RESULTS OF HYDROGEOLOGIC INVESTIGATION AT THE AMTRAK, SUNNYSIDE, QUEENS NEW YORK TRAIN YARD

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SUMMARY OF PRINCIPAL FINDINGS AND CONCLUSIONS

1) The Amtrak site geology in the upper-most 10 to 12 feet is characterized by poorly-sorted deposits of medium to coarse sand with some gravel.

2) The general direction of shallow ground-water flow at the site is to the northwest in the approximate direction of regional ground-water flow. Ground-water in the Sunnyside, New York area is not used as a potable supply.

3) A free phase of liquid hydrocarbon was detected and measured in 7 of the 15 wells installed during this phase of work. The depth to the hydrocarbon product onsite ranged from 2.5 to 5 feet below ground surface. The thickness of the free phase hydrocarbon measured in the wells ranged from 0.16 of a foot to approximately 4 feet. However, the measured thickness does not necessarily reflect actual hydrocarbon thickness in the formation which is likely less.

4) The plume of liquid hydrocarbon appears to originate at the fuel storage area and to have migrated beyond the northern Amtrak property boundary.

5) Free phase hydrocarbons were not found in wells surrounding the fuel transfer station.

6) PCBs have been detected in the free phase hydrocarbon plume in concentrations ranging from 5 to 360 parts per million (ppm). The highest concentrations of PCBs in the hydrocarbon plume exist in areas adjacent to the tracks east of the engine house. Concentrations significantly decrease downgradient in hydrocarbon samples collected along the northern property boundary.

7) PCBs were detected in all but two soil samples (well 11 and 12). Their concentrations in the 0 - 2 foot soil depth interval ranged from 0.19 to 24 ppm (average 5 ppm).

8) PCBs were not detected in ground-water samples.

9) Results of analysis of ground-water samples for xylenes and dichlorobenzenes indicate that these compounds are not present above their analytical detection limit. Ground-water analyses for petroleum hydrocarbons, benzene, and toluene showed relatively low concentrations.

10) The areal distribution and concentrations of dissolved hydrocarbons in ground-water collected at the Amtrak

site suggest they are the result of isolated spills and do not indicate the existence of a dissolved plume or body of such compounds. However the presence/absence of such a plume offsite cannot be determined with available data.

11) Additional onsite/offsite studies will be required to further define the nature and extent of the subsurface contamination before remedial measures can be carried out. This work must be undertaken in a series of separate but related tasks (phases) subsequent to Phase I and involves the following:

Phase II - Installation of additional wells both on- and offsite to define the boundary of the free phase hydrocarbons and extent of PCBs in soil, ground water and the hydrocarbon plume itself; and assess the nature and extent of dissolved hydrocarbons in ground water offsite. Installation of test pits or trenches to assess free phase hydrocarbon thickness and hydrocarbon infiltration rates.

Phase III - Hydrocarbon recovery pilot testing program. (It may be possible to go directly from Phase II to Phase IV, depending on the results of Phase II).

Phase IV - Final hydrocarbon recovery system.

Phase V - Hydrocarbon monitoring program.

RESULTS OF HYDROGEOLOGIC INVESTIGATION AT THE AMTRAK, SUNNYSIDE, QUEENS NEW YORK TRAIN YARD

INTRODUCTION

Geraghty & Miller, Inc., was retained by Amtrak in February 1986 to conduct a Phase I hydrogeologic investigation of suspected hydrocarbon contamination at their Sunnyside, New York train yard. A regional map showing the study area is given in Figure 1. The results of this work are intended as the basis for a more focused study (Phase II) in those areas affected by petroleum hydrocarbons. The Phase I and II work combined will be used to design and implement a pilot hydrocarbon recovery system (Phase III, if necessary) which will eventually lead to a full-scale system (Phase IV). However, depending on the results of Phase II, it may be possible to proceed directly to Phase IV from Phase II. The final recovery system will incorporate a monitoring program (Phase V) to track its progress over time.

The purpose of the Phase I investigation was to determine if leakage of hydrocarbon into the subsurface had occurred and, if so, determine its extent in both the soil and ground water. Amtrak's primary concern was possible leakage from the diesel fuel storage area, consisting of 9 - 10

thousand gallon capacity underground tanks, which were used by previous site owners and operators since the late 1930's. Amtrak acquired the Sunnyside yard in 1976, and abandoned the tanks and filled them with sand in 1984. Another area of concern was the former fuel transfer area which is currently used by Amtrak to temporarily store drummed petroleum products and greases.

The Phase I investigation involved the installation of 15 monitoring wells, soil and ground-water sampling, and measurement of free phase hydrocarbon (product) thickness and ground-water levels at locations shown on Figure 2. Details of the investigation are given in Appendix A. The results of this work indicate that a plume or body of neat (free liquid phase) hydrocarbons (diesel fuel) occurs beneath the site near the fuel storage area and extends principally to the north and apparently beyond the Amtrak property. Free-phase hydrocarbons were not found in wells near the fuel transfer area. Soil and hydrocarbon samples were found to contain PCB's, however, there is no evidence that they have moved offsite via ground water. Additional results of soil and ground-water sampling are discussed in this report.

GEOLOGY

The regional geology in the vicinity of Amtrak's Sunnyside yard has been well documented by Buxton, et.al (1981) and consists of Upper Pleistocene glacial deposits (groundmoraine) of unstratified, poorly sorted mixtures of sand and silt with some gravel and cobbles.

The site geology determined during well drilling at the locations shown on Figure 2 is characterized by poorly sorted deposits of medium to coarse sand with some gravel. A finer grained layer of silt, interbedded with thin lenses of sand and gravel, found in wells 1, 8, 9, 11, 12, 14 and 15 occurs along the northern portions of the site. This layer ranges in thickness from 1.5 feet in Well 8 to 9.0 feet in Well 1. Geologic descriptions of soil samples collected during drilling are given in Table 1, soil core sample logs are given in Appendix B, and well construction diagrams are given in Appendix C. Figure 3 is a northwest to southeast geologic cross section of the site.

HYDROLOGY

Ground water in the upper glacial aquifer in Queens County is under water-table (unconfined) conditions and flows laterally towards discharge points in nearby surface

water bodies. Regional ground-water flow in the Sunnyside area is to the northwest and discharges into the East River located approximately 1.5 miles from the train yard (McClymonds and Franke, 1972). The ground-water reservoir in the region was used for industrial and potable supply, however, due to deterioration of water quality from salt water intrusion and surface sources of contamination, pumping of the aquifer was ceased in western Queens County in 1974. (Buxton et.al., 1981).

Figures 4 and 5 show water-table elevation contours and the approximate direction of shallow ground-water flow at the Sunnyside Yard. The onsite direction of ground-water flow agrees with regional flow as depicted in county-wide contour maps. Figures 4 and 5 are based on rounds of water-level measurements made on March 10 and April 1, 1986, respectively. Ground water and free phase hydrocarbon measurement data are given in Table 2 and well construction details are summarized in Table 3. In several of the wells a free liquid phase of hydrocarbons was observed floating on top of the water table. The depth to the top of the product layer ranged from 2.5 to 5 feet below ground. As explained further in the next section, hydrocarbon thickness measured in wells is not always an accurate measurement of thickness in the formation.

Commonly, hydrocarbon accumulations measured in wells tapping coarse-grained material can be significantly thicker than the hydrocarbon thickness in the formation immediately adjacent to the well. This floating hydrocarbon accumulation depresses the water-level surface throughout the area where it occurs. The resultant field observed depressed water table does not accurately portray the hydraulic gradients and flow directions controlling the movement of the hydrocarbon free phase plume. Therefore, water levels measured in wells containing significant free hydrocarbon accumulation can be misleading when used to determine groundwater flow directions. This problem is compounded when the accumulations in wells are significantly greater than accumulations in the formation. For these reasons water levels must be corrected for the depressing effect of the hydrocarbon accumulation before they can be used to determine flow directions. This correction calculation is shown in Table 2. In order to determine the water-table configuration the hydrocarbon thickness in each well must be known. Because the bailer used to measure hydrocarbon thickness was four feet long and at some locations the product was over four feet thick, the actual thickness of hydrocarbons in some wells is not known precisely. Therefore, those wells with hydrocarbon thickness greater than four feet were not used to prepare the water-table maps.

Ground-water flow in the study area is generally to the northwest. Any hydrocarbon leaking into the subsurface may initially move along its own gradient if the leak is substantial, but eventually the existing hydraulic gradient (water-table slope) will dominate and the free phase hydrocarbon will move down the hydraulic gradient.

The water-level elevation in Well 15 on March 10, 1986 does not fit into the overall picture of ground-water flow as determined by the other site wells. This is probably due to the fact that the well had not completely recovered after installation and development. As of April 1, 1986 its water-level elevation is consistent with surrounding wells.

The velocities of ground water and the free phase hydrocarbon plume at the Amtrak Sunnyside Train Yard were calculated based on a method developed by Sunada (1979) as follows.

Calculation of the Velocity of the Free Phase Hydrocarbon

I. Major Assumptions:

1. Immiscible flow neglecting the effects of capillarity.
2. Potentiometric gradient of the water corrected for product thickness is assumed to represent the hydraulic gradient of the product.

II. Basic Data Used

Density of diesel fuel	ρ_o = 0.841 gm/cm^3 (U.S. Department of Transportation, 1986)
Viscosity of #2 fuel oil	μ_o = 4.27 cp (DeGroot and Jeppson, 1986)
Porosity of Medium	ϕ = 0.30
Hydraulic Conductivity of the Formation with respect to water	K_w = 201 ft/day (McClymonds & Franke, 1972)

The hydraulic conductivity of the formation with respect to diesel fuel was calculated based upon these values, and the following formula:

$$K_o = K_w \left[\frac{\mu_{H_2O} \rho_o}{\mu_o \rho_{H_2O}} \right] = (201) \left[\frac{1\ (0.841)}{4.27(1)} \right] = 40 \text{ ft/day}$$

The velocity of the diesel fuel was calculated using the following equation:

$$V_o = K_o \frac{i}{\phi} = \frac{(40)\ (4.9 \times 10^{-3})}{0.30} = 0.65 \text{ ft/day}$$

where: i = potentiometric gradient (feet/feet) determined from the March 10, 1986 water level elevation map (Figure 4)

Calculation of the Velocity of Ground-Water

The velocity of ground-water was calculated based on the following equation:

$$V_{\text{ground water}} = K_w \frac{i}{\phi} = \frac{(201)\ (4.9 \times 10^{-3})}{0.30} = 3.28 \text{ ft/day}$$

The hydraulic gradient, i, was determined based upon the March 10, 1986 water level elevation map. (Figure 4).

These calculations indicate that at the site the hydrocarbon plume can be expected to move at one-fifth the rate of the ground water.

HYDROCARBON CONTAMINATION

Free Phase

Free phase hydrocarbons were detected and measured in 7 out of 15 wells drilled during this investigation. The hydrocarbon product occurs as a body of liquid that floats on top of the water table. Laboratory analyses of hydrocarbon samples for components diagnostic of hydrocarbon indicate that the material which occurs in the subsurface resembles a sample of stored diesel fuel used at the train yard. The approximate extent and measured thickness of the free phase plume are shown on Figures 6 and 7. The thickness of the hydrocarbon layer was measured in wells on March 10 and April 1, 1986, using a clear 4-foot long bottom-filling bailer and the results are listed in Table 4. In several of the wells, the thickness of the layer was greater than the length of the bailer. Therefore, in these wells the exact

thickness of the hydrocarbon layer could not be determined. Water finding paste was used as an alternate method to determine hydrocarbon thickness, however, the oil-water interface was not confidently discernable.

Thickness of free phase hydrocarbon as measured in wells can often be significantly different and usually less than the thickness in the formation immediately outside the well. Some investigations (Van Dam, 1967; Williams and Wilder, 1971; Zilliox and Muntzer, 1975; and dePastrovich and others, 1979) have found that for coarse-grained material (such as at the Amtrak site) the thickness of free product in a well is approximately four times greater than the actual amount in the adjacent unconsolidated deposits. The actual site-specific ratio is difficult to confidently calculate and actual thickness of hydrocarbons in the formation can most reliably be determined by excavation of test pits and trenches using existing well data as a guide to their location.

The thickness of the hydrocarbon layer on April 1 ranged from 0.16 to greater than four feet. The thickest portions of the free phase hydrocarbon plume apparently occur to the north/northwest (downgradient) of the fuel storage area. It appears that the hydrocarbon plume has emanated from the fuel storage area and has moved to the

north/northwest in the general direction of ground-water flow. Product thicknesses measured April 1 were generally greater than those measured March 10, 1986, possibly because more time had elapsed after well installation, allowing more time for the hydrocarbon to collect in the wells.

The long axis of the hydrocarbon plume extends primarily to the north apparently beyond Amtrak's property and to a lesser extent toward the south. Better definition of the plume boundary to the north and south is needed to evaluate the overall extent of the hydrocarbon. This can be accomplished by installing additional wells, test pits, and trenches in these areas. The east-west boundary, on the other hand, is better defined as a result of the drilling completed thus far.

Hydrocarbon Analysis for PCBs

Samples of the subsurface hydrocarbons were collected for PCB analysis from all wells containing a floating hydrocarbon layer. Samples were collected March 10 and 11, 1986 using a teflon bailer. Results of the analyses are shown in Table 5 and Laboratory Reports are included in Appendix D.

The detectable concentrations of PCB in the product layer range from five parts per million (ppm) in Well 6 to

360 ppm in Well 7 (Figure 8). Hydrocarbon samples collected from wells 6, 8, and Amtrak's 55 gallon drum well contained Aroclor 1260 and wells 4, 5 and 7 contained Aroclor 1254. The highest concentrations of PCBs occur in wells in areas immediately adjacent to the tracks east of the engine house. The concentrations appear to decrease downgradient. This decrease could be due to adsorption of PCB onto soil particles as the plume of hydrocarbon contacts the sediment. This condition can be verified with further hydrocarbon sampling and analyses from offsite areas.

Ground Water

Ground-water samples were collected March 10 and 11, 1986, from wells not containing free product. Prior to sampling, three times the calculated volume of standing water in each well was evacuated from each well using a dedicated teflon bailer. The same bailer was then used to retrieve a ground-water sample from each well. Ground-water samples were analyzed for PCBs, dissolved petroleum hydrocarbons, BTX (benzene, toluene, and xylene), and dichlorobenzene. Results are reported in Table 5. Water sampling logs and chain-of-custody forms are included in Appendix E.

PCBs were not present above the detection limit in any of the ground-water samples analyzed. This is not surprising since PCBs have a very low solubility in water.

Concentrations of dissolved hydrocarbons in ground-water samples ranged from less than 0.5 parts per million in samples from wells 1 and 14 to 42 parts per million in Well 3 (Figure 9). There is no obvious pattern to the distribution of dissolved petroleum hydrocarbons in the ground water that would indicate a plume and their occurrence is probably a result of isolated spills rather than from a long term source. Therefore, the dissolved hydrocarbons in the ground water are not likely related to the free phase hydrocarbons found near the fuel storage area.

BTX (benzene, toluene and xylene) was not found above the analytical detection limits at the site except for concentrations of 24 parts per billion (ppb) of toluene in Well 3 and various trace levels of these compounds (no greater than 3 ppb). Similarly, dichlorobenzene was not found above the detection limit in any sample.

An assessment of ground-water quality offsite cannot be made with the available data and will require sampling and analyses of wells located downgradient and offsite of the Amtrak yard.

Soil

Split-spoon soil samples were collected during drilling at each well site from a depth of 0 - 2 feet. Samples were analyzed for PCBs and the results are given in Table 5. The concentrations of PCBs in soil range from less than the detection limit in wells 11 and 12 to 24.0 ppm in Well 8 (Figure 10). Samples collected from wells 1, 2, 3, 5, 6, 7, 8, 9, 10, 14 and 15 contain Aroclor 1260 and Aroclor 1254 was found in wells 4, 6, and 13. As with dissolved hydrocarbon in ground-water, there is no obvious pattern to the distribution of PCB contamination in soils that would indicate a single spill incident.

RECOMMENDATIONS FOR PHASE II HYDROGEOLOGIC INVESTIGATION

As a result of the Phase I hydrogeologic investigation of the Amtrak site the location and extent of a plume of free phase hydrocarbons resting on top of the water table zone has been approximately defined. Preliminary measurements and data research indicate that the plume may be of substantial size and that it has probably moved some unknown distance from the Amtrak property. For these reasons a remedial program will at some point be required to prevent further movement of the hydrocarbon plume and contamination

of the ground-water system. Prior to the implementation of a remedial program at the Amtrak site it is extremely important that the extent and dynamics of the plume and ground-water flow are understood so that the most effective remedial plan can be carried out.

In order to obtain the information needed to design an effective remedial action program the focus must be placed on the soil and ground water in those areas affected by the hydrocarbon plume. This work will constitute the second phase of the study (Phase II) and involve additional soil and ground-water sampling and analyses both on and off the Amtrak site. The results of this work will enable us to determine the extent of the hydrocarbon plume, assess the chemical quality of soil and ground water, as well as the fate of contaminants in these areas. This information in turn will be used to determine the type of remedial action required for the free phase hydrocarbon plume and, if necessary, for the soil and ground water as the free phase hydrocarbon source is removed.

The Phase II field investigation will involve the installation of monitoring wells screened in the shallow water table zone. A minimum of eight wells are recommended at the locations shown on Figure 11. The onsite wells will be installed first and data developed from them will be used to

either confirm or revise the proposed offsite well locations. Similarly, data developed from the installation of each new onsite well will be used to revise other proposed onsite well locations as necessary. If additional wells are required as this work progresses it will be recommended to Amtrak and they will be installed as needed. Maintaining flexibility in the proposed field program will maximize the program's efficiency. These wells will be designed to provide representative soil (during well drilling), ground water, and hydrocarbon samples, as well as water level and product thickness measurements. Additionally, permeability of the soils will be determined by pumping selected wells.

Hydrocarbon samples collected from the Phase II wells and selected Phase I wells will be analyzed for PCBs. Soil core samples collected at selected depth intervals at each of the Phase II drilling sites will be analyzed for PCBs. Ground-water samples will be collected from those Phase II wells not containing free phase hydrocarbons and analyzed for PCBs, petroleum hydrocarbons, and benzene, toluene and xylene (BTX). At least two rounds of water level and hydrocarbon thickness measurements from both Phase I and II wells will be made. This information will be displayed in map form to provide a more detailed picture of ground-water level and flow conditions as well as the extent of the free phase hydrocarbon plume.

Once the results of the above measurement surveys are obtained several areas on the Amtrak property will be selected for the installation of test pits and/or trenches. These pits will be used to obtain measurements of hydrocarbon thickness and to assess the rate of hydrocarbon infiltration into the pits/trenches. Product thickness measurements made in the pits should provide a more accurate depiction of product thickness in the formation than can be determined from well measurements. Once installed, product will be evacuated from the test pits using an oil skimming pump which will discharge the product into steel drums or tanks for proper disposal. The rate at which the free phase hydrocarbon infiltrates the pit will be recorded by a field geologist. In addition, a continuous reading water level recorder will be installed at the trench or test pit to record water and product level fluctuations on a weekly basis for a period of one month.

Once Phase II is completed a pilot hydrocarbon recovery testing program will be designed if required. The pilot system (Phase III) may involve pumping hydrocarbons from either a well or trench, whichever is determined feasible during Phase II, at a controlled rate. The recovery rate initially will be kept low at either a continuous or intermittent flow, and incrementally increased until the optimum

rate is achieved. This program will be carried out until enough information is gathered such that a final full scale recovery system (Phase IV) can be carried out. However, depending on the results from Phase II, it may be possible to bypass Phase III and go directly to Phase IV. The final recovery system will incorporate a hydrocarbon monitoring program (Phase V) as a means of tracking the progress of that system once it is operational.

Respectfully submitted,

GERAGHTY & MILLER, INC.

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Thomas L. Lobasso SP.
Thomas L. Lobasso
Senior Scientist

Michael F. Wolfert
Associate

June 5, 1986

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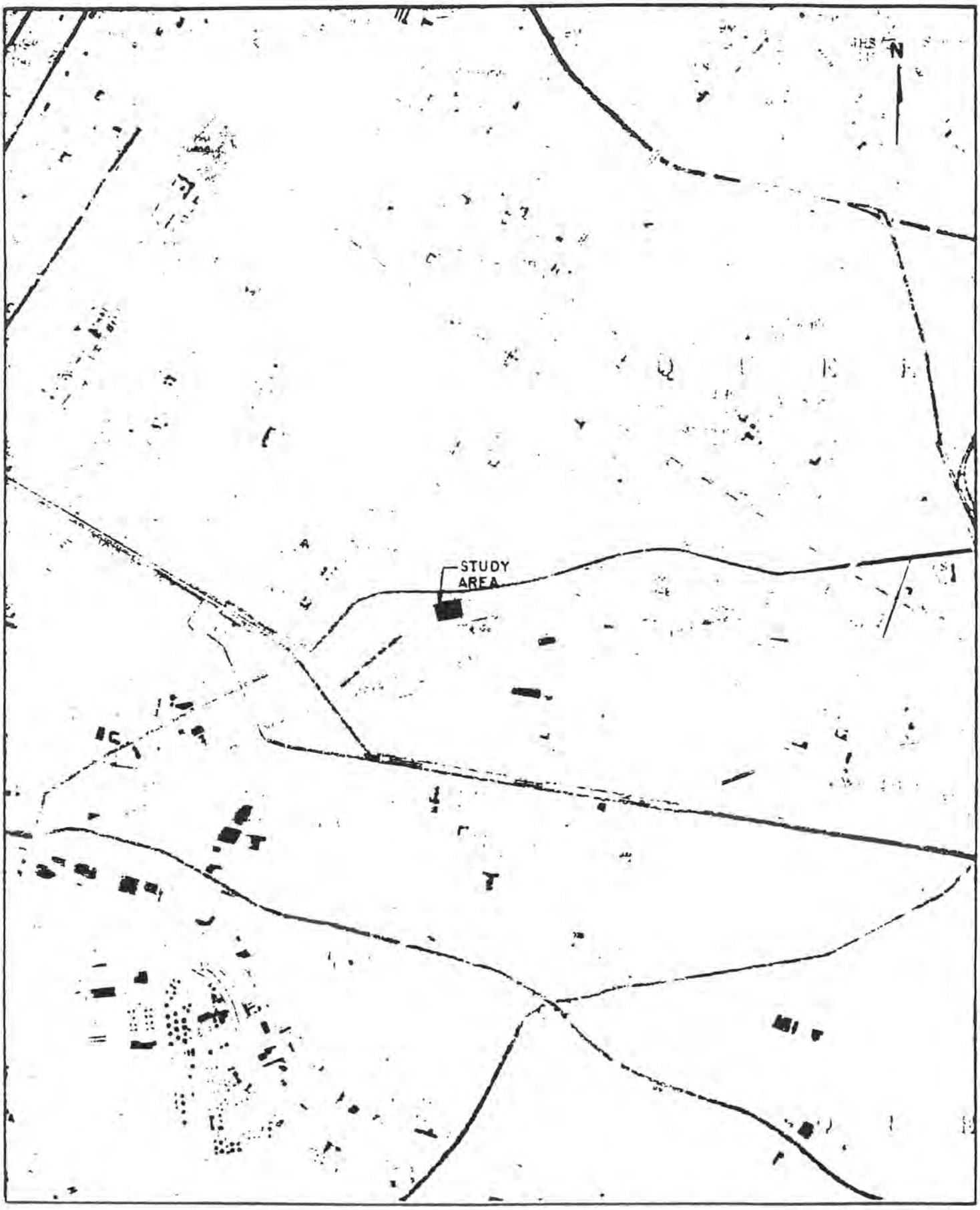

LOCATION OF STUDY AREA

AMTRAK

SUNNYSIDE NEW YORK TRAIN YARD

GERAGHTY & MILLER, INC.
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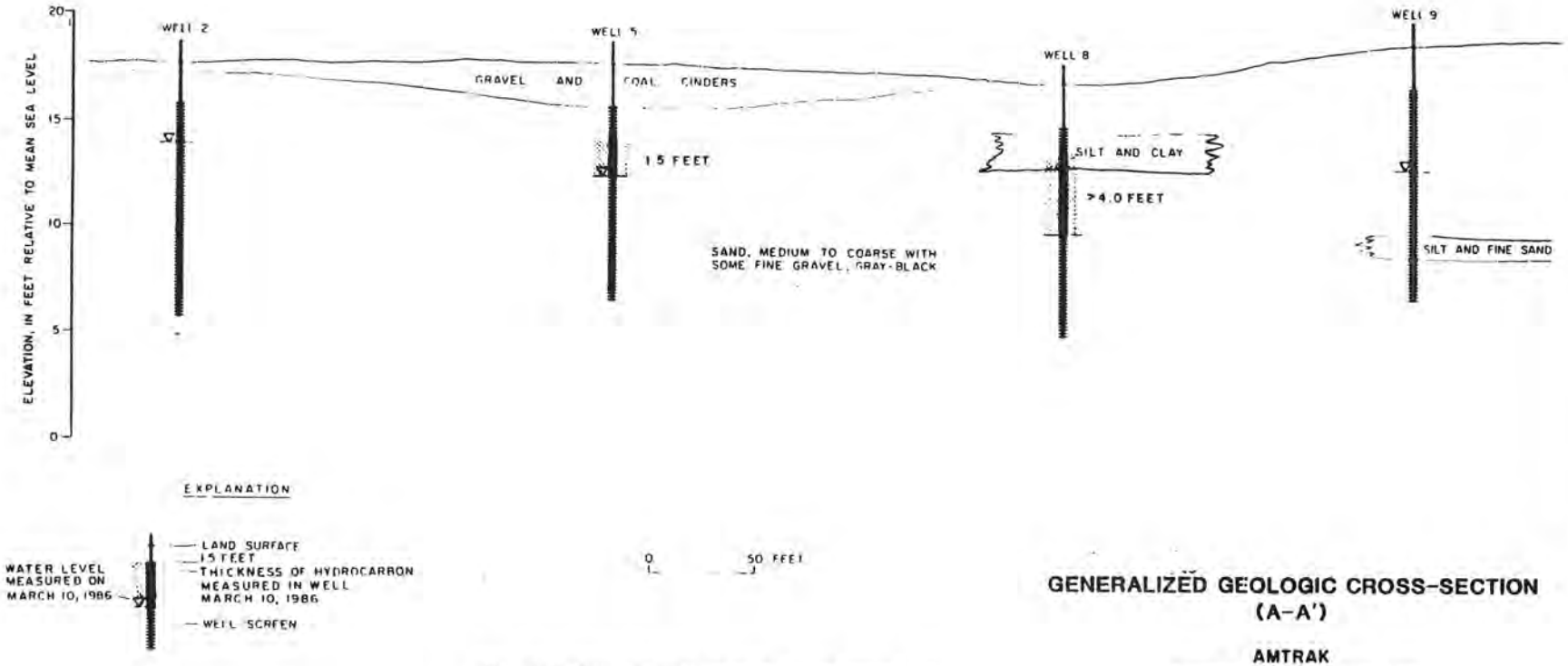
SOUTHEAST

A

NORTHWEST

A'



EXPLANATION

0 50 FEET

NOTE HYDROCARBON THICKNESS THEREFORE GROUND-WATER LEVEL ELEVATION COULD NOT BE DETERMINED IN WELL 8

GENERALIZED GEOLOGIC CROSS-SECTION (A-A')

AMTRAK

SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 3

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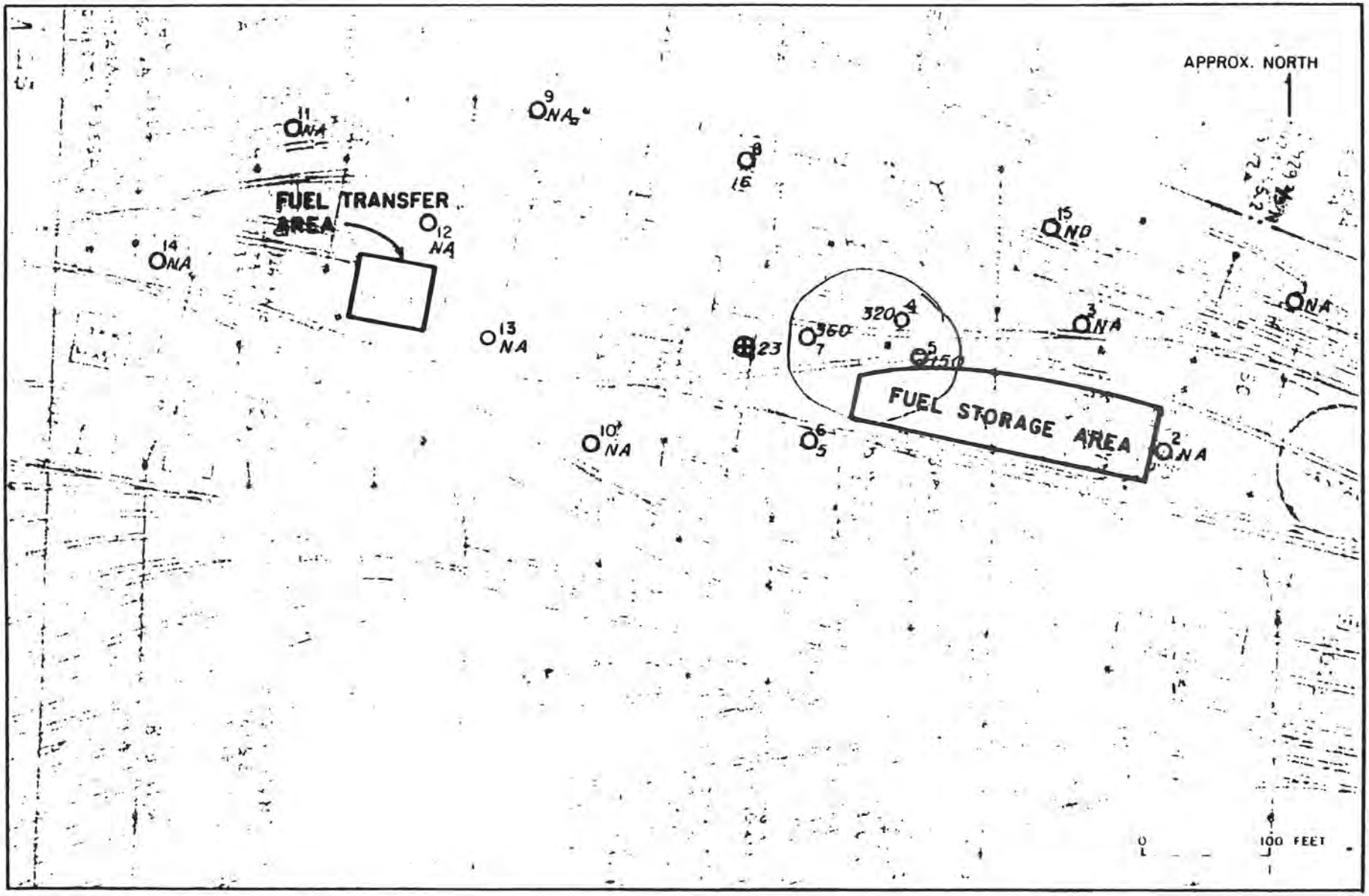


EXPLANATION

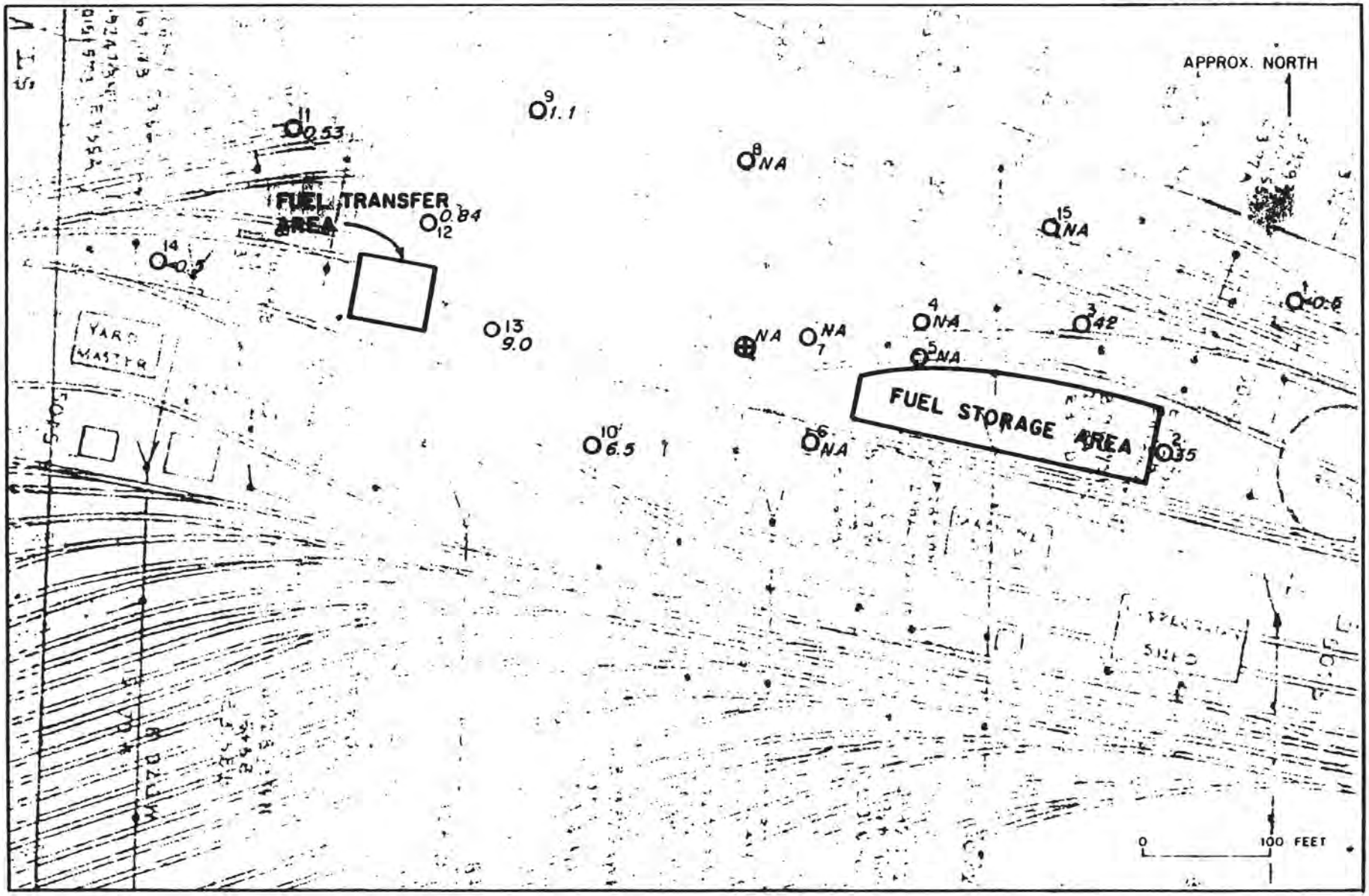
- ⊕ EXISTING 55 GALLON DRUM WELL
- O^{5}_{150} MONITORING WELL LOCATION AND DESIGNATION PCB CONCENTRATION IN PARTS PER MILLION
- ND NO PCB'S DETECTED
- NA NOT ANALYZED

PCB CONCENTRATIONS IN THE FREE PHASE HYDROCARBON LAYER MARCH 10 AND 11, 1986

AMTRAK

SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 2



EXPLANATION

⊕ EXISTING 55 GALLON DRUM WELL

O^{3}_{42} MONITORING WELL LOCATION AND DESIGNATION
PETROLEUM HYDROCARBON CONCENTRATION
IN PARTS PER MILLION

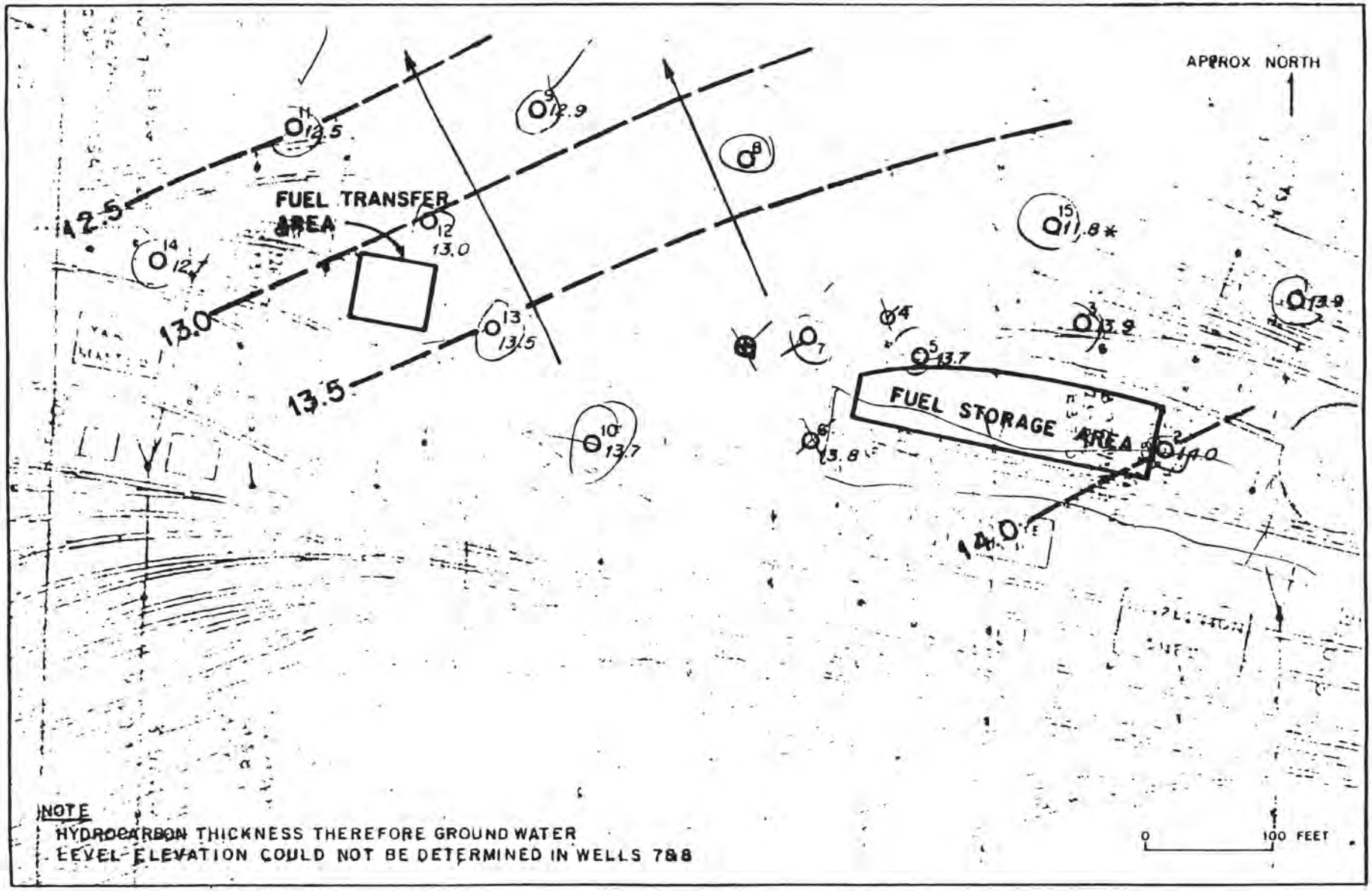
NA NOT ANALYZED

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER MARCH 10 AND 11, 1986

AMTRAK

SUNNYSIDE NEW YORK TRAIN YARD

FIGURE 9

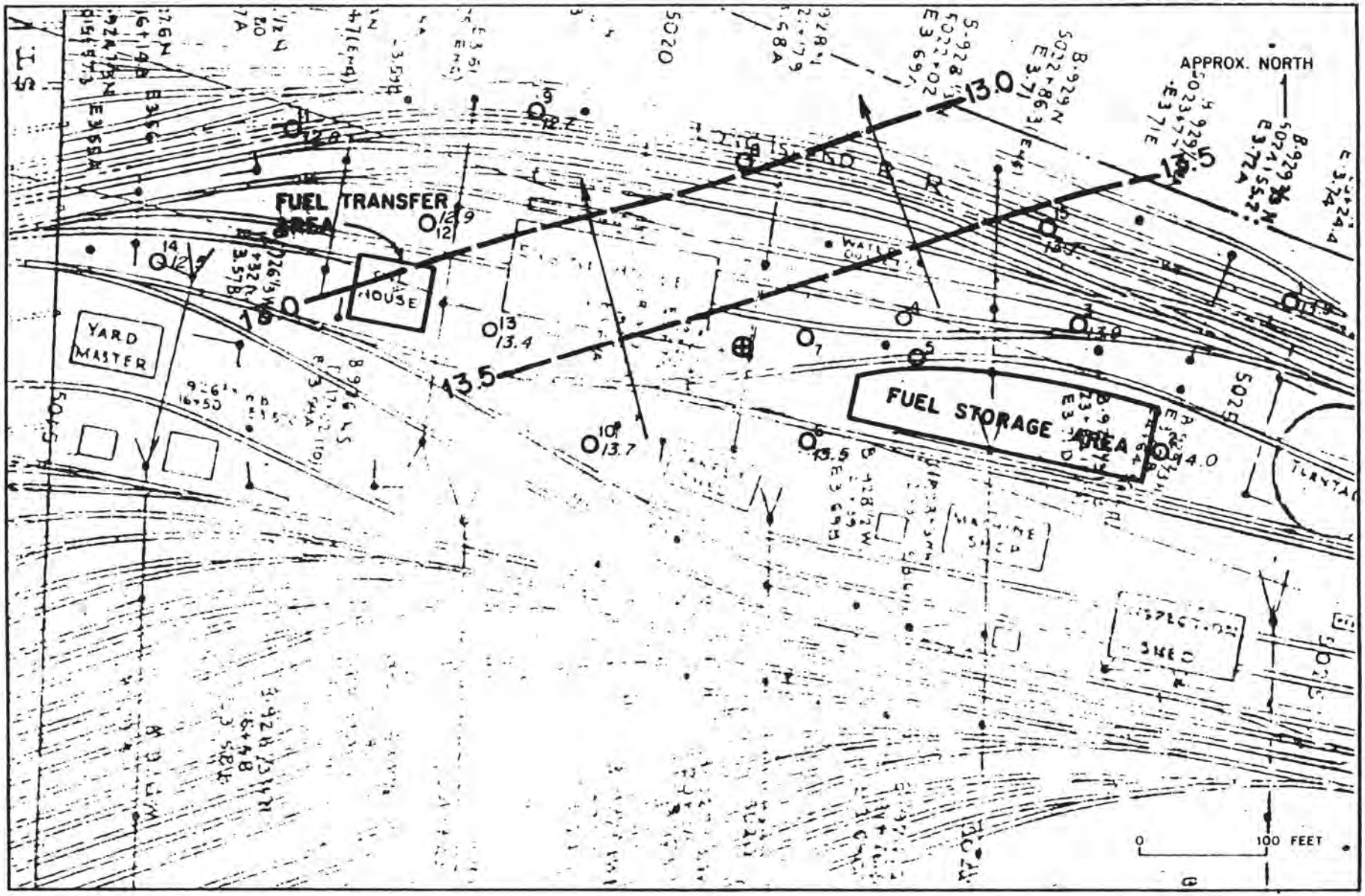


EXPLANATION

- ⊕ EXISTING 55 GALLON DRUM WELL
- $O^{15}_{11.8}$ MONITORING WELL LOCATION AND DESIGNATION WATER-LEVEL ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL DATUM
- 13.5 — INFERRED LINE OF EQUAL WATER-LEVEL ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL DATUM
- ← DIRECTION OF THE HORIZONTAL COMPONENT OF GROUND WATER FLOW
- * POSSIBLE SPURIOUS MEASUREMENT, SEE TEXT FOR EXPLANATION

WATER LEVEL ELEVATIONS
MARCH 10, 1986
AMTRAK
SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 4



EXPLANATION

⊕ EXISTING 55 GALLON DRUM WELL

$O^{15}_{13.5}$ MONITORING WELL LOCATION AND DESIGNATION
WATER-LEVEL ELEVATION IN FEET RELATIVE TO MEAN SEA LEVEL DATUM

13.5 — INFERRED LINE OF EQUAL WATER-LEVEL ELEVATION IN FEET
RELATIVE TO MEAN SEA LEVEL DATUM

← DIRECTION OF THE HORIZ...

WATER-LEVEL ELEVATIONS
APRIL 1, 1986
AMTRAK
SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 5

GE[illegible]GH[illegible]
& MILLER, INC.
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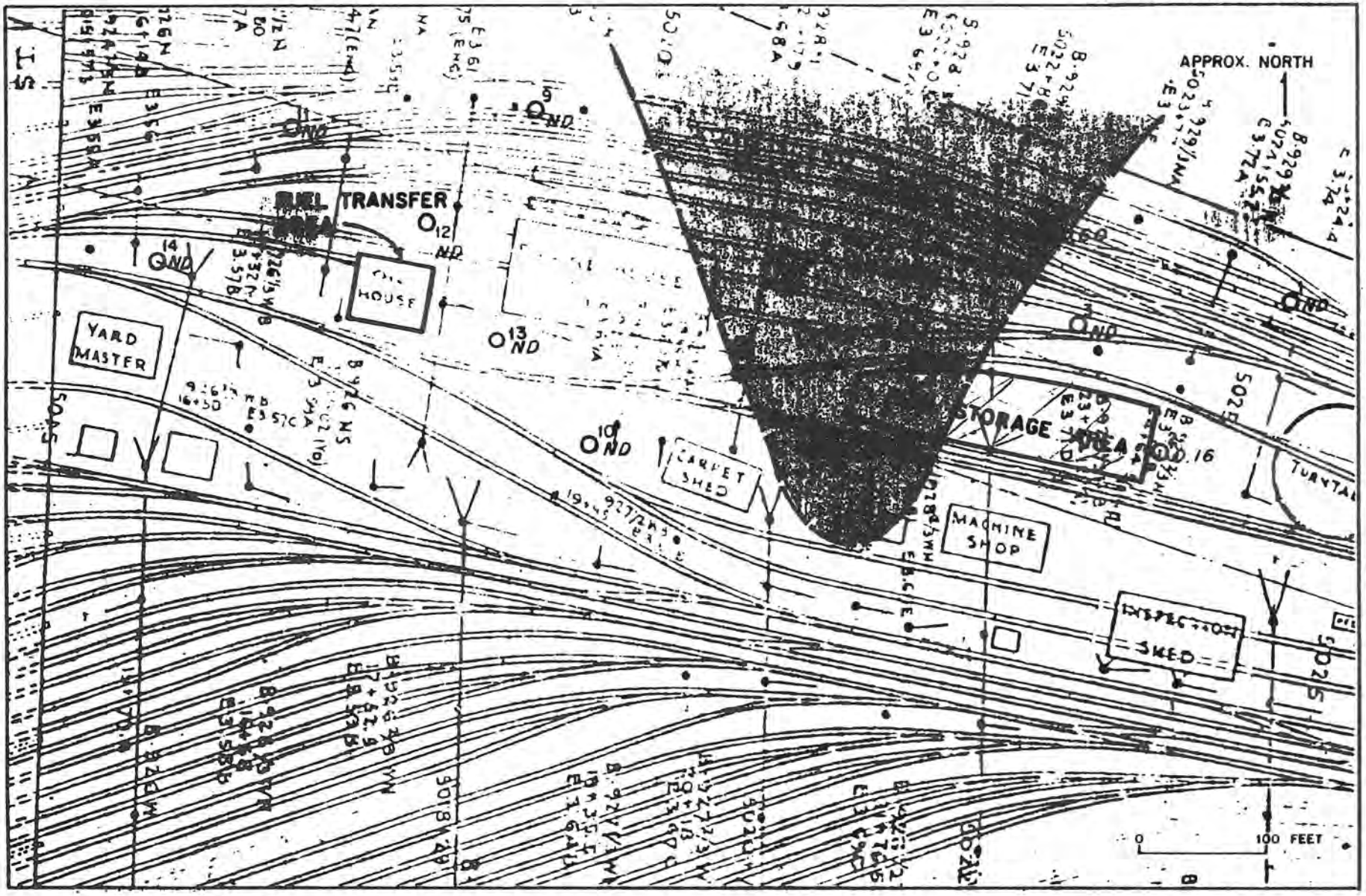

EXPLANATION

- EXISTING 55 GALLON DRUM WELL
- $O^{15}_{0.60}$ MONITORING WELL LOCATION AND DESIGNATION; THICKNESS OF HYDROCARBON DETECTED IN FEET
- ND NO HYDROCARBON DETECTED
- APPROXIMATE EXTENT OF FREE PHASE HYDROCARBON PLUME

FREE PHASE HYDROCARBON THICKNESS AND EXTENT APRIL 1, 1986

AMTRAK

SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 7

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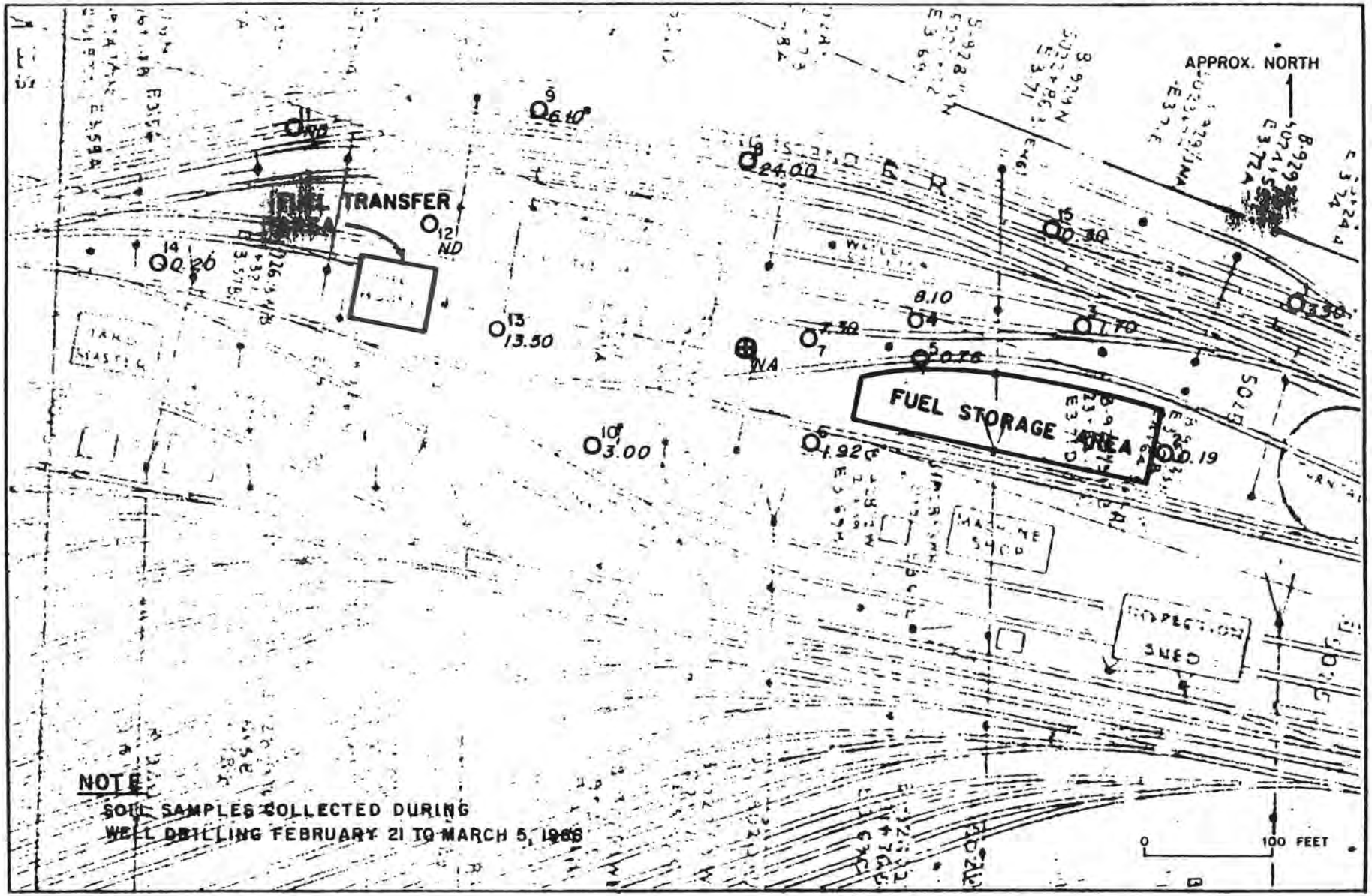


EXPLANATION

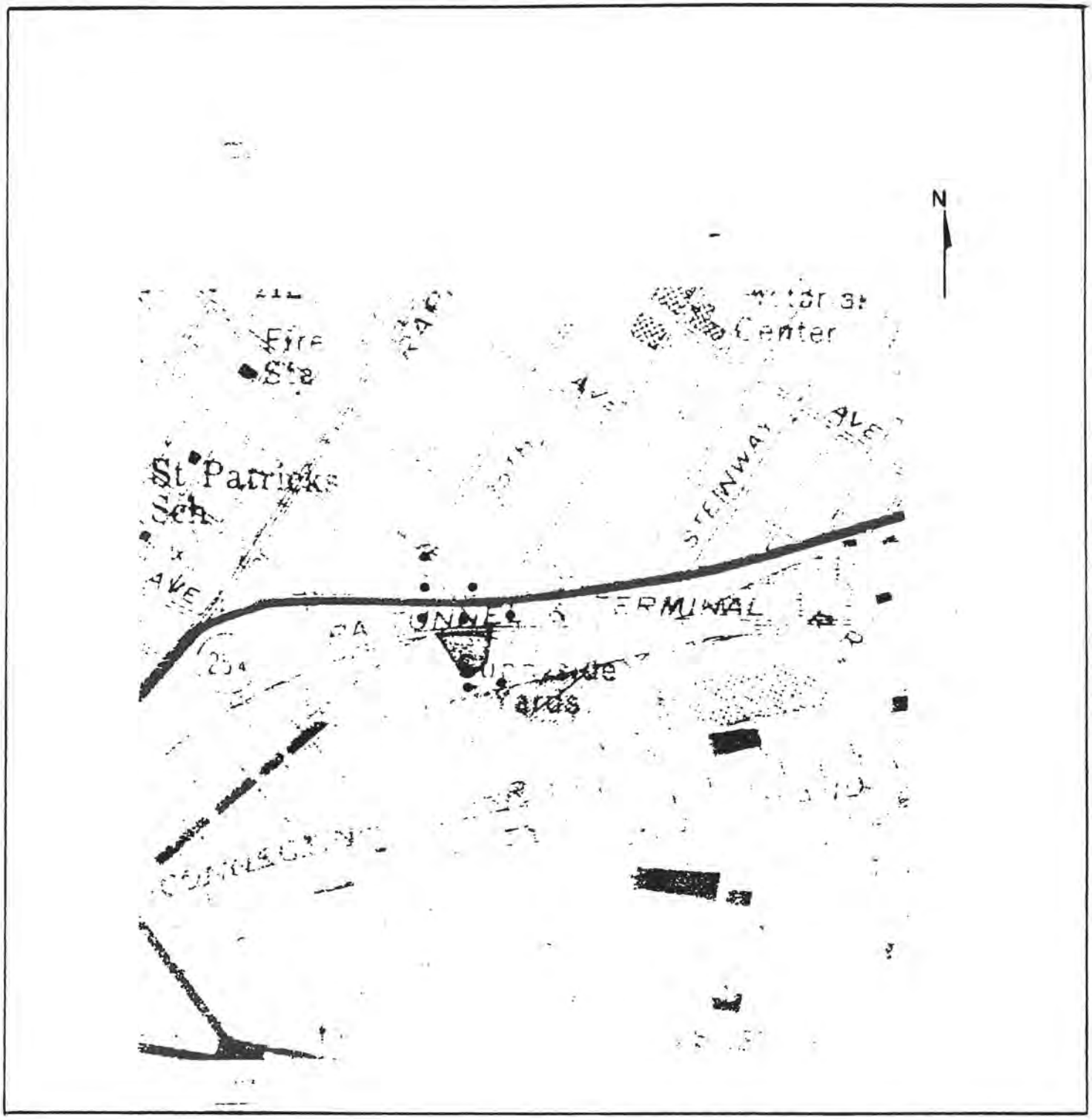
- ⊕ EXISTING 55 GALLON DRUM WELL
- O15 0.30 MONITORING WELL LOCATION AND DESIGNATION PCB CONCENTRATION IN SOIL IN PARTS PER MILLION
- ND NO PCB'S DETECTED
- NA NOT ANALYZED

PCB CONCENTRATIONS IN SOIL

AMTRAK

SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 10



0 1/4 1/2 MILE

LOCATIONS OF PROPOSED MONITORING WELLS

EXPLANATION

- PROPOSED PHASE II MONITORING WELL
- APPROXIMATE EXTENT OF THE FREE PHASE HYDROCARBON PLUME

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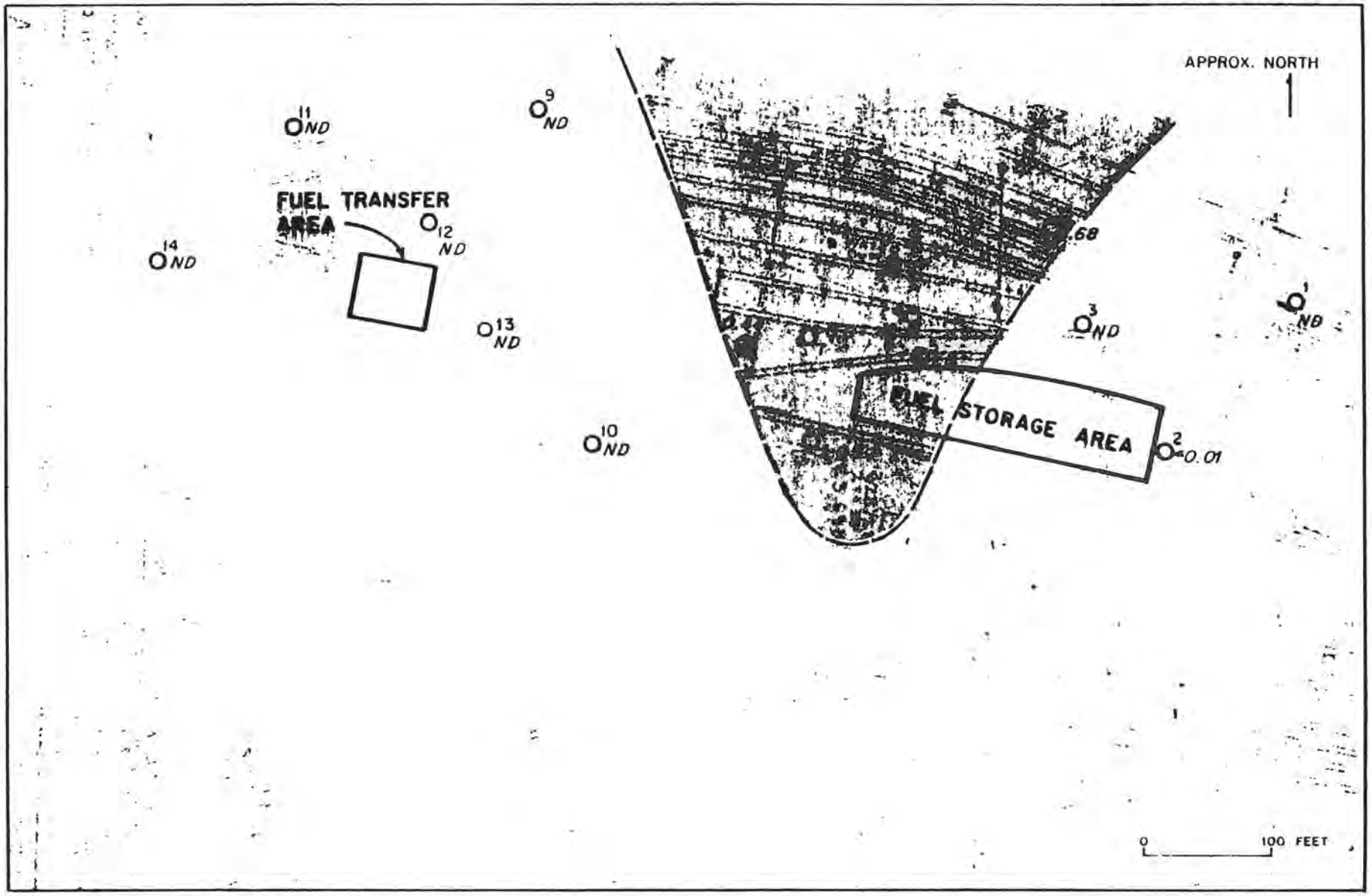

EXPLANATION

- ⊕ EXISTING 55 GALLON DRUM WELL
- O15 / 1.68 MONITORING WELL LOCATION AND DESIGNATION; THICKNESS OF HYDROCARBON DETECTED IN FEET
- ND NO HYDROCARBON DETECTED
- APPROXIMATE EXTENT OF FREE PHASE HYDROCARBON PLUME

FREE PHASE HYDROCARBON THICKNESS AND EXTENT MARCH 10, 1986

AMTRAK

SUNNYSIDE, NEW YORK TRAIN YARD

FIGURE 6

Table 1. (Continued)

Well No.	Desc p
8	Sand, medium to fine, w petroleum odor (moist) Sand, medium, black, pe Silt with clay Sand, medium to coarse, few cobbles, gray-blac
9	Sand, very fine, with sc dark brown Gravel, medium sand and (moist) Sand, medium with a frag (moist) Silt, with some very fin petroleum odor Sand, medium with some f
10	Sand, medium to fine, wi of concrete, black Sand, medium to coarse, Sand, coarse, brown (moi
11	Sand, coarse to fine, me black Sand, fine with cinders, Silt, fine sand, and clay Sand, medium, with some brown (moist) Sand, coarse, with some brown
12	Sand, fine with some silt brown Silt and clay with some s Sand, medium to fine, wit Sand, very fine to fine w tan Sand, medium to coarse, w gravel, brown
13	Sand, fine to medium, and Sand, medium to fine, with black-gray, petroleum od Sand, very coarse to medi some cobbles, grayish-br
14	Sand, medium, with coarse Silt with very fine sand, Sand, medium to coarse, wi brownish red

Geraghty & Miller, Inc.

Table 1. Geologic Logs Compiled b
toring Wells Installed F
Amtrak, Sunnyside, New Y

Well No.	Descr
1	Sand, fine and silt with brown Silt with very fine sand
2	Gravel and coal cinders, Sand, medium to coarse, light brown Sand, coarse to fine, w petroleum odor
3	Sand, fine to coarse, w coarse gravel, dark br Sand, coarse to medium, odor (moist)
4	Sand, coarse to very co gray Sand, medium to fine, a Sand, coarse to medium, is present, petroleum Sand, medium to coarse,
5	Sand, fine, with little black Sand, medium to very co gravel, black, oil pre Sand, medium to coarse, large pieces of wood,
6	Sand, medium to fine, b Sand, coarse to medium, cinders, and decayed odor, oil Sand, very coarse to c gravel, black, petrol
7	Sand, coarse, with gra black-brown Sand, medium to coarse black, petroleum odor Sand, very coarse, med of crushed cobbles, g

Table 1. Geologic Logs Compiled by Geraghty & Miller, Inc. from Monitoring Wells Installed Between February and March, 1986, Amtrak, Sunnyside, New York Train Yard.

Well No.	Description	Depth (feet)
1	Sand, fine and silt with coal cinders, dark brown	0 - 3.0
	Silt with very fine sand, light brown (moist)	3.0 - 12.0
2	Gravel and coal cinders, dark brown-black	0 - 0.5
	Sand, medium to coarse, with little fine gravel, light brown	0.5 - 4.0
	Sand, coarse to fine, with little gravel, gray, petroleum odor	4.0 - 12.0
3	Sand, fine to coarse, with cinders and some coarse gravel, dark brown	0 - 6.0
	Sand, coarse to medium, gray-black, petroleum odor (moist)	6.0 - 12.0
4	Sand, coarse to very coarse, and medium gravel, gray	0 - 2.0
	Sand, medium to fine, and little silt, tan-gray	2.0 - 4.0
	Sand, coarse to medium, with gravel, black, oil is present, petroleum odor	4.0 - 6.0
	Sand, medium to coarse, with some gravel, black	6.0 - 12.0
5	Sand, fine, with little medium sand and cinders, black	0 - 2.0
	Sand, medium to very coarse, with some fine gravel, black, oil present	2.0 - 10.0
	Sand, medium to coarse, with some gravel and large pieces of wood, black (moist)	10.0 - 12.0
6	Sand, medium to fine, black, petroleum odor	0 - 2.0
	Sand, coarse to medium, with some gravel and cinders, and decayed wood, black, petroleum odor, oil	2.0 - 8.0
	Sand, very coarse to coarse, with little gravel, black, petroleum odor, oil	8.0 - 12.0
7	Sand, coarse, with gravel and some cinders, black-brown	0 - 2.0
	Sand, medium to coarse, with some gravel, black, petroleum odor, oil	2.0 - 8.0
	Sand, very coarse, medium gravel, and fragments of crushed cobbles, gray-black, petroleum odor	8.0 - 12.0

Table 1. (Continued)

Well No.	Description	Depth (feet)
15	Sand, medium to fine, with some fine gravel and cinders, brownish-black	0.0 - 4.0
	Silt, brown, petroleum odor, oil	4.0 - 6.0
	Sand, medium to very coarse sand, with some gravel and cobbles, petroleum odor, oil	6.0 - 12.0

Table 2. Ground-Water Elevations and Free Phase Hydrocarbon (Product) Measurements, Amtrak, Sunnyside, New York Train Yard.

	March 10, 1986						
Well	Elevation of the Measuring Point (feet above mean sea level)	Depth to Product from Measuring Point (feet)	Product Thickness Measured in Wells (feet)	Observed Depth to Water from Measuring Point (feet)	Observed Elevation of the Water Table (feet above mean sea level)	Free Product** Correction Factor	True Elevation of the Water Table
1	21.05	-	ND	7.14	13.91	-	13.91
2	19.55	5.51	<0.01	5.51	14.04	<0.01	14.04
3	19.68	-	ND	5.82	13.86	-	13.86
4*	-	2.5	>2.5	-	-	-	-
5	19.96	5.65	1.5	7.15	12.54	1.2	13.74
6	20.39	6.21	1.95	8.16	12.23	1.56	13.79
7	19.48	5.35	>3.0	-	-	-	-
8	20.73	6.80	>4.0	-	-	-	-
9	20.21	-	ND	7.31	12.90	-	12.90
10	18.39	-	ND	4.66	13.73	-	13.73
11	18.53	-	ND	6.00	12.53	-	12.53
12	16.81	-	ND	3.82	12.99	-	12.99
13	18.37	-	ND	4.91	13.46	-	13.46
14	17.80	-	ND	5.15	12.65	-	12.65
15	21.13	8.97	1.68	10.65	10.48	1.34	11.82

ND - None Detected
* Well was damaged March 7, 1986. The PVC riser pipe was broken off at land surface. Bailer could only be inserted into well 2.5 feet below land surface.
** Free product correction factor assumes an oil density of 0.80 grams/cu cm.

Table 2. (Continued)

Well	Elevation of the Measuring Point (feet above mean sea level)	Depth to Product from Measuring Point (feet)	Product Thickness Measured in Wells (feet)	Observed Depth to Water from Measuring Point (feet)	Observed Elevation of the Water Table (feet above mean sea level)	Free Product** Correction Factor	True Elevation of the Water Table
			April 1, 1986				
1	21.05	-	ND	7.11	13.94	-	13.94
2	19.55	5.53	0.16	5.69	13.86	0.13	13.99
3	19.68	-	ND	5.81	13.87	-	13.87
4*	-	2.4	>2.5	-	-	-	-
5	19.96	5.36	>4.0	>9.36	-	-	-
6	20.39	6.28	3.10	9.38	11.01	2.48	13.49
7	19.48	5.39	>4.0	>9.39	-	-	-
8	20.73	6.88	>4.0	>10.88	-	-	-
9	20.21	-	ND	7.47	12.74	-	12.74
10	18.39	-	ND	4.73	13.66	-	13.66
11	18.53	-	ND	5.71	12.82	-	12.82
12	16.81	-	ND	3.92	12.89	-	12.89
13	18.37	-	ND	4.99	13.38	-	13.38
14	17.80	-	ND	5.27	12.53	-	12.53
15	21.13	7.29	0.60	7.89	13.24	0.48	13.72

ND - None Detected
* Well was damaged March 7, 1986. The PVC riser pipe was broken off at land surface. Bailer could only be inserted into well 2.5 feet below land surface.
** Free product correction factor assumes an oil density of 0.80 grams/cu cm.

Table 5. Results of Chemical Analyses of Samples Collected from the Amtrak, Sunnyside, New York Train Yard, February and March, 1986.

	Soil	Hydrocarbon	Ground Water						
ell	PCB (ppm)[1]	PCB (ppm)	PCB (ppb)[2,3]	Petroleum Hydrocarbons (ppm)	Benzene (ppb)	Toluene (ppb)	Xylene (ppb)[4]	Ethyl Benzene (ppb)	Dichloro-benzene (ppb)[5]
1	3.30**	NA	<DL	<0.5	<1	3	<DL	<1	<DL
2	0.19**	NA	<DL	35	<1	<2	<DL	2	<DL
3	1.70**	NA	<DL	42	3	24	<DL	<1	<DL
4	8.10*	320*	NA	NA	NA	NA	NA	NA	NA
5	0.76**	150*	NA	NA	NA	NA	NA	NA	NA
6	1.92***	5**	NA	NA	NA	NA	NA	NA	NA
7	7.30**	360*	NA	NA	NA	NA	NA	NA	NA
8	24.00**	16**	NA	NA	NA	NA	NA	NA	NA
9	6.10**	NA	<DL	1.1	<1	<2	<DL	<1	<DL
0	3.00**	NA	<DL	6.5	<1	<2	<DL	<1	<DL
1	<DL	NA	<DL	0.53	<1	<2	<DL	<1	<DL
2	<DL	NA	<DL	0.84	<1	<2	<DL	<1	<DL
3	13.50*	NA	<DL	9.0	<1	<2	<DL	<1	<DL
4	0.20**	NA	<DL	<0.5	<1	<2	<DL	<1	<DL
5	0.30**	<DL[6]	NA	NA	NA	NA	NA	NA	NA
5 gallon cum well	NA	23**	NA	NA	NA	NA	NA	NA	NA

) parts per million.
) parts per billion.
) Samples were analyzed for seven different Aroclors and all results were less than the detection limits of 1 and 2 ppb.
) Samples were analyzed for xylenes (meta, ortho, and para). All results were less than the detection limits of 2 and 4 ppb.
) Samples were analyzed for dichlorobenzenes (meta, ortho, and para) and all results were less than the detection limit of 2 ppb.
) This sample was analyzed for seven different Aroclors and all results were less than the detection limit of 5 ppm.
Aroclor 1254
Aroclor 1260
** Aroclor 1254 and 1260
\ - Not Analyzed.
L - Detection Limit.
- less than the analytical detection limit shown.

APPENDIX A

Field Investigation

The field investigation conducted at the Amtrak, Sunnyside, New York Train Yard involved the drilling and installation of monitoring wells, ground-water sampling, and measurement of product thicknesses and ground-water levels.

Well installation in the unconsolidated deposits at the Amtrak, Sunnyside, New York Train Yard was carried out February 21 to March 5, 1986 in the following way: an 8-inch diameter borehole was advanced to approximately 5 feet below the water table at each well site using hollow-stem augering equipment. Soil samples were collected continuously using a split barrel core sampler and retained in jars for geologic interpretation. Soil samples collected from a depth of 0 - 2 feet were sent to the laboratory for PCB analysis. Soil sample logs are included in Appendix B.

To prevent cross-contamination, equipment used to drill wells was steam cleaned before each installation and before the drilling equipment left the site. Core barrels were cleaned with a detergent and rinsed with distilled water before each soil sample was collected.

Clean, internally threaded two-inch diameter PVC well casing and screen were installed inside the hollow auger

flytes to the bottom of each borehole. A graded sand pack was placed in the annular space between the well screen and borehole wall. As sand was poured through the hollow auger flytes (between the hollow-stem and well casing) the flytes were slowly removed to make certain the hole did not collapse and the entire space surrounding the screen was filled with the sand pack. The sand pack was placed at least 0.2 feet above the top of the screen at all wells.

To prevent surface runoff from moving down the disturbed borehole annulus and into the well, the annular space above the sand pack was sealed first with a 0.5-foot layer of bentonite clay pellets, followed by a bentonite-cement slurry to land surface into which was set a protective steel casing topped with a locking cap. Table 3 summarizes well construction details. Well construction logs are included in Appendix C.

After the monitoring wells were installed they were developed by pumping with a centrifugal pump. Wells were pumped until the discharged water was as free as possible of silt and sand.

Well casing (measuring point) elevations to 0.01-foot relative to mean sea level datum were established by a New York licensed surveyor. Ground-surface elevations and approximate well locations were also surveyed.

In seven out of the 15 wells installed a free phase hydrocarbon layer was detected. The thickness of this layer was measured in wells on March 10 and April 1, 1986, using a clear, bottom-filling, 48-inch long, acrylic bailer. In order to prevent cross contamination, the acrylic bailer was washed with a laboratory-grade detergent (MICRO) and rinsed with distilled water prior to measuring product thickness at each well site.

Samples of free phase hydrocarbon were collected March 10 and March 11, 1986, for PCB analysis from all wells containing a floating hydrocarbon layer. Samples were collected using a teflon bailer. No material was evacuated from the wells prior to sampling. The teflon bailer was steam cleaned, washed with a laboratory-grade detergent, (MICRO) and then rinsed with distilled water prior to sample collection at each site.

Ground-water samples were collected, March 10 and 11, 1986, from all wells not containing free phase hydrocarbons. Prior to sampling, three times the calculated volume of standing water in each well was evacuated from each well using a dedicated teflon bailer. The same bailer was then used to retrieve a ground-water sample. Prior to sample collection at each site, the bailer was steam cleaned,

washed with a laboratory-grade detergent and then rinsed with distilled water.

After collection, hydrocarbon and ground-water samples were placed in an ice-filled insulated cooler until delivery to Eco Test Laboratory. Water sampling logs for each well and copies of the chain-of-custody forms are included in Appendix E. Laboratory reports are included in Appendix D.

At various times throughout the field investigation, synoptic rounds of water level measurements were made in the monitoring wells. The results of water well measurements are summarized in Table 2.

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SAMPLE/CORE LOG

Boring/Well 1 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/27/86 Drilling Completed 2/27/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	6-4-4-5	fine sand and silt with coal cinders, dark brown
2	3	2	6-12-15-24	fine sand and silt with coal cinders, dark brown
3	4			silt, light brown
4	6	2	14-23-24-29	silt with very fine sand, moist, light brown
6	8	2	4-7-10-11	silt with very fine sand, moist, light brown
8	10	2	6-9-11-15	fine sand with some silt and medium sand, moist, light brown
10	12	1 1/2	4-55-6	silt and very fine sand, light brown

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SAMPLE/CORE LOG

Boring/Well 2 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/24/86 Drilling Completed 2/24/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils. Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	1/2	1/2	3-5-6-6	gravel and coal cinders, dark brown-black
1/2	2	1 1/2		medium to coarse sand with little fine gravel, light brown
2	4	2	3-2-2-1	medium to coarse sand with little fine gravel, dark brown to gray
4	6	2	5-6-9-10	medium sand, moist, brownish gray, petroleum smell, oil present in upper 4 inches
6	8	2	4-2-2-5	medium to coarse sand with little fine to coarse gravel, dark gray
8	10	2	11-15-19-28	medium sand with some fine sand and little coarse gravel, gray, petroleum smell
10	12	2	8-24-51-80	medium sand with little fine sand and little fine gravel, gray

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SAMPLE/CORE LOG

Boring/Well 3 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/28/86 Drilling Completed 2/28/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	6-2-3-2	fine sand with some medium and coarse sand, and cinders, dark brown
2	2 1/2	1/2	50/2	medium and coarse sand with cinders, dark brown
4	6	2	29-60-60-37	medium sand with coarse sand and coarse gravel, moist, gray-black
6	8	1 1/2	9-11-11-15	coarse sand with little medium sand, moist, gray-black petroleum odor
8	10	2	7-13-24-30	coarse sand with some medium sand, gray-black, petroleum odor
10	12	1 1/2	5-7-10-15	coarse sand with some medium gravel, gray-black, petroleum odor

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SAMPLE/CORE LOG

Boring/Well 4 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 3/3/86 Drilling Completed 3/3/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	1	1	22-13-11-8	very coarse sand and medium gravel, black
1	1 1/2	1/2		coarse sand and little medium gravel, tan-gray
2	4	1 1/2	3-7-19-25	medium sand with some fine sand and little silt, tan-gray
4	6	2	34-57-62-122	coarse and medium sand with gravel, black, oil present, petroleum odor
6	8	2	16-4-5-17	medium sand with some coarse sand and gravel, black-gray, moist
8	10	2	12-12-15-21	medium and coarse sand with some gravel, black, oil present
10	12	2	12-2-20-49	coarse sand with little gravel, gray

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SAMPLE/CORE LOG

Boring/Well 5 Project/No. N10331SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/25/86 Drilling Completed 2/26/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	3/4	2-2-2-1	fine sand with cinders and little medium sand, black
2	4	3/4	2-3-50	medium sand with some gravel, black, moist
4	6	1 1/2	3-6-8-14	medium sand with a little coarse and fine sand, black, oil present
6	8	1 1/2	5-8-8-10	very coarse and coarse sand with some fine gravel, black, oil present
8	10	1 1/2	4-5-77	very coarse and coarse sand with some fine gravel, black, oil pressure
10	12	1 1/2	11-14-8-5	medium and coarse sand with some gravel and large pieces of wood, black, moist

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SAMPLE/CORE LOG

Boring/Well 6 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/24/86 Drilling Completed 2/24/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Conng Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	10-13-14-14	medium and fine sand, black, petroleum odor
2	4	1	20-14-9-25	medium sand with fine sand, black, petroleum smell. oil is present in upper 4 inches
4	6	2	15-15-19-23	coarse and medium sand, cinders and bits of decayed wood, black, petroleum odor, oil is present
6	8	2	17-19-11-17	coarse and medium sand with some gravel, black, petroleum odor, oil is present
8	10	1 1/2	14-17-23-24	very coarse sand with some coarse sand, black, petroleum odor, oil is present
10	12	1 1/2	22-31-45-51	very coarse sand with little gravel, black, petroleum odor, oil is present

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SAMPLE/CORE LOG

Boring/Well 7 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/28/86 Drilling Completed 2/28/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	2	14-20-10-7	coarse sand and gravel with some cinders, black-brown
2	4	2	5-4-3-2	medium sand with some coarse sand, black-gray, petroleum odor, oil is present in the lower 1/2 foot
4	6	2	34-30-50-28	coarse sand with some medium gravel, black, oil is present
6	8	2	11-19-26-35	medium and coarse sand with little gravel, black, oil is present
8	10	1/4	7-19-35-31	medium gravel and a fragment of a crushed cobble, gray-black, petroleum odor
10	12	2	9-10-15-17	very coarse sand with some gravel and a few cobbles

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SAMPLE/CORE LOG

Boring/Well 8 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/26/86 Drilling Completed 2/26/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	6-6-2-4	medium sand with gravel and some fine sand, black, petroleum odor, lower 1 foot is moist
2	2 1/2	1/2	4-4-7-9	medium sand, black, oil is present, petroleum odor
2 1/2	4	1 1/2		silt with clay
4	6	2	29-71-49-37	medium sand with some clay, a little gravel, and a few cobbles, gray-black, oil present
6	8	1 1/2	9-12-14-21	medium to coarse sand with some gravel, gray-black, oil present
8	10	2	18-27-40-31	medium sand with some gravel, gray-black, oil present in upper 1 foot of the sample
10	12	1 1/2	19-34-22-19	medium sand with a very coarse 2 inch thick sand layer, gray-brown

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SAMPLE/CORE LOG

Boring/Well 9 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 3/5/86 Drilling Completed 3/5/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	2	7-9-12-15	very fine sand with some gravel and cinders, dark brown
2	4	1/2	12-12-15-5	very fine sand with some gravel and cinders, dark brown
4	6	2	70-77-41-30	gravel, medium sand and cinders, dark black, moist
6	8	1/2	12-22-35-50	medium sand with a fragment of a cobble, tan, moist
8	10	2	3-3-5-18	silt with some very fine sand, dark brown, petroleum odor
10	12	2	13-10-8-7	medium sand with some fine sand, dark brown

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SAMPLE/CORE LOG

Boring/Well 10 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 3/3/86 Drilling Completed 3/5/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	5-7-2-12	medium sand with fine sand, cinders and gravel, black
2	4	1	17-24-50/2	medium sand with gravel and 2 inch thick piece of concrete, brownish-tan
4	6	2	8-11-12-15	medium sand with some fine sand, black, moist
6	8	2	11-11-13-17	medium and coarse sand, gray, petroleum odor
8	10	2	17-20-25-31	medium sand, gray-brown, moist, petroleum odor
10	12	2	10-7-30-15	coarse sand, brown, moist

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Ground-Water Consultants

SAMPLE/CORE LOG

Boring/Well 11 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/26/86 Drilling Completed 2/27/86

Total Depth Drilled 15 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	1-4-11-19	coarse sand, medium gravel and cinders with some fine sand, black
2	4	2	19-23-25-31	fine sand and cinders, dark brown
4	6	2	8-8-5-9	silt and clay with some fine sand and a 1" thick gravel layer, gray-brown
6	6 1/2	1/2	18-7-27-5	fine sand, moist
6 1/2	8	1 1/2		silt and very fine sand, light brown
8	10	1 1/2	9-13-23-38	silt with some fine sand, light brown, moist
10	12	1 1/2	18-21-23-30	medium sand with some silt with a 2 inch gravel layer, light brown, moist
12	14	2	5-12-15-17	coarse sand with some medium gravel, light brown

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SAMPLE/CORE LOG

Boring/Well 12 Project/No. N10331SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/21/86 Drilling Completed 2/21/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	2	3-3-5-7	fine sand with some silt and cinders, light brown and tan color banding
2	4	1	19-30-32-49	silt and clay with some sand, light gray and tan
4	6	1	9-12-12-15	medium sand with some fine gravel and some fine sand, tan
6	8	2	10-18-14-12	very fine to fine sand with some silt, light tan
8	10	2	9-15-17-2	medium sand with some coarse sand and a little medium gravel, light tan
10	12	1 1/2	5-11-12-13	coarse sand and fine gravel with some medium sand, grayish-brown

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SAMPLE/CORE LOG

Boring/Well 13 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/24/86 Drilling Completed 2/24/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	2-3-3-2	fine sand with some medium sand and gravel, black to medium brown
2	4	1	3-4-6-6	medium to fine sand with some gravel, dark brown, oil present in lower 2 inches
4	6	1	9-13-12-27	medium to fine sand with some coarse gravel, black-gray, oil present, petroleum odor
6	7	1 1/2	68-34	medium to fine sand with some coarse gravel and pieces of gray concrete, black-gray, oil present
8	10	2	27-15-8-6	coarse to medium sand with gravel, gray
10	12	2	13-30-24-20	very coarse sand with coarse gravel and some small cobbles, grayish-brown

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SAMPLE/CORE LOG

Boring/Well 14 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/21/86 Drilling Completed 2/21/86

Total Depth Drilled 13 feet Hole Diameter 8 inches Type of Sample/ Coring Device split spoon

Length and Diameter of Coring Device 2 feet/2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	2	2-4-6-6	medium sand with coarse cinders, black
2	4	1 1/2	6-6-5-5	silt with very fine sand, medium brown
4	6	1	5-14-20-20	silt with very fine sand, medium brown
6	8	1 1/2	19-23-34-38	silt with very fine sand, medium brown
8	10	1 1/2	26-30-35-42	silt with some very fine sand, some fine gravel
				layers are present, dark and light brown banding
10	12	2	17-23-24-35	medium sand with coarse sand, some silt, brownish red

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SAMPLE/CORE LOG

Boring/Well 15 Project/No. N1031SS1 Page 1 of 1

Site Location Sunnyside, New York Drilling Started 2/27/86 Drilling Completed 2/27/86

Total Depth Drilled 12 feet Hole Diameter 8 inches Type of Sample/Coring Device split spoon

Length and Diameter of Coring Device 2 feet/ 2 inches Sampling Interval continuous feet

Land-Surface Elev. _____ feet ☐ Surveyed ☐ Estimated Datum _____

Drilling Fluid Used none Drilling Method hollow stem auger

Drilling Contractor Empire Soils Driller Walt Helper Jim

Prepared By SJP Hammer Weight 140 Hammer Drop 24 inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description
0	2	1 1/2	4-4-5-13	medium sand with some fine sand and black coal cinders, dark brownish-black
2	4	1	13-23-25-30	medium sand with some fine sand, cinders and fine gravel, black
4	6	2	11-13-21-49	silt, medium brown, oil present in lower 2 inches, strong petroleum odor
6	8	1/2	40-77-102-73	medium sand with pieces of fractured cobbles, black, moist, oil present
8	10	1 1/2	21-19-44-76	very coarse sand with some medium gravel, black-gray, oil present, strong petroleum odor
10	12	1/2	100-	coarse sand with pieces of fractured cobbles, gray-black, oil present, petroleum odor

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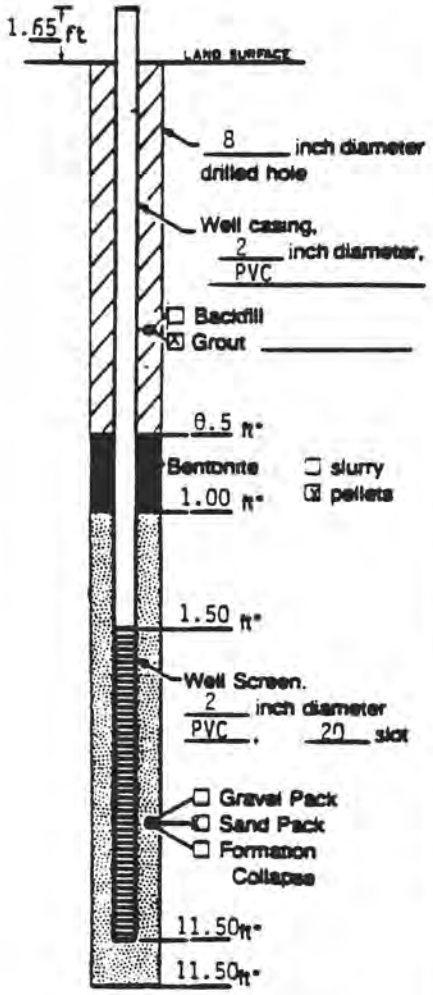
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 1

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 2/27/86

Drilling Method Hollow Stem Auger

Drilling Contractor Empire Soils

Drilling Fluid None

Development Techniques(s) and Date(s)
Centrifugal pump 3/5/86

Fluid Loss During Drilling none gallons

Water Removed During Development 30 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration 1/2 hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation well

Remarks

Prepared by SJP

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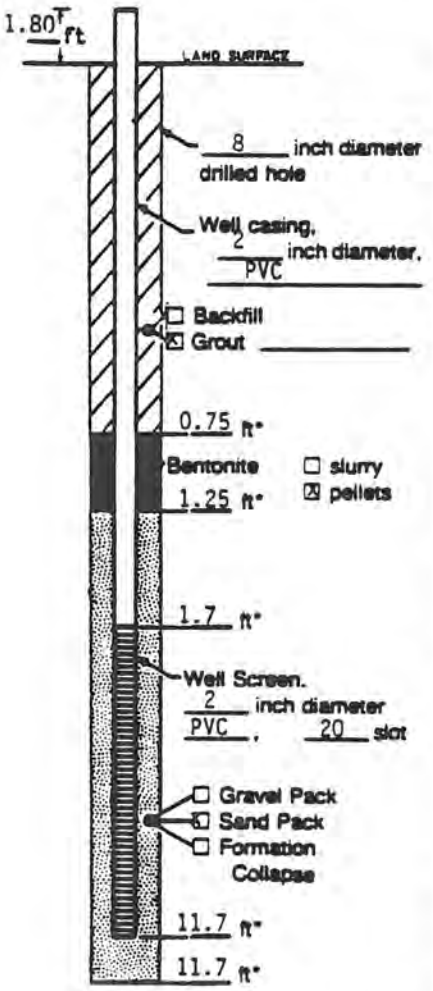
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 2

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 2/24/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid None

Development Techniques(s) and Date(s)
centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 30 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation wells

Remarks

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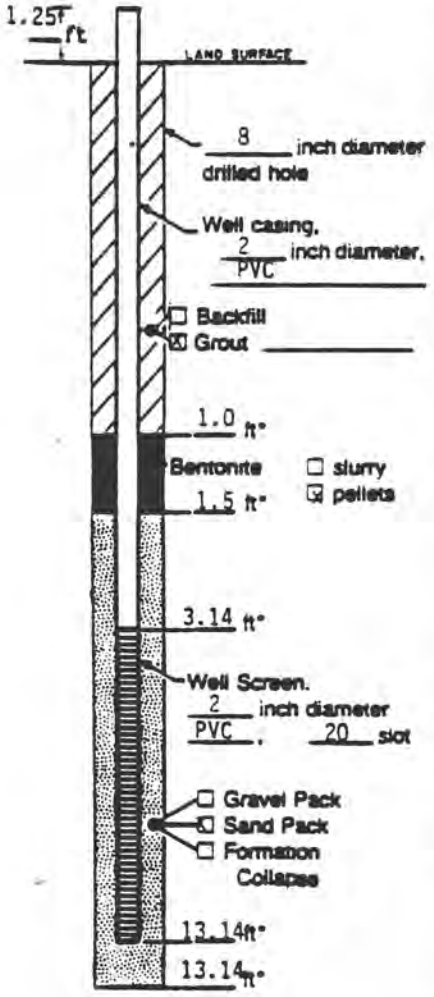
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 3

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Date(s) 2/28/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Technique(s) and Date(s)
Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 30 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation well

Remarks _____

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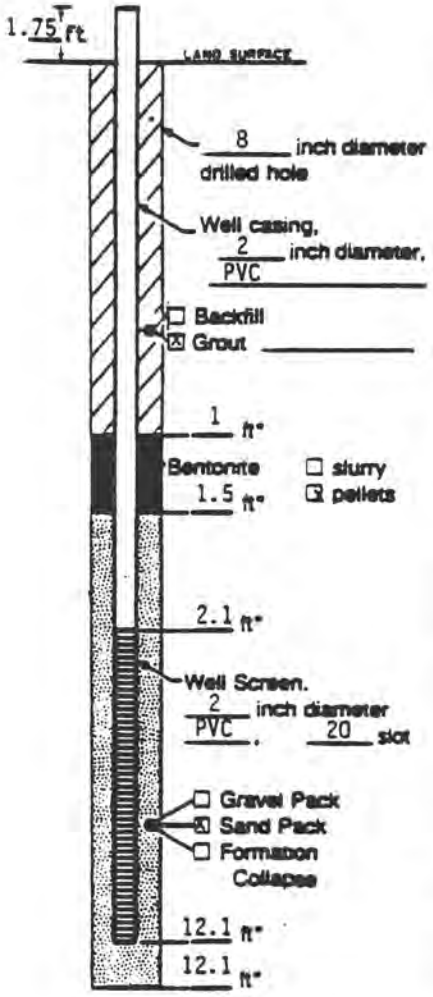
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 4

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation

and Datum _____ feet ☐ surveyed

_____ ☐ estimated

Installation Dates(s) 3/3/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)

Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 35 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation

Remarks

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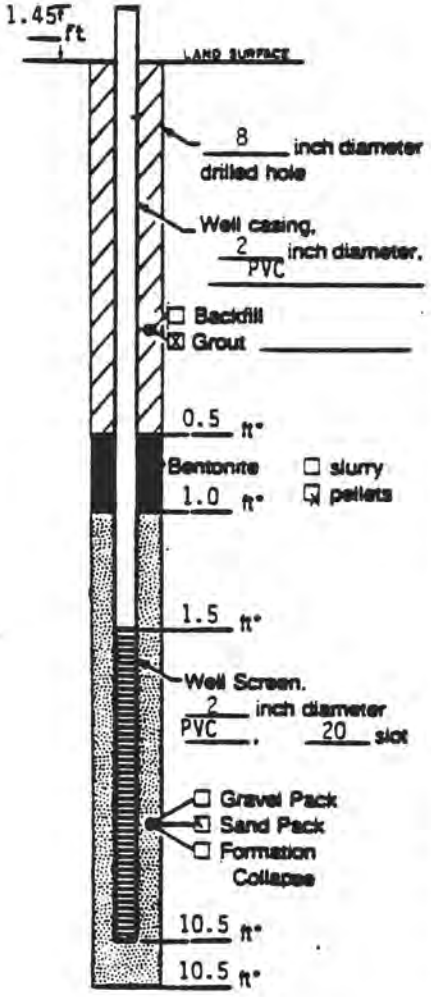
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 5

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Date(s) 2/25/86 - 2/26/86

Drilling Method hollow stem auger

Drilling Contractor Empire Soil

Drilling Fluid none

Development Technique(s) and Date(s)
Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 35 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation

Remarks 1 foot of the 10 foot well screen was removed.

Prepared by SJP

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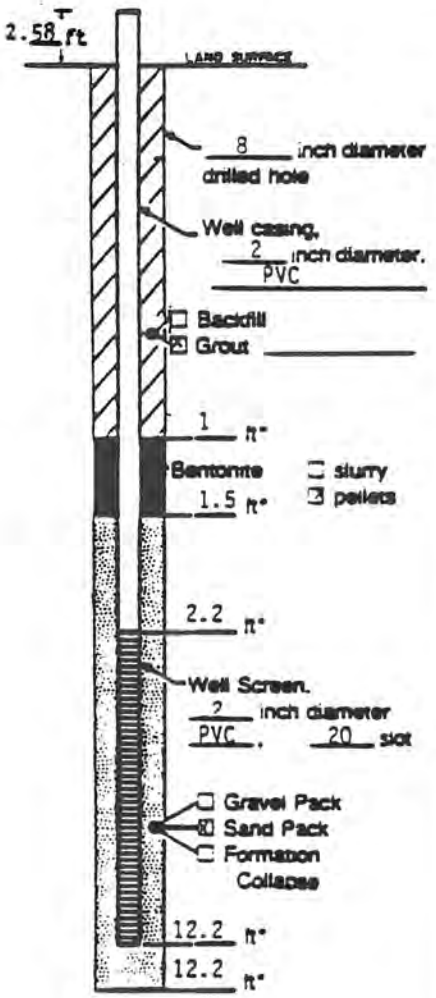
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 5
Town/City Sunnyside
County Queens State New York
Permit No.
Land-Surface Elevation and Datum ____ feet ☐ surveyed ☐ estimated
Installation Date(s) 2/24/86
Drilling Method Hollow stem auger
Drilling Contractor Empire Soils
Drilling Fluid. none

Development Technique(s) and Date(s)
Centrifugal pump 3/3/86

Fluid Loss During Drilling none gallons
Water Removed During Development 40 gallons
Static Depth to Water ____ feet below M.P.
Pumping Depth to Water ____ feet below M.P.
Pumping Duration ____ hours
Yield ____ gpm Date ____
Specific Capacity ____ gpm/ft
Well Purpose observation well

Remarks

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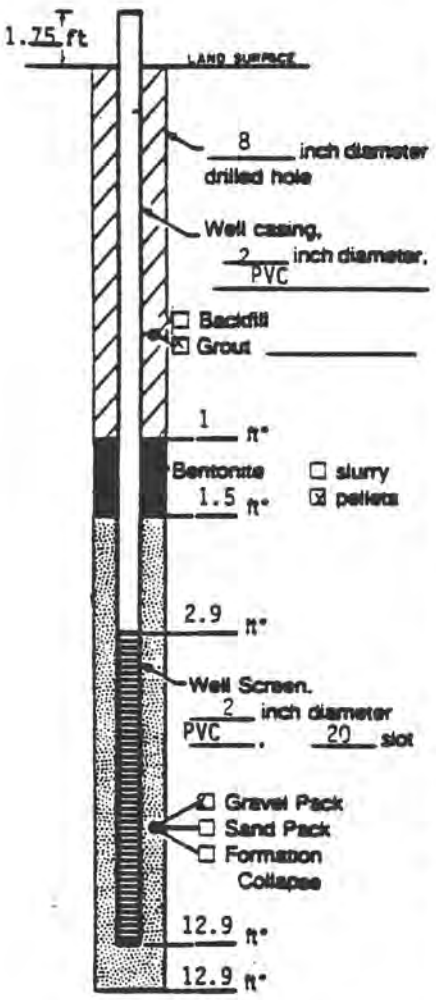
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 7
Town/City Sunnyside
County Queens State New York
Permit No.
Land-Surface Elevation
and Datum _____ feet ☐ surveyed ☐ estimated
Installation Dates(s) 2/28/86
Drilling Method Hollow stem auger
Drilling Contractor Empire Soils
Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/3/86

Fluid Loss During Drilling none gallons
Water Removed During Development 40 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration _____ hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft
Well Purpose observation well

Remarks

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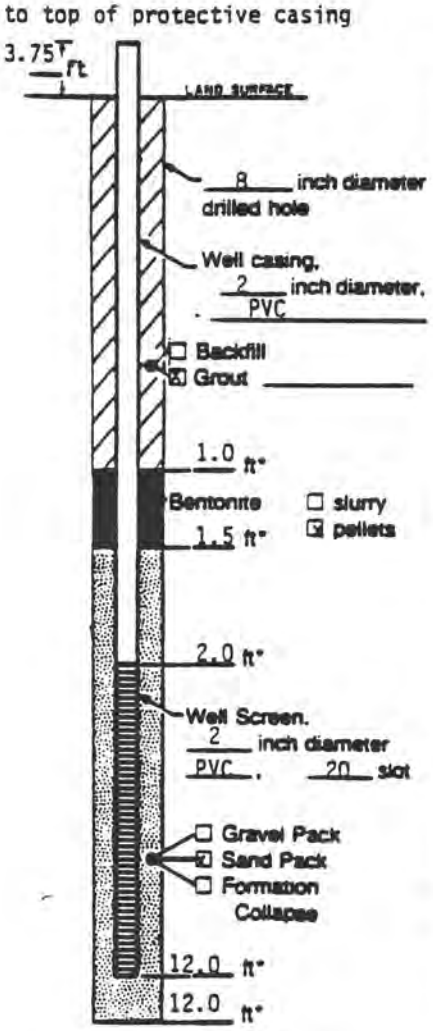
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N10331SS1 Well 8

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 2/26/86

Drilling Method hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 30 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation well

Remarks

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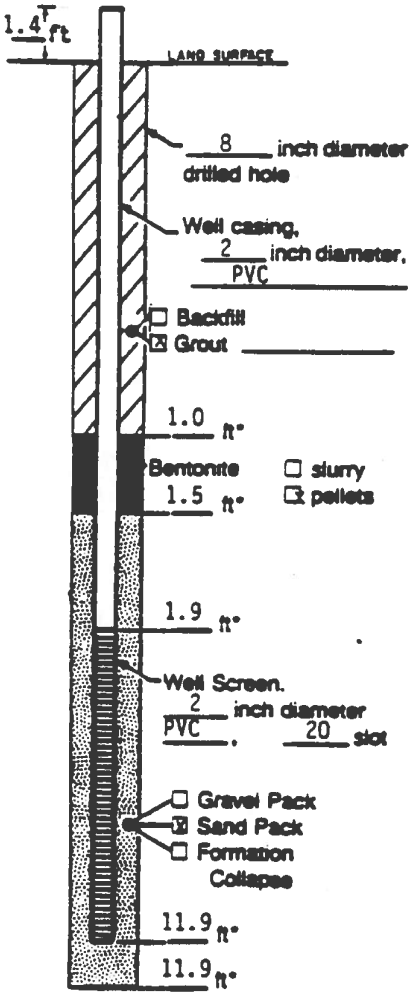
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 9
Town/City Sunnyside
County Queens State New York
Permit No.
Land-Surface Elevation
and Datum _____ feet ☐ surveyed
_____ ☐ estimated
Installation Dates(s) 3/5/86
Drilling Method hollow stem auger
Drilling Contractor Empire Soils
Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/5/86

Fluid Loss During Drilling none gallons
Water Removed During Development 20 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration _____ hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft
Well Purpose observation

Remarks

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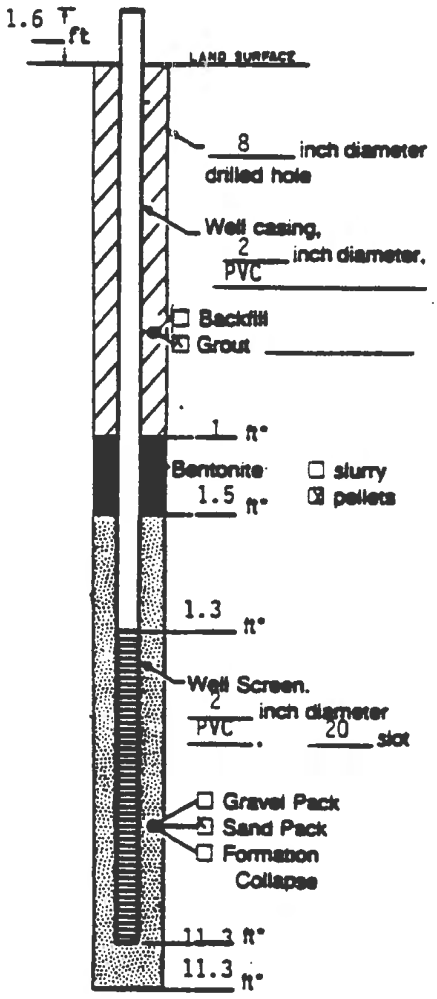
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 10

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 3/3/86 - 3/5/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/5/86

Fluid Loss During Drilling none gallons

Water Removed During Development 20 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation

Remarks

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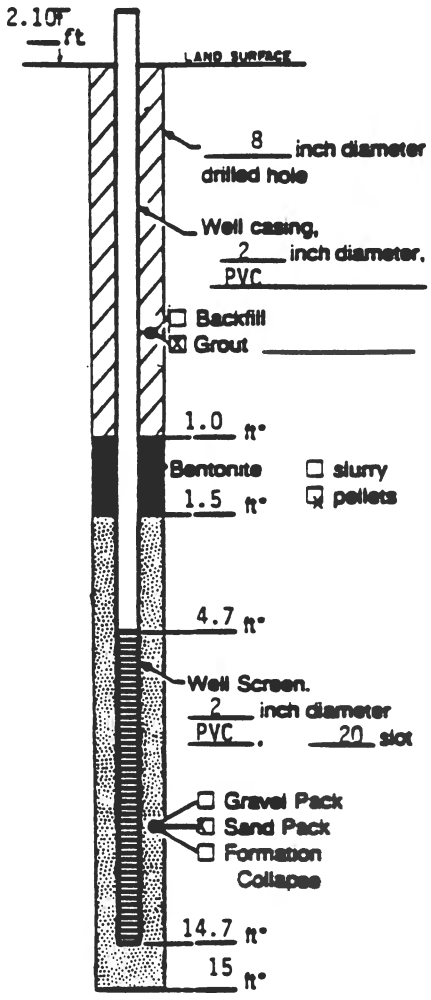
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 11
Town/City Sunnyside
County Queens State New York
Permit No.
Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated
Installation Dates(s) 2/26/86 - 2/27/86
Drilling Method Hollow stem auger
Drilling Contractor Empire Soils
Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons
Water Removed During Development 20 gallons
Static Depth to Water _____ feet below M.P.
Pumping Depth to Water _____ feet below M.P.
Pumping Duration _____ hours
Yield _____ gpm Date _____
Specific Capacity _____ gpm/ft
Well Purpose observation well

Remarks

Prepared by SJP

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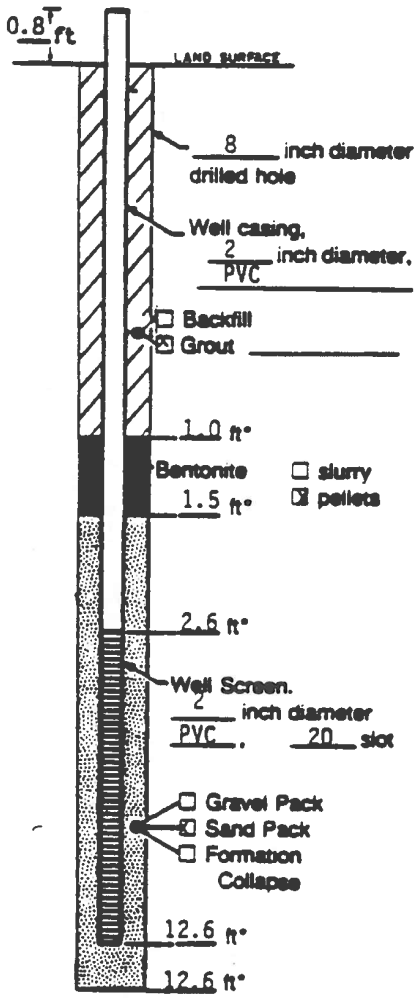
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 12
Town/City Sunnyside
County Queens State New York
Permit No.
Land-Surface Elevation
and Datum ____ feet ☐ surveyed
☐ estimated
Installation Date(s) 2/21/86
Drilling Method Hollow stem auger
Drilling Contractor Empire Soils
Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/5/86

Fluid Loss During Drilling none gallons
Water Removed During Development 30 gallons
Static Depth to Water ____ feet below M.P.
Pumping Depth to Water ____ feet below M.P.
Pumping Duration ____ hours
Yield ____ gpm Date ____
Specific Capacity ____ gpm/ft
Well Purpose observation wells

Remarks

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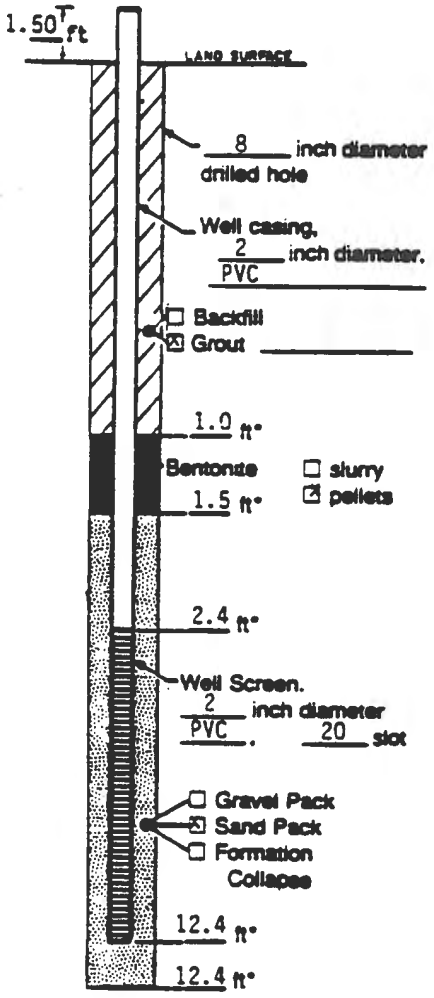
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 13

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 2/24/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)
Centrifugal pump 3/3/86

Fluid Loss During Drilling none gallons

Water Removed During Development 50 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation

Remarks

Prepared by SJP

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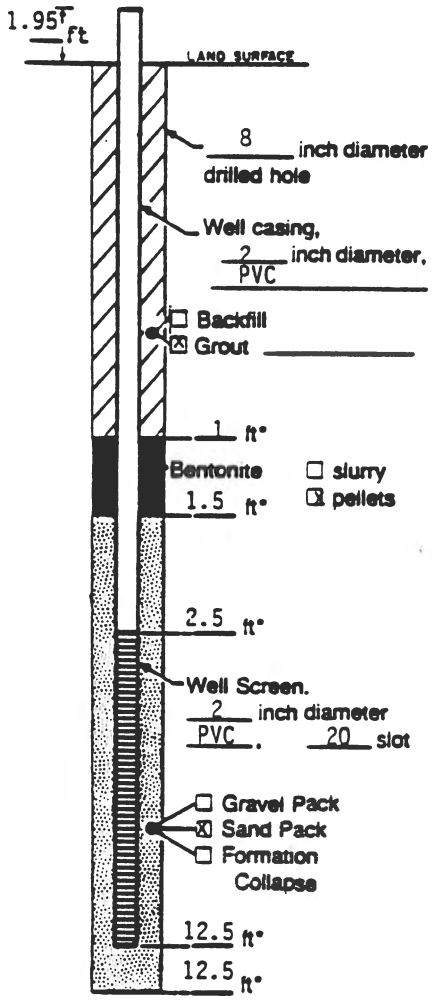
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 14

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation and Datum _____ feet ☐ surveyed ☐ estimated

Installation Dates(s) 2/21/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)

Centrifugal pump 3/5/86

Fluid Loss During Drilling none gallons

Water Removed During Development 25 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation well

Remarks

Prepared by SJP

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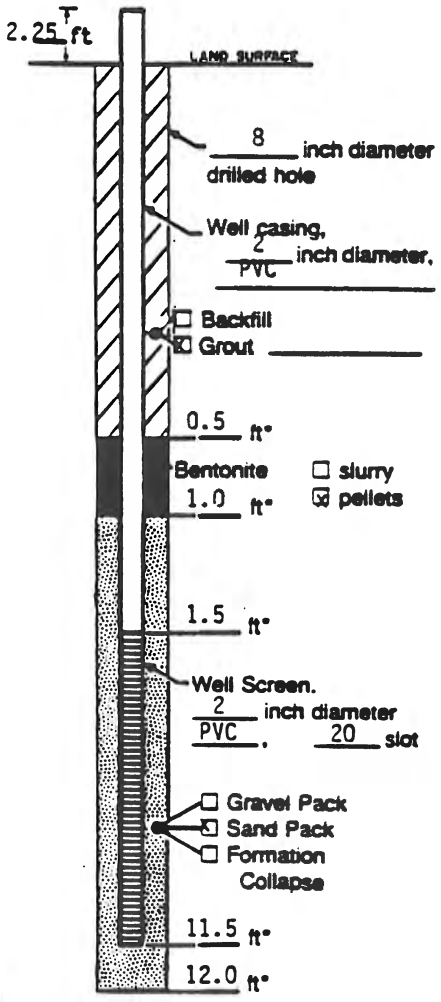
WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project N1031SS1 Well 15

Town/City Sunnyside

County Queens State New York

Permit No. _____

Land-Surface Elevation

and Datum _____ feet ☐ surveyed

_____ ☐ estimated

Installation Dates(s) 2/27/86

Drilling Method Hollow stem auger

Drilling Contractor Empire Soils

Drilling Fluid none

Development Techniques(s) and Date(s)

Centrifugal pump 3/4/86

Fluid Loss During Drilling none gallons

Water Removed During Development 25 gallons

Static Depth to Water _____ feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose observation well

Remarks

Prepared by SJP

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/1 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#1. Project#N103155:
COLLECTED BY: client DATE COL'D:02/27/86 RECEIVED:03/0e/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.40	
Arochlor 1221	ppm	<0.40	
Arochlor 1232	ppm	<0.40	
Arochlor 1242	ppm	<0.40	
Arochlor 1248	ppm	<0.40	
Arochlor 1254	ppm	<0.40	
Arochlor 1260	ppm	3.3	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Jeantet

rnr 1273

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C8604532 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#2, Project#N1031551
COLLECTED BY: client DATE COL'D:02/24/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04	
Arochlor 1221	ppm	<0.04	
Arochlor 1232	ppm	<0.04	
Arochlor 1242	ppm	<0.04	
Arochlor 1248	ppm	<0.04	
Arochlor 1254	ppm	<0.04	
Arochlor 1260	ppm	0.19	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Greatbatch

rn= 1274

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C86045 3/3 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#3. Project#N1031551.
COLLECTED BY: client DATE COL'D:02/28/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.40	
Arochlor 1221	ppm	<0.40	
Arochlor 1232	ppm	<0.40	
Arochlor 1242	ppm	<0.40	
Arochlor 1248	ppm	<0.40	
Arochlor 1254	ppm	<0.40	
Arochlor 1260	ppm	1.7	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gouth

rn= 1275

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/4 04/23/86

Geraghty & Miller
e800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#4, Project#1031551
COLLECTED BY: client DATE COL'D:03/03/8e RECEIVED:03/0e/8e

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.40	
Arochlor 1221	ppm	<0.40	
Arochlor 1232	ppm	<0.40	
Arochlor 1242	ppm	<0.40	
Arochlor 1248	ppm	<0.40	
Arochlor 1254	ppm	8.1	
Arochlor 1260	ppm	<0.40	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

rn= 1276

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/5 04/23/86

Geraghty & Miller
5800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#5, Project#1031351
COLLECTED BY: client DATE COL'D: 02/24/86 RECEIVED: 03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04	
Arochlor 1221	ppm	<0.04	
Arochlor 1232	ppm	<0.04	
Arochlor 1242	ppm	<0.04	
Arochlor 1248	ppm	<0.04	
Arochlor 1254	ppm	<0.04	
Arochlor 1260	ppm	0.76	

cc:

REMARKS: Revised copy.

DIRECTOR

rn= 1277

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/6 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#6, project#1031551
COLLECTED BY: client DATE COL'D:03/24/86 RECEIVED:03/26/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.40	
Arochlor 1221	ppm	<0.40	
Arochlor 1232	ppm	<0.40	
Arochlor 1242	ppm	<0.40	
Arochlor 1248	ppm	<0.40	
Arochlor 1254	ppm	0.92	
Arochlor 1260	ppm	1.0	

cc:

REMARKS: Revised copy.

DIRECTOR

rne 1276

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. CB60453/7 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Fohanka

SOURCE OF SAMPLE: Well#7, Project#103155;
COLLECTED BY: client DATE COL'D:02/26/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.80	
Arochlor 1221	ppm	<0.80	
Arochlor 1232	ppm	<0.80	
Arochlor 1242	ppm	<0.80	
Arochlor 1248	ppm	<0.80	
Arochlor 1254	ppm	<0.80	
Arochlor 1260	ppm	7.3	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Grant

rn= 1279

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/8 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#8, Project#1031551
COLLECTED BY: client DATE COL'D:03/26/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<2.0	
Arochlor 1221	ppm	<2.0	
Arochlor 1232	ppm	<2.0	
Arochlor 1242	ppm	<2.0	
Arochlor 1248	ppm	<2.0	
Arochlor 1254	ppm	<2.0	
Arochlor 1260	ppm	24	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gault

rn= 1280

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. CB60453/9 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#9, Project#1031551
COLLECTED BY: client DATE COL'D:03/05/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<1.0	
Arochlor 1221	ppm	<1.0	
Arochlor 1232	ppm	<1.0	
Arochlor 1242	ppm	<1.0	
Arochlor 1248	ppm	<1.0	
Arochlor 1254	ppm	<1.0	
Arochlor 1260	ppm	6.1	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gerstl

rm= 1261

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/10 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Ponanka

SOURCE OF SAMPLE: Well#10. Project#1031551
COLLECTED BY: client DATE COL'D:03/03/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.50	
Arochlor 1221	ppm	<0.50	
Arochlor 1232	ppm	<0.50	
Arochlor 1242	ppm	<0.50	
Arochlor 1248	ppm	<0.50	
Arochlor 1254	ppm	<0.50	
Arochlor 1260	ppm	3.0	

cc:

REMARKS: Revised copy.

DIRECTOR

rn= 1261

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. CBo0453/11 04/23/86

Geraghty & Miller
o800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#11,Project#1031551
COLLECTED BY: client DATE COL'D:02/26/86 RECEIVED:03/26/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04
Arochlor 1221	ppm	<0.04
Arochlor 1232	ppm	<0.04
Arochlor 1242	ppm	<0.04
Arochlor 1248	ppm	<0.04
Arochlor 1254	ppm	<0.04
Arochlor 1260	ppm	<0.04

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gerace

rm= 1283

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C86045312 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#12, Project#103155
COLLECTED BY: client DATE COL'D:02/21/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04	
Arochlor 1221	ppm	<0.04	
Arochlor 1232	ppm	<0.04	
Arochlor 1242	ppm	<0.04	
Arochlor 1248	ppm	<0.04	
Arochlor 1254	ppm	<0.04	
Arochlor 1260	ppm	<0.04	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

rne 1264

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C86@453/13 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#13, Project#1031551
COLLECTED BY: client DATE COL'D:02/24/86 RECEIVED:03/06/86

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<2.0	
Arochlor 1221	ppm	<2.0	
Arochlor 1232	ppm	<2.0	
Arochlor 1242	ppm	<2.0	
Arochlor 1248	ppm	<2.0	
Arochlor 1254	ppm	13.5	
Arochlor 1260	ppm	<2.0	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas Grant

rn= 1285

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860453/14 04/23/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: Well#14, project#1031551
COLLECTED BY: client DATE COL'D:02/21/86 RECEIVED:03/0e/8o

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04	
Arochlor 1221	ppm	<0.04	
Arochlor 1232	ppm	<0.04	
Arochlor 1242	ppm	<0.04	
Arochlor 1248	ppm	<0.04	
Arochlor 1254	ppm	<0.04	
Arochlor 1260	ppm	0.20	

cc:

REMARKS: Revised copy.

DIRECTOR

rn= 1286

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. CB80453/15 04/23/88

Gerschty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms. Susan Pohanka

SOURCE OF SAMPLE: well#15, Project#103151
COLLECTED BY: client DATE COL'D:03/27/88 RECEIVED:03/30/88

SAMPLE: soil sample

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<0.04	
Arochlor 1221	ppm	<0.04	
Arochlor 1232	ppm	<0.04	
Arochlor 1242	ppm	<0.04	
Arochlor 1248	ppm	<0.04	
Arochlor 1254	ppm	<0.04	
Arochlor 1260	ppm	0.30	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gleason

rn= 1287

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/16 03/28/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N103155
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Oil Sample, 55 gal. drum well

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<5	
Arochlor 1221	ppm	<5	
Arochlor 1232	ppm	<5	
Arochlor 1242	ppm	<5	
Arochlor 1248	ppm	<5	
Arochlor 1254	ppm	<5	
Arochlor 1260	ppm	23	

cc:

REMARKS:

DIRECTOR Thomas R. Beattie

rm= 137

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C8604847/1

04/16/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj.#N103155.1
COLLECTED BY: Client DATE COLLECTED:03/10/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #1

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	0.003	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	<0.5	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

ym= 135c

COMPLIANCE LABORATORIES, INC.

ENVIRONMENTAL TESTIN

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C8604842

04/18/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pomanka

SOURCE OF SAMPLE: Sunnyside, NY Proj.#N103155
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #2

ANALYTICAL PARAMETERS		
Benzene	ppm	<0.001
Toluene	ppm	<0.002
Ethyl Benzene	ppm	0.002
m Xylene	ppm	<0.002
o+p Xylene	ppm	<0.004
m Dichlorobenzene	ppm	<0.002
o Dichlorobenzene	ppm	<0.002
p Dichlorobenzene	ppm	<0.002
Petrol. Hydrocarbons	ppm	35
Arochlor 1016	ppm	<0.001
Arochlor 1221	ppm	<0.001
Arochlor 1232	ppm	<0.001
Arochlor 1242	ppm	<0.001
Arochlor 1248	ppm	<0.001
Arochlor 1254	ppm	<0.001
Arochlor 1260	ppm	<0.001

ANALYTICAL PARAMETERS

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gillett

rnf 1357

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C260464/3 04/18/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pomanka

SOURCE OF SAMPLE: Sunnyside,NY Proj. #N103155
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #3

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	0.003	
Toluene	ppm	0.024	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	42	
Arochlor 1016	ppm	<0.002	
Arochlor 1221	ppm	<0.002	
Arochlor 1232	ppm	<0.002	
Arochlor 1242	ppm	<0.002	
Arochlor 1248	ppm	<0.002	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

rm= 135B

ECOLEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/6 03/28/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside,NY Proj. #N103155:
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Oil Sample,Sample point #6

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<5	
Arochlor 1221	ppm	<5	
Arochlor 1232	ppm	<5	
Arochlor 1242	ppm	<5	
Arochlor 1248	ppm	<5	
Arochlor 1254	ppm	<5	
Arochlor 1260	ppm	5	

cc:

REMARKS:

DIRECTOR Thomas R. Gentile

rr= 1361

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/7 03/25/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N103:55:
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Oil Sample, Sample point #7

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<50	
Arochlor 1221	ppm	<50	
Arochlor 1232	ppm	<50	
Arochlor 1242	ppm	<50	
Arochlor 1248	ppm	<50	
Arochlor 1254	ppm	360	
Arochlor 1260	ppm	<50	

cc:

REMARKS:

DIRECTOR Thomas R. Gentile

rm= 1362

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/8 03/28/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside,NY Proj. #N1031551
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Oil Sample,Sample point #8

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<4	
Arochlor 1221	ppm	<4	
Arochlor 1232	ppm	<4	
Arochlor 1242	ppm	<4	
Arochlor 1248	ppm	<4	
Arochlor 1254	ppm	<4	
Arochlor 1260	ppm	16	

cc:

REMARKS:

DIRECTOR Thomas R. Hewitt

rn= 1363

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/9 04/18/86

Geraghty & Miller
c800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pomanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N1031551
COLLECTED BY: Client DATE COL'D:03/10/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #9

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	<0.002	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	1.1	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

rn= 1364

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C660484/10 04/18/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pomanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N103155:
COLLECTED BY: Client DATE COL'D:03/10/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #10

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	<0.002	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	6.5	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gratta

rne 1305

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484/11 04/18/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Poranka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N103155.1
COLLECTED BY: Client DATE COL'D: 03/10/86 RECEIVED: 03/11/86

SAMPLE: Water sample-point #11

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	<0.002	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	0.53	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gentile

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ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C8604847-12 04/18 86

Geraghty & Miller
e800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N1031551
COLLECTED BY: Client DATE COL'D:03/10/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #12

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	<0.002	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	0.84	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR

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ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. CE50484/13 04/18/86

Geraghty & Miller
c800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N1031551
COLLECTED BY: Client DATE COL'D:03/10/86 RECEIVED:03/11/86

SAMPLE: Water sample-point #13

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Benzene	ppm	<0.001	
Toluene	ppm	<0.002	
Ethyl Benzene	ppm	<0.001	
m Xylene	ppm	<0.002	
o+p Xylene	ppm	<0.004	
m Dichlorobenzene	ppm	<0.002	
o Dichlorobenzene	ppm	<0.002	
p Dichlorobenzene	ppm	<0.002	
Petrol. Hydrocarbons	ppm	9.0	
Arochlor 1016	ppm	<0.001	
Arochlor 1221	ppm	<0.001	
Arochlor 1232	ppm	<0.001	
Arochlor 1242	ppm	<0.001	
Arochlor 1248	ppm	<0.001	
Arochlor 1254	ppm	<0.001	
Arochlor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR Thomas R. Gratton

rm= 1365

T LABORATORIES, INC.

ENVIRONMENTAL TESTING ...G TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

E NO. C860484/14 04/18/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, NY 11791
ATTN: Ms Susan Pohenka

OF SAMPLE: Sunnyside, NY Proj. #N1031551 -
LLECTED BY: Client DATE COL'D:03/10/86 RECEIVED:03/11/86 86

SAMPLE: Water sample-point #14

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
ıe	ppm	<0.001	
ıe	ppm	<0.002	
Benzene	ppm	<0.001	
ene	ppm	<0.002	
ılene	ppm	<0.004	
ılorobenzene	ppm	<0.002	
ılorobenzene	ppm	<0.002	
hlorobenzene	ppm	<0.002	
l. Hydrocarbons	ppm	<0.5	
lor 1016	ppm	<0.001	
lor 1221	ppm	<0.001	
lor 1232	ppm	<0.001	
lor 1242	ppm	<0.001	
lor 1248	ppm	<0.001	
lor 1254	ppm	<0.001	
lor 1260	ppm	<0.001	

cc:

REMARKS: Revised copy.

DIRECTOR

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ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777

LAB NO. C860484-15 03/28/86

Geraghty & Miller
6800 Jericho Tpke.
Syosset, Ny 11791
ATTN: Ms Susan Pohanka

SOURCE OF SAMPLE: Sunnyside, NY Proj. #N1031551
COLLECTED BY: Client DATE COL'D:03/11/86 RECEIVED:03/11/86

SAMPLE: Oil Sample,Sample point #15

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arochlor 1016	ppm	<5	
Arochlor 1221	ppm	<5	
Arochlor 1232	ppm	<5	
Arochlor 1242	ppm	<5	
Arochlor 1246	ppm	<5	
Arochlor 1254	ppm	<5	
Arochlor 1260	ppm	<5	

cc:

REMARKS:

DIRECTOR Thomas R. Gentile

rn= 1370

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, NY

Site/Well No. 1 Coded/ Replicate No. 1 - Date 3/10/86

Weather SUNNY Time Sampling Began 4:50 Time Sampling Completed 5 11

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.65 MP Elevation

Total Sounded Depth of Well Below MP 13.15 Water-Level Elevation

Held 900 Depth to Water Below MP 7.14 Diameter of Casing 2"

Wet 1.86 Water Column in Well 6.01 Gallons Pumped/Bailed Prior to Sampling 4

Gallons per Foot 0.16

Gallons in Well 0.96 Sampling Pump Intake Setting (feet below land surface) —

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color VERY LIGHT BROWN Odor NONE Appearance TURBID Temperature 9 °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm 1200 pH 7.15

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
BTX		
PCB		
PETROLEUM HYDROCARBONS		

Remarks

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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Ground-Water Consultants

WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y

Site/Well No. 2 Coded/ Replicate No. 2 Date 3/10/90

Weather PARTLY CLOUDY Time Sampling Began 10 32 Time Sampling Completed 10 [illegible]

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.80 MP Elevation

Total Sounded Depth of Well Below MP 13.50 Water-Level Elevation

Held 7.00 Depth to Water Below MP 5.51 Diameter of Casing 2"

Wet 1.49 Water Column in Well 7.99 Gallons Pumped/Bailed Prior to Sampling 4

Gallons per Foot 0.16

Gallons in Well 1.27 Sampling Pump Intake Setting (feet below land surface) –

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color GRAY Odor NONE Appearance VERY TURBID Temperature 13 °F/°C

Other (specific ion; OVA; HNU; etc.) –

Specific Conductance, umhos/cm 650 pH 6.95

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		
BTX		
PETROLEUM HYDROCARBONS		

Remarks –

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y

Site/Well No. 3 Coded/ Replicate No. — Date 3/10/36

Weather SUNNY Time Sampling Began 11:05 Time Sampling Completed 11:29

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.25 MP Elevation —

Total Sounded Depth of Well Below MP 14.39 Water-Level Elevation —

Held 7.00 Depth to Water Below MP 5.82 Diameter of Casing 2"

Wet 1.18 Water Column in Well 8.57 Gallons Pumped/Bailed Prior to Sampling 5

Gallons per Foot 0.16

Gallons in Well 1.37 Sampling Pump Intake Setting (feet below land surface) —

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color GRAY Odor PETROLEUM Appearance TURBID Temperature 13 °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm 450 pH 6.95

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M —	Preservative
BTX		
PCB		
PETROLEUM HYDROCARBONS		

Remarks —

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, NY

Site/Well No. 4 Coded/ Replicate No. - Date 3/10/87

Weather PARTLY CLOUDY Time Sampling Began 1:30 Time Sampling Completed 1:3[illegible]

EVACUATION DATA

Description of Measuring Point (MP) WELL DAMAGED 3/7/86

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP _____ Water-Level Elevation _____

Held _____ Depth to ~~Water~~ OIL Below MP ~2.5 FT Diameter of Casing 2"

Wet _____ Water Column in Well _____ Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot _____

Gallons in Well _____ Sampling Pump Intake Setting (feet below land surface) -

Evacuation Method -

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature - °F/°C

Other (specific ion; OVA; HNU; etc.) -

Specific Conductance, umhos/cm - pH -

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks > 2.5 FT OF PRODUCT WAS PRESENT IN THE WELL

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y.

Site/Well No. 5 Coded/ Replicate No. - Date 3/10/93

Weather PARTLY CLOUDY Time Sampling Began 9:55 Time Sampling Completed 10 03

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.45 MP Elevation

Total Sounded Depth of Well Below MP 11.95 Water-Level Elevation

Held 7.00 Depth to ~~Water~~ OIL Below MP 5.65 Diameter of Casing 2"

Wet 1.35 Water Column in Well 6.30 Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot 0.16

Gallons in Well 1.01 Sampling Pump Intake Setting (feet below land surface) -

Evacuation Method -

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature - °F/°C

Other (specific ion; OVA; HNU; etc.) -

Specific Conductance, umhos/cm - pH -

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks 1.5 FT. OF PRODUCT WAS PRESENT IN THE WELL

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y.

Site/Well No. 6 Coded/ Replicate No. _____ Date 3/11/93

Weather SUNNY Time Sampling Began 8:50 Time Sampling Completed 9:01

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 2.50 MP Elevation _____

Total Sounded Depth of Well Below MP _____ Water-Level Elevation _____

Held 8.00 Depth to ~~Water~~ OIL Below MP 6.21 Diameter of Casing 2"

Wet 1.79 Water Column in Well _____ Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot _____

Gallons in Well _____ Sampling Pump Intake Setting (feet below land surface) –

Evacuation Method –

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature – °F/°C

Other (specific ion; OVA; HNU; etc.) –

Specific Conductance, umhos/cm – pH –

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks 1.95 FT OF PRODUCT WAS IN THE WELL

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. 1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y

Site/Well No. 7 Coded/ Replicate No. — Date 3/11/91

Weather PARTLY CLOUDY Time Sampling Began 9.30 Time Sampling Completed 9.44

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.75 MP Elevation —

Total Sounded Depth of Well Below MP 14.65 Water-Level Elevation —

Held 7.00 Depth to ~~Water~~ OIL Below MP 5.35 Diameter of Casing 2"

Wet 1.65 Water Column in Well — Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot —

Gallons in Well — Sampling Pump Intake Setting (feet below land surface) —

Evacuation Method —

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature — °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm — pH —

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks > 3.00 FT OF PRODUCT IN THE WELL

Sampling Personnel —

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Project/No. 1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y.

Site/Well No. 8 Coded/ Replicate No. _____ Date 3/10/92

Weather SUNNY Time Sampling Began 11:58 Time Sampling Completed 12:09

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PROTECTIVE CASING

Height of MP Above/Below Land Surface 3.75 MP Elevation _____

Total Sounded Depth of Well Below MP 15.37 Water-Level Elevation _____

Held 8.00 Depth to ~~Water~~ OIL Below MP 6.80 Diameter of Casing 2"

Wet 1.20 Water Column in Well _____ Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot _____

Gallons in Well _____ Sampling Pump Intake Setting (feet below land surface) –

Evacuation Method –

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature – °F/°C

Other (specific ion; OVA; HNU; etc.) –

Specific Conductance, umhos/cm – pH –

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks >4.00 FT OF PRODUCT IS PRESENT IN THE WELL

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Page ____ of ____

1031551

n SUNNYSIDE, N.Y

o. 9 — Coded/ Replicate No. ____ — Date 3/10/96

SUNNY — Time Sampling Began 4:25 — Time Sampling Completed 4:30

EVACUATION DATA

n of Measuring Point (MP) TOP OF PVC

MP Above/Below Land Surface 1.40 — MP Elevation ____

nded Depth of Well Below MP 13.3 — Water-Level Elevation ____

00 Depth to Water Below MP 7.31 — Diameter of Casing 2"

69 Water Column in Well 5.99 — Gallons Pumped/Bailed Prior to Sampling <

Gallons per Foot 0.16

Gallons in Well 0.96 — Sampling Pump Intake Setting (feet below land surface) ____

ion Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

FOWN - BLACK Odor NONE Appearance VERY TURBID Temperature 11 °F/°C

pecific ion; OVA; HNU; etc.) ____

c Conductance, /cm 1050 pH 6.65

ing Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M ____	Preservative
X		
E		
IPOLEUM HYDROCARBONS		

arks ____

pling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077 1-½" = 0.10	2" = 0.16 2-½" = 0.24	3" = 0.37 3-½" = 0.50	4" = 0.65 6" = 1.46

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, NY

Site/Well No. 11 Coded/ Replicate No. - Date 3/10/86

Weather SUNNY Time Sampling Began 3.45 Time Sampling Completed 4 15

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 2.10 MP Elevation

Total Sounded Depth of Well Below MP 16.8 Water-Level Elevation

Heid Depth to Water Below MP 6.60 Diameter of Casing 2"

Wet Water Column in Well 10.8 Gallons Pumped/Bailed Prior to Sampling 6

Gallons per Foot 0.16

Gallons in Well 1.73 Sampling Pump Intake Setting (feet below land surface) -

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color LIGHT BROWN Odor NONE Appearance TURBID Temperature 10 °F/°C

Other (specific ion; OVA; HNU; etc.) -

Specific Conductance, umhos/cm 1200 pH 6.75

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
BTX		
PCB		
PETROLEUM HYDROCARBONS		

Remarks -

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WATER SAMPLING LOG

Project/No. N10 31551

Site Location SUNNYSIDE, NY

Site/Well No. 12

Coded/ Replicate No. 12

Date 3/10/9_

Weather SUNNY

Time Sampling Began 2:45

Time Sampling Completed 2:55

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 0.80

MP Elevation _____

Total Sounded Depth of Well Below MP 13.40

Water-Level Elevation _____

Held 5.50 Depth to Water Below MP 3.82

Diameter of Casing 2"

Wet 1.68 Water Column in Well 9.58

Gallons Pumped/Bailed Prior to Sampling 5

Gallons per Foot 0.16

Gallons in Well 1.53

Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color GRAY - BROWN Odor NONE Appearance VERY TURBID Temperature 10 °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm 1250 pH 7.00

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
BTX		
PCB		
PETROLEUM HYDROCARBONS		

Remarks —

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Page 1 of 1

I/No. NID31551

Location SUNNYSIDE, NY

Well No. 13

Other SUNNY

Coded/ Replicate No. 13

Time Sampling Began 2:07

Date 3/10/96

Time Sampling Completed 2:15

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.50

Total Sounded Depth of Well Below MP 13.90

Yield 6.00 Depth to Water Below MP 4.91

Wet 1.09 Water Column in Well 8.99

Gallons per Foot 0.16

Gallons in Well 1.43

MP Elevation

Water-Level Elevation

Diameter of Casing 2"

Gallons Pumped/Bailed Prior to Sampling 5

Sampling Pump Intake Setting (feet below land surface) —

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color BROWN Odor NONE Appearance VERY TURBID Temperature 10 °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm 950 pH 7.10

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
BTX		
PCE		
PETROLEUM HYDROCARBONS		

Remarks —

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT	1-¼" = 0.077	1-½" = 0.10	2" = 0.16	2-½" = 0.24	3" = 0.37	3-½" = 0.50	4" = 0.65	6" = 1.46

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Ground-Water Consultants

WATER SAMPLING LOG

Project/No. N1031551 Page 1 of 1

Site Location SUNNYSIDE, N.Y.

Site/Well No. 14 Coded/ Replicate No. _____ Date 3/10/90

Weather SUNNY Time Sampling Began 3:08 Time Sampling Completed 3:22

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 1.95 MP Elevation _____

Total Sounded Depth of Well Below MP 14.45 Water-Level Elevation _____

Held 6.0 Depth to Water Below MP 5.15 Diameter of Casing 2"

Wet 0.85 Water Column in Well 9.30 Gallons Pumped/Bailed Prior to Sampling 5

Gallons per Foot 0.16

Gallons in Well 1.49 Sampling Pump Intake Setting (feet below land surface) _____

Evacuation Method TEFLON BAILER

SAMPLING DATA/FIELD PARAMETERS

Color LIGHT BROWN Odor NONE Appearance TURBID Temperature 10 °F/°C

Other (specific ion; OVA; HNU; etc.) _____

Specific Conductance, umhos/cm 1350 pH 6.75

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M _____	Preservative
BTX		
PCB		
PETROLEUM HYDROCARBONS		

Remarks —

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.10	2-½" = 0.24	3-½" = 0.50	6" = 1.46

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WATER SAMPLING LOG

Page _____ of _____

Project/No. N1031551

Site Location SUNNYSIDE, N.Y.

Site/Well No. 15

Coded/ Replicate No. —

Date 3/11/92

Weather SUNNY

Time Sampling Began 12 15

Time Sampling Completed 12 30

EVACUATION DATA

Description of Measuring Point (MP) TOP OF PVC

Height of MP Above/Below Land Surface 2.25

MP Elevation _____

Total Sounded Depth of Well Below MP 13.75

Water-Level Elevation _____

Held 9 00 Depth to ~~Water~~ OIL Below MP 7.29

Diameter of Casing 2"

Wet 1.71 Water Column in Well _____

Gallons Pumped/Bailed Prior to Sampling 0

Gallons per Foot _____

Sampling Pump Intake Setting (feet below land surface) —

Gallons in Well _____

Evacuation Method —

SAMPLING DATA/FIELD PARAMETERS

Color BLACK Odor PETROLEUM Appearance OPAQUE Temperature — °F/°C

Other (specific ion; OVA; HNU; etc.) —

Specific Conductance, umhos/cm — pH —

Sampling Method and Material TEFLON BAILER

Constituents Sampled	Container Description From Lab X or G&M	Preservative
PCB		

Remarks 1.68 FT OF PRODUCT WAS PRESENT IN THE WELL

Sampling Personnel SJP + NC

WELL CASING VOLUMES

GAL./FT				
	1-¼" = 0.077 1-½" = 0.10	2" = 0.16 2-½" = 0.24	3" = 0.37 3-½" = 0.50	4" = 0.65 6" = 1.46

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Location: SUNNYSIDE, N.Y.

Project/Number N1031551

Laboratory: ECOTEST

Shipping Container ID: _____

Sampler(s) SUE POHANKA

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled													Total	Remarks
W-12	2/21/86			ANALYZE	FOR	PCB's								1	
W-14	2/21													1	
W-6	2/24													1	
W-2	2/24													1	
W-13	2/24													1	
W-5	2/25													1	
W-11	2/26													1	
W-8	2/26													1	
W-1	2/27													1	
W-15	2/27													1	
W-3	2/28													1	
W-7	2/28													1	
W-4	3/3													1	
W-9	3/5													1	
W-10	3/3													1	
														Total No. of Containers	15

Relinquished by: SUE POHANKA Organization: GERAGHTY & MILLER

Date: 3/6/86 Time: 1:30

Received by: Tom Treutheim Organization: EcoTest

Date: 3/6/86 Time: 1:30

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

Relinquished by: _____ Organization: _____

Date: _____ Time: _____

Received by: _____ Organization: _____

Date: _____ Time: _____

Delivery Method: _____ (attach shipping bill, if any)

(Use extra sheets, if necessary)

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Location: SUNNYSIDE, NY

Laboratory: ECO TEST

Project/Number N1031551

Shipping Container ID: _____

Sampler(s) S POHANKA
N. CHILDS

SAMPLE CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	PCB GROUNDWATER SAMPLES	PETROLEUM HYDROCARBONS	BTX	PCB (OIL PHASE)									Total	Remarks
10	3/10/86	1	1	2										4	
13	"	1	1	2										4	
12	"	1	1	2										4	
14	"	1	1	2										4	
11	"	1	1	2										4	
9	"	1	1	2										4	
1	"	1	1	2										4	
55 GAL DRUM WELL	"				2									2	
4	"				2									2	
3	3/11/86	1	1	2										4	
15	"				2									2	
8	"				2									2	
7	"				2									2	
6	"				2									2	
5	"				2									2	
2	"	1	1	2										4	

Total No. of Containers: 50

Relinquished by: Nick Childs Organization: Geraghty & Miller
Date: 3/11/86 Time: 3:40

Relinquished by: _____ Organization: _____
Date: _____ Time: _____

Relinquished by: _____ Organization: _____
Date: _____ Time: _____

Received by: Tom Powell Organization: Eco Test Lab
Date: 3/14/86 Time: 3:10 pm

Received by: _____ Organization: _____
Date: _____ Time: _____

Received by: _____ Organization: _____
Date: _____ Time: _____

(Use additional sheets if necessary)