </u>	ROF		ام ما		<u></u>	3 · re	1019
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