TOWN OF SMITHTOWN

SUFFOLK COUNTY, NEW YORK

MUNICIPAL SERVICES FACILITY

KINGS PARK, NEW YORK

PHASE I

LANDFILL CLOSURE PROGRAM

HYDROGEOLOGIC INVESTIGATION

JUNE 1994

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REP NO. 93007-1A

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SUMMARY

Hydrogeological investigations were undertaken at the Town of Smithtown Municipal Services Facility for the Phase I-Cell Nos. 1-5 landfill closure area. The program as implemented established the basal boundary of the uppermost flow regime downgradient of Cell Nos. 1-5 and the vertical gradient to that boundary. The drilling and soil sampling also defined the properties of the Hydrostratigraphic Units downgradient of Cells 1-5. Finally, aquifer anisotropy relative to the horizontal and vertical permeabilities in the aquifer and the vertical component of advective groundwater flow was confirmed.

Horizontal spacing of the downgradient monitoring wells will effectively span the entire base of the Phase I landfill, and capable of intercepting the entire width of a hypothetical leachate plume emanating from this area. Consistent with 6 NYCRR Part 360 requirements, the existing horizontal well spacing in the Upper Glacial Aquifer averages 425 feet and is less than the 500 foot spacing allowed in the regulations.

The most environmentally sound approach was taken in the placement of the groundwater monitoring wells. This methodology was to provide a vertical well screen placement so as to cover the largest part of the aquifer as practically possible, yet consistent with the site stratigraphy as established by the hydrogeological investigations.

Groundwater sampling was performed on the ten (10) Phase I Groundwater Monitoring Wells. The sampling took place on February 2 and 3, 1994. Results from this sampling round can be seen in Section 7, Tables 7-2 and 7-3. Based upon the results of this Phase I Investigation, the Town of Smithtown Municipal Services Facility Phase I Landfill does not present a significant threat to the public health or environment and should be removed from the State's Inactive Hazardous Waste Listing ("DELISTED") and closed as a solid waste landfill pursuant to 6 NYCRR Part 360 Regulations.

SECTION 1

SECTION 1.0

PURPOSE AND OBJECTIVE

1.1 GENERAL

In response to the New York State Department of Environmental Conservation's (NYSDEC's) request for an upgrade to the existing Phase I monitoring wells at the Smithtown Municipal Services Facility (MSF) landfill site, this Hydrogeologic Investigation presents the details found after the installation and analytical sampling of additional groundwater monitoring wells.

As part of the program, exploratory test borings were used to evaluate the stratigraphy and hydrogeologic properties of the aquifer in the Phase I landfilling area. Subsequently, the proposed groundwater monitoring wells were designed to effectively monitor the 3-dimensional flow paths in the landfill area. Groundwater samples from the monitoring wells will undergo baseline and routine chemical analysis for water quality as part of the quarterly monitoring well sampling schedule at the site. Finally, the analytical results will be used to evaluate the nature and extent of any current or future release of contaminants from the landfill.

In order to fulfill the objectives of the Work Plan, a total of nine (9) groundwater monitoring wells were installed: eight (8) downgradient monitoring wells (4 shallow, 4 deep) along Old Northport Road north of the Phase I landfill area; and one (1) deep upgradient well located near existing monitoring well No. 9. The final monitoring well array is composed of one (1) upgradient well cluster and four (4) downgradient clusters, as shown on Figure 1-1, Existing Groundwater Monitoring Wells.

Geotechnical and geophysical data obtained during the initial exploratory drilling of test borings were used to confirm specific design details of the monitoring wells. The deep well adjacent to Well No. 9 was installed below the Smithtown Unit, to monitor ambient water quality in the Glacial Aquifer upgradient of the Phase I landfill area. The shallow (downgradient) wells were installed so as to account for the fluctuations in static water table levels, and will monitor groundwater quality for the mobile components (floaters) of a plume, if present. The deeper (downgradient) wells were installed below the Smithtown Unit at a depth in the aquifer that is determined to be equal to the maximum vertical (downward) flow of the potential contaminant pathways. Consequently, these well screens will monitor for the heavier constituents in groundwater (i.e., sinkers), or the soluble constituents in a higher density slug.

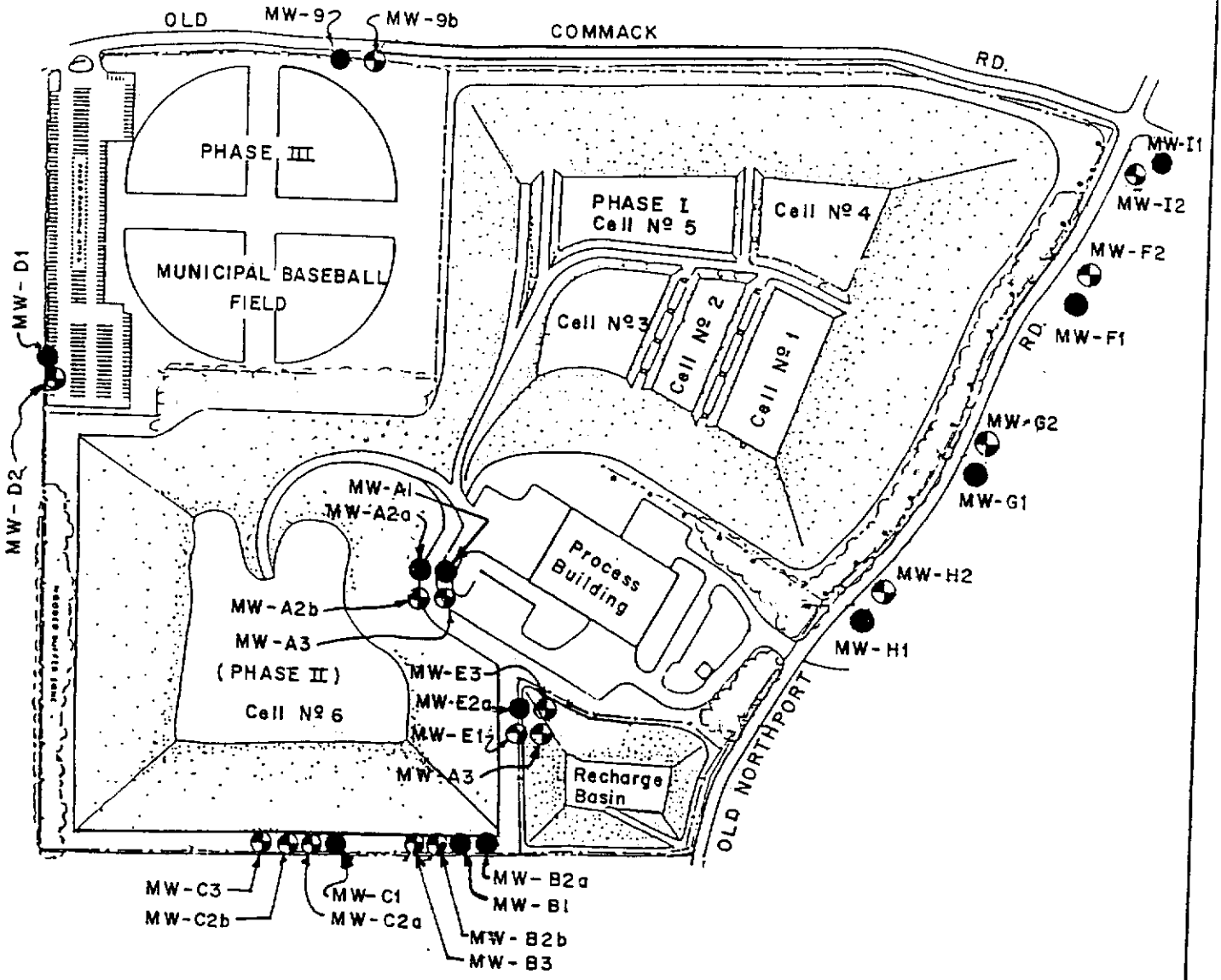

FIGURE 1-1

EXISTING GROUNDWATER MONITORING WELLS

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Floaters - highly mobile "floaters" (less dense than groundwater) originating from the northwest or southeast parts of Phase I, respectively, would travel with the advective flow (on top of the water table) and be detected from monitoring wells MW-F1, MW-G1 or MW-H1. A minor point source release from this local might contain floaters which conceivably could pass in between these wells. It should be noted that, although floaters would tend to have velocities greater than that of the advective groundwater flow, these constituents should lag behind advective flow because of the reduced flow rates in the Smithtown Unit.

Sinkers - these insoluble constituents of a plume or a high-density leachate "slug" would flow downward (relative to the advective flow) at a rate approximately equal to the horizontal flow. The high-density leachate "slug" would travel downgradient until it reached the lower aquifer boundary (Gardiners Clay strata at approximately -50 feet MSL). The flow path of a high-density slug would lag behind that of the advective groundwater flow, net travel time would actually be less because of the higher velocities in the Upper Glacial Aquifer (below the Smithtown Unit). Depending upon what part of the Phase I the contaminant solution orginated from, heavy constituents would be detected from monitoring wells MW-F2, MW-G2 or MW-H2.

The field testing program indicated that intermediate level wells are not necessary to adequately monitor the potential contaminent flow paths in the aquifer. The stratigraphic and hydrogeologic information that is obtained as part of the site investigation plans will be fully integrated into the existing engineering data base for the MSF site.

All elements of this Hydrogeologic Report have been prepared in accordance with the methodology established in 6 NYCRR Part 360 Section 2.11 Solid Waste Management Facilities. In addition, the proposed site investigation plan was developed to satisfy the closure and post-closure criteria that is outlined in Section 2.15 of Part 360.

In October, Proposals were requested from qualified drilling contractors to install monitoring wells in accordance with detail specifications which were also included in the Hydrogeologic Work Plan. An agreement was entered into, effective October 6, 1993, between R.E. Pustorino, P.C., and Warren George, Inc. of Jersey City, New Jersey as the drilling contractor. The drilling of test borings, installation of monitoring wells, SP/resistivity logs, gamma-ray logs and related field activities were performed during November and December 1993. In addition, separate subcontracts were entered into with the Johnson Soils Engineering Company of Ridgefield, New Jersey

for soils testing and Paulis, Sokolowski & Sartor of Warren, New Jersey for geophysical logging, and Shade Tree Contracting, Inc. for clearing and grubbing.

1.2 METHODS OF INVESTIGATION AND ANALYSIS

A total of nine (9) monitoring wells were installed for the Phase I investigation at the Town of Smithtown Municipal Services Facility. Four (4) shallow groundwater wells were installed using hollow stem augers. Five (5) deep wells were installed below the Smithtown Unit using the mud rotary method. The monitoring well installation and exploratory testing program included the following elements:

1. Construction of four (4) shallow wells (F1, G1, H1, I1) and five (5) deep wells (F2, G2, H2, I2, 9b);
2. Undisturbed geologic sampling by split spoon;
3. Geophysical Borehole (SP/Resistivity & Gamma Ray) Logging of the test borings;
4. Extensive laboratory analysis of geologic samples for Soils Classification;
5. Slug testing the screened intervals for horizontal conductivities.

The detailed specifications for the monitoring wells were presented in Specifications for Installation of Groundwater Monitoring Wells, March 1993. Information from the above field investigations and laboratory analyses has been effectively integrated into the existing hydrogeological data base for the Phase I and II areas.

Various methods of data compilation and analysis have been used to characterize and evaluate the aquifer underlying Cells 1-5. Subsurface analysis has been accomplished by correlation of the lithology to the Gamma Ray Curve, and by utilizing those Gamma Logs and other field logs to produce a 3-dimensional fence diagram. Laboratory results were compared to the Gamma Ray curve to help gauge the consistency of the strata across the site, and to assess the ability of the strata to function as hydrologic boundaries.

SECTION 2

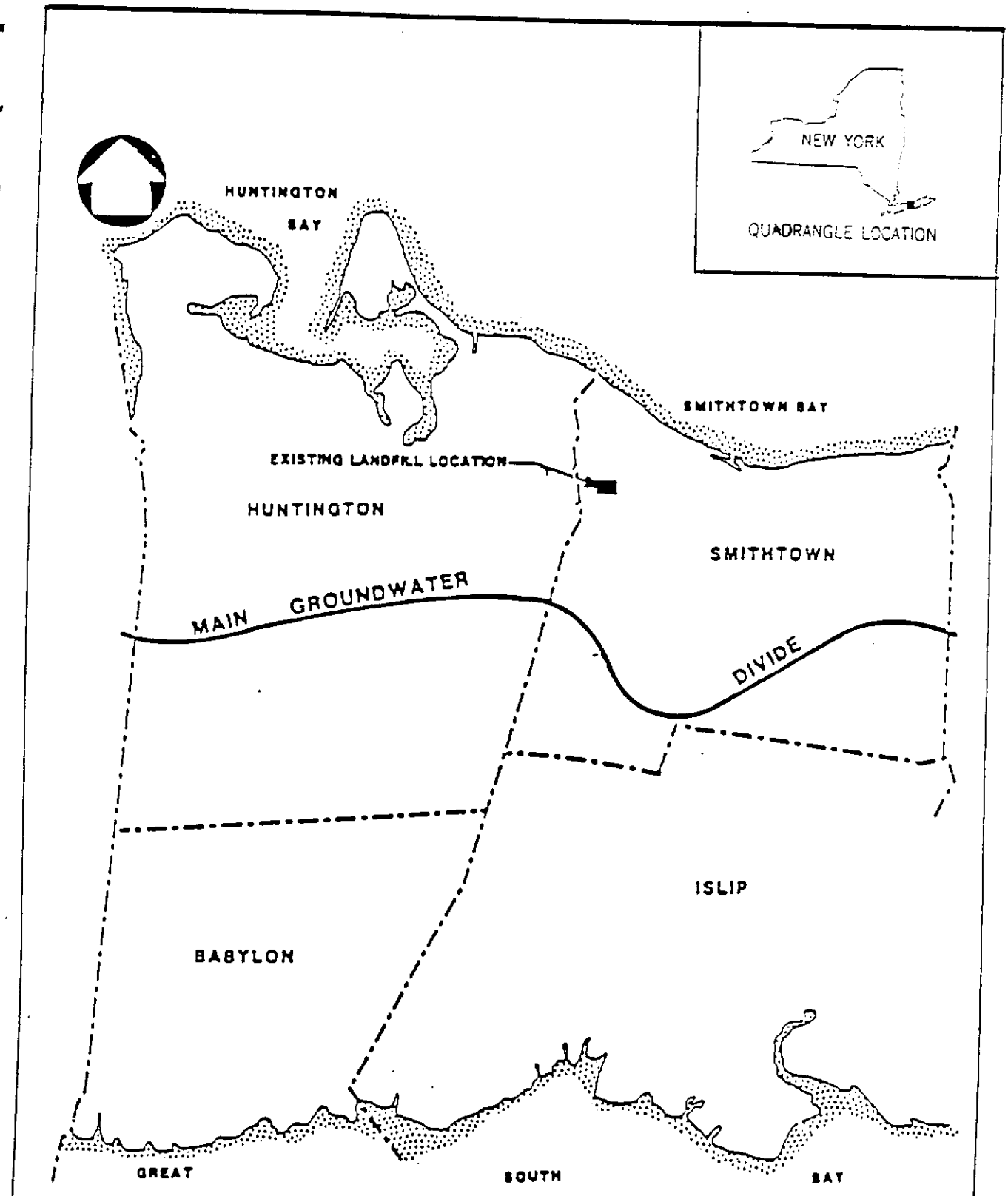
SECTION 2.0

STUDY AREA DESCRIPTION

2.1 SITE LOCATION

The Town of Smithtown is situated in the northwesterly portion of Suffolk County, New York. The Town is bounded on the north by Smithtown Bay, on the east by the Town of Brookhaven, on the south by the Town of Islip and to the west by the Town of Huntington. Figure 2-1 is a Location Plan of the regional area, showing the position of the main groundwater divide.

The Municipal Services Facility (MSF) Landfill is located in the unincorporated area of Kings Park on a 86 acre parcel in the northwesterly section of the Town of Smithtown. More specifically, the site is bounded by Old Northport Road on the north, Old Commack Road on the west, Pinetree Court on the south and heavy industrial use property on the east. Primary access to the MSF Landfill is from Indian Head Road (to the east) and Town Line Road (to the west), as indicated on the Geographic Location Plan in Figure 2-2.



SOURCE: U.S. GEOLOGICAL SURVEY, JENSEN & SOREN, 1974

FIGURE 2-1
REGIONAL LOCATION PLAN

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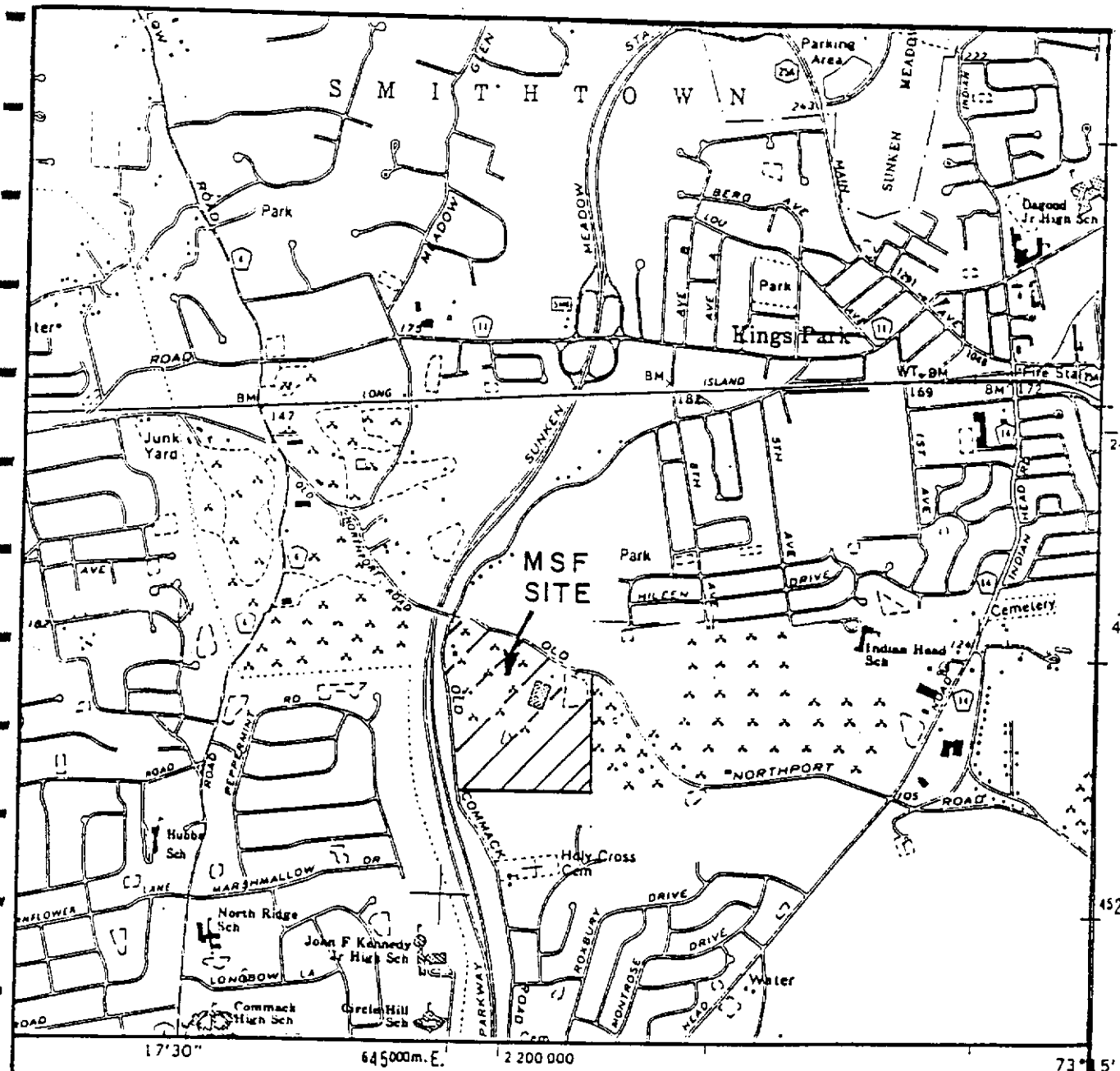


SCALE 1:24000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

Polyconic projection. 1927 North American datum.

1000-meter ticks based on the New York Transverse Mercator grid.
Between 72° and 78° West Longitude, this grid is identical to Zone 18 of the Universal Transverse Mercator grid. Areas east of 72° and west of 78° are direct mathematical extensions of Zone 18.

10,000-foot ticks based on the New York Plane Coordinate grid, Long Island Zone.

Magnetic declination for 1981 is approximately 13° West

FIGURE 2-2
GEOGRAPHIC LOCATION PLAN

R. E. PUSTORINO, P.C.

2.2 SITE DESCRIPTION (CELLS 1 THROUGH 5)

The Municipal Services Facility (MSF) including landfill encompasses approximately 86 acres. About 70 acres of this site is designated landfill area and proposed to be developed in three (3) separate phases. The remaining 16 acres of the site are being utilized for buffer zones, recharge basin, process building and parking, and access roads. These areas are shown on the MSF Site Plan, Figure 2-3.

Phase I was an active landfilling section and occupies an area of about 23.5 acres. Cell No. 5 of this Phase I area has recently ceased accepting municipal solid waste for disposal. The recently constructed expansion for Cell No. 6 covers an area of approximately 23.1 acres and includes that segment of the site generally referred to as the Phase II area. The Cell No. 6 is contiguous to the Phase I and Phase III areas shown in Figure 2-3. Phase III is currently used for general municipal purposes (ball fields) and is available for future landfilling or related purposes.

Natural surface elevations in the Phase I area range from about 170 feet above MSL to the west of Cell Nos. 4 and 5, to 150 feet MSL east of Cells 1 through 3. This natural land surface slopes moderately to the east-northeast. The excavated bottom elevation

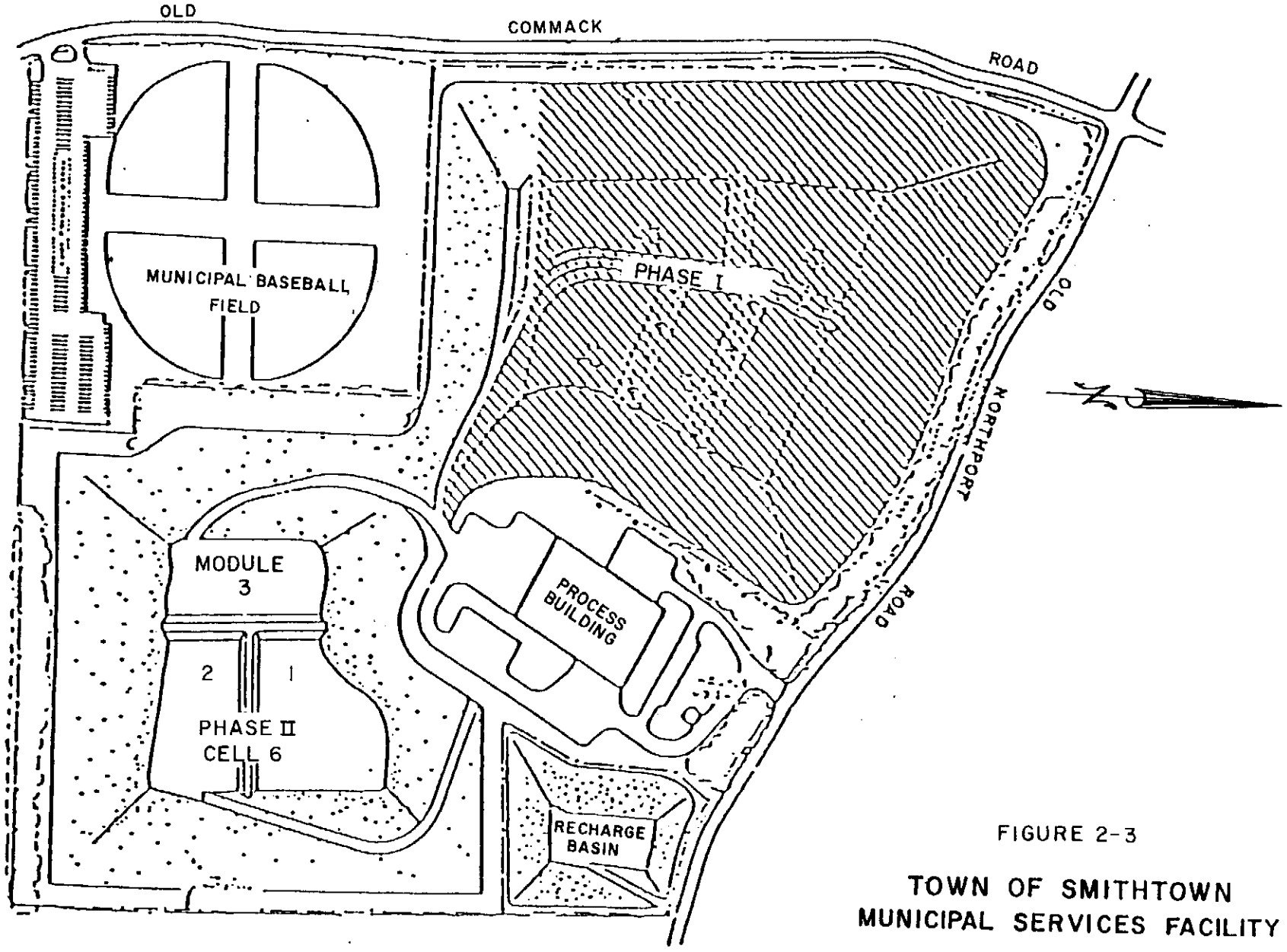


FIGURE 2-3

TOWN OF SMITHTOWN
MUNICIPAL SERVICES FACILITY

SITE PLAN

R. E. PUSTORINO, P. C.
CONSULTING ENGINEERS

of the Phase I cell areas is approximately 60 feet above MSL, and is 10-15 feet above the existing groundwater table (March 1990).

2.3 PRIOR INVESTIGATIONS IN THE SMITHTOWN MSF AREA

The U.S. Geological Survey, in cooperation with the Suffolk County Department of Health Services, Suffolk County Water Authority, and N.Y. State Department of Environmental Conservation, has published a number of reports on various aspects of Long Island's hydrogeology. The most extensive study devoted to the Town of Smithtown area was performed by Lubke (1964).

Groundwater flow studies were also performed by Jensen and Soren (1974), McClymonds and Franke (1972), Donaldson and Koszalka (1982), and Donaldson (1982). Krulikas, Koszalka, and Doriski (1983) investigated the areal extent of a significant glacial-age clay unit throughout the Smithtown-Brookhaven area. Hydrogeologic data from selected wells in the Smithtown area can be found in Jensen and Soren (1971) and Krulikas (1981).

The Long Island Comprehensive Waste Treatment Management Plan of 1978 (i.e., the 208 Study) was prepared pursuant to Section 208 of the Federal Water Pollution Control Act. The United States Environmental Protection Agency (EPA), as a result of this study, has designated Long Island as a sole source aquifer region.

The New York State Department of Environmental Conservation (NYSDEC) considers the Smithtown MSF Landfill to be within the sensitive deep flow recharge area, Hydrogeologic Zone I. The site is situated about 7500 feet (1.4 miles) southwesterly of the presently defined 208 line in the groundwater flow direction.

In 1985-86 the Town of Smithtown initiated a hydrogeological investigation at the MSF landfill to obtain information as to site geology and groundwater flow patterns beneath the landfill. To accomplish these objectives, a deep well cluster approximately 620 feet deep was drilled to the Raritan formation. In addition, information was obtained on other wells in the area including three well fields owned and operated by the Suffolk County Water Authority (SCWA). Results of this study were published in the report "Hydrogeologic Investigations - Kings Park Area and MSF Landfill", prepared by Velzy Associates, dated April 1986.

A hydrogeologic investigation was undertaken by R.E. Pustorino, P.C., in September 1988 which further defined the geology and hydrology at the MSF site. This program included the installation of five (5) shallow groundwater wells, both upgradient and downgradient of Cell 6, and ten (10) piezometers in the bottom of the Cell. Data from this investigation can be found in Vol. II, Site Investigation Report, of

the Engineering Report and Plans for the Landfill Expansion (January 1989). Also, four (4) intermediate level groundwater monitoring wells were installed below the Smithtown Unit in April 1989, as part of the ongoing hydrogeologic investigation at the site.

In response to the NYSDEC Permit to Construct Cell 6 (Condition 25), a hydrogeologic field investigation was undertaken by R.E. Pustorino, P.C., in March and April of 1990. The purpose of that Phase II investigation was to delineate the boundary conditions in the Upper Glacial Aquifer, and to determine the potential contaminant flow-paths relative to the advective groundwater flow in the Cell 6 area. The results of the investigation were incorporated into the Hydrogeologic Investigations Report and Final Groundwater Monitoring Well Plan (FEMP), R.E. Pustorino, P.C., June 1990.

2.4 EXISTING PHASE I & II MONITORING WELLS

Figure 1-1 (Existing Groundwater Monitoring Wells) shows the locations of all existing monitoring wells at the Smithtown MSF site. The Phase II groundwater monitoring wells (5 shallow/6 deep) are associated with the Cell 6 area and include the two (2) deep wells which were recently installed (MW A-3 & MW B-3). The Phase II wells are utilized for both analytical sampling and water level monitoring purposes.

Existing Phase I wells include upgradient Well No. 9, and downgradient Suffolk County Well S46965, and Smithtown MSF Wells No. 4 and No. 5. Well No. 9 is utilized as a shallow groundwater monitoring well and is currently part of the routine quarterly sampling schedule for the MSF site. Prior to 1988, Suffolk County Well S46965 had been sampled for groundwater quality by the Department of Health Services, and the last results showed a total dissolved solids content of 350 micromhos for the shallow aquifer. Well Nos. 4 and 5 were installed by the Town of Smithtown and are presently used for water level monitoring purposes only.

Table 2-1 is a Monitoring Well Completion Chart that summarizes the details of construction for the existing Phase I and II Monitoring Wells, along with any other wells in the study area. Included for each individual well is its phase of construction, if applicable, the location relative to groundwater flow direction, and the formation that was screened. All Well I.D. Nos. are compatable with those that were defined by the Final Environmental Monitoring Plan (FEMP), as prepared by R.E. Pustorino, P.C. (June 1990).

TABLE 2-1

EXISTING GROUNDWATER MONITORING WELL SPECIFICATIONS
FINAL ENVIRONMENTAL MONITORING WELL PLAN (FEMP)
SMITHTOWN MUNICIPAL SERVICES FACILITY
PHASE I AND PHASE II

WELL I.D. #	WELL LOCATION	TOTAL DEPTH (FEET)	DEPTH OF SCREEN	SCREEN LENGTH	PHASE	TYPE OF SCREEN	FORMATION SCREENED
MW-E1	D.G. N	140	120-140	20	Phase II	4 in. 20 slot	Smithtown Unit
MW-E2a	D.G. N	161	139-159	20	Phase II	4 in. 20 slot	Upper Glacial
MW-E2b	D.G. N	175	155-175	15	Phase II	4 in. 20 slot	Upper Glacial
MW E3	D.G. N	200	180-195	15	Phase II	4 in. 20 slot	Upper Glacial
MW-A1	D.G. NW	100	95-95	20	Phase II	4 in. 20 slot	Smithtown Unit
MW-A2a	D.G. NW	127	105-125	20	Phase II	4 in. 20 slot	Upper Glacial
MW-A2b	D.G. NW	147	135-145	10	Phase II	4 in. 20 slot	Upper Glacial
MW-A3	D.G. NW	220	157-177	20	Phase II	4 in. 20 slot	Upper Glacial
MW-B1	D.G. NE	123	96-116	20	Phase II	4 in. 20 slot	Smithtown Unit
MW-B2a	D.G. NE	137	120-135	15	Phase II	4 in. 20 slot	Upper Glacial
MW-B2b	D.G. NE	186	161-176	15	Phase II	4 in. 20 slot	Upper Glacial
MW-B3	D.G. NE	250	197-207	10	Phase II	4 in. 20 slot	Upper Glacial
MW-C1	D.G. E	123	98-118	20	Phase II	4 in. 20 slot	Smithtown Unit
MW-C2a	D.G. E	162	139-159	20	Phase II	4 in. 20 slot	Upper Glacial
MW-C2b	D.G. E	175	150-170	20	Phase II	4 in. 20 slot	Upper Glacial
MW-C3	D.G. E	200	182-197	15	Phase II	4 in. 20 slot	Upper Glacial

TABLE 2-1

EXISTING GROUNDWATER MONITORING WELL SPECIFICATIONS
FINAL ENVIRONMENTAL MONITORING WELL PLAN (FEMP)
SMITHTOWN MUNICIPAL SERVICES FACILITY
PHASE I AND PHASE II
(CONTINUED)

WELL I.D. #	WELL LOCATION	TOTAL DEPTH (FEET)	DEPTH OF SCREEN	SCREEN LENGTH	PHASE	TYPE OF SCREEN	FORMATION SCREENED
MW-D1	U.G. SW	141	117-137	20	Phase II	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-D2	U.G. SW	172	140-160	20	Phase II	4 in. 20 slot	
MW-I1	D.G. NW	136	112-132	20	Phase I	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-I2	D.G. NW	175	137-152	15	Phase I	4 in. 20 slot	
MW-F1	D.G. N	136	110.5-130.5	20	Phase I	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-F2	D.G. N	170	153-168	15	Phase I	4 in. 20 slot	
MW-G1	D.G. N	130	105-125	20	Phase I	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-G2	D.G. N	165	145-160	15	Phase I	4 in. 20 slot	
MW-H1	D.G. NE	126	100-120	20	Phase I	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-H2	D.G. NE	170	150-165	15	Phase I	4 in. 20 slot	
MW-9	U.G. SW	145	118-138	20	Phase I	4 in. 20 slot	Smithtown Unit Upper Glacial
MW-9b	U.G. SW	175	150-170	20	Phase I	4 in. 10 slot	

SECTION 3

SECTION 3.0

SUMMARY OF GEOLOGY AND GROUNDWATER HYDROLOGY

3.1 REGIONAL GEOLOGY AND SITE CORRELATION

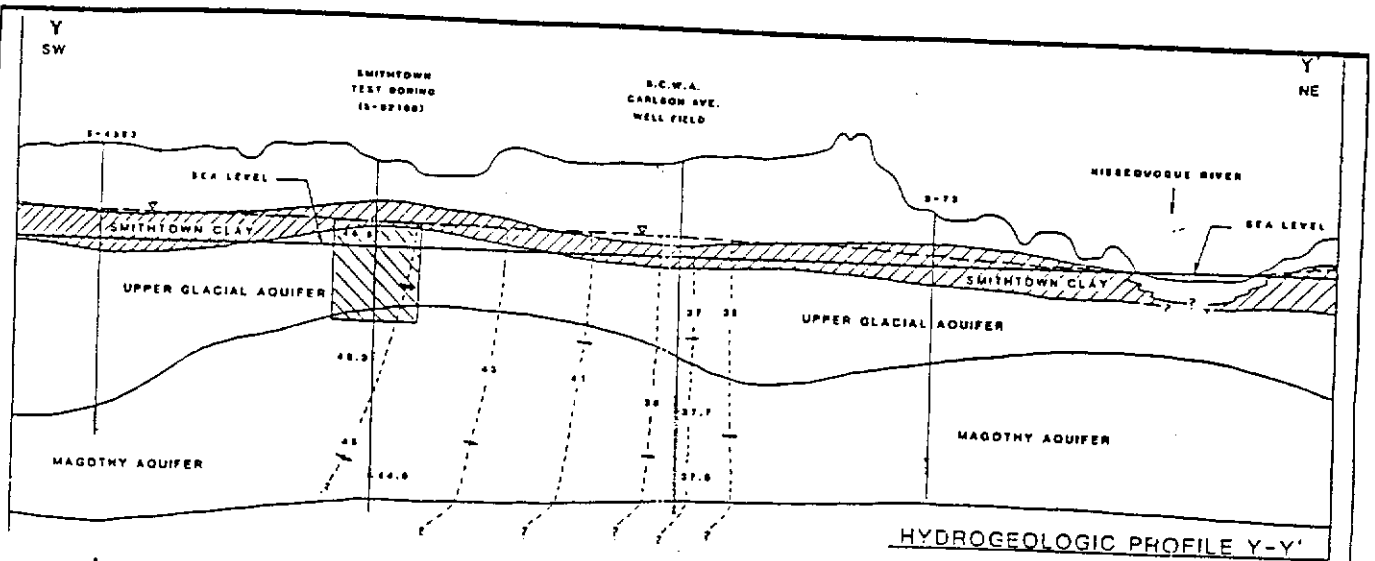
The Harbor Hill Morraine is the dominant topographic feature in the Smithtown area and consists of a set of irregular shaped hills trending generally to the east at elevations between 200-300 feet above MSL. The MSF site lies near the southern edge of this glacial feature at elevations 160-170 feet above MSL, and is situated about 5 miles north of the Ronkonkoma Terminal Morraine. The uppermost medium and coarse sands and gravels of the Pliestocene-Formation at the MSF site were found to be highly permeable fluvio-glacial deposits associated with Harbor Hill Morraine. The major erosional feature of the area, the Nissequogue River Basin, lies about 3.5 miles to the northeast (downgradient) of the MSF site.

Regional sections that were developed for the report "Hydrogeologic Investigations-Kings Park Area and MSF Landfill", dated April 1986, are shown in Figure 3-1 and include an outline of the study area for site correlation. Total thickness of the Pliestocene/Pliocene (?) deposits vary relative to the elevation of the underlying Magothy

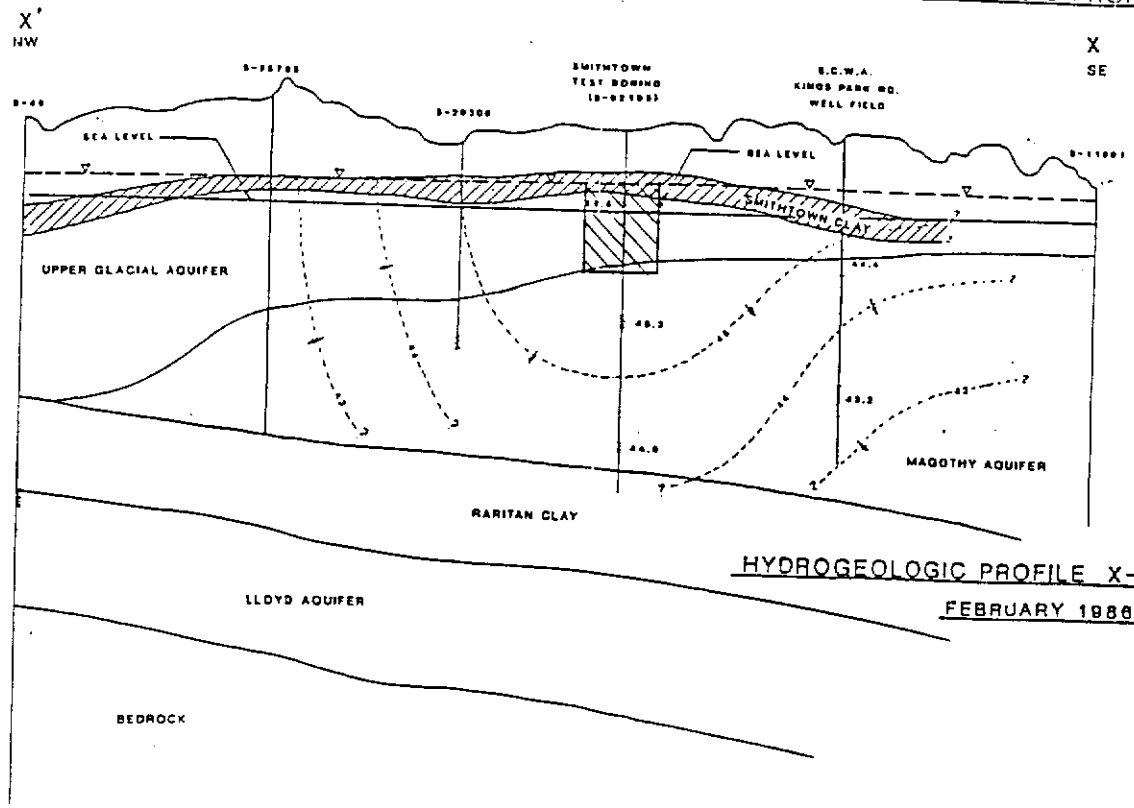
surface, and with their position with respect to the morraines. In the MSF area, these "Upper Glacial" sediments are about 300 feet thick and were deposited over a regional divide (see Figure 3-1: Profile Y-Y).

The sequence of outwash-clay-outwash identified in the Pleistocene deposits of the Smithtown area by Krulikas and Koszalka (USGS, 1983) was correlated to the Smithtown Unit at the MSF site. Under ideal (homogeneous) conditions, the groundwater in the Upper Glacial Aquifer is unconfined and can move freely from one part of the aquifer to another. However, the presence of the Smithtown Clay Unit can locally retard vertical movement (Lubke, 1964) and limit the degree of hydraulic connection within the aquifer. At the MSF site, the Unit was interpreted to grade laterally to the east (across Cell 6) from a clayey to a more silty/sandy facies. In the Phase I area (north and west of Cell 6), the Smithtown Unit was found to be dominated mostly by a clayey (stratified) facies.

Variations in the thickness of the Smithtown Unit were documented across the region (Krulikas & Koszalka, 1983) and could be attributed to primary deposition of the strata and/or erosional processes. At the MSF site, variations in thickness of the unit were mostly a result of gradations in the strata, or inhomogeneities, which made it

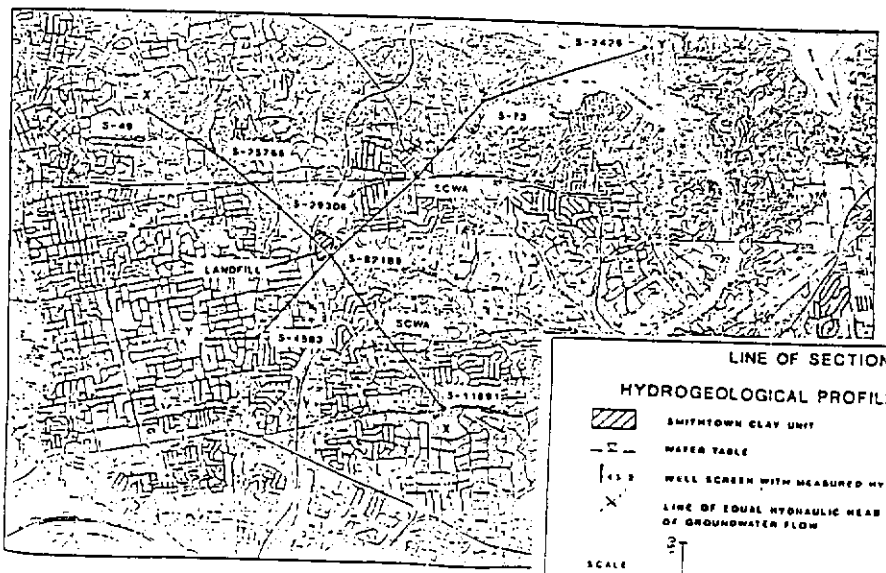


HYDROGEOLOGIC PROFILE Y-Y'



HYDROGEOLOGIC PROFILE X-X'

FEBRUARY 1986



LINE OF SECTIONS

HYDROGEOLOGICAL PROFILES X-X' AND Y-Y'

SMITHTOWN CLAY UNIT

Area of Hydrologic Detail

WATER TABLE

WELL SCREEN WITH MEASURED HYDRAULIC HEAD

LINE OF EQUAL HYDRAULIC HEAD WITH INFERRED DIRECTION OF GROUNDWATER FLOW

SCALE

Source: Velzy Assoc., 1986

REGIONAL HYDROGEOLOGIC SECTIONS

MFS SITE

FIGURE 3-1

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

difficult to delineate the lower boundary of the unit. Nevertheless, including these gradational strata, the bottom of the Smithtown Unit was interpreted to be at approximately Mean Sea Level across the site.

The "primary" structure of the Smithtown Unit was found to be trending to the northwest at the MSF site, and was generally compatable with the slope of the Magothy surface as shown on regional maps (see Figures 3-2 and 3-3). The top of the Unit varied from about 55 to 75 feet MSL in the Phase I and III areas, and may slope down as low as 35 feet MSL downgradient of the Phase I area.

Soil boring logs from Soil Mechanics Corp., Well Completion Reports from Suffolk County (SCDHS) and R.E. Pustorino, P.C. Borehole Logs from select Town wells were utilized for the interpretation of contours on the Smithtown Unit in the Phase I area (See Figure 3-3 and Appendix A). The drillers logs from Delta Well Co. and two anomolous borings logs from Soil Mechanics were not used in the plot because of difficulties interpreting the data, or in correlating the logs across the area. Data points from the Phase II (Cell 6) borings were also incorporated into Figure 3-3, and an alternative interpretation of the data is presented for the northeast portion of the site.

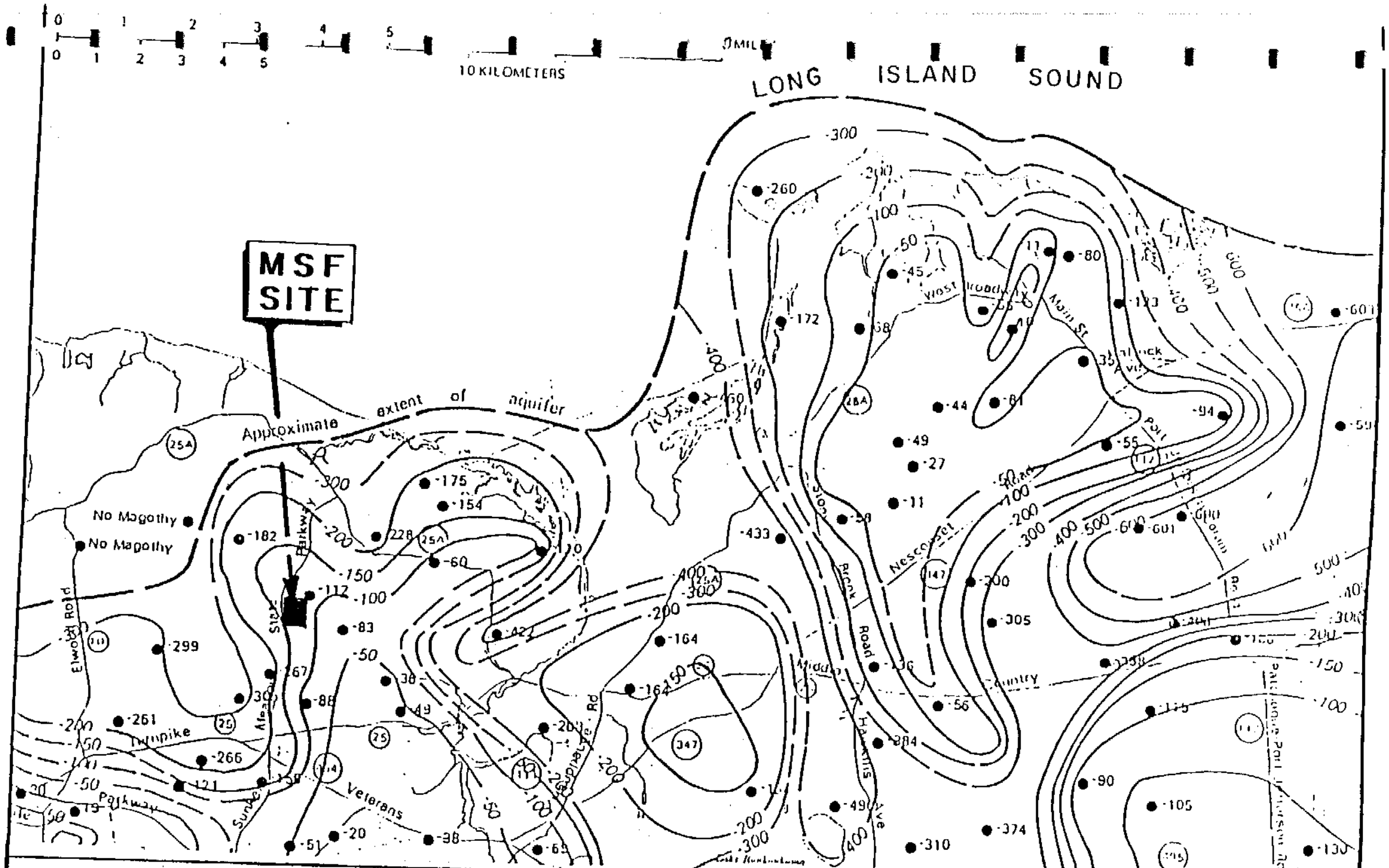


FIGURE NO. 3-2

ALTITUDE OF THE TOP OF THE
MATAWAN GROUP-MAGOTHY FORMATION

Source: Krulikas, Koszalka, and Doriski

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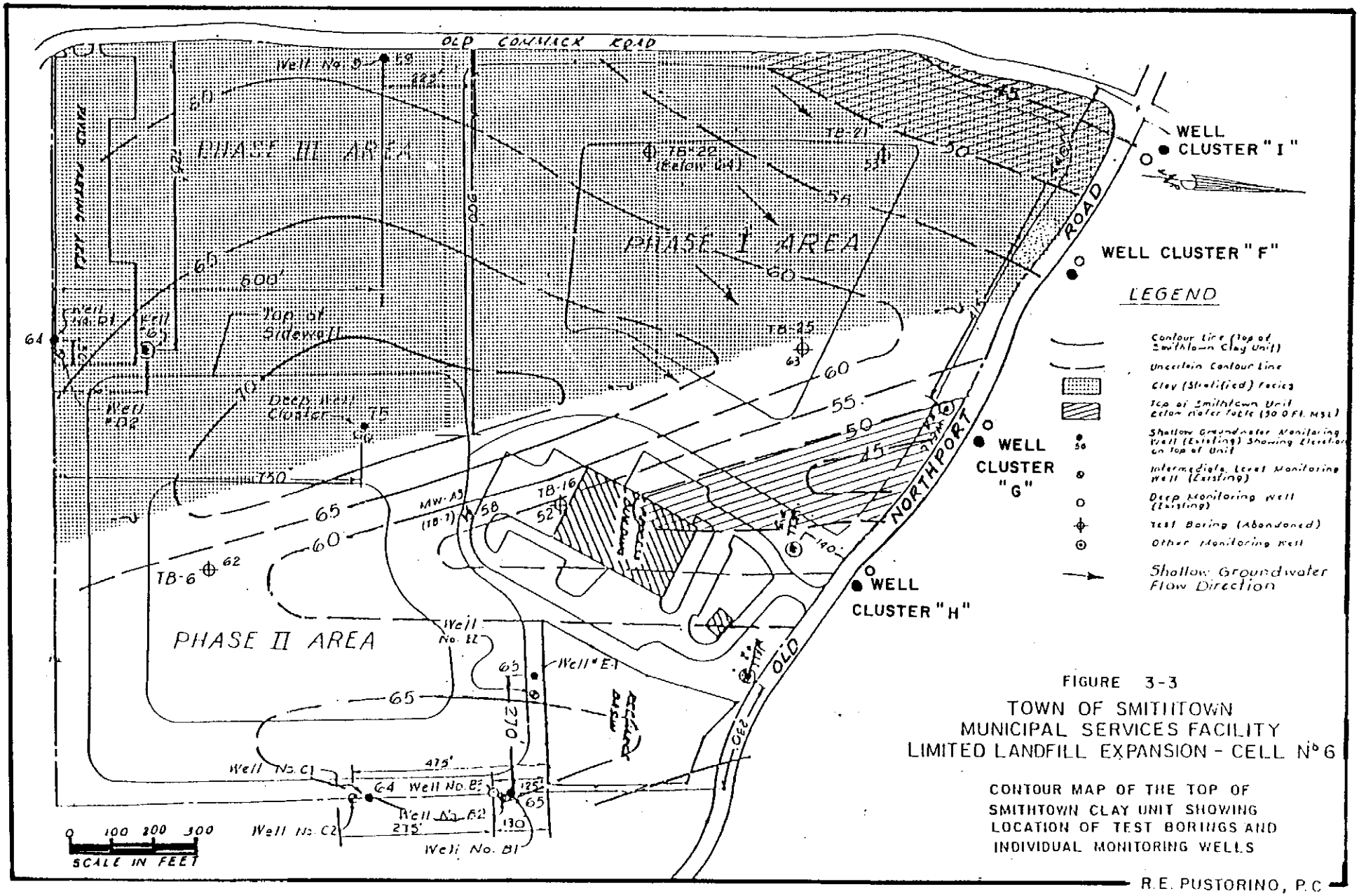


FIGURE 3-3

TOWN OF SMITHTOWN
MUNICIPAL SERVICES FACILITY
LIMITED LANDFILL EXPANSION - CELL N° 6

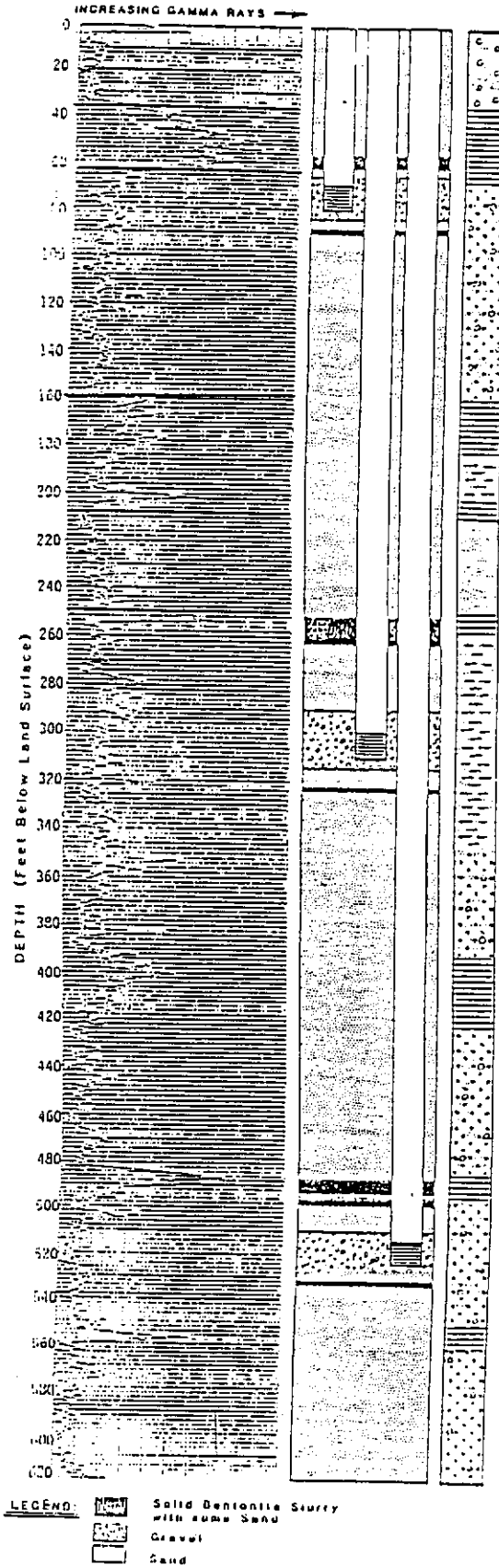
CONTOUR MAP OF THE TOP OF SMITHTOWN CLAY UNIT SHOWING LOCATION OF TEST BORINGS AND INDIVIDUAL MONITORING WELLS

R.E. PUSTORINO, P.C.

3.2 DEEP WELL CLUSTER/PHASE II TEST BORINGS

The Drillers Log and Gamma Ray Log of the Deep Well Cluster define the geology at the MSF site down to the approximate top of the Raritan Clay. Figure 3-4 shows the original Gamma Ray Log of the borehole, the Well Cluster detail, and the formation descriptions correlated to the gamma curve. Table 3-1 is a summary of Suffolk County's Stratigraphy and Hydrogeologic Units, and can be used for subsurface regional and site correlation.

Strata correlatable to the Gardiners Clay had been tentatively identified in the Deep Cluster from -50 to -100 ft. below MSL, and were described as multi-colored clay interbedded with gray fine-medium sand. Interpretation of the gamma curve indicated that the upper clays in this interval are stratified through a 20 ft. zone. Gardiners Clay strata was also encountered in each of the Phase II deep Test Borings (TB-6, 7 and 8), and the top of the Unit ranged from about -45 feet MSL in the Cell 6 area to 60 feet downgradient of the Cell (R.E. Pustorino, P.C., 1990). The lithology of the bed(s) was dominantly a dark gray or black (organic) silt and clay interbedded with fine silty sands, with gradational beds above and below the Unit. The clays of this interval have not been positively identifed as "Gardiners Clay" in other well logs of the area.



Elevation = 111.44 ft.

Sand - brown, fine to medium; gravel, coarse

UPPER PLESTOCENE DEPOSITS

Clay - gray and brown, silty; some gravel

SMITHTOWN CLAY UNIT

Sand - brown, medium to coarse; clay streaks, gray and brown; gravel, fine to coarse

Clay - multicolored, silty; some sand and gravel layers

GARDINERS CLAY STRATA

Sand - gray, fine to medium, clayey and silty; clay streaks, gray, sandy; some gravel

Clay - gray and brown, solid and sandy; some sand, medium

Sand - gray, fine to medium; some gravel, fine; some clay streaks, gray and brown, sandy and solid

Clay - gray and black, solid

MAGOTHY FORMATION

Sand - gray, fine to medium, silty; clay streaks, white, gray, and brown; some gravel, fine

Sand - gray, medium to very coarse; gravel, fine; lignite; some clay streaks, gray

Clay - gray, and brown, silty and sandy, lignitic; some sand, medium to very coarse; some gravel, fine

Sand - gray, fine to very coarse; gravel, fine to medium; some sandy clay, gray and white

Clay - brown and gray, solid, lignitic; some sandy clay

Sand - gray, medium to very coarse; gravel, fine to coarse; some clay, gray, silty and sandy

Clay - brown, yellow and white, silty and sandy; some gravel, fine

Sand - gray, fine to very coarse; gravel, fine to medium; some silty clay, gray

SMITHTOWN LANDFILL

GAMMA LOG, WELL CLUSTER SCHEMATIC & GEOLOGIC LOG OF SMITHTOWN DEEP WELL TEST BORING

JANUARY, 1986

Source: Velzy Assoc., 1986

FIGURE 3-4

System	Series	Geologic unit	Hydrogeologic unit	Thickness (feet)	Geologic Description
Quaternary	present Holocene 12,000 yrs	Recent shore, beach, and salt-marsh deposits	Upper glacial aquifer	0-60	Sand, gravel, clay, silt, organic mud, peat, loam, and shells. Colors; gray, brown, green, black, and yellow. Recent artificial-fill deposits of gravel, sand, clay, and rubbish.
	Pleistocene	Moraine deposits Glaciofluvial deposits Smithtown clay (informal usage)		0-700	Till composed of clay, sand, gravel and boulders; forms Harbor Hill and Ronkonkoma terminal moraines. Outwash deposits consist of quartzose sand, fine to very coarse, and gravel, pebble to boulder sized. Glaciolacustrine deposits (Smithtown clay) consist of silt, clay, and some sand and gravel layers. Colors are mainly gray, brown, and yellow. Contains shells and plant remains generally in finer grained beds.
		Unconformity			
		Gardiners Clay	Gardiners Clay	0-75	Marine deposits of clay and silt with some interbedded sand and gravel. Color, greenish-gray and grey. Foraminifera and lignite present, and also locally glauconite.
		Unconformity			
	200,000 yrs	post-Cretaceous(?) deposits	Upper glacial aquifer	0-140	Sand, fine to coarse. Color is brown. Identified as a distinct unit only on South Fork to date.
		Unconformity			
Cretaceous	60 mil yrs Upper Cretaceous	Monmouth Group	Monmouth greensand	0-200	Interbedded marine deposits of clay, silt, and sand. Color, dark greenish-gray to black. Contains much glauconite and lignite.
		Unconformity			
		Magothy Formation – Matawan Group undifferentiated	Magothy aquifer	0-1000	Sand, fine to coarse, clayey in part; interbedded with lenses and layers of light- to dark-gray clay. Basal 100-200 feet is generally composed of coarse sand and gravel beds. Sand and gravel are quartzose. Lignite and pyrite are common. Colors are gray, white, red, brown, and yellow.
		Disconformity?			
		Raritan Formation — clay member	Raritan confing unit	0-250	Clay, solid and silty; few lenses and layers of sand; little gravel. Lignite and pyrite common. Colors are gray, red, and white, commonly variegated.
		Disconformity			
	100 mil yrs	Lloyd Sand Member	Lloyd aquifer	0-350	Sand, fine to coarse, and gravel with intercalated beds and lenses of light- to dark-gray clay, silt, clayey and silty sand and some lignite and pyrite. Locally had gradational contact with overlying Raritan clay. Colors are yellow, gray, and white; clay is red locally.
		Unconformity			
Early Paleozoic to Precambrian(?)	400 mil yrs >550 mil yrs (?)	Bedrock	Bedrock	not known	Crystalline metamorphic and igneous rocks; hornfels-biotite schist, gneiss, and granite. Surface of bedrock is commonly highly weathered to a greenish-white residual clay.

SUFFOLK COUNTY STRATIGRAPHY AND HYDROGEOLOGIC UNITS (From S.C.C.W.R.M.P., 1987)

TABLE 3-1

R. E. PUSTORINO, P.C.

CONSULTING ENGINEERS

The contact between the Magothy Formation (Cretaceous) and the overlying Pleistocene/Pliocene(?) deposits is a major regional unconformity, and interpretation of the Gamma Log (Figure 3-4) shows an elevation of -140 below MSL. A 5 foot solid gray and black clay is described at this level and is overlain by about 40 feet of gray fine-medium sand with some gravel and clay. As the shape of the gamma curve reveals, the top part of the Magothy contains numerous thin water bearing zones. However, deep (Phase II) test boring TB-6 in the bottom of Cell 6 showed the Upper Magothy to be composed of dominantly silty sand, and was practically indistinguishable from the Upper Glacial deposits (R.E. Pustorino, P.C., 1990). Thus, variation in recharge potential to the Magothy Aquifer was documented across the site for this stratigraphic interval.

Although the Raritan Formation was not fully penetrated at the site, the April 1986 Hydrogeological Report describes Magothy material together with the solid clays of the Raritan in a "transition zone" at the 625 ft. depth. The Raritan Clay Member overlies the more permeable sands and gravels of the Lloyd Sand Aquifer, which holds its groundwater under true artesian pressure. These strata, in turn, rest unconformably on top of Pre-Cambrian (crystalline) bedrock, which is considered to be the lower limit of the aquifer system on Long Island. This "basement complex" slopes gently to the southeast at about 80 feet per mile, and controls the structure of the overlying Cretaceous Formations.

SECTION 4

SECTION 4.0

PRESENTATION OF PHASE I FIELD AND LABORATORY DATA

The main purpose of the exploratory test borings was to identify the critical stratigraphic section in the uppermost flow zone, and to characterize the lithology and hydrogeologic properties of the aquifer materials. Split spoon samples were taken in order to obtain a relatively undisturbed sample for identification and for a measure of resistance or density of soil type. The sampling interval was designed to delineate the lithology above and below any zone of fluctuation of the groundwater table, thus sampling was undertaken on the average of 20' above the groundwater table. Split spoon sampling was performed in the five (5) deep wells (MW-F2, MW-G2, MW-H2, MW-I2 and MW-9b) at 5' intervals or where the geologist attempted to catch important lithology changes.

During a typical sampling procedure, a 24 inch sampler was driven 24 inches into undisturbed material with a 140 lb. hammer that was dropped from a height of 30 inches. The guide rods were marked off at 6 inch intervals with chalk and a ruler above a fixed datum to assure an accurate blowcount.

Due to the high density of the non-cohesive soils at the sampling interval, many penetration counts exceeded 60 blows per six inches and consequently, the length of sample collected was often poor. A total of two (2) samples were collected from each spoon and stored in Teflon-lined screw-capped jars for later analysis. All depths of spoons, blowcounts, recovery lengths, sample identifications and other pertinent data were recorded by the geologist on site and entered into a bound field log book.

Geophysical logging also took place in the five (5) deep wells. The logs acted as support data to the split spoon samples to aid in determining the thickness of the Smithtown Clay Unit and the interface between the latter and the geologic units above and below the Smithtown Clay Unit.

There were three main geologic units penetrated by the five deep wells. These are the:

1) Upper Pleistocene deposits consisting of sands, gravels and a small amount of silt with a thickness of about 100 feet.

2) Below the Upper Pleistocene lies the Smithtown Clay Unit consisting of fine sands and silts interbedded with fingers of clay, clayey silts and clayey sands with a thickness ranging from 30 to 50 feet.

3) Below the Smithtown Clay lies the Upper Glacial Aquifer consisting of sands, gravels, silts, and interbedded clays, silty clays and silty sands.

The contact between the Upper Pleistocene and the Smithtown Clay Unit is difficult to define in the area. An increase in silt and clay is present in some wells, but not in others.

The contact between the Smithtown and Upper Glacial Aquifer is also difficult to define. Both formations consist of silty, clayey sands and gravels with clay beds that do not extend from well to well.

From the geophysical logs, a slight increase in the Gamma and SP with a corresponding decrease in Resistivity seems to indicate the Upper Pleistocene/Smithtown Clay interface. A decreasing Gamma indicates the Smithtown/Upper Glacial Aquifer interface. A summary of the interpreted interface depths is shown in Table 4-1.

TABLE 4-1

TOWN OF SMITHTOWN
MUNICIPAL SERVICES FACILITY
INSTALLATION OF GROUNDWATER MONITORING WELLS
REP JOB NO. 93007-1A

INTERPRETED GEOLOGIC UNIT INTERFACE DEPTHS

Well No.	Pleistocene/Smithtown Interface Depth	Smithtown/Glacial Interface Depth
9B	111 ft.	160 ft.
F2	100 ft.	153 ft.
G2	96 ft.	156 ft.
H2	97 ft.	151 ft.
I2	98 ft.	132 ft.

4.1 GENERAL

Appendices A through D contain a compilation of the relevant technical data, in various formats, that have been gathered during the Phase I field investigations. In general, Appendices A and B include Warren George/Johnson Soils Laboratory Field Logs, SP/Resistivity and Gamma Ray Logs. The above Logs also contain interpretations of the data with respect to formation identifications and aquifer characterizations. Appendix C presents the sieve analysis and related gradation curves, as well as other laboratory results of soil samples collected from the most recently installed deep test borings and monitoring wells.

Appendix D includes slug test data and hydraulic conductivities. As a result of the relation between the existing water table and the screened intervals of the wells, two different procedures were used for analyses. For borings in which the water table was above the screened interval, the AQTESOLV computerized solution to the Bouwer & Rice (1976) equation was used to estimate hydraulic conductivity for the field data.

When the water level in the borehole was within the screened interval the Bouwer equations, as modified by Nyder, were used. A Geoscience Services computer solution to these equations was used to develop the hydraulic conductivity values for MW-F1, MW-G1, MW-H1. The condition in MW-I1 closely approximated the Bouwer & Rice (1976) assumptions, so the AQTESOLV solution was used to this well.

4.2 BOREHOLE AND GAMMA RAY LOGS

Borehole Logs and Geophysical (Gamma Ray) Logs of the intermediate and deep level wells and test borings are presented in Appendices A and B as support documentation. These logs can be used as reference for specific lithology types, permeabilities, well completion details, sample intervals, and other well-specific details or technical data. Elevations of formation contacts may not be compatible between the two sets of logs because of routine additions or modifications to the earlier logs (see Appendix A) and reinterpretation of the data.

Appendix A contains the Borehole Logs of all nine (9) Monitoring Wells, which were installed in November and December of 1993. These Logs represent a compilation and integration of all previously accumulated data from the shallow Phase I water table wells. Field sample descriptions were accomplished using the Unified Soils Classification System (USCS), a copy of which is included with the Logs for reference.

Appendix B consists of the Borehole Logs of the Deep Test Borings that were recently installed, MW-F2, MW-G2, MW-H2, MW-I2, MW-9b, and their respective SP/Resistivity and Gamma Ray Logs.

4.3 GRADATION CURVES

Grain size distribution (sieve analysis) was performed on representative split spoon samples from Test Borings MW-F2, G2, H2, I2 and 9b. The gradation curves and other test results from the analyses are included in Appendix C. Laboratory analysis included Soils Classification (USCS) based upon sieve analyses. Sample intervals, lithologic descriptions, and the USCS Soils Classifications are included on the Gradation Charts.

The Upper Glacial Aquifer was composed of fine to medium, poorly graded SM (silty) sand, interlayered with SP-SM, SC/SM, SP & GP, with minor CL or ML (See USCS Classification Chart-Appendix A). The Gardiners Interval was found to contain ML, CL, OL, and OH classifications, interbedded with poorly graded SM or SP-SM (sand with 10% silt). The Magothy Aquifer contained fine to medium, poorly graded SM or SP-SM sand, and unidentified silty or clayey lenses. The latter two formations were not investigated in this study.

SECTION 5

SECTION 5.0

GROUNDWATER HYDROLOGY

5.1 GENERAL

According to the 208 Study and verified by the April 1986 Hydrogeologic Report, the MSF appears to lie within Long Island's sensitive deep flow (Magothy) recharge zone. This would indicate that the regional flow regime is influenced by a vertical component of flow, as shown on profile X-X in Figure 3-1. Theoretically, significant downward (vertical) flow can only take place where there are interconnected pores or pathways in the aquifer, and if the formation is relatively homogeneous and isotropic. Locally, however, the presence of the Smithtown Unit or other clay strata can cause the groundwater to flow more or less in a horizontal direction (paralleling the bedding planes). This was apparent from hydraulic heads that were measured in well clusters MW-D and MW-B in the Phase II area.

As a result of the site characterization investigations and studies that were undertaken for the Phase II (Cell 6) Landfill Expansion, the uppermost flow regime was found to have an average of 1 foot of vertical flow for every 12 feet of horizontal flow in the Smithtown

Unit, and an average of 1:55 feet of V/H flow in the Upper Glacial Aquifer (below the Unit). Consequently, the aquifer was characterized as being anisotropic and dominated by a horizontal component of advective groundwater flow (R.E. Pustorino, P.C., 1990).

The character of the flow regime in the Phase II area is predominately the result of a significant clay zone in the aquifer from about -50 feet to -75 feet MSL. These "Gardiners Clay" or correlatable strata were interpreted as forming the basement of the flow regime underlying Cell 6. Because the Gardiners strata were found to be continuous across the Phase II area, it is projected that, for this Work Plan, these clay strata will also underlie the Phase I landfill area to the north and west of Cell 6.

Since the "primary" structure of the Smithtown Unit was interpreted to be continuous across the site (trending to the northwest; see Figure 3-3), the hydrologic properties of the aquifer materials underlying the Phase I area can be determined from the Phase I slug test data. The hydraulic conductivities of the materials (Hor. K) will be taken to range from 1.8 x 10(-5) to 1.33 x 10(-6) cm/sec, and aquitard vertical K to be 2 x 10(-4) to 5 x 10(-8) cm/sec. Utilizing estimated lateral and vertical gradients of .0008 and .002 the effective porosities will be in the range of 20-30% by volume.

Using the horizontal hydraulic conductivities (Table 5-1), an approximate groundwater velocity can be determined for the Smithtown Clay layer. The velocities range between .01 and .4 ft/yr. It would take a plume of contamination approximately 2000 years to reach the monitoring well clusters located north of Old Northport Road. It should be noted that dense gravel lenses are present in the Phase I Landfill area. These gravel lenses may be continuous under Cells 1-5. Groundwater velocities through these lenses may be as high as 1 ft/day and contaminants would be transported to the monitoring wells at a much quicker rate. If a hypothetical plume emanated from Cells 1-5, the monitoring wells would detect contaminants approximately 2 years later.

The hydraulic conductivity in MW-H1 should be disregarded due to the quick rate of recovery. A pressure transducer was not used and the water level indicator was ineffective to properly record the rate of recovery.

Regional (shallow) groundwater flow has a bearing of about N 55 deg. E in the Smithtown MSF area, as shown in Figures 5-1 and 5-3, based upon SCDHS water level data from 1987 and 1988. A comparison of the two sets of data shows very little variation in the configuration of the water table surface in the area during that time. Figure 5-2 shows that the regional (deep) groundwater flow in the Magothy travels with

TABLE 5-1

HYDRAULIC CONDUCTIVITIES

WELL NO.	HYDRAULIC CONDUCTIVITIES	SCREENED FORMATION
MW-F1	1.3 x 10(-6) cm/sec	Smithtown Clay
MW-F2	3.0 x 10(-5) cm/sec	Upper Glacial
MW-G1	1.1 x 10(-6) cm/sec	Smithtown Clay
MW-G2	2.8 x 10(-5) cm/sec	Upper Glacial
MW-H1	----------	Smithtown Clay
MW-H2	4.6 x 10(-5) cm/sec	Upper Glacial
MW-I1	1.8 x 10(-5) cm/sec	Smithtown Clay
MW-I2	2.8 x 10(-5) cm/sec	Upper Glacial
MW-9b	2.6 x 10(-5) cm/sec	Upper Glacial

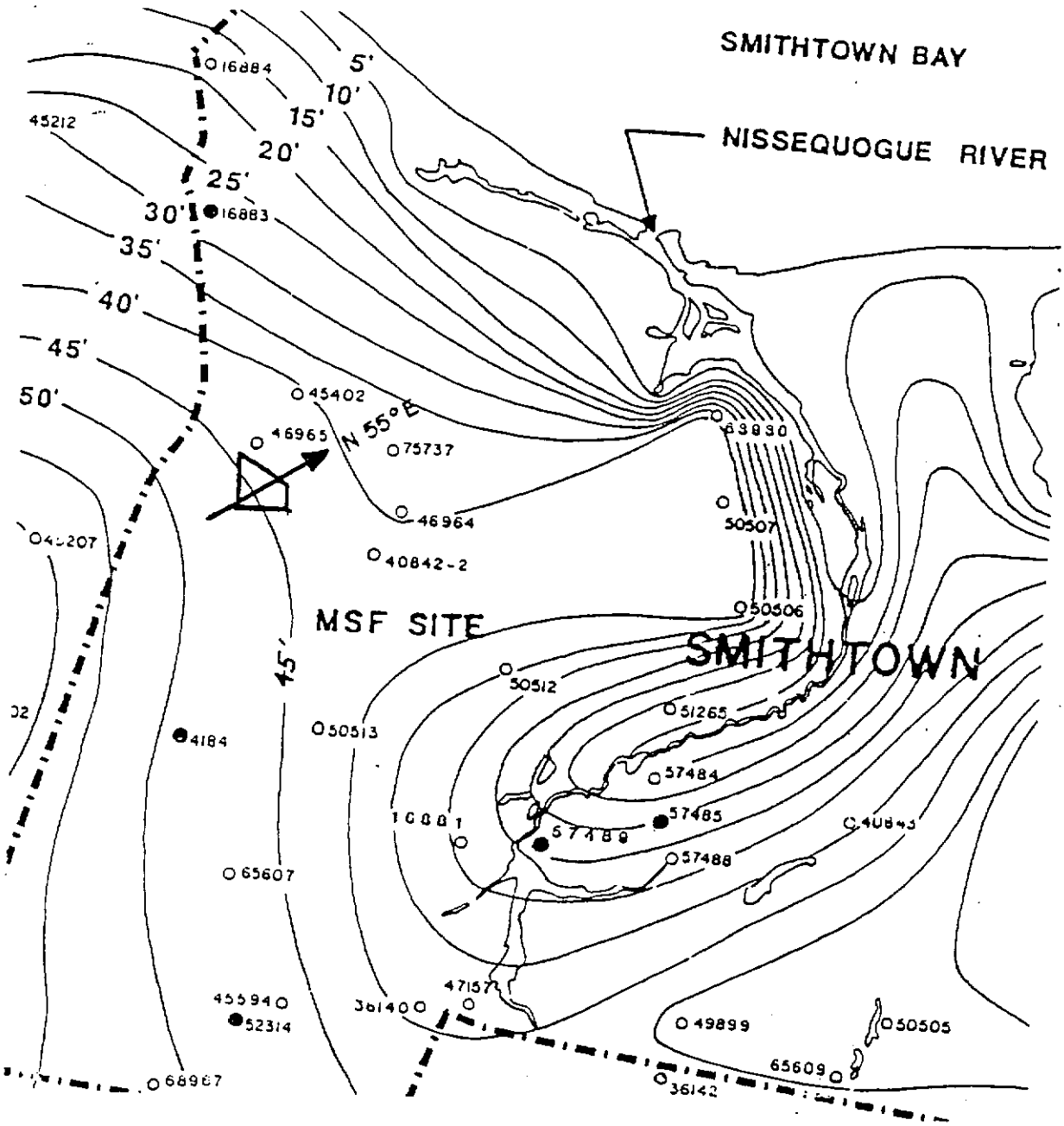


FIGURE 5-1

CONTOURS ON THE WATER TABLE
AND GROUNDWATER FLOW DIRECTION
(SCDHS MARCH 1987 DATA)

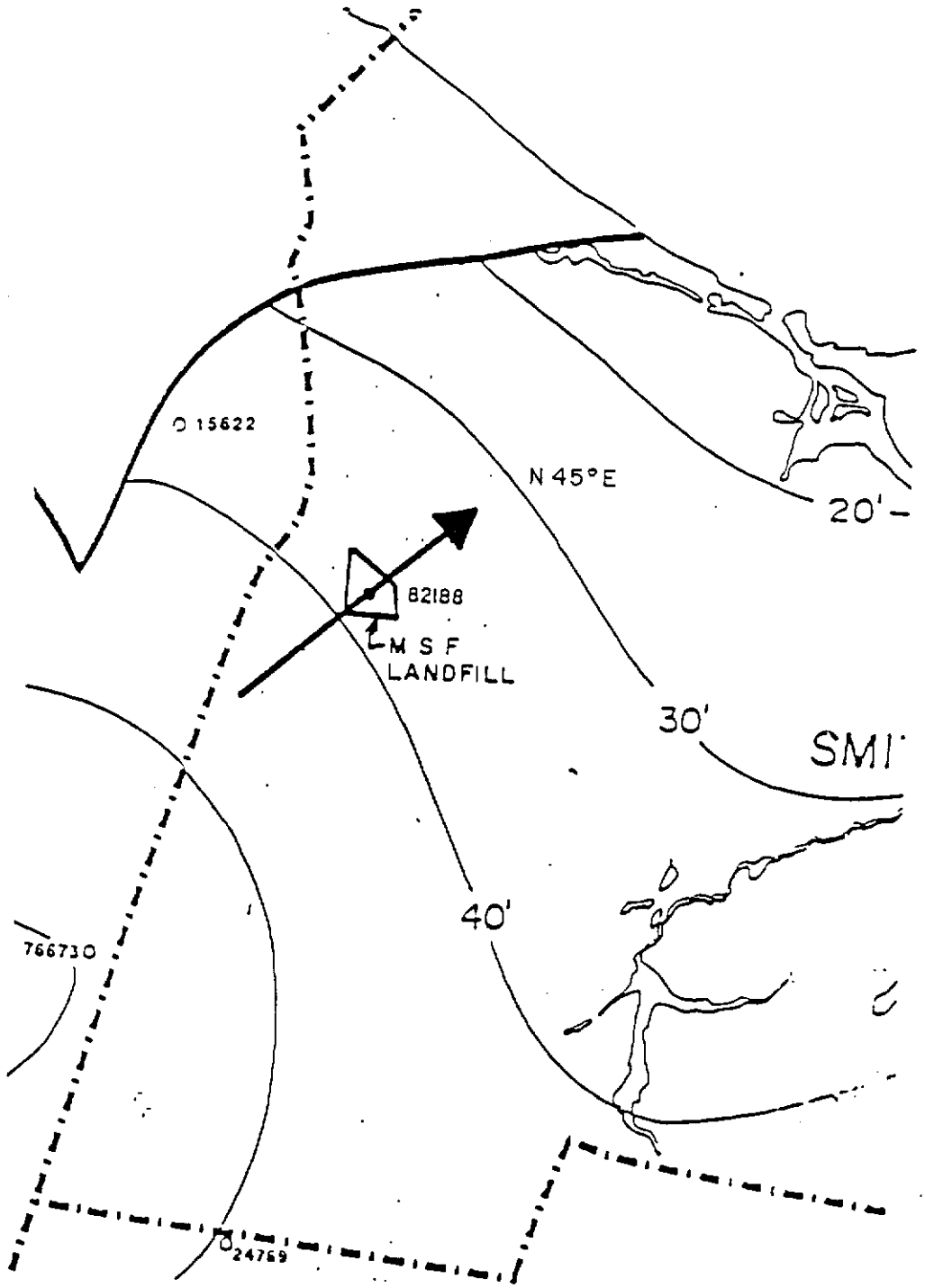


FIGURE 5-2
POTENTIOMETRIC SURFACE OF
THE MAGOTHY AQUIFER
AND FLOW DIRECTION
(SCDHS MARCH 1987 DATA)

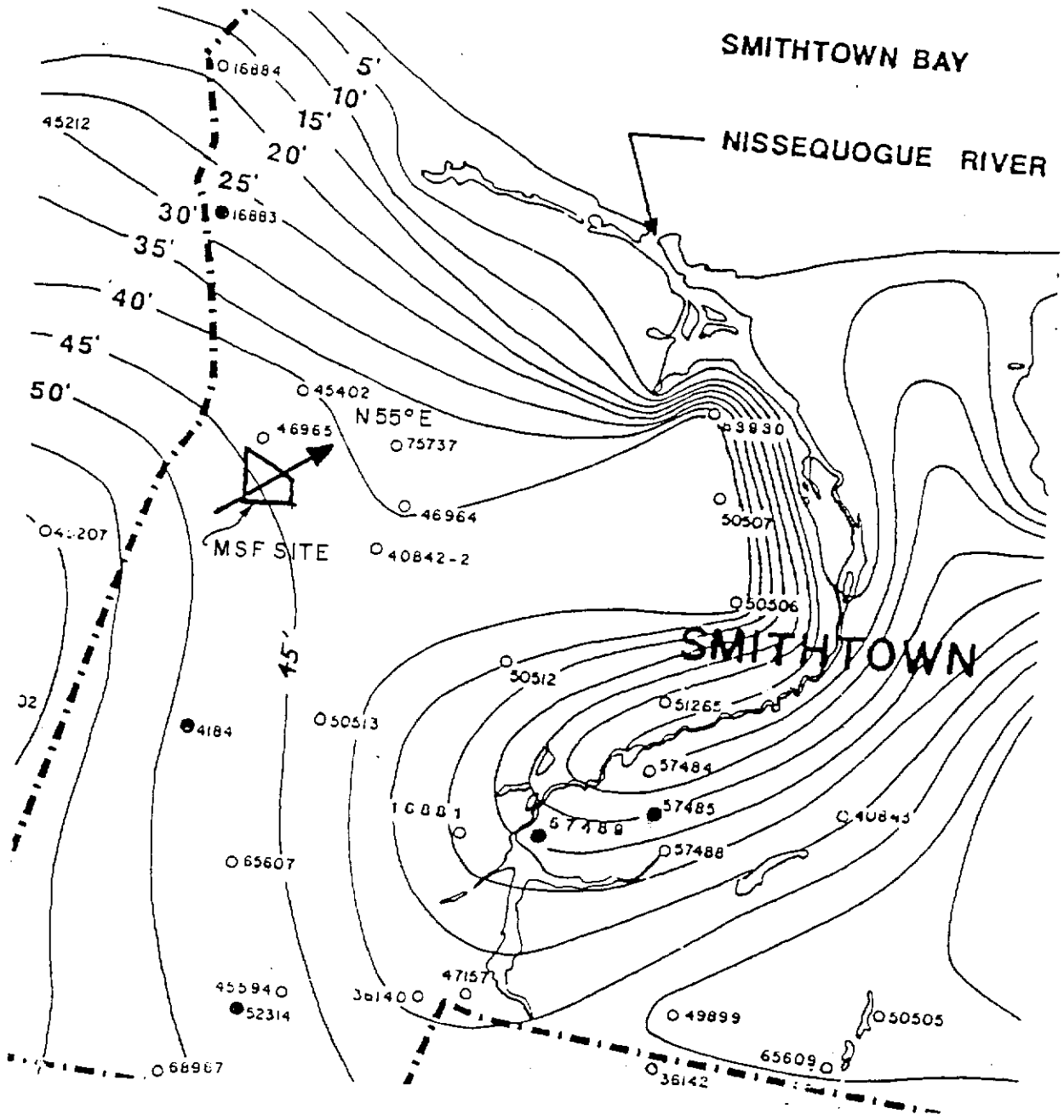


FIGURE 5-3
CONTOURS ON THE WATER TABLE
AND GROUNDWATER FLOW DIRECTION
(SCDHS MARCH 1989 DATA)

a bearing of N 45 deg. E and is compatible with the regional direction of shallow flow in the MSF area. Using the SCDHS 1987 data shown in Figures 5-1 and 5-2, a comparison of the shallow and deep flow shows a significant negative or downward head differential (non-static condition) between the Upper Glacial and Magothy Aquifers.

The direction of shallow groundwater flow for the Phase I area is shown to have a bearing of about N 35 deg. E, based upon water table contours that have not been influenced by mounding from the Cell 6 area (Figure 5-4). Since the water table across most of the site is contained within the Smithtown Unit (except possible downgradient of Cells 1 through 5), shallow groundwater flow will be influenced by the local structure and lithology of the Unit. This may result in a flow differential between the shallow and deep directions of flow in the Phase I area. Water table levels in the MSF area are presently near their historic high levels of 51 feet MSL, according to the long-term groundwater fluctuations that are depicted in Figure 5-5.

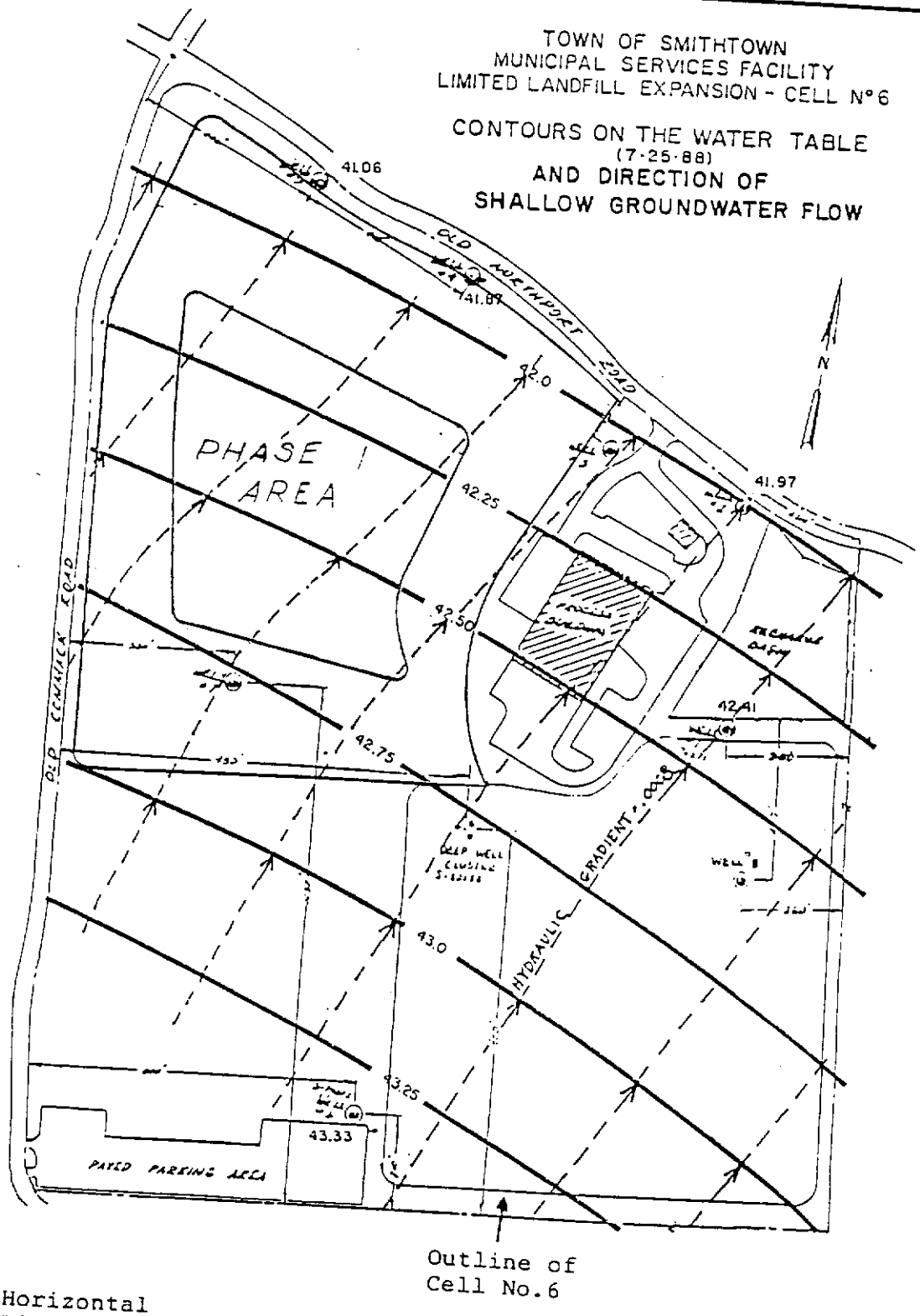


FIGURE 5-4

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

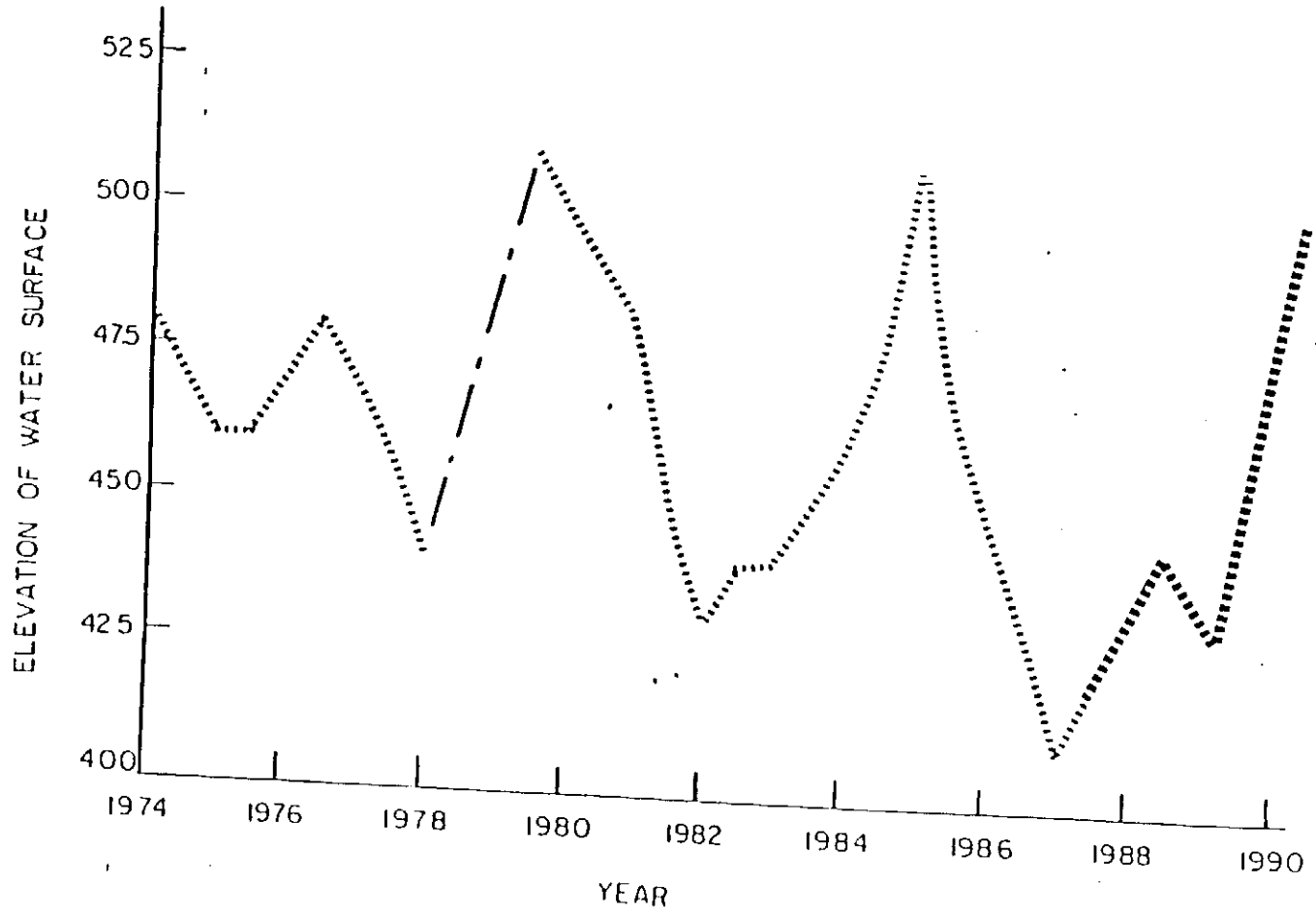


FIGURE 5-5

LONG-TERM SEASONAL GROUNDWATER TABLE FLUCTUATIONS

R. E. PUSTORINO, P.C.

5.2 GROUNDWATER FLOW MODEL

The groundwater flow model that was constructed for Cell No. 6 can be extrapolated for the Phase I area and includes two (2) hydrogeologic profiles, A-A(1) and B-B(1), as shown in Figure Nos. 5-7 and 5-8. The Line of Sections delineated on Figure No. 5-6 strike approximately perpendicular and parallel to the direction of groundwater flow. Incorporated into the profiles is the following important information:

1. The generalized subsurface distribution of hydrogeologic units, formation names, and lithology of the units;
2. Aquifer boundary conditions;
3. The vertical component of advective groundwater flow.
4. Equipotential lines showing horizontal and vertical hydraulic gradients; and
5. Vertical extent of low and high density contaminant flow paths beneath Modules 1, 2 and 3.

For reference, the Hydrogeologic Data Base that was used as the basis for constructing the flow model is shown on Table II (located in Appendix F after page 5-4). A detailed analysis of the Method of Construction and interpretation of the results is given in the following Sections.

B

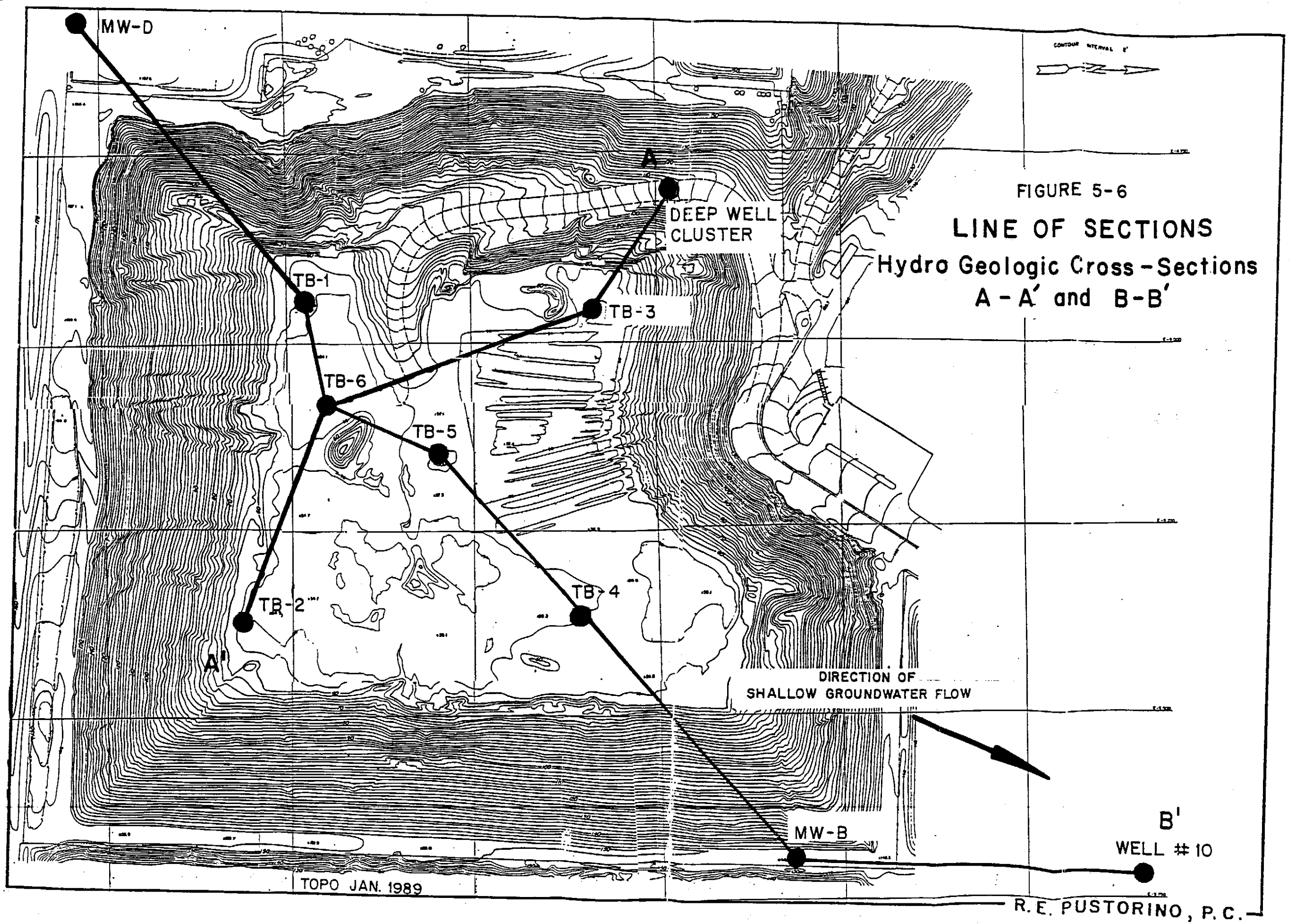


FIGURE 5-6

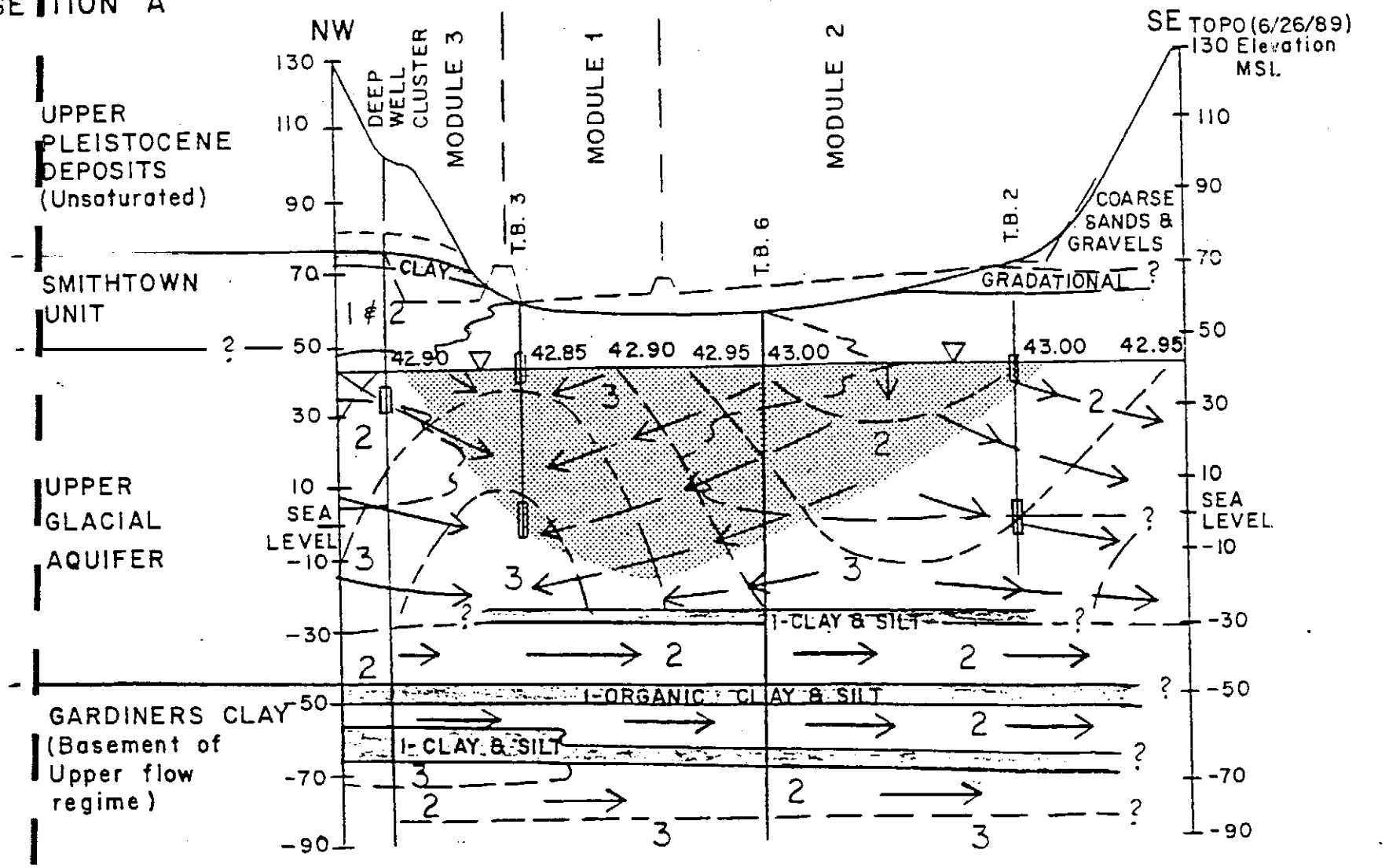
LINE OF SECTIONS

Hydro Geologic Cross-Sections
A - A' and B - B'

R. E. PUSTORINO, P. C.

SECTION A

CELL #6 AREA



LEGEND

LITHOLOGY OF HYDROGEOLOGIC UNITS

1 — Solid Clay, Sandy Clay, or Clay-Silt Mix (Aquitard or Aquiclude)

2 — Silty-Clayey Sand or Mixed Facies (Aquitard)

3 — Fine & Medium Sand or Sand with Silt, < 10% Fines; With or without Gravel (Aquifer)

Well Screen or Piezometer

Water Table (7-25-88, Non-Mounding Condition)

Streamline (2-D, Planar, Vertical Component of Flow)

Equipotential Line (Drawn Assuming Isotropic Formation)

Gradational Contact Zone:

Clay. Stratification (1) > 2 feet Cumulative Thickness

Maximum Vertical Extent of Low-Density Contaminant Pathways (From the Southwest Area of Cell No. 6) at the Line of Section

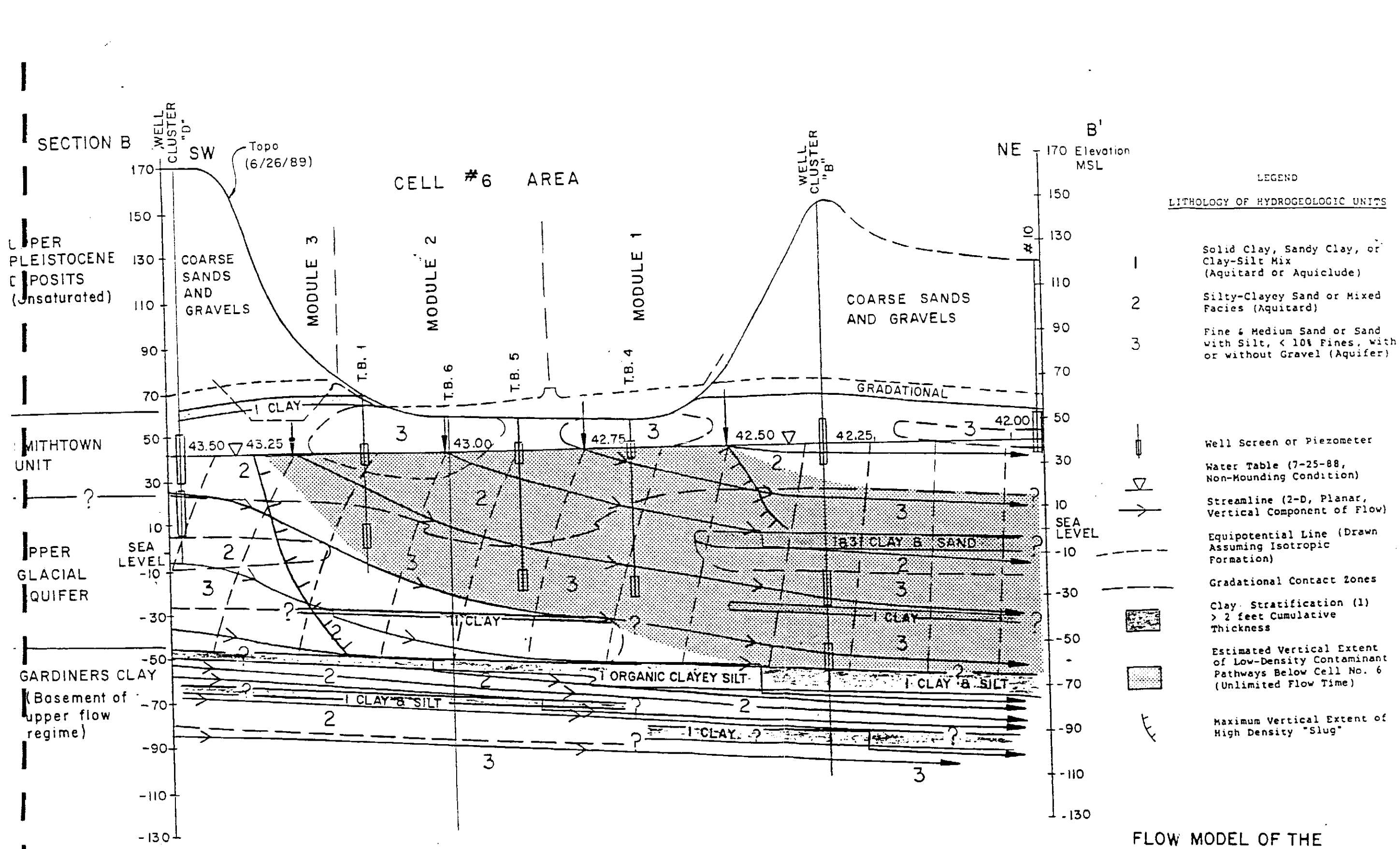
Horiz. Scale: 1" = 200'
Vert. Scale: 1" = 40'
Vert. Exagg.: 5X

FLOW MODEL OF THE MSF CELL#6 AREA APPROXIMATELY PERPENDICULAR TO THE DIRECTION OF GROUNDWATER FLOW

FIGURE 5-7

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

SECTION B



LEGEND

LITHOLOGY OF HYDROGEOLOGIC UNITS

1 — Solid Clay, Sandy Clay, or Clay-Silt Mix (Aquitard or Aquiclude)

2 — Silty-Clayey Sand or Mixed Facies (Aquitard)

3 — Fine & Medium Sand or Sand with Silt, < 10% Fines, With or without Gravel (Aquifer)

Well Screen or Piezometer

Water Table (7-25-88, Non-Mounding Condition)

Streamline (2-D, Planar, Vertical Component of Flow)

Equipotential Line (Drawn Assuming Isotropic Formation)

Gradational Contact Zones

Clay Stratification (1) > 2 feet Cumulative Thickness

Estimated Vertical Extent of Low-Density Contaminant Pathways Below Cell No. 6 (Unlimited Flow Time)

Maximum Vertical Extent of High Density "Slug"

Horiz. Scale: 1" = 200'
Vert. Scale: 1" = 40'
Vert. Exagg.: 5x

FLOW MODEL OF THE MSF CELL #6 AREA APPROXIMATELY PARALLEL TO THE DIRECTION OF GROUNDWATER FLOW

FIGURE 5-8

R.E. PUSTORINO, P.C.
CONSULTING ENGINEERS

5.3 DISTRIBUTION OF AQUIFER MATERIALS

The aquifer materials shown on the Profiles were transposed from field logs and laboratory data sheets and, in the process, were classified into three (3) general categories: Clay, Mixed Facies and Sand. On the flow model, these categories are designated as "1", "2" and "3", respectively. In general, the lithology types are characterized by distinct hydrogeologic properties, such as permeability, porosity, and specific yields. For example, strata composed mostly of clay (shaded gray in the sections) function as aquitards or aquicludes, and are dominated by vertical permeabilites in the range of 2x10(-6) to 5x10(-8) cm/sec. On the other hand, sand or mixed facies delineate aquifers or aquitards and have horizontal permeability values from 2x10(-3) to 7x10(-5) cm/sec, and horizontal to vertical K ratios as much as 1/100, or possibly greater. Clay strata which have resolutions of less than about 2 feet, or 2 feet in cumulative thickness, are not considered in the model.

Based upon the distribution of lithology that is shown in the Sections, three (3) hydrogeologic Units can be described in the critical flow regime:

1) 50-60 feet of dominantly silty or clayey sand (mixed facies) in the shallow aquifer, down to approximated Mean Sea Level, designated as the Smithtown Unit;

2) 50-80 feet of intervening sand with silt and gravel, containing some clay beds, down to a maximum of -45 MSL, designated as the Upper Glacial Aquifer (below the Smithtown Unit); and

3) 20-50 (?) feet of organic silt and clay forming the basement of the upper flow regime under the Cell (-45 to -59 MSL), designated as the Gardiners Clay Interval.

Except for the Gardiners Clay Unit and other minor clay beds, the contact zones between the units are gradational, and each unit contains lithologies that are also found in the other Units. For example, in addition to a mixed facies, the Smithtown Unit contains sand (aquifer material), and the Upper Glacial Aquifer contains clay beds (aquicludes or aquitards). These variations in strata result in hydrogeologic units that are both laterally and vertically nonhomogeneous and, therefore, are characterized by a high degree anisotropy.

The geometry of the units can be analyzed by using TB-6 as the common reference point between the two profiles, which lie at approximately right angles to each other. One of the most pronounced aspects of the model is an apparent sand body underlying the western and central part of the Cell (See Figures 5-7 and 5-8: TB-3, TB-4, and TB-6). This fine to medium sand was found to be persistent throughout most of the

aquifer and to contain some highly permeable gravel deposits in TB-3 and TB-7. Also, the orientation of the sand body (to the north-northwest) was compatible with both the regional structure and the channeling that was interpreted from the contours on the Smithtown Unit (see Figure 3-3). Persistent silt and clay beds of low vertical permeability were also characteristic of the Glacial Aquifer below the Smithtown Unit (0 feet MSL), in the area downgradient of Module 1.

5.4 AQUIFER BOUNDARY CONDITIONS

Aquifer boundaries for the flow model are depicted in Figures 5-7 and 5-8, and were classified as being either "permeable" or "impermeable" boundaries. In the model, the water table was considered a permeable boundary because we are assuming that contaminant flow paths will cross that boundary under the Cell. In reality, however, when the liner system is installed under the Cell, the water table will function as an impermeable boundary (no flow should cross the water table), and flow lines will run parallel to it. Other possible permeable boundaries, such as pumping wells or purging monitoring wells are presumed to be in the static condition for the model.

The Gardiners Clay (see Section 3.3.2) was identified as a major impermeable boundary in the Cell area and, thus, was used as the lower aquifer boundary in the flow model. Other more minor silt and clay strata were found underlying the central and downgradient (NE) parts of the Cell, and were also used as impermeable boundaries. Because the streamlines must flow parallel to these bedding planes, the flow regime was dominated by a horizontal component of flow and was characterized as being highly anisotropic.

Both field and laboratory criteria were established in order to determine whether a particular strata had the potential for fulfilling the boundary conditions. The three major criteria were as follow:

1. the physical properties of the materials (mostly the nature and extent of the fines content), as observed by a hydrogeologist in the field environment;
2. the thickness consistency, and continuity of the strata across the site, as interpolated from the Gamma Logs; and
3. laboratory soils classification and permiameter testing of the field samples.

In order to satisfy the above conditions, the aquifer materials contained a silt and/or clay content of 50% of the sample, showed at least slight plasticity, and possessed low dilatency (criteria that are established by ASTM D2488-69 Standard Recommended Practices for DESCRIPTION OF SOILS). In addition, the thickness or cumulative thickness of the strata was at least two feet, were identified on the Gamma Ray Log and, if possible, correlated across the site. Also, laboratory permeabilities were comparable to representative values for Aquitard Vertical Conductivity, approximately 1 x 10E(-7) cm/sec.

5.5 HYDRAULIC CONDUCTIVITY

The permeability of the aquifer as measured by the Hydraulic Conductivity (K) of the materials was evaluated by using the variable head (slug) tests for the average horizontal K of the materials in monitoring well screened intervals;

A range of horizontal conductivity of 1.8 x 10(-5) to 1.3 x 10(-6) cm/sec was recorded for the Smithtown Unit from rising head tests (See Appendix D), and 2.6 x 10(-5) to 4.6 x 10(-5) cm/sec for the Glacial Aquifer below the unit.

Average Horizontal Conductivity in the deep part of the aquifer (above the Gardiners Clay) was found to vary from 2 x 10E(-3) to 8 x 10E(-4), based upon falling head tests in MW-A3 and MW-B3. The transmissivities for those screened intervals were also computed, and found to be .92 to .25 cmE(2)/sec in Monitoring Wells A-3 and B-3, respectively. Raw data for the deep screens was plotted on semi-log paper, and the parameters were computed by using the standard curve matching techniques and well-function equations.

5.6 PERMEABILITY RATIOS

Horizontal to vertical permeability ratios were computed from the Hydraulic Conductivity (K) values that were presented in Section 5.5 above. The H/V K ratios are a measure of the aquifer anisotropy, and increase directly with the degree of stratification found in the aquifer. These permeability ratios were used as the basis for delineating the streamlines in the flow model.

The Smithtown Unit was characterized as having a moderate degree of stratification, while the materials below the Unit had a high degree of stratification. These results were compatible with the field and geophysical evidence which showed that the lower part of the flow regime contained more significant clay stratifications.

The method of calculation that was used to compute the range of H/V K values for the Smithtown Unit and the Glacial Aquifer (sand or mixed facies only) is as follows:

Max. Hor. K (from slug tests)	:	Mean Vert. K (from lab tests)
Min. Hor. K (from slug tests)	:	Mean Vert. K (from lab tests)

Average values were then calculated for these range of values for the two hydrogeologic units. The results showed permeability ratios from 4 to 20 (average value = 12) for the Smithtown Unit, and about 10 to 100 (average value = 55) for below the Unit.

5.7 HYDRAULIC GRADIENTS

The change in total head per unit distance of flow defines the hydraulic gradient, which is typically measured in both the horizontal and vertical directions for an aquifer. However, because of the mounding effects that were documented across Cell 6 during the Phase II field investigations, static water levels were not used for the determination of this parameter. Instead, potentiometric (hydraulic) gradients for the non-mounding condition were estimated by using the graphical techniques. It should be emphazised that this is a simplified approach to the problem because during reconstruction of

the vertical gradients, the aquifer was assumed to be isotopic. In reality, the aquifer is anisotropic and, therefore, flow lines will deviate from the equi-potential lines (they will not necessarily cross at right angles) according to the permeability ratios.

The hydraulic gradient was estimated at .002. This value was used for the determination of groundwater flow rates that are presented in Section 5.6.

5.8 GROUNDWATER FLOW RATES

Groundwater flow rates (velocities) for the Smithtown Unit and the Upper Glacial Aquifer were evaluated using Darcy's Law, as defined by the following:

$$V = \frac{KI}{n}$$

where
V = Velocity of flow
K = Hydraulic Conductivity
I = Hydraulic Gradient
n = Effective Porosity

The above formula was used to calculate both the horizontal and vertical flow rates by utilizing directional hydraulic conductivities (K) and gradients (I), and effective porosities (n) as shown in Table 5-2. Because groundwater flow can be described as a vector quantity,

TABLE 5-2

HYDROGEOLOGIC DATA BASE FOR PHASE I

RANGE OF HYDRAULIC CONDUCTIVITIES (in cm/sec) (Average K Value Based on Aquifer "Slug" Test)	
Smithtown Unit	1.8 x 10(-5) to 1.3 x 10(-6)
Upper Glacial	2.6 x 10(-5) to 4.6 x 10(-5)
HYDRAULIC GRADIENT	
Vertical Gradient (estimated from potentiometric gradients)	.002
POROSITY	
Range of Values	20-30%
GROUNDWATER FLOW VELOCITIES in ft/yr	
Smithtown Unit	.01 to .15
Upper Glacial Aquifer	.2 to .4

that is, it has both magnitude and direction, a vector analysis of the flow components can be used to determine the resultant flow rates and directions of flow, given by:

$$A = Ax + Ay$$

$$\tan = \frac{-Ay}{Ax}$$

where A = Magnitude of flow velocity (flow rate)
tan = Vertical direction of groundwater flow
Ay = Vertical component of flow velocity (below surface)
Ax = Horizontal component of flow velocity

The resultant flow rates from the vector analysis are described in the paragraphs below. The average direction of flow for the upper flow regime was determined from the analysis to be dipping 7 to 8 degrees below the surface of the water table, which translates into a horizontal to vertical flow ratio of about 1/8. This value lies near the lower end of the range of H/V K ratios used in the Flow Model. It should be noted that a 7-8 deg. dip in the profiles (Figures 5-7 and 5-8) looks like a 30 deg. dip with the 5 x vertical exaggeration that was used in the Model. It also should be pointed out that because the flow regime is dominated by a horizontal component of flow, all flow velocities that are described below are most representative of horizontal flow rates.

The results of the analysis using field "slug" test data revealed average groundwater velocities for the flow regime in the range of .01 to .4 feet/year. Those values are low relative to the published data for the Upper Glacial Aquifer in the North Shore region (Western Suffolk), and are the result of a combination of low K values of the materials (mostly in the Smithtown Unit), the small hydraulic gradients across the site, and possibly well losses. The maximum flow rate for the aquifer (1 ft/day) represents groundwater velocities in thin (discontinuous?) gravel beds that were found distributed throughout the Smithtown Unit.

5.9 TRANSMISSIVITY AND TOTAL RATE OF FLOW

Transmissivity can be calculated for the upper flow regime below Cells 1-5 by utilizing the following simple formula:

$$T = Kt$$

where K = Average hydraulic conductivity, and

t = Total saturated thickness of the aquifer

Using an average K value of 2.2 x 10(-5) or .5 gal. per day/sf and multiplying by 100 feet of total saturated thickness (based upon a water table elevation of 50 feet MSL), gives a Transmissivity value of 47 gal. per day/ft. for the upper flow regime of the aquifer.

The total rate of flow occurring within the aquifer beneath the Cell and perpendicular to the average groundwater flow direction can be estimated by using the following standard equation:

$$Q = AV$$

where Q = the total Rate of Flow

A = area of cross section (below water)

V = average velocity of flow

From Figure 5-7 - Profile A-A approximately perpendicular to groundwater flow - the saturated area of cross section is 100 feet thick x 1200 feet wide or 120,000 sq. ft. The average velocity of the aquifer was determined from Table II to be about 103 ft/yr., and thus, the Total Flow Rate is 120,000 sq. ft. x .4 ft/yr or 48,000 cu. ft. per yr. Converted to normal stream flow units, this is equal to about .68 gal/min, which describes a large slow moving body of water under the Cell.

5.10 WATER SUPPLY

5.10.1 Existing Conditions

In the general vicinity of the Municipal Services Facility disposal complex, there are four (4) Suffolk County Water Authority (SCWA) water supply well fields, Figure 5-9.

One well field is on Gun Club Road, northwest of the site. Two are northeast of the site on Indian Head Road. Table 5-3 describes the number of wells at each site, well characteristics and status for the four (4) well fields. Water quality for each well is routinely analyzed by the Authority and regulating agencies. The only public well within one mile of the site is the Kings Park well field at the corner of Indian Head Road and Kings Park Road. This well is downstream of the local established flow direction, and screened in the Magothy formation and below the Smithtown Clay Unit.

The area adjacent to the MSF complex and downgradient of the landfill is served by the SCWA well fields and distribution system. A portion of the SCWA-Smithtown District distribution system map for areas downgradient of the landfill is shown in Figure 5-10.

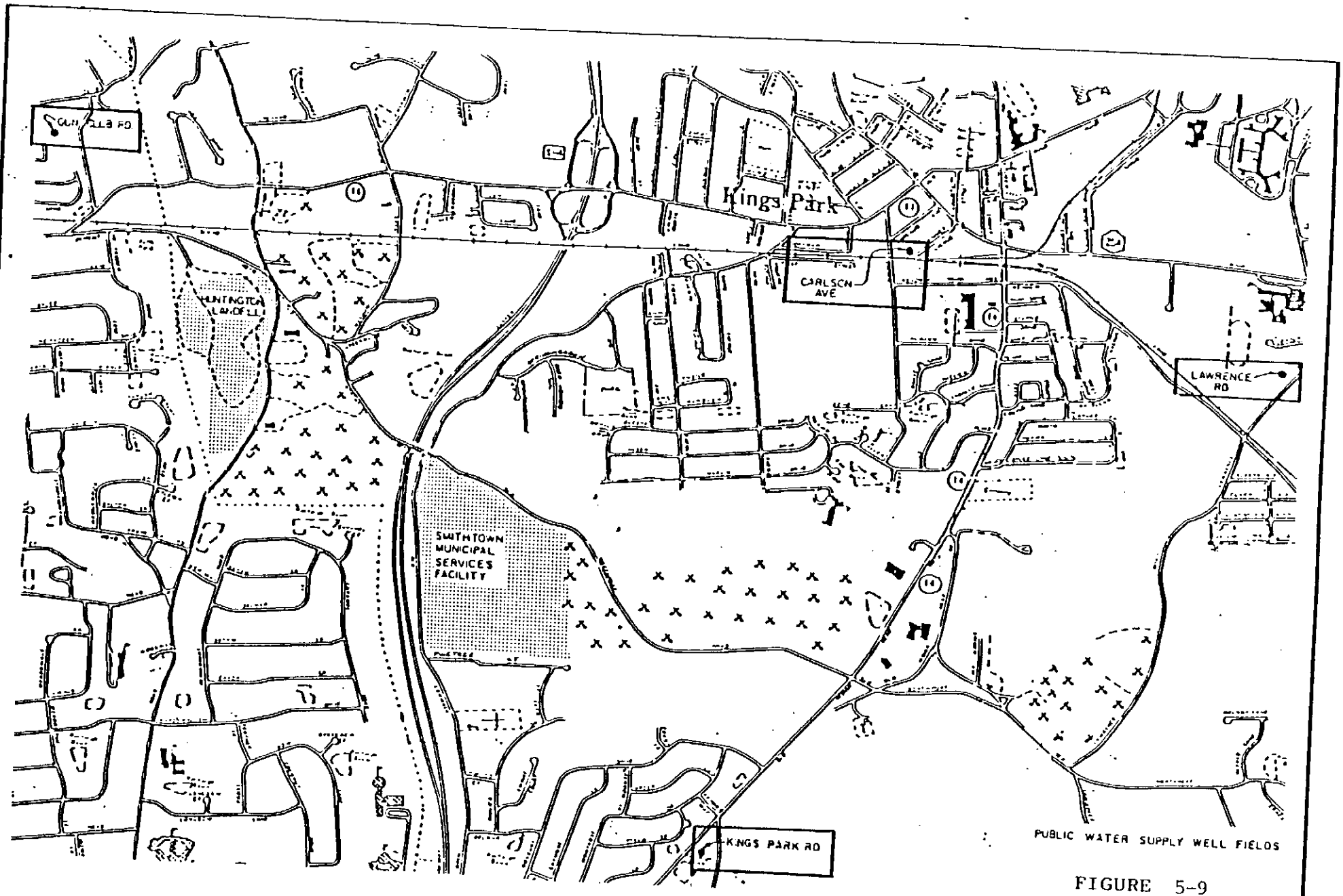


FIGURE 5-9

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TABLE 5-3

SUFFOLK COUNTY WATER AUTHORITY
WATER SUPPLY WELLS

NAME	WELL NO.		DEPTH	SIZE	RATE (GPM)
GUN CLUB RD.					
	1	S-15514	598'-0"	20" x 12"	1200
	2	S-15515	356'-0"	20" x 12"	800
	3	S-25776	586'-9"	20" x 12"	1200
KINGS PARK RD.					
	1	S-15923	263'-0"	16" x 12"	1200
	2	S-33006	502'-11"	16" x 12"	1200
	3	S-53361	521'-2"	20" x 12"	1300
CARLSON AVE.					
	1	S-51	548'-0"	RETIRED/MONITORING WELL	
	2	NO RECORD			
	3	S-3800	164'-0"	RETIRED DUE TO CHLORIDES	
	4	S-13248	164'-1"	" " "	"
	5	S-16129	549'-10"	16" x 12"	750
	6	S-27192	474'-3"	16" x 12"	1200
	7	S-64062	639'-4"	20" x 12"	1300
LAWRENCE RD.					
	1	S-23186	497'-0"	16" x 12"	1100
	2	S-24545	511'-6"	16" x 12"	1200
	3	S-34460	602'-6"	18" x 12"	1200
	4	S-66758	579'-3"	20" x 12"	1300

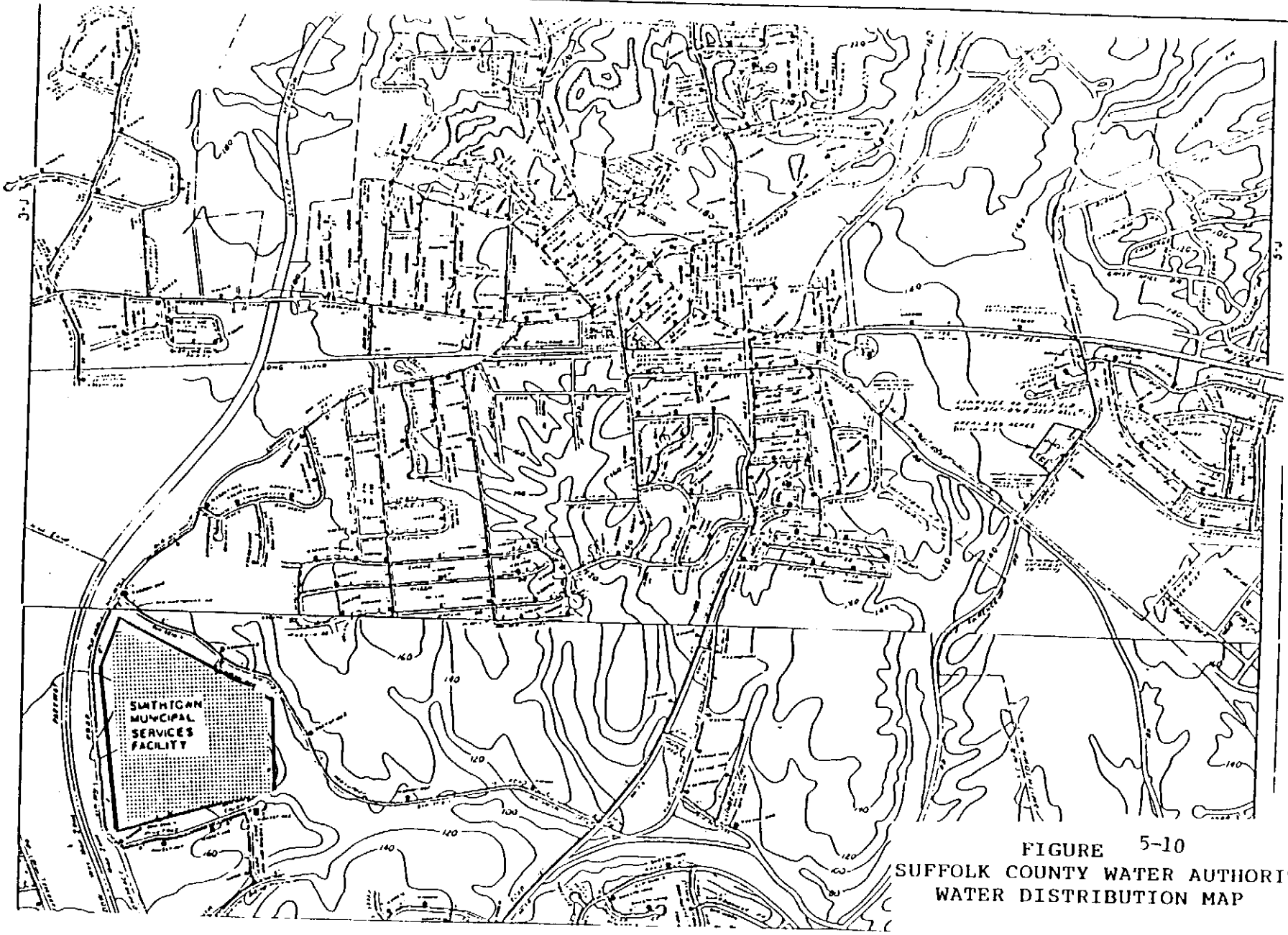

FIGURE 5-10
SUFFOLK COUNTY WATER AUTHORITY
WATER DISTRIBUTION MAP

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SECTION 6

SECTION 6.0

POTENTIAL CONTAMINANT PATHWAYS AND MONITORING WELL PLACEMENT

6.1 POTENTIAL CONTAMINANT FLOW PATHS - CELLS 1-5

The maximum areal extent of the potential contaminant pathways downgradient of Cells 1-5 is shown in Figure 6-1. Presuming a minimum of lateral dispersion, the boundary lines of the contaminant flow paths would approximately delineate the basal area of the Cell, which is about 800 feet across in the direction perpendicular to groundwater flow. Any hypothetical plume originating from the Cell area would travel in the direction of advective groundwater flow, and thus, be elongated to the northeast downgradient of the Cell.

As shown in plan view, the trace of the contaminant flow paths were curvilinear because they represent the 3-D movement of the hypothetical plume in the aquifer beneath the site. This plume geometry is a result of the varying directions of groundwater flow that were found in the Smithtown Unit and the deeper parts of the aquifer (see Section 5.1).

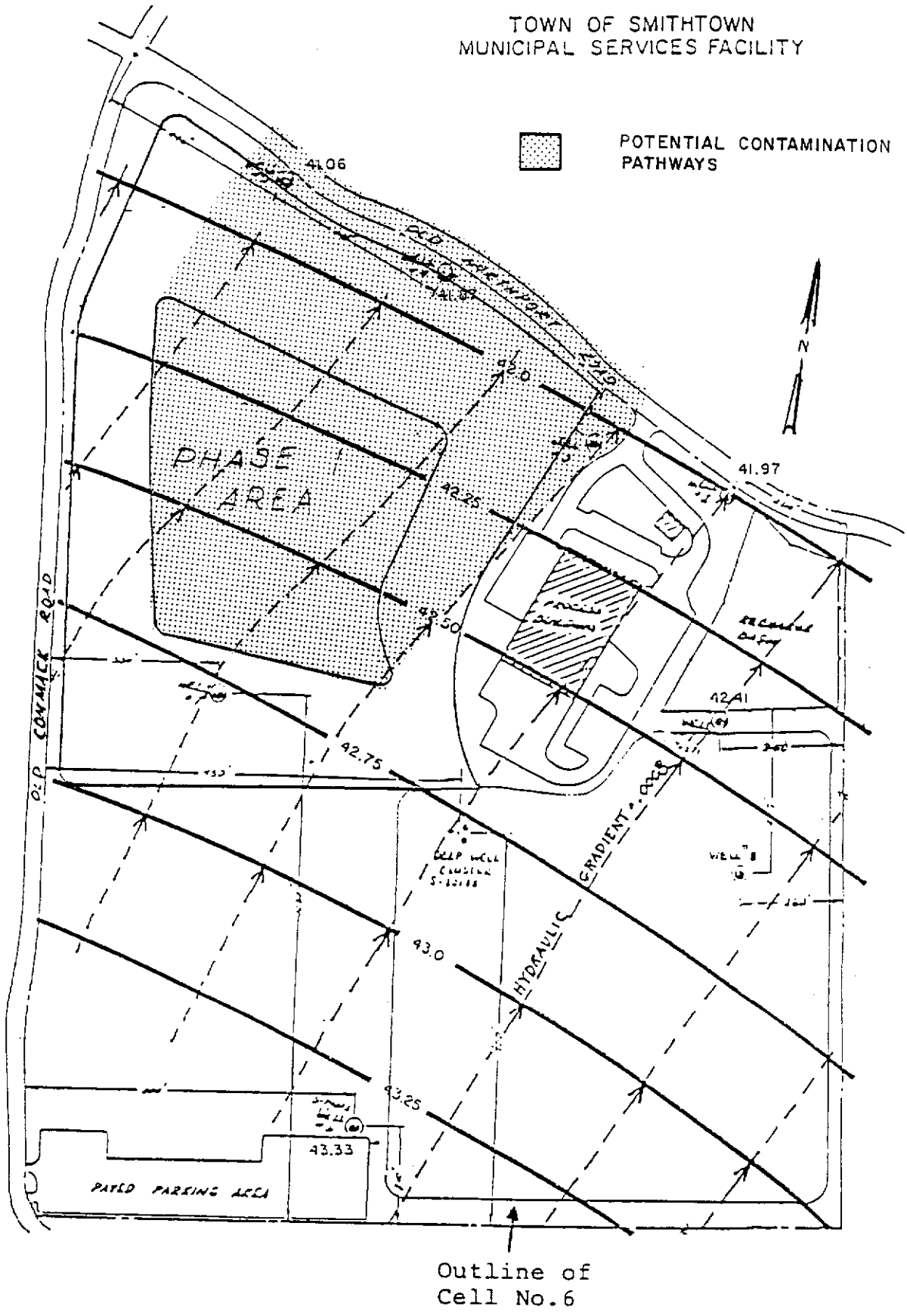

FIGURE 6-1

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The vertical extent of the contaminant pathways below Cell 6 can be extrapolated for Cells 1-5 and is shown on the Flow Model that was presented in Figures 5-7 and 5-8. The geometry of the plume that is shown in Profile B-B(1) was a result of the availability of flow paths (pore space) in the aquifer, as well as the density of a contaminant solution relative to that of the ambient groundwater. The shaded area represents the extent of movement (below the water table) of a low-density solution that is slightly heavier than groundwater. The maximum depth of contaminant migration coincides with the top of the Gardiners Clay Strata (average -50 MSL) because of the very low effective porosity of that Unit.

The hatched line in Figure 5-8 represents the vertical movement of a high density contaminant or highly concentrated "slug" in the aquifer, below the extreme upgradient and downgradient portions of the Cell, and delineates the maximum extent of the contaminant pathways beneath the site. Theoretically, as a slug moves downward, it would create a lower density plume throughout the entire saturated thickness of the aquifer (by dilution around the edges) and would be elongated in the direction of advective groundwater flow (Kimmel and Braids, 1980). With this scenario in mind, each well in the completed clusters (downgradient of the point source) would intercept potential contaminant pathways that are moving with the advective flow.

Figure 5-8 depicts the groundwater flow patterns and the potential contaminant pathways as they would intersect the Line of Section (see Figure 5-7) approximately perpendicular to the average groundwater flow direction. The maximum length of the flow path is about 600 feet, and the source of contamination is assumed to be the entire southeast basal perimeter of Cells 1-5.

SECTION 7

SECTION 7.0

GROUNDWATER SAMPLING SCHEDULE AND WATER QUALITY DATA

7.1 GENERAL

The Town has an aggressive groundwater sampling program at the Phase I and Phase II landfill areas to confirm baseline conditions relative to water table and potentiometric surface elevations, and groundwater quality data. Through appropriate drilling and expanded sampling network, the information and data base, as presented in Volume II-Site Investigation Report of the Application For Approval To Construct And Operate A Solid Waste Management Facility, has been updated.

7.2 GROUNDWATER SURFACE ELEVATIONS

Static groundwater elevations at the MSF site have been undertaken since January 25, 1986. This monitoring program has increased in dimension as additional wells and piezometers are installed at the site. This information and data is used to determine water table and deeper flow patterns at the site and beneath the Phase I and Phase II-Cell No. 6 landfill area. Table 7-1 provides a continuous record of groundwater surface elevations at the site since January 1986.

TABLE 7-1

Town of Smithtown
Municipal Services Facility
STATIC GROUNDWATER ELEVATIONS

Notes:
(1) Indicates measurements by Town of Smithtown
(2) Indicates measurements by Roux Assoc.

WELL NO.	(1) 1/25/86	(1) 2/20/86	(1) 6/27/86	(1) 5/10/88	(1) 6/21/88	(2) 6/23/88	(1) 7/25/88	(1) 8/10/88	(1) 9/10/88	(1) 10/15/88	(2) 10/19/88	(2) 10/26/88
1	45.15	-	43.13	44.71	42.75	42.02	42.41	42.56	42.28	42.24	43.43	-
2	44.82	44.57	42.80	43.08	42.30	-	41.97	42.07	41.93	41.89	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	44.94	44.69	43.16	42.95	42.54	-	41.87	42.00	41.83	41.83	-	-
5	46.04	44.79	43.11	42.99	42.51	-	41.86	41.87	41.71	41.72	-	-
6	-	46.04	44.12	44.51	43.74	46.38	43.33	43.24	43.19	43.20	43.07	-
7	45.93	45.65	-	-	-	-	-	-	42.50	42.55	-	-
8	-	-	-	43.68	43.19	43.09	-	43.22	42.63	42.49	42.63	-
9	-	-	-	-	-	-	-	-	-	-	-	43.10
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
A	-	45.22	44.14	45.41	43.10	42.83	42.80	42.70	42.59	42.60	42.55	-
B	-	44.12	43.32	44.44	41.89	41.77	41.89	41.36	41.75	41.92	41.84	-
C	-	43.31	41.60	43.89	40.99	40.88	41.25	40.43	41.13	41.36	41.27	-
B-1	-	-	-	-	-	-	-	-	-	-	-	42.69
B-2	-	-	-	-	-	-	-	-	-	-	-	-
C-1	-	-	-	-	-	-	-	-	-	-	-	44.83
C-2	-	-	-	-	-	-	-	-	-	-	-	-
D-1	-	-	-	-	-	-	-	-	-	-	-	43.51
D-2	-	-	-	-	-	-	-	-	-	-	-	-
S46965	-	-	-	-	-	-	-	-	-	41.37	-	-
S46964 "Q"	-	-	-	-	-	-	-	-	-	38.80	-	-
N/E Shallow	-	-	-	-	-	-	-	-	-	-	-	-
N/E Deep	-	-	-	-	-	-	-	-	-	-	-	-
N/W Shallow	-	-	-	-	-	-	-	-	-	-	-	-
N/W Deep	-	-	-	-	-	-	-	-	-	-	-	-
S/E Shallow	-	-	-	-	-	-	-	-	-	-	-	-
S/E Deep	-	-	-	-	-	-	-	-	-	-	-	-
S/W Shallow	-	-	-	-	-	-	-	-	-	-	-	-
S/W Deep	-	-	-	-	-	-	-	-	-	-	-	-
Central Shallow	-	-	-	-	-	-	-	-	-	-	-	-
Central Deep	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 7-1 (Cont.)

Town of Smithtown
Municipal Services Facility
STATIC GROUNDWATER ELEVATIONS

Notes:
(1) Indicates measurements by Town of Smithtown
(2) Indicates measurements by Roux Assoc.

WELL NO.	(1) 10/29/88	(1) 11/18/88	(2) 11/30/88	(1) 12/3/88	(1) 1/14/89	(1) 2/10/89	(1) 4/19/89	(2) 4/24/89	(2) 4/25/89	(2) 5/25/89	(2) 6/09/89	(2) 10/05/89
1	-	42.67	42.77	43.05	43.05	42.99	43.55	-	43.36	-	-	48.96
2	-	42.28	-	42.58	42.60	42.58	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	42.17	-	42.28	42.61	42.55	-	-	-	-	-	-
5	-	42.04	-	42.23	42.40	42.48	-	-	-	-	-	-
6	43.17	43.44	43.40	43.73	43.82	43.89	44.18	44.01	-	-	-	49.71
7	-	42.83	-	43.16	43.30	43.14	-	-	-	-	-	-
8	-	43.14	43.56	43.59	43.42	43.33	44.23	44.17	-	-	-	-
9	43.35	43.55	43.47	43.80	43.85	43.90	44.22	43.98	-	-	45.28	50.11
10	42.44	42.86	-	43.27	-	42.98	-	-	-	-	-	-
11	-	-	-	-	-	-	43.38	-	43.35	43.77	-	48.76
A	-	42.89	43.04	43.22	43.25	43.18	43.65	43.59	-	-	-	-
B	-	42.18	42.33	42.54	42.51	42.58	42.90	42.69	-	-	-	-
C	-	41.65	41.77	41.98	41.92	42.01	42.33	42.01	-	-	-	-
B-1	42.43	42.85	42.81	43.12	43.19	43.17	43.63	-	43.42	43.17	-	49.27
B-2	-	-	-	-	-	-	43.57	-	43.35	43.98	-	48.92
C-1	41.99	43.03	42.91	43.06	43.38	43.41	43.78	-	43.53	42.82	-	49.21
C-2	-	-	-	-	-	-	43.34	-	43.17	43.72	-	48.73
D-1	43.41	43.73	43.75	43.92	44.02	44.10	44.44	44.20	-	44.59	-	50.40
D-2	-	-	-	-	-	-	44.40	44.49	-	44.58	-	-
S46965	-	-	-	-	42.08	42.10	-	-	-	-	-	-
S46964 "Q"	-	-	-	-	39.70	39.63	-	-	-	-	-	-
N/E Shallow	-	43.86	-	44.51	43.91	43.70	45.08	-	-	-	-	-
N/E Deep	-	42.22	-	43.24	43.25	43.23	43.71	-	-	-	-	-
N/W Shallow	-	44.36	-	45.24	45.28	45.02	46.50	-	-	-	-	-
N/W Deep	-	42.91	-	43.01	43.51	43.49	43.03	-	-	-	-	-
S/E Shallow	-	43.33	-	43.80	-	-	-	-	-	-	-	-
S/E Deep	-	43.11	-	43.47	43.52	43.52	-	-	-	-	-	-
S/W Shallow	-	43.41	-	43.82	43.83	-	-	-	-	-	-	-
S/W Deep	-	43.32	-	43.63	43.71	-	-	-	-	-	-	-
Central Shallow	-	43.51	-	44.17	43.99	43.74	44.75	-	-	-	-	-
Central Deep	-	42.54	-	43.12	43.38	43.34	43.87	-	-	-	-	-

TABLE 7-1 (Cont.)

Town of Smithtown
Municipal Services Facility
STATIC GROUNDWATER ELEVATIONS

Notes:
(1) Indicates measurements by Town of Smithtown
(2) Indicates measurements by Roux Assoc.
(3) Well #1 sheared off 1/30/90, no Top of Casing elevation.

WELL NO.	Top of Casing	(2) 10/06/89	(2) 10/13/89	(2) 11/17/89	(1) 1/16/90	(2) 1/30/90	(2) 1/31/90
1	149.29	-	-	-	49.97	See (3)	See (3)
2	146.92	-	-	-	49.51	-	-
3	-	-	-	-	-	-	-
4	157.87	-	-	-	-	-	-
5	163.62	-	-	-	-	-	-
6	171.38	-	-	-	51.01	-	51.12
7	62.19	-	-	-	-	-	-
8	55.86	-	-	-	Well #8 permanently sealed Feb 1990.		
9	171.43	-	-	-	51.31	-	51.39
10	122.44	-	-	-	-	-	-
11	149.44	-	-	49.58	49.79	49.87	-
A	109.88	49.35	-	-	50.38	50.6	-
B	110.22	48.18	-	-	49.31	49.63	-
C	110.24	47.19	-	-	48.47	48.77	-
B-1	150.56	-	-	-	50.18	50.29	-
B-2	151.06	-	-	49.75	50.00	50.27	-
C-1	151.81	-	-	-	50.33	50.53	-
C-2	151.02	-	-	49.53	49.81	49.81	-
D-1	171.34	-	-	-	51.44	-	51.67
D-2	171.37	-	50.27	50.76	51.16	-	51.28
S46965	164.88	-	-	-	-	-	-
S46964 "Q"	121.74	-	-	-	-	-	-
N/E Shallow	57.89	-	-	-	Piezometer permanently sealed Feb 1990.		
N/E Deep	58.42	-	-	-	Piezometer permanently sealed Feb 1990.		
N/W Shallow	57.75	-	-	-	Piezometer permanently sealed Feb 1990.		
N/W Deep	57.83	-	-	-	Piezometer permanently sealed Feb 1990.		
S/E Shallow	65.04	-	-	-	Piezometer permanently sealed Feb 1990.		
S/E Deep	66.59	-	-	-	Piezometer permanently sealed Feb 1990.		
S/W Shallow	65.41	-	-	-	Piezometer permanently sealed Feb 1990.		
S/W Deep	66.38	-	-	-	Piezometer permanently sealed Feb 1990.		
Central Shallow	60.78	-	-	-	Plezometer permanently sealed Feb 1990.		
Central Deep	59.95	-	-	-	Piezometer permanently sealed Feb 1990.		

TABLE 7-1 (cont'd)

Town of Smithtown
Municipal Services Facility
Static Groundwater Elevations

Well No.	Feb. 2, 1994	Feb. 3, 1994
F1	---	46.15
F2	---	45.55
G1	---	45.98
G2	---	45.47
H1	46.02	---
H2	45.35	---
I1	56.18	---
I2	45.38	---
9	---	47.22
9b	47.16	---

7.3 GROUNDWATER QUALITY

As part of these ongoing hydrogeological investigations for the Phase I-Cell Nos. 1-5 landfill closure, water quality baseline conditions were conducted on the nine (9) new monitoring wells installed upgradient and downgradient of the landfill. Sampling for the nine (9) new wells and MW-9 was completed on February 2 and February 3, 1994. A complete updated set of groundwater quality data is presented in Appendix G of this report for the Phase I groundwater monitoring wells.

Table 7-2 contains data from the February 2 and 3 Baseline Groundwater Monitoring Well Analysis. This Table is a summary of Appendix G and shows only those constituents which are above the 6 NYCRR Part 703.5 NYSDEC Groundwater Regulation.

Monitoring Well MW-9 has been sampled on a regular schedule since 1989 and will be used to represent the existing water quality upgradient of Cells 1-5. The Arithmetic Mean has been computed for each parameter for MW-9 using data from April 24, 1989 through June 8, 1990. The averaged data from MW-9 will act as the control. The sampling results from the nine (9) new wells will be compared to the average concentrations found in MW-9 and 6 NYCRR Part 703.5 NYSDEC (see Table 7-3).

TABLE 7-2

BASELINE GROUNDWATER MONITORING WELL ANALYSIS
FEBRUARY 2 AND FEBRUARY 3, 1994

WELL IDENTIFICATION

	6 NYCRR PART 703.5 NYSDEC	MW-9b	MW-9	MW-F1	MW-F2	MW-G1	MW-G2	MW-H1	MW-H2	MW-I1	MW-I2
Constituent (mg/l)											
Iron	.3	--	.45	.65	--	2.6	2.6	1.4	.43	1.1	.17
Manganese	.3	--	.07	5.2	--	.95	.13	7.6	.21	31	.5
Iron & Manganese	.3	--	.52	5.85	--	3.55	2.73	9.0	.64	32.2	.67
Sodium	20	--	--	53	30	51	28	72	22	31	--
Lead	.025	--	--	--	.028	--	--	--	--	--	--
Nitrate	10	--	--	15	--	--	--	--	--	16	--
Ammonia (mg/l)	2.0	--	--	--	--	--	5.6	--	--	--	--
Volatile Organics (ug/l)											
Vinyl Chloride	2					3					
1,1 Dichloroethane	5					7					
1,2 Dichlorobenzene	4.7*					3					
1,4 Dichlorobenzene	4.7*					26	5				
Benzene	.7					2					
Base Neutral Extractables (ug/l)											
1,4 Dichlorobenzene	4.7					16					

*Limit is 4.7 ug/l for sum of 1,2 and 1,4 Dichlorobenzene

TABLE 7-3

BASELINE GROUNDWATER MONITORING WELL ANALYSIS
FEBRUARY 2 AND FEBRUARY 3, 1994

WELL IDENTIFICATION

Constituent	6 NYCRR PART 703.5 NYSDEC	MW-9 Avg. Concentrations	MW-F1	MW-F2	MW-G1	MW-G2	MW-H1	MW-H2	MW-I1	MW-I2	MW-9b
Iron (mg/l)	.3	9.39	.65	--	2.6	2.6	1.4	.43	1.1	.17	
Manganese (mg/l)	.3	.24	5.2	--	.95	.13	7.6	.21	31	.5	
Iron & Manganese (mg/l)	.3	9.63	5.85	--	3.55	2.73	9.0	.64	32.2	.67	
Sodium (mg/l)	20	31	53	30	51	28	72	22	31	--	
Lead (mg/l	.025	.034	--	.028	--	--	--	--	--	--	
Nitrate (mg/l)	10	.6	15	--	--	--	--	--	16	--	
Ammonia (mg/l)	2.0	<.05	--	--	--	5.6	--	--	--	--	
Volatile Organics (ug/l)											
Vinyl Chloride	2	<1			3						
1,1 Dichloroethane	5	<1.75			7						
1,2 Dichlorobenzene	4.7*	<1.75			3						
1,4 Dichlorobenzene	4.7*	<1.75			26	5					
Benzene	.7	<1			2						
Base Neutral Extractables (ug/l)											
1,4 Dichlorobenzene	4.7	<10			16						

*Limit is 4.7 ug/l for sum of 1,2 and 1,4 Dichlorobenzene

Concentrations of iron and manganese, in MW-Il, exceed the average concentration in MW-9. High concentrations of iron and manganese is typical of pristine Long Island groundwaters. The high concentration of manganese, in MW-Il, is probably not caused by a plume since MW-Il is lateral to the plume boundary. High iron and manganese concentrations are not considered a concern as the GA (New York State Class-Groundwater Standards) Standards for these constituents are secondary standards and are related to aesthetic criteria (taste and odor) rather than health-based concerns.

Sodium concentrations are highest in the shallow wells. This can be attributed to years of salt application to control road icing in the winter months.

A small concentraiton of lead was found in MW-F2, but was less than the average found in MW-9 and very close to the NYSDEC 6 NYCRR Part 703.5 Regulation. The volatile organics shown on Table 7-2 found in MW-Gl and MW-G2 are probably due to a plume. Further sampling will have to be conducted to determine if the Arithmetic Mean per parameter is above the Maximum Contaminant Level (MCL) as stated in the Safe Drinking Water Act. Until the Arithmetic Mean is determined, it is difficult to determine whether there is a potential hazard in the groundwater. The

NYSCRR Title 6, Chapter X, Part 702.16 states that the effluent limitation for total organic substances shall be 100 ug/l. The total organics found in MW-G1 is below 100 ug/l. This indicates that 6 NYCRR Part 702.16 is not exceeded and a hazardous situation does not exist.

Further testing will be conducted, including another baseline sampling round for MW-G1 and MW-G2, to determine the severity of the volatile organics in those two wells.

The results from this sampling round suggests that the Landfill has had little impact on the groundwater and is considered insignificant. Based upon the results of this Phase II Investigation, the closed Town of Smithtown Municipal Services Facility Phase I Landfill does not present a significant threat to the public health or environment and should be removed from the State's Inactive Hazardous Waste Listing ("DELISTED") and closed as a solid waste landfill pursuant to 6 NYCRR Part 360 Regulations.

7.4 GROUNDWATER SAMPLING SCHEDULE

A long-term monitoring program, consisting of upgradient and downgradient wells, has been established by the Town of Smithtown. The groundwater sampling schedule and type of analysis to be performed at each monitoring well is presented in Table 7-4.

TABLE 7-4

Town of Smithtown
Municipal Services Facility
Groundwater Sampling Schedule
Purging & Sampling by
Emington Environmental, Inc.

Sampling Dates
B - Indicates Baseline Analysis
R - Indicates Baseline Analysis

SAMPLING PERIOD

WELL NO.	1ST QTR. Feb. 2 & Feb. 3, 1994	2ND QTR. May 1994	3RD QTR. Aug. 1994	4TH QTR. Nov. 1994
Phase I				
MW-F1	B	R	R	R
MW-F2	B	R	R	R
MW-G1	B	B	R	R
MW-G2	B	B	R	R
MW-H1	B	R	R	R
MW-H2	B	R	R	R
MW-I1	B	R	R	R
MW-I2	B	R	R	R
MW-9	B	R	R	R
MW-9b	B	R	R	R
	March 1994	May 1994	Aug. 1994	Nov. 1994
Phase II				
A-1	R	B	R	R
A-2a	R	B	R	R
A-2b	R	B	R	R
A-3	R	B	R	R
B-1	R	B	R	R
B-2a	R	B	R	R
B-2b	R	B	R	R
B-3	R	B	R	R
C-1	R	B	R	R
C-2a	R	B	R	R
C-2b	R	B	R	R
C-3	R	B	R	R
D-1	R	B	R	R
D-2	R	B	R	R
E-1	R	B	R	R
E-2a	R	B	R	R
E-2b	R	B	R	R
E-3	R	B	R	R

SECTION 8

SECTION 8.0

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APPENDICES

APPENDIX A

Unified Soil Classification System

Compiled by B. W. Pipkin, University of Southern California

MAJOR DIVISIONS			GROUP SYMBOLS	TYPICAL NAMES
COARSE-GRAINED SOILS More than half of material is larger than no. 200 sieve size.	GRAVELS More than half of coarse fraction is larger than no. 4 sieve size.	Clean gravels	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS More than half of coarse fraction is smaller than no. 4 sieve size.	Clean sands	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands, gravelly sands, little or no fines.
		Sands with fines	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE-GRAINED SOILS More than half of material is smaller than no. 200 sieve size.	SILTS AND CLAYS	Low liquid limit	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts, with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
			OL	Organic silts and organic silty clays of low plasticity.
		High liquid limit	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of medium to high plasticity, organic silts.
Highly organic soils			Pt	Peat and other highly organic silts.

NOTES:

1. Boundary Classification: Soils possessing characteristics of two groups are designated by combinations of group symbols. For example, GW-GC, well-graded gravel-sand mixture with clay binder.
2. All sieve sizes on this chart are U.S. Standard.
3. The terms "silt" and "clay" are used respectively to distinguish materials exhibiting lower plasticity from those with higher plasticity. The minus no. 200 sieve material is silt if the liquid limit and plasticity index plot below the "A" line on the plasticity chart (next page), and is clay if the liquid limit and plasticity index plot above the "A" line on the chart.
4. For a complete description of the Unified Soil Classification System, see "Technical Memorandum No. 3-357," prepared for Office, Chief of Engineers, by Waterways Equipment Station, Vicksburg, Mississippi, March 1953. (See also Data Sheet 17.)

JOHNSON SOILS ENGINEERING LABORATORY

SOIL CLASSIFICATION SYSTEM USED IN REPORT*

Predominant Soil Type — Capitalized

"And"	40% to 50%
"Some"	20% to 40%
"Little"	10% to 20%
"Trace"	0% to 10%

Gravel	From 60 mm to 2.0 mm
Sand	From 2.0 mm to 0.06 mm
Silt	From 0.06 mm to 0.002 mm
Clay	Less than 0.002 mm

*BASED ON MASSACHUSETTS INSTITUTE OF TECHNOLOGY SYSTEM

JOB LOCATION:

MUNICIPAL SERVICES

L-30427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 1 OF 3

LOCATION SMITHTOWN, NY

PROJECT NO. 94-22

LINE & STA

OFFSET

CASING O.D. ____ CASING DUE DATE ____

SPT ____ HOLE DIA. CASING DUE DATE ____

DATE START 12-2-94

DATE FINISH 12-2-94

GROUND ELEVATION ____

GROUND WATER ELEVATION ____

CASING O.D. ____

SAMPLER O.D. 2"

DIAMOND BIT SIZE ____

WEIGHT OF HAMMER 140 LBS.

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING ____ SAMPLER 22"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0 6	6 12	12 18	18 24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-1'6"	TOPSOIL, BROWN SILT TRACE FINE SAND, SLIGHT PLASTICITY, LOOSE, (ML) DRILLED WITH MUD VIS.100, WT.8.75 PH 7.2
									10'	TAN FINE TO MEIDUM GRAVEL, LITTLE VERY COARSE SAND, LOOSE (SP)
									20'	TAN COARSE TO VERY COARSE SAND, LITTLE FINE GRAVEL, LOOSE (SP)
									40'	TAN COARSE SAND, TRACE FINE GRAVEL, LOOSE, (SP) NO HIT HNW & OGI

Engineer: ____ Driller: FRED NAVARRO

Inspector: ____ Helper: RANDY PERRY

JOB LOCATION

[illegible] SERVICES

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 2 OF 5

LOCATION [illegible]

HOLE NO. MW-[illegible]

LINE & STA ____

OFFSET ____

DEPTH ____ FT. CASING PULLED AT ____

DEPTH ____ FT. AT CASING CUT DATE ____

DATE START 12-2-92

DATE FINISH 12-2-92

GROUND ELEVATION ____

GROUND WATER ELEVATION ____

CASING O.D. ____ I.D. ____

SAMPLER O.D. ____ I.D. ____

DIAMOND BIT SIZE ____

WEIGHT OF HAMMER 140 LBS.

INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL

CASING ____ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									50'	TAN COARSE SAND, TRACE FINE TO MEDIUM GRAVEL, LOOSE, (SP) THIN GRAVEL BEDS AT 43'& 47'
									60'	TAN COARSE SAND, TRACE FINE GRAVEL, LOOSE (SP) VIS.110, WT.2.8, PH 7.5
									80'	TAN COARSE SAND, TRACE FINE TO MEDIUM GRAVEL, LOOSE, (SP)

Soil Engineer: ____

Driller: FRED NAVARRO

Drilling Inspector: ____

Helper: RANDY PERRY

JOB LOCATION

MUNICIPAL SERVICES

L-32427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 3 OF 5

LOCATION SMITHTOWN, NY

HOLE NO MW-15

LINE & STA

OFFSET

CASING FT FT CASING CUT OFF

DEPTH FT ALL CASING OUT DATE

DATE START 12-2-92

DATE FINISH 12-2-92

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. 5" I.D.

SAMPLER O.D. I.D.

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										LIGHT BROWN MEDIUM TO COARSE SAND, TRACE FINE GRAVEL, LOOSE (SP) NO HIT PNW & CGI VIS.50, WT.6.75, PH 7.6
									105'	
	1	105'-107'	7"	37	40	46	50		107'	BROWN MEDIUM SAND, VERY COMPACT, DRY, NO HITS
										TAN COARSE SAND, TRACE FINE TO MEDIUM GRAVEL, VERY
	2	110'-112'	12"	22	45	51	77		112'	COMPACT, DRY (SP) NO HITS
										ORANGE BROWN COARSE
									116'	SAND, COMPACT, DRY
	3	115'-117'	11"	24	20	28	29		117'	(SP) NO HITS GRAY AND PINK CLAYEY SILT, SLIGHT PLASTIC, HARD, DRY, (ML) NO HITS

Soil Engineer:

Driller: FRED NAVARRO

Drilling Inspector:

Helper: RANDY PERRY

JOB LOCATION

MUNICIPAL SERVICES

L.93-27

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 4 OF 9
LOCATION SMITHTOWN, NY
HOLE NO. MW-9S
LINE & STA
OFFSET

DEPTH ____ FT. CASING OUT DATE ____
DEPTH ____ FT. ALL CASING OUT DATE ____

DATE START 12-2-93
DATE FINISH 12-2-93

GROUND ELEVATION ____
GROUND WATER ELEVATION ____

CASING O.D. ____ I.D. ____
SAMPLER O.D. 2" I.D. ____
DIAMOND BIT SIZE ____

WEIGHT OF HAMMER 140 LBS.
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ____ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. - FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE
120	4	120'-122'	11"	48	72	73	90	
	5	125'-127'	12"	40	70	67	42	
130	6	130'-132'	8"	32	37	46	30	
	7	135'-137'	8"	38	37	43	35	
140	8	140'-142'		39	38	54	52	
	9	145'-147'		53	66	75	64	
150	10	150'-152'	12"	80	70	67	60	
	11	155'-157'	17"	78	69	77	90	
160								

PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
120' 5"	GRAY CLAYEY SILT, SLIGHTLY PLASTIC, HARD, DRY (ML) NO HITS
122'	ORANGE BROWN AND WHITE COARSE SAND, VERY COMPACT, SLIGHTLY MOIST (SP) NO HITS
127'	PINK AND WHITE CLAYEY SILT, SLIGHTLY PLASTIC, HARD, MOIST, (ML) LAMINATED WITH ORANGE BROWN AND WHITE COARSE SAND, MOIST, VERY COMPACT (SP) NO HITS
127'	WHITE AND ORANGE BROWN MEDIUM SAND, VERY COMPACT, WET (SP) NO HITS VIS.120, WT.8.8, PH 7 1/2
137'	WHITE FINE SAND, TRACE SILT, VERY COMPACT, WET, (SP)
142'	WHITE, PINK AND YELLOW FINE TO MEDIUM SAND, VERY COMPACT, WET, (SP) NO HITS
147'	WHITE AND PINK MEDIUM SAND, VERY COMPACT, WET, (SP)
152'	WHITE AND ORANGE BROWN MEDIUM SAND, VERY COMPACT, WET, (SP)
157'	WHITE MEDIUM SAND,

Soil Engineer: ____ Driller: FRED NAVARRO

Drilling Inspector: ____ Helper: RANDY PERRY

JOB LOCATION:

... RAL SERVICES

L.95427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 5 OF 5
LOCATION SMITHTOWN, NY
HOLE NO. MW-95
LINE & STA
OFFSET

DEPTH ______ FT. CASING OUT DATE ______
DEPTH ______ FT. AFT. CASING OUT DATE ______

DATE START 12-2-98
DATE FINISH 12-2-98

GROUND ELEVATION ______
GROUND WATER ELEVATION ______

CASING O.D. ______ I.D. ______
SAMPLER O.D. 2" I.D. ______
DIAMOND BIT SIZE ______

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ______ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										VERY COMPACT, WET, (SP) NO HITS
160	12	160'-162'	12"	31	23	46	70		157'	WHITE MEDIUM SAND, VERY COMPACT, WET, (SP) NO HITS VIS.70, WT.9.2, PH. 7 1/2
	13	165'-167'	12"	56	53	66	65		162'	WHITE COARSE SAND, VERY COMPACT, WET, (SP) 2" LAYER GRAY SANDY, CLAYEY SILT. AT 161' ORANGE STAINING PLUS IRON MINERALS NO HITS
170	14	170'-172'	14"	44	40	[illegible]	50			
									167'	WHITE COARSE SAND, VERY COMPACT, WET, (SP) NO HITS
	15	175'-177'	12"	33	30	37	44		177'	GRAY MICACEOUS FINE TO MEDIUM SAND. TRACE SILT, VERY COMPACT, WET, (SP)
180										
										END OF HOLE 177'
190										
200										

Soil Engineer: ______ Driller: FRED NAVARRO

Drilling Inspector: ______ Helper: RANDY PERRY

LOCATION		
MUNICIPAL SERVICES FACILITIES [illegible]93427	**WGI** Warren George Inc. SUBSURFACE EXPLORATION FOR TOWN OF SMITHTOWN	SHEET 1 OF 4 LOCATION SMITHTOWN, [illegible] HOLE NO. [illegible] LINE & STA. ____ OFFSET ____

DEPTH ____ FT. ____ CASING ____ DATE ____ DEPTH ____ FT. AFT. CASING OUT DATE ____	DATE START [illegible] DATE FINISH [illegible]	GROUND ELEVATION ____ GROUND WATER ELEVATION ____
CASING O.D. [illegible] I.D. ____ SAMPLER O.D. [illegible] I.D. ____ DIAMOND BIT SIZE ____	WEIGHT OF HAMMER 140 LBS. INSIDE LENGTH OF SAMPLER 24 IN.	HAMMER FALL CASING ____ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-1/2'	DARK YELLOW BROWN CLAYEY SILT, SLIGHTLY PLASTIC, DRY (ML)
									1'	LIGHT YELLOW BROWN SILT, LITTLE FINE SAND, TRACE CLAY, LOW PLASTICITY, DRY (ML)
									5'	YELLOW BROWN COARSE GRAVEL AND SILT, LOOSE DRY (GM) NO HITS CGI
									33'	TAN COARSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL, LOOSE, DRY (SP) NO HITS CGI
										TAN COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, LOOSE, DRY (SP)

Soil Engineer: ____ Driller: JOE KURZYNOWSKI

Drilling Inspector: ____ Helper: TONY KURZYNOWSKI

B LOCATION
[illegible] SERVICE FACILITIES
L-30427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 2 of 4
LOCATION SMITHTOWN, NY
HOLE NO. MW-5
LINE & STA
OFFSET

DEPTH ___ FT ___ IN CASING OUT DATE ___
DEPTH ___ FT ___ IN ALL CASING OUT DATE ___

DATE START 11-18-93
DATE FINISH 11-18-93

GROUND ELEVATION ___
GROUND WATER ELEVATION ___

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									43'	NO HITS CGI
									65'	TAN COARSE SAND, TRACE SILT, TRACE FINE TO MEDIUM GRAVEL, LOOSE, DRY (SP) NO HITS CGI
									66'	TAN COARSE SAND, TRACE SILT, TRACE VERY COARSE GRAVEL, LOOSE, DRY (SP) NO HITS CGI
									76'	TAN COARSE SAND, TRACE SILT, TRACE FINE GRAEL, LOOSE DRY (SP) NO HITS CGI

Co Engineer: ___ Driller: JOE KURZYNOWSKI

Drilling Inspector: ___ Helper: TONY KURZYNOWSKI

JOB LOCATION

[illegible] SERVICES FACILITIES

L-93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 3 OF 4
LOCATION SMITHTOWN, NY
HOLE NO. MW-3
LINE & STA. ______
OFFSET ______

[illegible] 25' 25'

DEPTH ______ FT. CASING OUT DATE ______
DEPTH ______ FT. ALL CASING OUT DATE ______

DATE START [illegible]
DATE FINISH [illegible]

GROUND ELEVATION ______
GROUND WATER ELEVATION ______

CASING O.D. ______ I.D. ______
SAMPLER O.D. ______ I.D. ______
DIAMOND BIT SIZE ______

WEIGHT OF HAMMER 140 LBS.
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ______ SAMPLER [illegible]

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									100'	TAN COARSE SAND, TRACE SILT, TRACE COARSE GRAVEL, LOOSE, DRY (SP) NO HITS CGI OR HNU
									105'	LIGHT BROWN COARSE SAND, LITTLE SILT, TRACE FINE TO MEDIUM GRAVEL, LOOSE DRY (SM)

Soils Engineer: ______ Driller: JOE KURZYNOWSKI

Drilling Inspector: ______ Helper: TONY KURZYNOWSKI

R LOCATION:
MUNICIPAL SERVICE FACILITIES
92427

WGI Warren George Inc.
SUBSURFACE EXPLORATION
FOR TOWN OF SMITHTOWN

SHEET 1 OF 1
LOCATION SMITHTOWN, NY
HOLE NO. MW-1
LINE & STA.
OFFSET

CASING OUT DIA. ___ FT. ___ CASING OUT DIA. ___
FT. ___ FT. ALL CASING OUT DIA. ___

DATE START 12-15-92
DATE FINISH 12-15-92

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. 1 3/8"
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
		0								BROWN COARSE SAND, SOME SILT, TRACE FINE GRAVEL, LOOSE SLIGHTLY MOIST, (SM)
		10							135'	
		135								END OF HOLE 135'

So. Engineer: ___ Driller: JOE KURZYNOWSKI
Drilling Inspector: ___ Helper: TONY KURZYNOWSKI

JOB LOCATION

[illegible] SERVICE FACILITY

L-22427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 1 OF 3

LOCATION SMITHTOWN, NY

HOLE NO MW-F3

LINE & STA

OFFSET

DRILL [illegible] TYPE [illegible] CASING O.D. AND CLASS

TYPE [illegible] FT. ALL CASING OUT DATE

DATE START 11-2-93

DATE FINISH 11-25-93

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. [illegible] I.D.

SAMPLER O.D. 2" I.D.

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

HOLE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. - FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0 6	6 12	12 18	18 24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-	LIGHT BROWN MEDIUM COARSE SAND, TRACE FINE GRAVEL, SILT (SP/SM)

Soil Engineer:

Driller: VICTOR AIMAR

Drilling Inspector:

Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION	WGI Warren George Inc. SUBSURFACE EXPLORATION	SHEET 2 OF 5
MUNICIPAL SERVICES FACILITY		LOCATION SMITHTOWN, NY
		HOLE NO. MW-F2
		LINE & STA.
		OFFSET
L-12407	FOR: TOWN OF SMITHTOWN	

DEPTH ___ FT. CASING OUT AT ___	DATE START 11-29-93	GROUND ELEVATION
DEPTH ___ FT. ALL CASING OUT DATE ___	DATE FINISH 11-29-93	GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___	WEIGHT OF HAMMER 140 LBS.	HAMMER FALL
SAMPLER O.D. 2" I.D. ___	INSIDE LENGTH OF SAMPLER 24 IN.	CASING ___ SAMPLER 30"
DIAMOND BIT SIZE ___		

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										LIGHT BROWN MEDIUM COARSE SAND, TRACE FINE GRAVEL, TRACE SILT (SP/SM)
										63'-73' GRAVEL

Soil Engineer: ______________ Driller: VICTOR AIMAR

Drilling Inspector: ______________ Helper: JOHN KLINGLER/GREG MARNEY

LOCATION
CENTRAL SERVICE FACILITY

L.35427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 3
LOCATION SMITHTOWN, NY
HOLE NO. MW-F2
LINE & STA.
OFFSET

CASING OUT DATE
DEPTH ALT CASING OUT DATE
DATE START 11-25-22
DATE FINISH 11-29-22
GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. I.D.
SAMPLER O.D. 2" I.D.
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS.
INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL
CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									100'	
	1	100'-102'	6"	18	34	32	35		105'	LIGHT BROWN FINE MEDIUM SAND, TRACE SILT MOIST, DENSE (SM)
	2	105'-107'	6"	15	22	23	28		110'	LIGHT BROWN FINE MEDIUM SAND, LITTLE SILT, INTERLAYERED SANDS, MOIST, MEDIUM DENSE, MOIST DESE (SM)
	3	110'-112'	9"	17	27	28	30		115'	SAME, MOIST DENSE (SM)
	4	115'-117'	10"	31	52	43	45		120'	LIGHT BROWN FINE MEDIUM COASE SAND, LITTLE SILT, LITTLE FINE GRAVEL, WET VERY DENSE (SP)

Soil Engineer:
Driller: VICTOR AIMAR
Drilling Inspector:
Helper: JOHN KLINGLER/GREG MARNEY

B LOCATION:
MUNICIPAL REF. TYPE
FACILITY:
L-26427

WGI Warren George Inc.
SUBSURFACE EXPLORATION
FOR: TOWN OF SMITHTOWN

SHEET 4 OF 5
LOCATION SMITHTOWN, NY
HOLE NO MW-4S
LINE & STA
OFFSET

DRILLED ___ FT ___ CASING OUT DATE ___
DEPTH ___ FT AT CASING OUT DATE ___
DATE START 11-29-95
DATE FINISH 12-05-95
GROUND ELEVATION ___
GROUND WATER ELEVATION ___

CASING O.D. 8" I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE ___
WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN
HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
	5	120'-122'	8"	26	42	43	50			LIGHT BROWN FINE MEDIUM SAND, LITTLE SILT FINE GRAVEL WET, VERY DENSE
									125'	(SM)
	6	125'-127'	7"	21	41	25	32			SAME WET, VERY DENSE (SM)
									130'	
	7	130'-132'	6"	27	40	30	28			GRAY LIGHT BROWN SOME SAND, LITTLE SILT, TRACE FINE GRAVEL, INTERLAYERED
									135'	WET, VERY DENSE (SM) GRAY CLAY, MOIST HARD CLAY
	8	135'-137'	14"	25	39	34	27			
	9A	140'-140'3"	15"	19	32	30	32			
	9B	140'-142'								GRAY LIGHT BROWN FINE MEDIUM COARSE SAND, LITTLE SILT TRACE GRAVEL,
									145'	INTERLAYERED WET, VERY DENSE (SM)
	10	145'-147'	19"	15	22	22	32			BROWN, GRAY CLAY,
									148'	LITTLE FINE SAND, TRACE SILT, INTERLAYERED, VERY STIFF, MOIST MEDIUM
	11	150'-152'	14"	32	65	70	54			DENSE (CL/SP)
									155'	PURPLE, BROWN FINE MEDIUM SAND, TRACE SILT, WET, VERY DENSE (SP)
	12	155'-157'	11"	52	82	78	61			
									160'	GRAY FINE MEDIUM SAND, TRACE SILT, VERT, VERY DENSE (SP)

Soil Engineer: ___ Driller: VICTOR AIMAR
Drilling Inspector: ___ Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 5 OF 5

LOCATION: SMITHTOWN, NY

HOLE NO.: MW-F2

LINE & STA.:

OFFSET:

DATE CASING:

DATE CASING COMPLETED:

DATE START: 11-29-22

DATE FINISH: 11-29-22

GROUND ELEVATION:

GROUND WATER ELEVATION:

CASING O.D.: I.D.:

SAMPLER O.D.: 2" I.D.:

DIAMOND BIT SIZE:

WEIGHT OF HAMMER: 140 LBS

INSIDE LENGTH OF SAMPLER: 24 IN

HAMMER FALL: CASING: SAMPLER: 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. - FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
30	13	160'-162'	12"	70	82	75	82		162'	LIGHT BROWN AND GRAY FINE MEDIUM SAND, TRACE SILT WET, VERY DENSE (SP)
	14	165'-167'	14"	56	75	88	57		167'	SAME (SP)
40										END OF HOLE 167'

Soil Engineer:

Driller: VICTOR AIMAR

Drilling Inspector:

Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION [illegible]
[illegible] FACILITY
[illegible] 3042?

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 1 OF 4
LOCATION SMITHTOWN, NY
HOLE NO. [illegible]
LINE & STA.
OFFSET

CASING OUT DATE
DEPTH ___ FT AFTER CASING OUT DATE

DATE START 11-15-93
DATE FINISH 11-15-93

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" ___ I.D. ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS.
INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-1'	DARK BROWN SILT, ORGANIC MATTER, (ROOTS ETC) LOW PLASTICITY DRY (OL) NO HITS CGI & HNU
									2'	BROWN COARSE SAND, SOME SILT, LOOSE DRY (SM)
									3'	YELLOW BROWN COARSE SAND AND MEDIUM GRAVEL, TRACE SILT, LOOSE DRY (SP)
									8'	TAN MEDIUM SAND, TRACE SILT, TRACE FINE GRAVEL, LOOSE DRY (SP)

Soil Engineer:
Driller: JOE KURZYNOWSKI
Drilling Inspector:
Helper: TONY KURZYNOWSKI

LOCATION:
[redacted]
FACILITY

L-9347

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 4 OF 4
LOCATION BY PATCHOGUE, NY
HOLE NO. MW-3
LINE & STA.
OFFSET

DEPTH [redacted] FT. CASING OUT DATE
DEPTH [redacted] FT. ALL CASING OUT DATE

DATE START 7-13-92
DATE FINISH 7-13-92

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. [redacted] I.D.
SAMPLER O.D. 2" I.D.
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										TAN COARSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL, LOOSE DRY (SP) NO HITS OVA-HNU
									52'	TAN COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, VERY COARSE GRAVEL, LOOSE DRY (SP)
									68'	LIGHT BROWN COARSE SAND, TRACE SILT, TRACE FINE TO VERY COARSE GRAVEL, LOOSE DRY (SP) NO HITS OVA-HNU

Soil Engineer:
Driller: JOE KURZYNOWSKI
Drilling Inspector:
Helper: TONY KURZYNOWSKI

B LOCATION

MUNICIPAL SERVICE FACILITY

L 55427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 1 of 1

LOCATION SMITHTOWN, NY

HOLE NO MW-22

INE & STA

OFFSET

HOLE ___ I.D. ___ CASING O.D. DATE ___

WATER ___ FT. AFT CASING OUT DATE ___

DATE START 11-15-92

DATE FINISH 11-15-92

GROUND ELEVATION ___

GROUND WATER ELEVATION ___

CASING O.D. ___ I.D. ___

SAMPLER O.D. 2.0 I.D. ___

DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									93'	
										LIGHT BROWN COARSE SAND, TRACE SILT, TRACE FINE GRAVEL LOOSE DRY (SP) NO HITS OSI-PNU
									108'	
										LIGHT BROWN COARSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL LOOSE DRY (SP) NO HITS OSI-PNU

Soil Engineer: ___ Driller: JOE KURZYNOWSKI

Drilling Inspector: ___ Helper: TONY KURZYNOWSKI

JOB LOCATION: [illegible] FERRYBOAT FACILITY

[illegible]-13427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: [illegible] OF BATTERY

SHEET 4 OF 4
LOCATION [illegible] BATTERY, NY
HOLE NO. [illegible]
UNIT & DIA [illegible]
OFFSET [illegible]

[illegible] FT [illegible] FT CASING OUT DATE [illegible]
[illegible] FT [illegible] FT ALT CASING OUT DATE [illegible]

DATE START 11-17-95
DATE FINISH 11-15-95

GROUND ELEVATION [illegible]
GROUND WATER ELEVATION [illegible]

CASING O.D. [illegible] I.D. [illegible]
SAMPLER O.D. 2" I.D. [illegible]
DIAMOND BIT SIZE [illegible]

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL
CASING [illegible] SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV - FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									129'	
									130'	BROWN COARSE SAND, SOME (+) SILT, TRACE MEDIUM GRAVEL LOOSE, MOIST (SP) NO HITS OBI-HNU
										END OF HOLE 130'

Soil Engineer [illegible] Driller: JOE KURZYNOWSKI

Drilling Inspector: [illegible] Helper: TONY KURZYNOWSKI

LOCATION: MUNICIPAL SERVICES

L-95427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: SMITHTOWN, NY

SHEET 1 of 3
LOCATION SMITHTOWN, NY
HOLE NO. MW-RT
FILE & DIA.
CHECK

BORING CO. ___ FT ___ IN CASING OUT DATE ___
SUPPL. ___ FT ___ IN ALL CASING OUT DATE ___

DATE START 1-28-98
DATE FINISH 1-29-98

GROUND ELEVATION ___
GROUND WATER ELEVATION ___

CASING O.D. 2" ID ___
SAMPLER O.D. 2" ID ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6 / 6-12 / 12-18 / 18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
						0"-1"	DARK BROWN SILT, ORGANIC MATTER, (ROOTS, ETC.) LOW PLASTICITY (OL) DRILLING WITH MUD
						1'-2'	BROWN COURSE SAND, SOME SILT, LOOSE, (SM) MUD; VIS.=80 WT.=8.75 PH.=7.5
						2'-3'	YELLOW-BROWN COURSE SAND AND MEDIUM GRAVEL, TRACE SILT, LOOSE (SP) PH.=7.5
						3'-8'	TAN MEDIUM SAND, TRACE SILT, TRACE FINE GRAVEL, LOOSE (SP)

Boring Engineer: ___ Driller: FREDDIE NAVARRO

Drilling Inspector: ___ Helper: DANIEL IMPARATO

JOB LOCATION
MUNICIPAL SEPTICS

L-33427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: SMITHTOWN, NY

SHEET 2 OF 3
LOCATION SMITHTOWN, NY
HOLE NO. MW-12
LINE & STA.
OFFSET

CASING OUT DIA. CASING OUT DATE
SAMPLE AUGER CASING OUT DIA.

DATE START 11-28-95
DATE FINISH 11-29-95

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. I.D.
SAMPLER O.D. 2" I.D.
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. - FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-62'	TAN COURSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL, LOOS (SP) VIS.=100+ WT.=8.6 PH.=7.5
									62'+	TAN COURSE SAND TRACE SILT, TRACE MEDIUM GRAVEL, LOOS (SP)

Soil Engineer:
Driller: FREDDIE NAVARRO
Drilling Inspector:
Helper: DANIEL IMPARATO

LOCATION

MUNICIPAL SERVICES

L.96427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: SMITHTOWN, NY

SHEET 2 of 3

LOCATION SMITHTOWN, NY

BORING NO. MW-11

LINE & STA

OFFSET

TOP OF CASING ELEV. DATE

TOP OF SAND ELEV. DATE

DATE START 11-26-96

DATE FINISH 11-29-96

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. 6" I.D.

SAMPLER O.D. 2" I.D.

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0 6	6 12	12 18	18 24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									68'-83'	LIGHT BROWN COURSE SAND, TRACE SILT, TRACE FINE TO VERY COURSE GRAVEL, LOOS (SP)
		10'-95'							83'-95'	LIGHT BROWN COURSE SAND, TRACE SILT, TRACE FINE GRAVEL, LOOSE, (SP) NO HITS HNU OR OSI VIS. 120, WT. 6.5 PH 7.5
	1	95'-97'	12"	40	61	67	58		95'-97'	LIGHT BROWN COURSE SAND, TRACE FINE TO MEDIUM GRAVEL, VERY COMPACT SLIGHTLY MOIST, (SP)
	2	100'-102'	12"	39	40	53	60		100'-102'	BROWN MEDIUM TO COURSE SAND, TRACE SILT, TRACE MEDIUM GRAVE, VERY COMPACT SLIGHTLY MOIST (SP)
	3	105'-107'	12"	47	55	65	73		105'-107'	ORANGE BROWN COURSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL VERY COMPACT, SLIGHTLY MOIST, (SP)
	4	110'-112'	15"	52	57	64	63		110'-112'	ORANGE BROWN COURSE SAND, TRACE SILT, TRACE VERY COURSE, TRACE FINE GRAVEL
	5	115'-117'	15"	48	50	65	69			

Soil Engineer:

Driller: FREDDIE NAVARRO

Boring Inspector:

Helper: DANIEL IMPARATO

B LOCATION
INITIAL SUBSURFACE
_ 95427

WGI Warren George Inc.
SUBSURFACE EXPLORATION
FOR: SMITHTOWN, NY

SHEET 4 OF 5
LOCATION SMITHTOWN, NY
BORE NO. MW-182
LINE & STA
OFFSET

TOP OF CASING OUT DATE
BOTTOM TOP OF CASING OUT DATE
DATE START 11-29-93
DATE FINISH 11-29-93
GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ID
SAMPLER O.D. 2" ID
DIAMOND BIT SIZE
WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN
HAMMER FALL
CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV - FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
	6	120'-122'	12"	55	44	66	80			VERY COMPACT, WET (SP) NO HITS HNU
	7	125'-127'	17"	25	60	52	52		125'-127'	AS ABOVE NOT HIT HNU
	8	130'-132'	16"	52	53	55	60		130'-132'	ORANGE BROWN COURSE SAND, LITTLE WHITE COURSE SAND AND FIN TO MEDIUM GRAVEL, TRACE SILT, VERY COMPACT WET (SP)
	9	135'-137'		36	37	29	29		135'-137'	THIN BEDDED, ORANGE BROWN COURSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL, INTER BEDDED WITH PINK & WHITE MEDIUM SAND, LITTLE SILT, VERY COMPACT WET (SP) VIS.100, WT.8.7 PH. 7.5
	10	140'-142'	18"	33	22	28	25			
	11	145'-147'	17"	41	43	28	31		145'-147'	TAN MEDIUM SAND, TRACE SILT, TRACE MEDIUM GRAVEL, VERY COMPACT, WET, (SP) NO HIT HNU
	12	150'-152'	12"	25	33	41	45		150'-152'	GRAY FINE SAND, TRAC SILT, VERY COMPACT, WET, (SP) NO HIT HNU
	13	155'-157'	7"	37	52	54	50		155'-157'	GRAY MEDIUM SAND, VERY COMPACT, WET (SP) NO HIT HNU

Ice Engineer:
Driller: FREDDIE NAVARRO
Drilling Inspector:
Helper: DANIEL IMPARATO

JOB LOCATION

MUNICIPAL SERVICES

L.50407

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: SMITHTOWN, NY

SHEET 2 of 3

LOCATION: SMITHTOWN, NY

HOLE NO. TW-12

LINE & STA.

GRADE

DEPTH ___ FT CASING OUT DATE

DEPTH ___ FT AIR CASING OUT DATE

DATE START 11-25-22

DATE FINISH 11-25-22

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___

SAMPLER O.D. 2" I.D. ___

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

FALL OF HAMMER 30 IN

HAMMER FALL

CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV - FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6 / 6-12 / 12-18 / 18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
15	12' 161'		2"	12 17		161'	ORANGE BROWN & WHIT
						161'	MEDIUM TO COURSE, SAND, VERY COMPACT, WET (SP) REFUSAL NO HITS HNU
15	165'-166'		80/4 100			165'	ORANGE BROWN & WHIT
						166'	FINE TO MEDIUM SAND TRACE SILT, VERY COMPACT, WET (SP)
						165'	TOTAL DEPTH DRILLED
						166'	TOTAL DEPTH DRILLED

Soil Engineer ___ Driller: FREDDIE NAVARRO

Drilling Inspector: ___ Helper: DANIEL IMPARATO

LOCATION:
MUNICIPAL SERVICES

L. 93427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 1 OF 4
LOCATION SMITHTOWN, NY
HOLE NO. MW-6
LINE & STA.
OFFSET

CASING O.D. ___ I.D. ___ SET CASING @ ___ DATE ___
DEPTH ___ SET CASING @ ___ DATE ___

DATE START 11-10-88
DATE FINISH 11-10-88

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-2'	DARK BROWN SILT, ORGANIC MATTER (ROOTS ETC.) LOW DIASTICITY, DRY (OL)
									5'	OGI & HNU NO HITS YELLOW-BROWN SILT, TRACE CLAY, LITTLE FINE SAND, LOW PLASTICITY, DRY (ML)
									13'	TAN COARSE SAND, LITTLE FINE TO MEDIUM GRAVEL, TRACE SILT, LOOSE, DRY (SP)
									16'	TAN COARSE SAND, TRACE FINE GRAVEL, TRACE SILT, LOOSE DRY, (SP)
									29'	TAN COARSE SAND, LITTLE VERY COARSE GRAVEL, TRACE SILT. LOOSE, DRY (SP)
									38'	OGI & HNU NO HITS TAN COARSE SAND, TRACE (-) SILT, TRACE MEDIUM GRAVEL, LOOSE, DRY, (SP)

Soil Engineer: ___ Driller: JOE KURZYNOWSKI

Drilling Inspector ___ Helper: TONY KURZYNOWSKI

B LOCATION

[illegible] SERVICES

[illegible] 93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 4

LOCATION SMITHTOWN, NY

HOLE NO. MW-[illegible]

LINE & STA

OFFSET

[illegible] FT [illegible] CASING [illegible] DAY

[illegible] FT ALL CASING OUT DAY

DATE START [illegible]

DATE FINISH [illegible]

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. ______ I.D. ______

SAMPLER O.D. 2" I.D. ______

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING ______ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										TAN COARSE SAND, TRACE (-) SILT, TRACE FINE GRAVEL, LOOSE, DRY. (SP)
									68'	
									70'	TAN COARSE SAND, TRACE (-) SILT, TRACE MEDIUM TO COARSE GRAVEL, LOOSE, DRY. (SP)
										CGI & HNU NO HITS

Soil Engineer:

Driller: JOE KURZYNOWSKI

Drilling Inspector:

Helper: TONY KURZYNOWSKI

LOCATION:
[illegible] SERVICES

L.93427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 3 OF 4
LOCATION SMITHTOWN, NY
HOLE NO. MW-4
LINE & STA ______
OFFSET ______

FT. [illegible] CASING [illegible]	______	DATE START [illegible]	GROUND ELEVATION ______
[illegible] FT. ALL CASING OUT DATE	______	DATE FINISH [illegible]	GROUND WATER ELEVATION ______

CASING I.D. ______ O.D. ______	WEIGHT OF HAMMER 140 LBS	HAMMER FALL
SAMPLER O.D. 2" I.D. ______	INCHES LENGTH OF SAMPLER 24 IN	CASING ______ SAMPLER 30"
DIAMOND BIT SIZE ______		

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									80'	TAN COARSE SAND, TRACE SILT, TRACE MEDIUM GRAVEL, LOOSE, DRY, (SP)
									86'	BROWN COARSE SAND, TRACE SILT, TRACE FINE GRAVEL, LOOSE, SLIGHTLY MOIST, (SP)
										BROWN COARSE SAND, TRACE SILT, LITTLE COARSE TO VERY COARSE GRAVEL, LOOSE, SLIGHTLY MOIST, (SP) POSSIBLE WATER TABLE AT 105' CGI & HNU NO HITS

Soil Engineer: ______ Driller: JOE KURZYNOWSKI

Drilling Inspector: ______ Helper: TONY KURZYNOWSKI

JOB LOCATION

MUNICIPAL SERVICES

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 4 OF 4

LOCATION SMITHTOWN, NY

BORING NO. MW-2

LINE & STA. _____

PROJECT _____

TYPE _____ I.D. _____ CASING CUT DATE _____

DEPTH _____ ALT CASING CUT DATE _____

DATE START 11-10-93

DATE FINISH 11-10-93

GROUND ELEVATION _____

GROUND WATER ELEVATION _____

CASING O.D. _____ I.D. _____

SAMPLER O.D. 2" I.D. _____

DIAMOND BIT SIZE _____

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING _____ SAMPLER 30"

	CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6 / 6-12 / 12-18 / 18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
120								TAN COARSE SAND, TRACE (-) SILT, TRACE (-) FINE GRAVEL, LOOSE, WET, (SP)
							126'	
130								END OF HOLE 126'
140								
150								

Soil Engineer: _____ Driller: JOE KURZYNOWSKI

Drilling Inspector: _____ Helper: TONY KURZYNOWSKI

JOB LOCATION
CENTRAL SERVICES
FACILITY

L-93427

WGI Warren George Inc.
SUBSURFACE EXPLORATION
FOR TOWN OF EAST TROY

SHEET 1 of 2
LOCATION EAST TROY, WI
ROE NO MW-2
LINE & STA
OFFSET

CASING O.D. ___ I.D. ___ CASING OUT DATE ___
DEPTH ___ FT. CASING OUT DATE ___

DATE START 5-14-93
DATE FINISH 5-14-93

GROUND ELEVATION ___
GROUND WATER ELEVATION ___

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24" IN

HAMMER FALL
CASING ___ SAMPLER 24"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS FROM FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-1'	GRAVEL
										LIGHT BROWN FINE MEDIUM COARSE SAND, TRACE SILT, FINE GRAVEL, SAND BECOMES LIGHTER IN COLOR (SM)

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling Inspector: ___ Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION:

MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 2 OF 3
LOCATION SMITHTOWN, NY
HOLE NO. MW-4I
LINE & STA
OFFSET

DEPTH ___ FT. AFTER CASING REMOVAL ___
DEPTH ___ FT. AFTER CASING OUT ___

DATE START 11-17-93
DATE FINISH 11-17-93

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

Depth	CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV - FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
40											
50											55'-56' GRAVEL LAYER
60											
70											68'-69' GRAVEL LAYER 72'-73' GRAVEL LAYER
80											

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling Inspector: ___ Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION
MUNICIPAL SERVICES FACILITY

L-9242?

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 3 of 3
LOCATION SMITHTOWN, NY
HOLE NO MW-42
LINE & STA
OFFSET

CASING ___ FT ___ IN CASING O.D. DIA ___
DEPTH ___ FT ALL CASING OUT DATE ___

DATE START 1-17-95
DATE FINISH 1-27-95

GROUND ELEVATION
GROUND WATER ELEVATION:

CASING O.D. 4"
SAMPLER O.D. 2" I.D.
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24" IN

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0 to 6	6 12	12 18	18 - 24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									90'	
	1	90'-92'	12"	28	43	52	52		95'	LIGHT BROWN FINE MEDIUM COARSE SAND, TRACE SILT, TRACE GRAVEL, VERY DENSE MOIST INTERLAYED (SM)
	2	95'-97'	8"	32	62	65	77		100'	LIGHT BROWN FINE MEDIUM COARSE SAND, TRACE SILT, CLAY, TRACE GRAVEL, VERY DENSE MOIST, INTERLAYERED (SM)
	3	100'-102'	12"	26	58	48	44		105'	LIGHT BROWN GRAY FINE MEDIUM COARSE SAND, TRACE SILT, TRACE CLAY, TRACE FINE GRAVEL, VERY DENSE MOSIT (SM)
	4	105'-107'	8"	42	80	78	74		110'	LIGHT BROWN FINE MEDIUM SAND, LITTLE SILT, TRACE CLAY, TRACE FINE GRAVEL, VERY DENSE MOIST (SM)
	5	110'-112'	12"	40	52	57	62		115'	SAME, INTERLAYERED SAND
	6	115'-117'	0	52	92	92	96			NO SAMPLE WASH IN SPOON
									120'	

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling Inspector: ___ Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION
MUNICIPAL SERVICES
[illegible]
[illegible] 5241

WGI Warren George Inc.
SUBSURFACE EXPLORATION
FOR TOWN OF SMITHTOWN

SHEET 4 OF 5
LOCATION SMITHTOWN, NY
HOLE NO MW-P2
LINE & STA
ELEV

TO [illegible] FT CASING OUT DATE
TOTAL [illegible] FT ALL CASING OUT DATE

DATE START 12-7-95
DATE FINISH 12-7-95

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. [illegible] ID [illegible]
SAMPLER O.D. 2" ID [illegible]
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING [illegible] SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
120	7	120'-122'	12	5	4	1	93	54	58	LIGHT BROWN FINE MEDIUM COARSE SAND, LITTLE SILT, TRACE CLAY VERY DENSE. WET, INTERBEDED SANDS
	8	125'-127'	10"	45	70	64	68		125'	LIGHT BROWN FINE MEDIUM COARSE SAND, LITTLE SILT, LITTLE CLAY, TRACE GRAVEL VERY DENSE, MOIST (SM)
	9	130'-131'	8"	37	104	/6"			130'	ORANGE, BROWN NON-PLASTIC CLAY, LITTLE SAND, TRACE GRAVEL, HARD MOSIT (CL)
	10	135'-135'6"	8"	50	70	100	/6"		135'	GRAY, LIGHT BROWN FINE MEDIUM SAND, TRACE CLAY, SILT, VERY DENSE, MOIST, INTERBEDED SANDS (SC)
140	11	140'-142'	2"	30	52	60	67		140'	LIGHT BROWN GRAY FINE MEDIUM SAND, TRACE CLAY, SILT INTERBEDED SANDS (SC)
	12	145'-147'	14"	28	35	36	38		145'	SAME
150	13	150'-151'6"	9"	43	72	105			150'	LIGHT BROWN FINE MEDIUM SAND, TRACE SILT, CLAY, VERY DENSE WET, INTERBEDED SANDS (SM)
	14	155'-157'	14"	55	88	72	85		155'	SAME, VERY DENSE, WET (SM)
160									160'	

Soil Engineer:
Driller: VICTOR AIMAR
Drilling Inspector:
Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION:

MUNICIPAL SERVICES FACILITY

93-27

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 2

LOCATION EMITHTOWN, NY

HOLE NO MW-12

LINE & STA

OFFSET

TYPE CASING OUT DATE

DEPTH AUGER OUT DATE

DATE START 11-17-93

DATE FINISH 11-22-93

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. IN

SAMPLER O.D. 2" IN

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

	CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0 6	6 12	12 18	18 24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
160		15	160'-162'	14"	54	64	67	65			GRAY SOME MEDIUM SAND, TRACE SILT, CLAY, VERY DENSE WET
										165'	(SM)
		16	165'-166'6"		80	70	100	/6"			
170											SAME
										170'	(SM)
		17	170'-171'6"	9"	64	68	100	/6"		172'	LIGHT BROWN FINE MEDIUM SAND, TRACE SILT, CLAY, VERY DENSE WET (SM)
180											
											END OF HOLE 172'
190											
200											

Soil Engineer:

Driller: VICTOR AIMAR

Driving Inspector:

Helper: JOHN KLINGLER/GREG MARNEY

JOB LOCATION:

MUNICIPAL SERVICES FACILITY

L.I. 95427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 1 of 4

LOCATION SMITHTOWN, NY

HOLE NO. MW-11

LINE & STA

OFFSET

TYPE ... ID ... CASING ... DIAM ...

SAMPLER ... ID ... CASING CUT TO ...

DIAM START 11-3-92

DIAM FINISH 11-3-92

GROUND ELEVATION

GROUND WATER ELEVATION

SINC CYL ... ID ...

SAMPLER O.D. 2" ID ...

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING ... SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0'-	DARK BROWN COARSE SAND, TRACE FINE GRAVEL, LITTLE SILT LOOSE MOIST (SM)
									7'	LIGHT BROWN COARSE SAND, TRACE FINE GRAVEL, SOME SILT, LOOSE MOIST. (SM)
									10'	TAN MEDIUM SAND, TRACE(-) SILT, TRACE (-) COARSE GRAVEL, LOOSE, DRY. (SM)
									12'	TAN MEDIUM TO COARSE SAND. TRACE (-) SILT, TRACE (-) MEDIUM TO COARSE GRAVEL, LOOSE DRY. (SP)
		17'-25'							17'	TAN MEDIUM SAND. TRACE (-) SILT, TRACE FINE GRAVEL, LOOSE, DRY. (SW) CGI=0% HNU= NO HITS
									25'	TAN COARSE SAND, TRACE SILT, LITTLE MEDIUM GRAVEL, LOOSE, DRY (SP)
									33'	

Soil Engineer

Driller: JOE KURZYNOWSKI

Drilling Inspector:

Helper: TONY KURZYNOWSKI

JOB LOCATION: MUNICIPAL SERVICES FACILITY

32427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 4

LOCATION: SMITHTOWN, NY

BORING NO. MW-11

N. & E.

A.D.

T.D. ____ FT. I.D. ____ FT. CASING LEFT IN HOLE ____

C.W.D. ____ FT. AFTER CASING PULLED DATE ____

DATE START 7-2-93

DATE FINISH 7-2-93

GROUND ELEVATION ____

GROUND WATER ELEVATION ____

CASING O.D. ____ I.D. ____

SAMPLER O.D. 2" I.D. ____

DIAMOND BIT SIZE ____

WEIGHT OF HAMMER 140 LBS.

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL: CASING ____ SAMPLER 24"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										TAN COARSE SAND, TRACE (-) SILT, TRACE (-) FINE GRAVEL, LOOSE, DRY (SP)
		53'-58'								OBI=0% HNU= NO HITS
									65'	
										TAN COARSE SAND, TRACE SILT, LITTLE FINE GRAVEL, LOOSE, DRY, (SP)
									75'	
		76'-79'							79'	OBI=0% HNU= NO HITS TAN COARSE SAND, TRACE SILT, TRACE

Soil Engineer: ____ Driller: JOE KURZYNOWSKI

Drilling Inspector: ____ Helper: TONY KURZYNOWSKI

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L. ISLAND

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 3 OF 4

LOCATION SMITHTOWN, NY

HOLE NO MW-11

LINE & STA

OFFSET

RIG CASING OUT DATE

DRILL CASING OUT DATE

DATE START 11-8-93

DATE FINISH 11-8-93

GROUND ELEVATION

GROUND WATER ELEVATION

CASING O.D. 5" I.D.

SAMPLER O.D. 2" I.D.

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS.

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
										VERY COARSE GRAVEL, LOOSE, DRY (SP)
									88'	TAN COARSE SAND, TRACE SILT, TRACE (-) FINE GRAVEL, LOOSE, DRY (SP)
										TAN COARSE SAND, LITTLE SILT, TRACE MEDIUM GRAVEL, LOOSE, DRY, (SP)
	4	93'-108'								CGI=0% HNU= NO HITS
									113'	BROWN COARSE SAND, LITTLE SILT, TRACE FINE TO MEDIUM GRAVEL, LOOSE, MOIST, (SM)
		116'		TOP	OF	WATER			116'	BROWN COARSE SAND, SOME SILT, TRACE(+) MEDIUM TO VERY COARSE GRAVEL, LOOSE MOIST, (SM)
		113'-117'							118' 5"	CGI=0% HNU=.1PPM AS ABOVE, WET
	1	117'-119'	15"	20	15	20	37			
		NO HIT								

Soil Engineer

Driller: JOE KURZYNOWSKI

Drilling Inspector:

Helper: TONY KURZYNOWSKI

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 2

LOCATION SMITHTOWN, NY

HOLE NO MW-11

LINE & STA

OFFSET

DATE CASING OUT DATE

DATE START 11-3-92

DATE FINISH 11-3-92

GROUND ELEVATION

GROUND WATER ELEVATION

CASING NQ OD HD

SAMPLER OD 2" HD

DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL

CASING SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									119'	LIGHT BROWN VERY FINE SAND, TRACE (-) SILT, VERY COMPACT, MOIST (SP) HIGH MICA CONTENT
										IN THE WATER DID NOT COME TO SURFACE
									127'	
	1	127'-129'	NR	15	4	15	20		128'	BROWN CLAYEY SILT, LOW PLASTICITY, MEDIUM CONSISTENCY MOIST, (ML) OSI=0% HNU= NO HIT
	2	127'-129'	13"	NO	BLO	WS			129'	BROWN SILTY CLAY, MEDIUM PLASTICITY MEDIUM CONSISTENCY MOIST (CL)
										END OF HOLE (SB) 129'-136' HNU=NO HIT OSI=0%

Soil Engineer:

Driller: JOE KURZYNOWSKI

Drilling Inspector

Helper: TONY KURZYNOWSKI

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L.I. 39427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 1 OF 3

LOCATION SMITHTOWN, NY

HOLE NO. MW-12

LINE & STA. _____

DATUM _____

TYPE _____ I.D. _____ CASING O.D. DATE _____

TYPE _____ I.D. ALT. CASING O.D. DATE _____

DATE START 11-11-96

DATE FINISH 11-12-96

GROUND ELEVATION _____

GROUND WATER ELEVATION _____

SAMPLER O.D. 2" I.D. _____

DIAMOND BIT SIZE _____

WEIGHT OF HAMMER 140 LBS

INSIDE LENGTH OF SAMPLER 24 IN.

HAMMER FALL

CASING _____ SAMPLER 24"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV. / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									0' -	LIGHT BROWN FINE MEDIUM COARSE SAND, TRACE GRAVEL AND SILT

Soil Engineer: _____ Driller: VICTOR AIMAR

Drilling Inspector: _____ Helper: JOHN KLINGLER

JOB LOCATION

UNICIPAL SERVICES FACILITY

81427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 2 OF 5
LOCATION SMITHTOWN, NY
HOLE NO. MW-12
LINE & STA
OFFSET

DEPTH ___ FT ___ FT CASING OUT DATE ___
DEPTH ___ FT AFT CASING OUT DATE ___

DATE START 11-11-92
DATE FINISH 11-17-92

GROUND ELEVATION ___
GROUND WATER ELEVATION ___

CASING O.D. 2" I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE ___

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

Depth	CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
40											
5											
60											
70											71'-72' COBBLES 71'-75' SILTY CLAY WITH SAND 75'-78' GRAVEL
80											

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling inspector: ___ Helper: JOHN KLINGLER

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR TOWN OF SMITHTOWN

SHEET 3 OF 5
LOCATION SMITHTOWN, NY
HOLE NO MW-12
LINE & STA
OFFSET

DEPTH ___ FT ___ FT CASING OUT DATE ___
DEPTH ___ FT ALL CASING OUT DATE ___

DATE START 11-11-93
DATE FINISH 11-17-93

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ___ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
									105'	
	1A	105'-107'	8"	21	28	26	36			LIGHT BROWN FINE MEDIUM COARSE SAND, LITTLE SILT, TRACE FINE GRAVEL, DENSE, MOIST, INTERLAYERED (SM)
	1B								110'	
	2	110'-112'	3.6	29	36	33	34			LIGHT BROWN FINE MEDIUM SAND, LITTLE SILT, TRACE FINE GRAVEL, VARVED DENSE MOIST (SM)
	3	115'-117'	13"	27	31	24	26		115'	
									120'	LIGHT BROWN FINE MEDIUM SAND, TRACE SILT, DENSE, MOIST (SM)

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling Inspector ___ Helper: JOHN KLINGLER

JOB LOCATION:
MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.
SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 4 OF 5
LOCATION SMITHTOWN, NY
HOLE NO MW-12
LINE & STA
OFFSET

DEPTH ____ FT ____ FT CASING OUT DATE
DEPTH ____ FT AFT CASING OUT DATE

DATE START 11-11-93
DATE FINISH 11-17-93

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ____ I.D. ____
SAMPLER O.D. 2" I.D. ____
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS.
INSIDE LENGTH OF SAMPLER 24 IN

HAMMER FALL
CASING ____ SAMPLER 30"

CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV - FEET	SAMPLE RECOVERY	BLOWS PER 6" ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST. MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
	4	120'-122'	15"	22	32	31	41			LIGHT BROWN FINE MEDIUM SAND, SILT, TRACE CLAY, VERY DENSE, WET (VARVED)
									125'	(SM/ML)
	5	125'-127'	17"	15	21	20	31			LIGHT BROWN FINE MEDIUM SAND, SILT, TRACE CLAY, MEDIUM DENSE, WET
									130'	(SM)
	6	130'-132'	8"	23	14	14	18			LIGHT BROWN FINE MEDIUM COARSE SAND, LITTLE SILT, CLAY, MEDIUM DENSE.
									135'	MOIST (SM)
	7	135'-137'	9"	24	32	31	29			LIGHT BROWN MEDIUM COARSE SAND, LITTLE SILT, CLAY, TRACE FINE GRAVEL, MOIST,
									140'	DENSE (SP)
	8	140'-142'	5"	24	30	27	25			LIGHT BROWN MEDIUM COARSE SAND, TRACE SILT, TRACE FINE COARSE GRAVEL,
									145'	DENSE WET (SP)
	9	145'-147'	10"	28	40	33	45			LIGHT BROWN FINE MEDIUM COARSE SAND, TRACE SILT, FINE GRAVEL, WET, VERY
									150'	DENSE (SP)
	10	150'-152'	9"	23	36	50	52			LIGHT GRAY AND LIGHT BROWN FINE MEDIUM SAND, LITTLE CLAY, TRACE SILT,
									155'	MICA FLAKES, WET, VERY DENSE
	11	155'-157'	9"	47	76	73	80			LIGHT GRAY, LIGHT BROWN INTERLAYED FINE MEDIUM SAND,
									160'	LITTLE CLAY, TRACE

Sc Engineer: ____ Driller: VICTOR AIMAR

Drilling Inspector: ____ Helper: JOHN KLINGLER

JOB LOCATION

MUNICIPAL SERVICES FACILITY

L.93427

WGI Warren George Inc.

SUBSURFACE EXPLORATION

FOR: TOWN OF SMITHTOWN

SHEET 5 OF 5
LOCATION SMITHTOWN, NY
HOLE NO MW-12
LINE & STA
OFFSET

DEPTH ___ FT ___ FT CASING OUT DATE
DEPTH ___ FT AFT CASING OUT DATE

DATE START 11-11-93
DATE FINISH 11-17-93

GROUND ELEVATION
GROUND WATER ELEVATION

CASING O.D. ___ I.D. ___
SAMPLER O.D. 2" I.D. ___
DIAMOND BIT SIZE

WEIGHT OF HAMMER 140 LBS
INSIDE LENGTH OF SAMPLER 24 IN

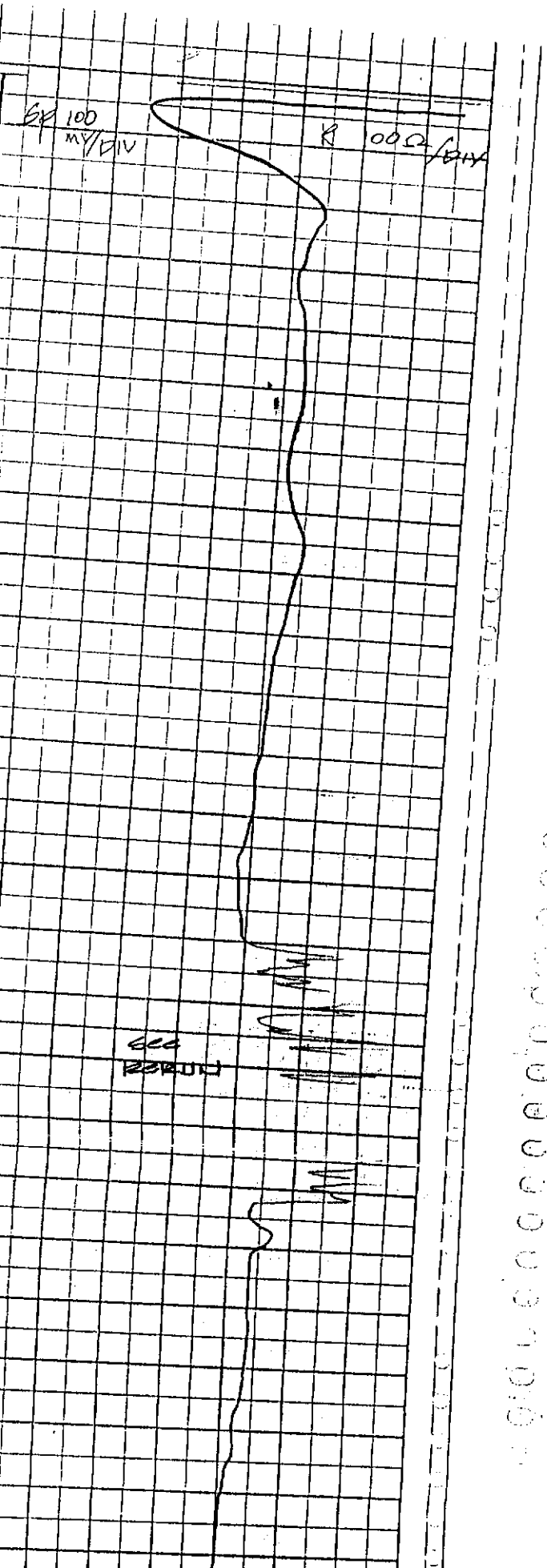
HAMMER FALL
CASING ___ SAMPLER 30"

	CASING BLOWS PER FOOT	SAMPLE NUMBER	SAMPLE DEPTHS ELEV / FEET	SAMPLE RECOVERY	BLOWS PER 6 ON SAMPLER 0-6	6-12	12-18	18-24	DENSITY OR CONSIST MOISTURE	PROFILE CHANGE DEPTH	FIELD IDENTIFICATION OF SOIL
160		12	160'-162'	13"	50	90	62	64			SILT, WET, VERY DENSE, MICA FLAKES (SC)
										162'	LIGHT GRAY AND LIGHT BROWN MOTTLED FINE MEDIUM SAND, TRACE CLAY, SILT, WET, VERY DENSE (SC)
170											END OF HOLE 162'
180											
190											
200											

Soil Engineer: ___ Driller: VICTOR AIMAR

Drilling Inspector: ___ Helper: JOHN KLINGLER

APPENDIX B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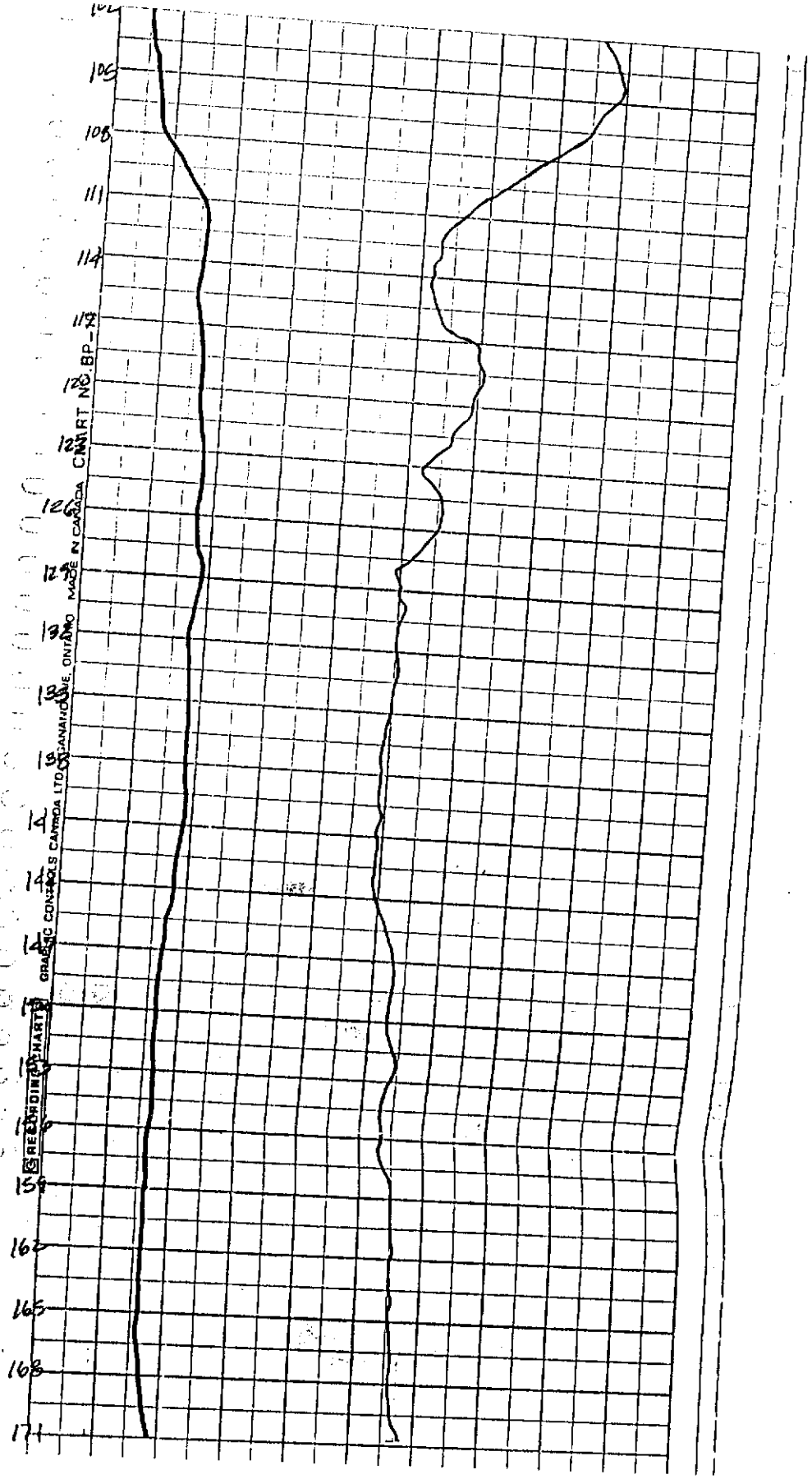
R 000Ω/DIV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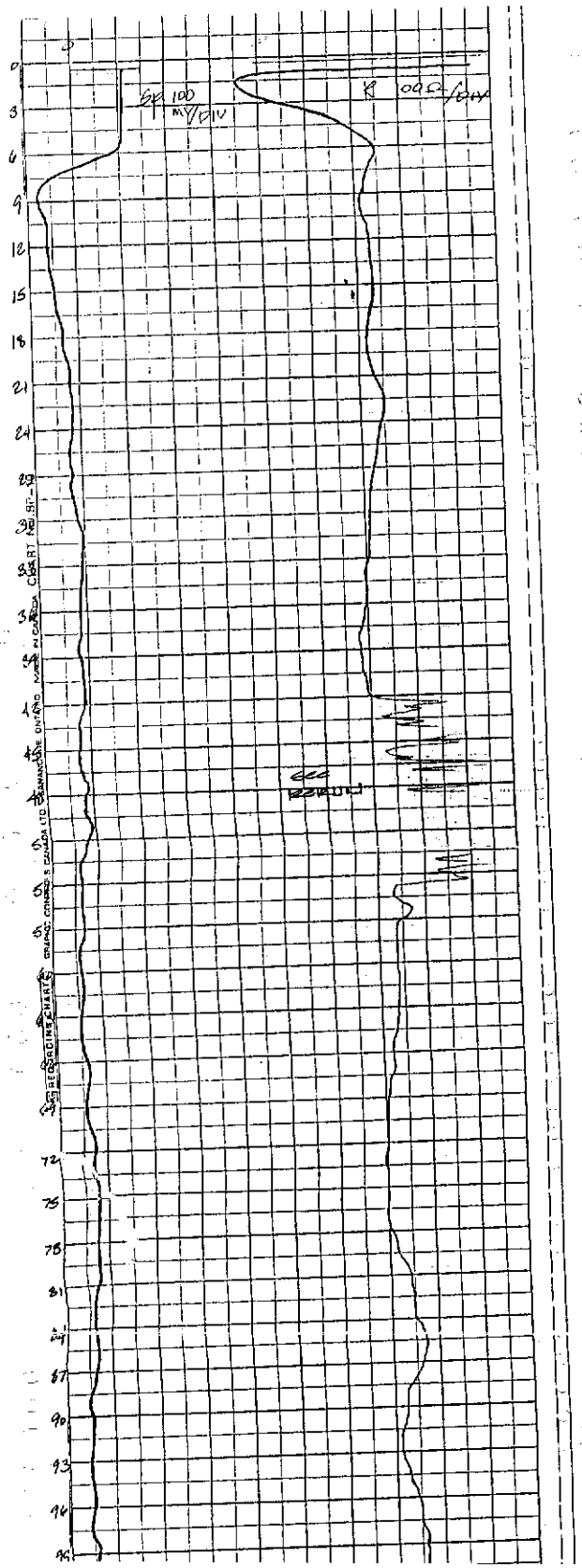
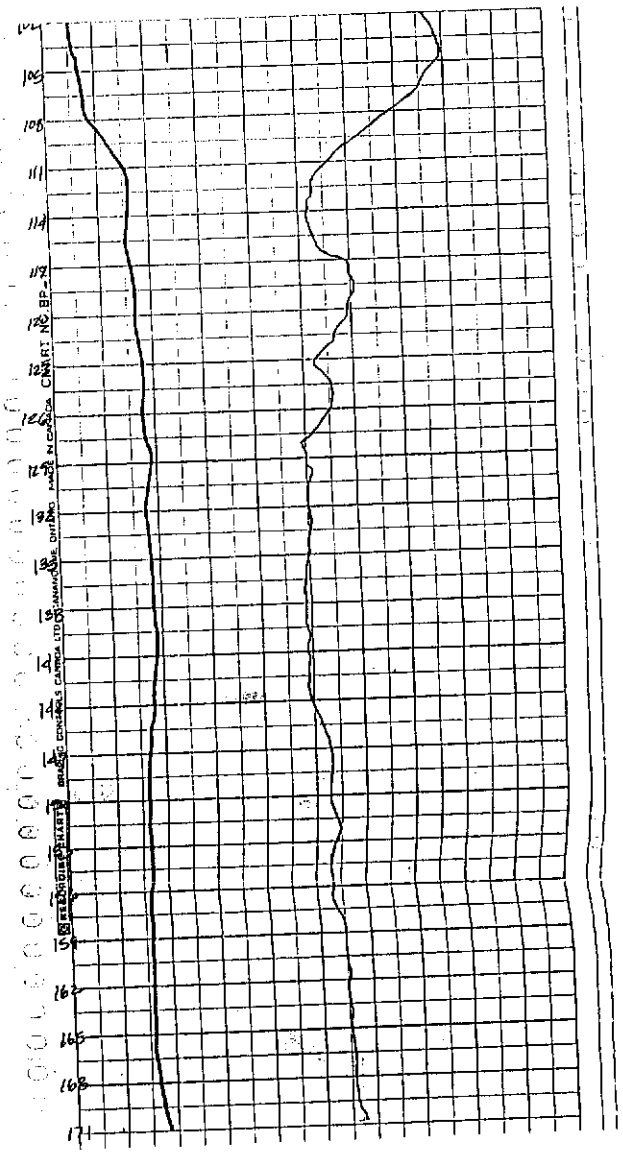
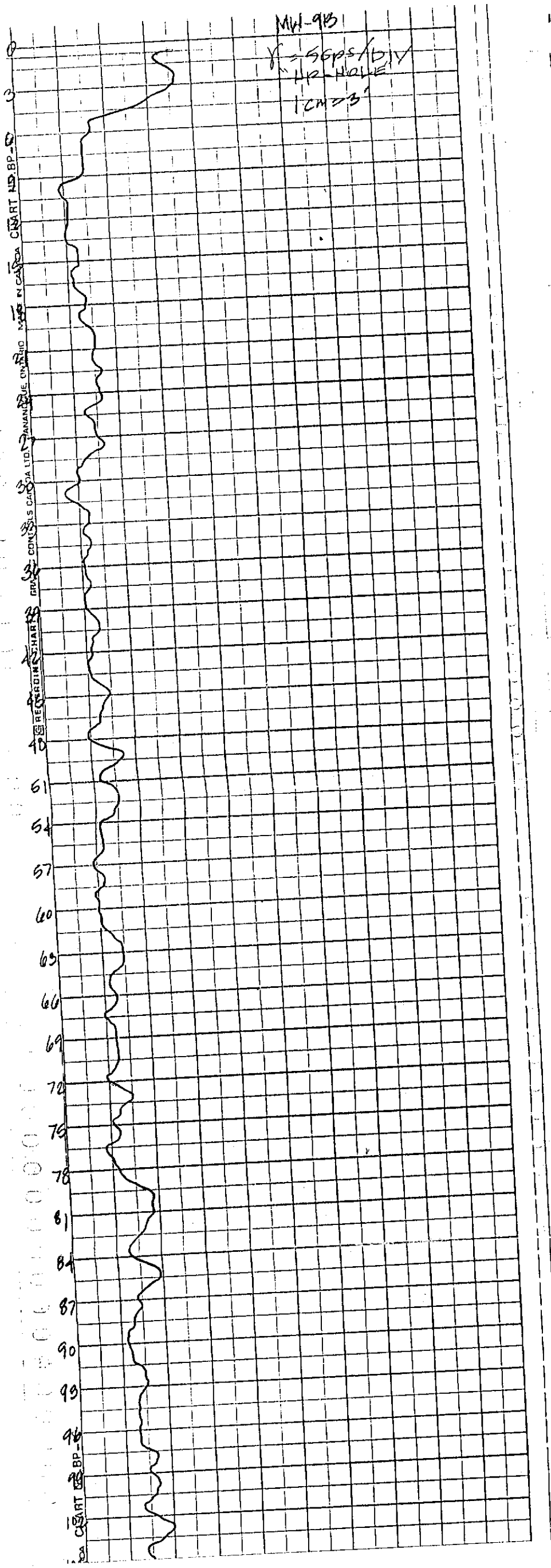
MADE IN CANADA
GRAPHIC CONTROLS CANADA LTD. BUFFALO, ONTARIO
RECORDING CHART

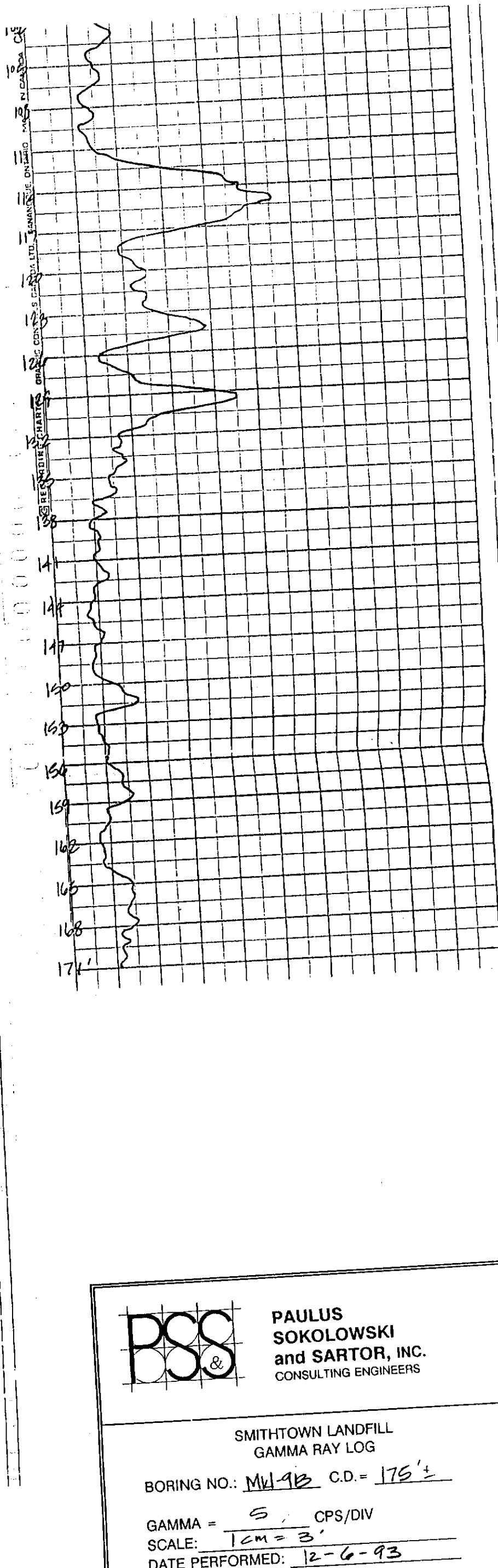




PAULUS
SOKOLOWSKI
and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL





PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

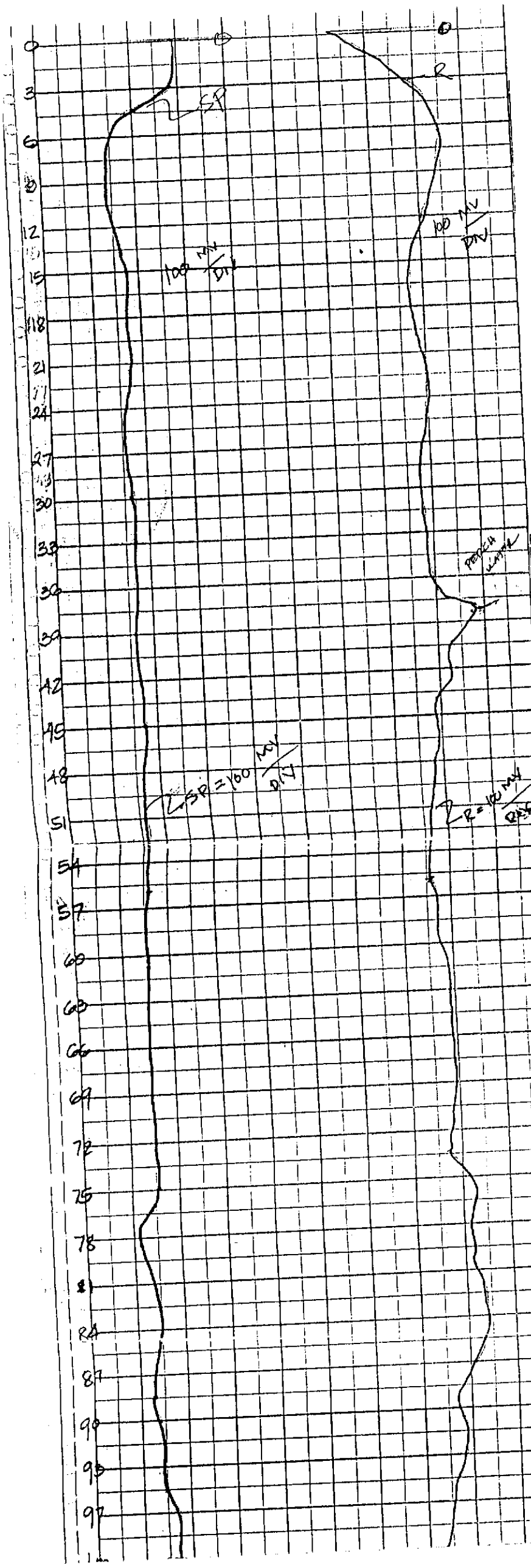
SMITHTOWN LANDFILL
GAMMA RAY LOG

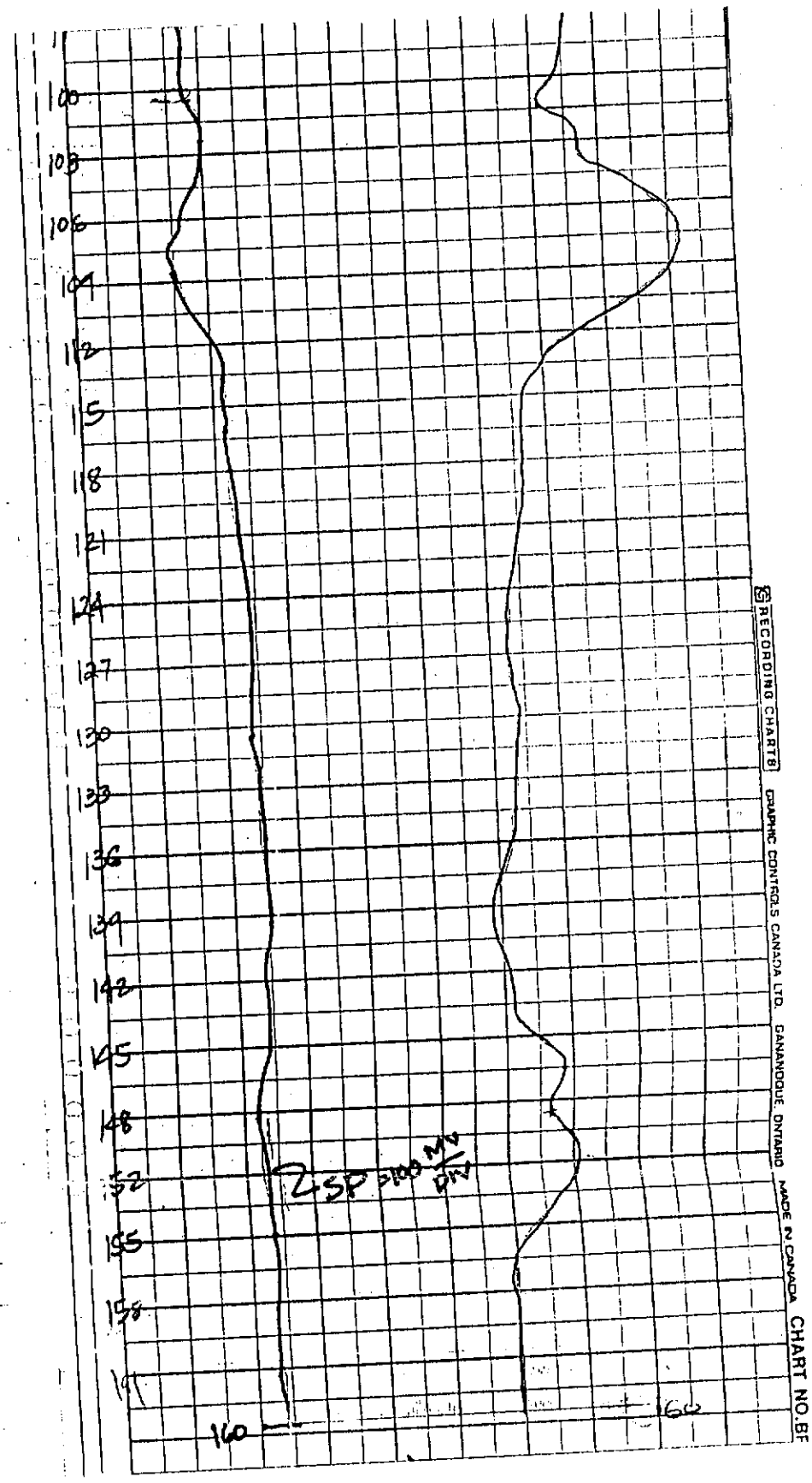
BORING NO.: MW-9B C.D. = 175'±

GAMMA = 5 CPS/DIV

SCALE: 1cm = 3'

DATE PERFORMED: 12-6-93



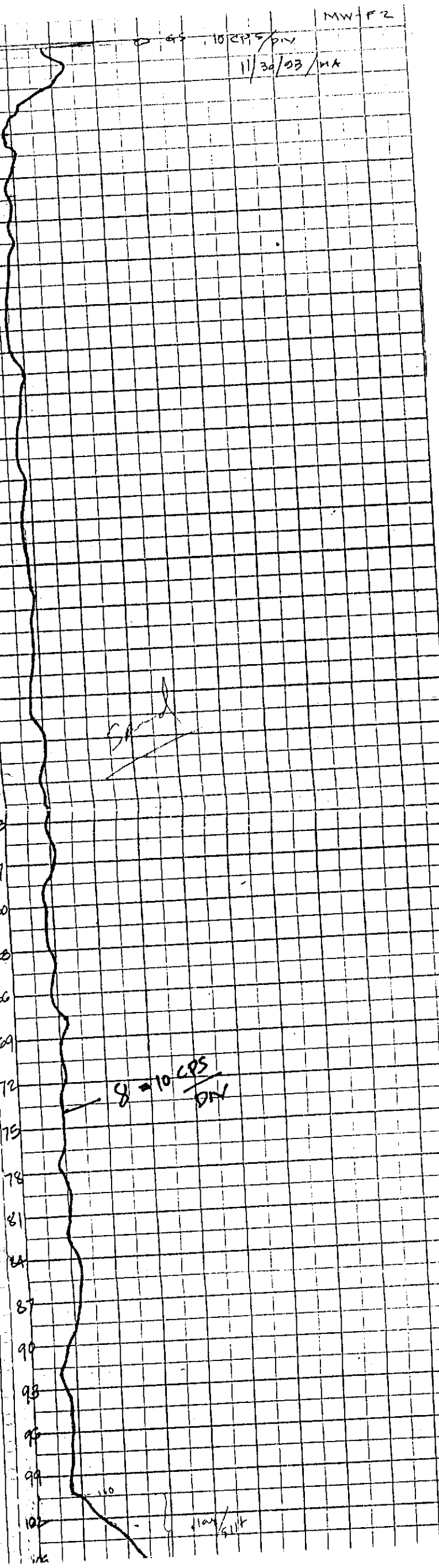


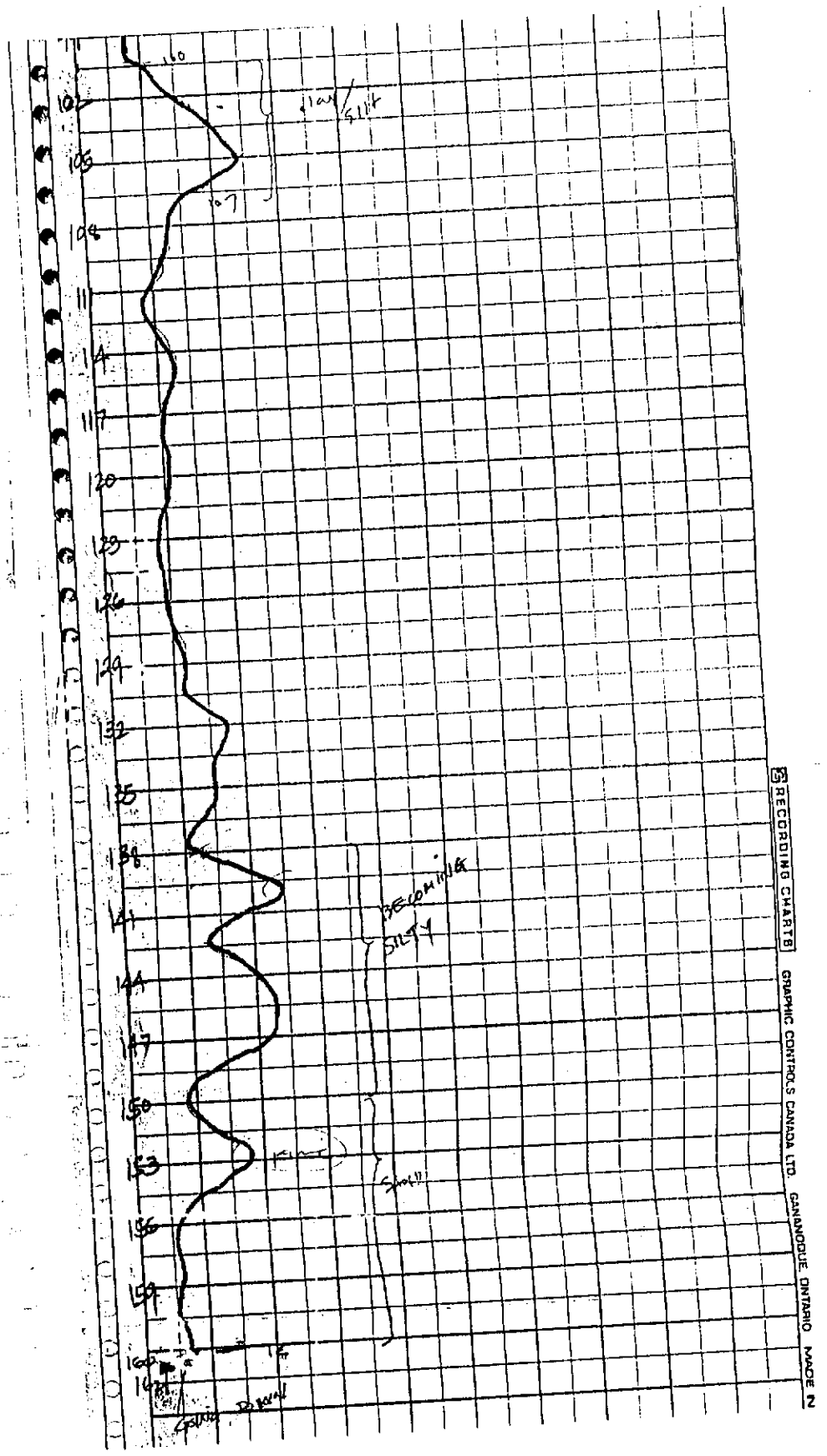
PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
RESISTIVITY/SP LOG

BORING NO.: MW-F2 C.D. = 162.5 ±

RESISTIVITY = 100 OHMS/DIV
SP = 100 MV/DIV POLARITY = " - "
SCALE: 1 cm = 3'
DATE PERFORMED: 11-30-93



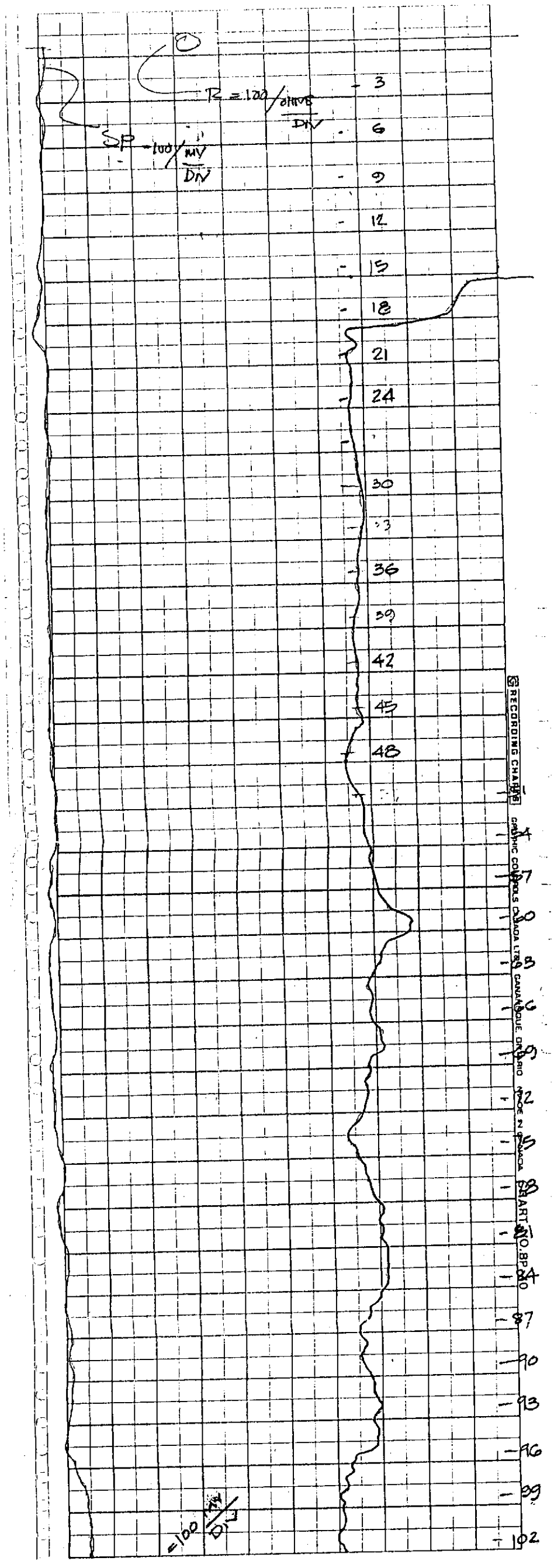


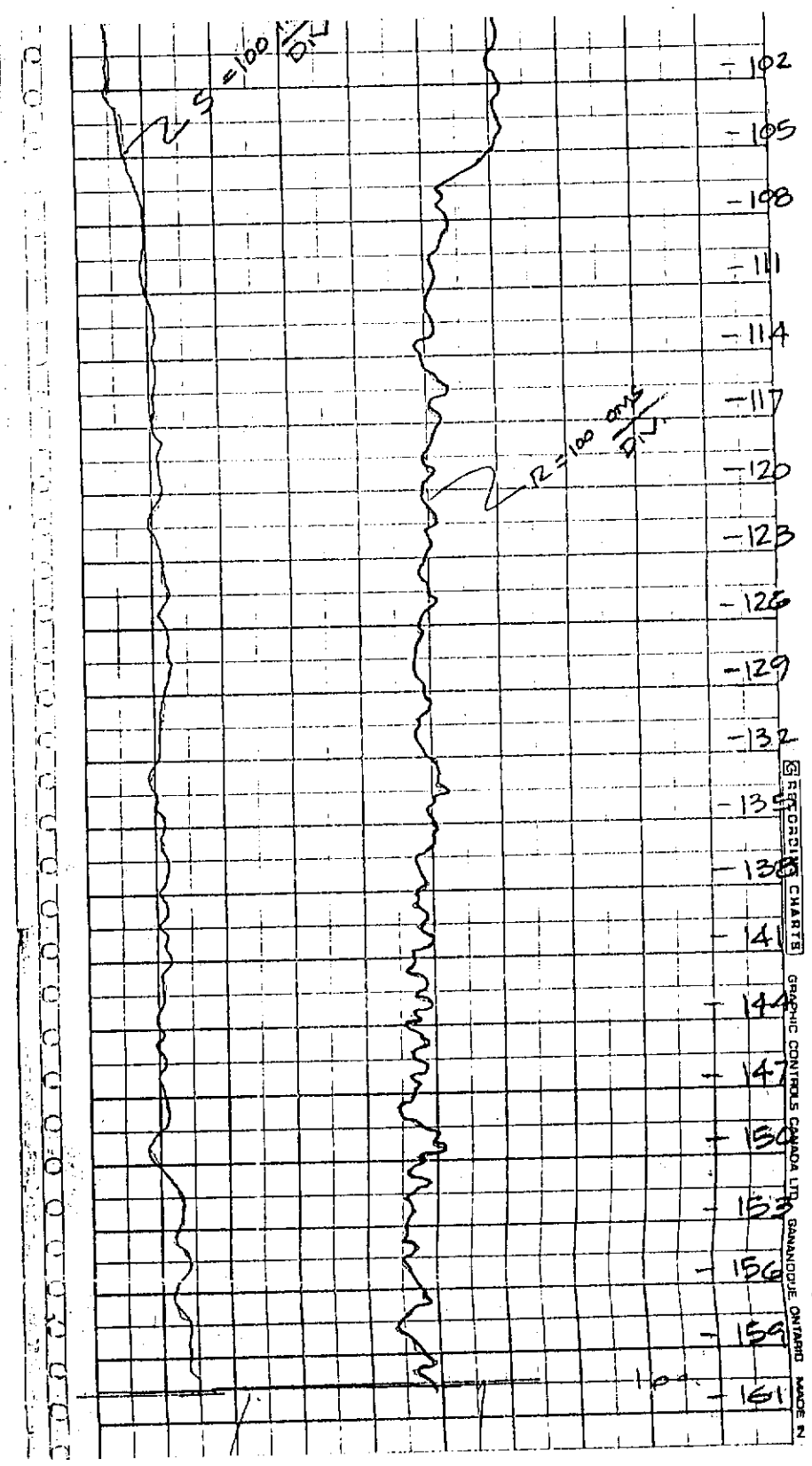
PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
GAMMA RAY LOG

BORING NO.: MW-F2 C.D.= 162.5'±

GAMMA = 10 CPS/DIV
SCALE: 1cm = 3'
DATE PERFORMED: 11-30-93



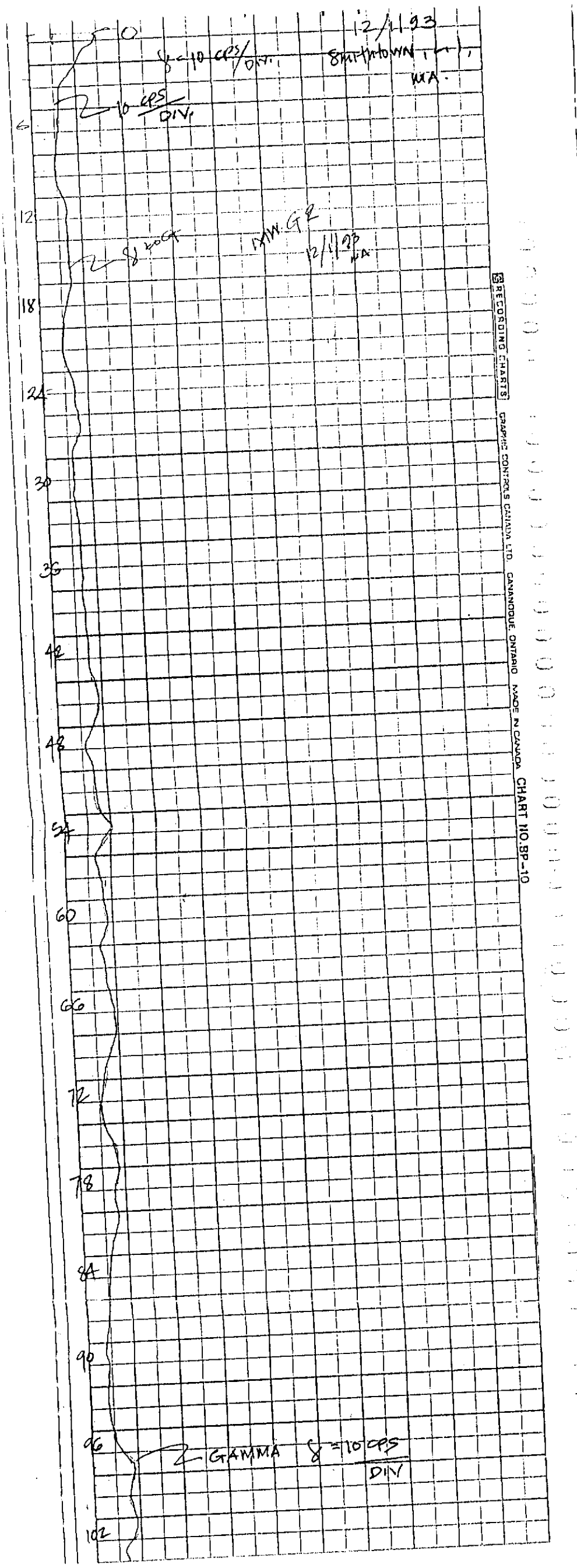


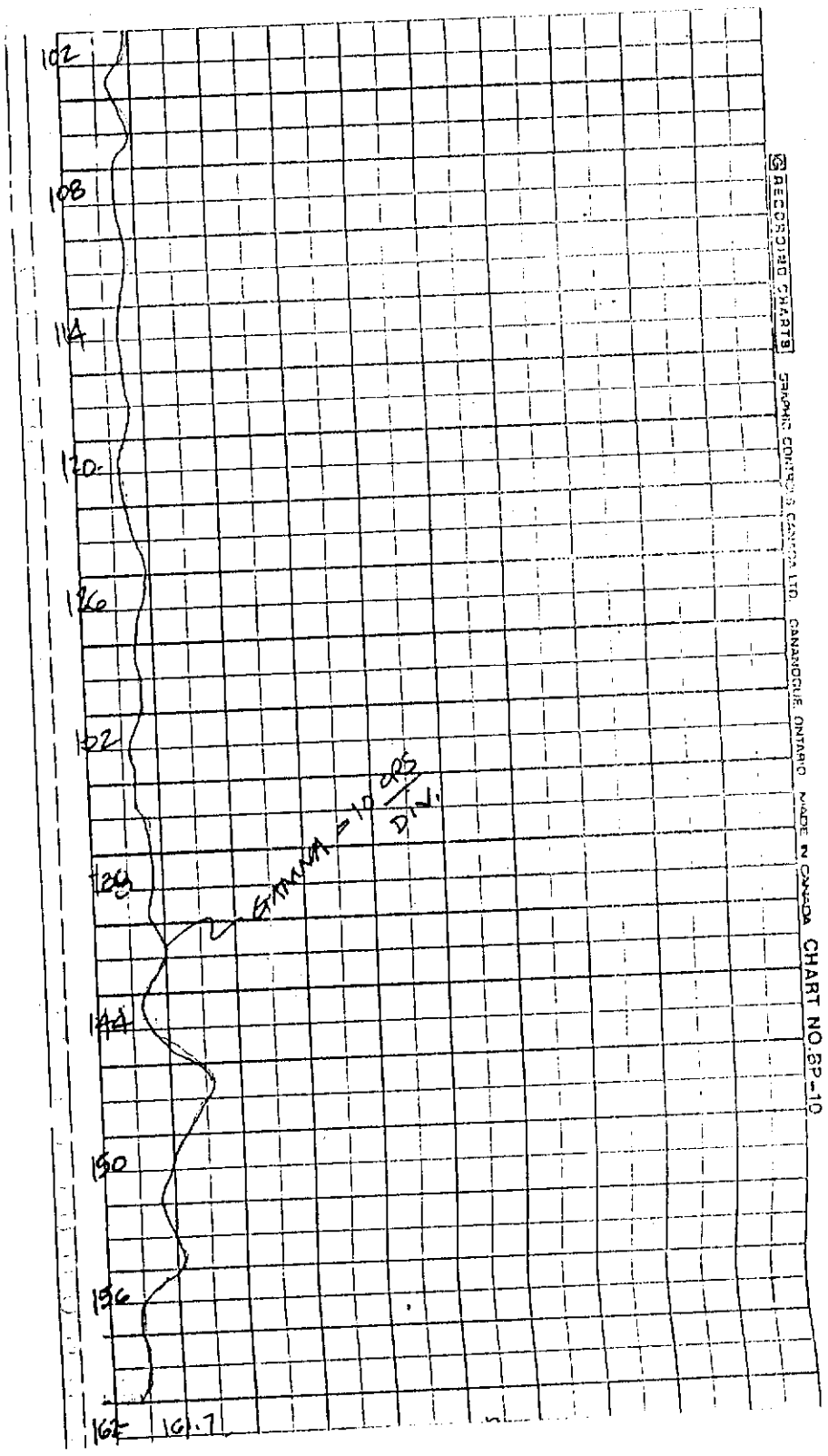
PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
RESISTIVITY/SP LOG

BORING NO.: MW-G2 C.D. = 162'±

RESISTIVITY = 100 OHMS/DIV
SP = 100 MV/DIV POLARITY = "–"
SCALE: 1cm = 3'
DATE PERFORMED: 12-1-93



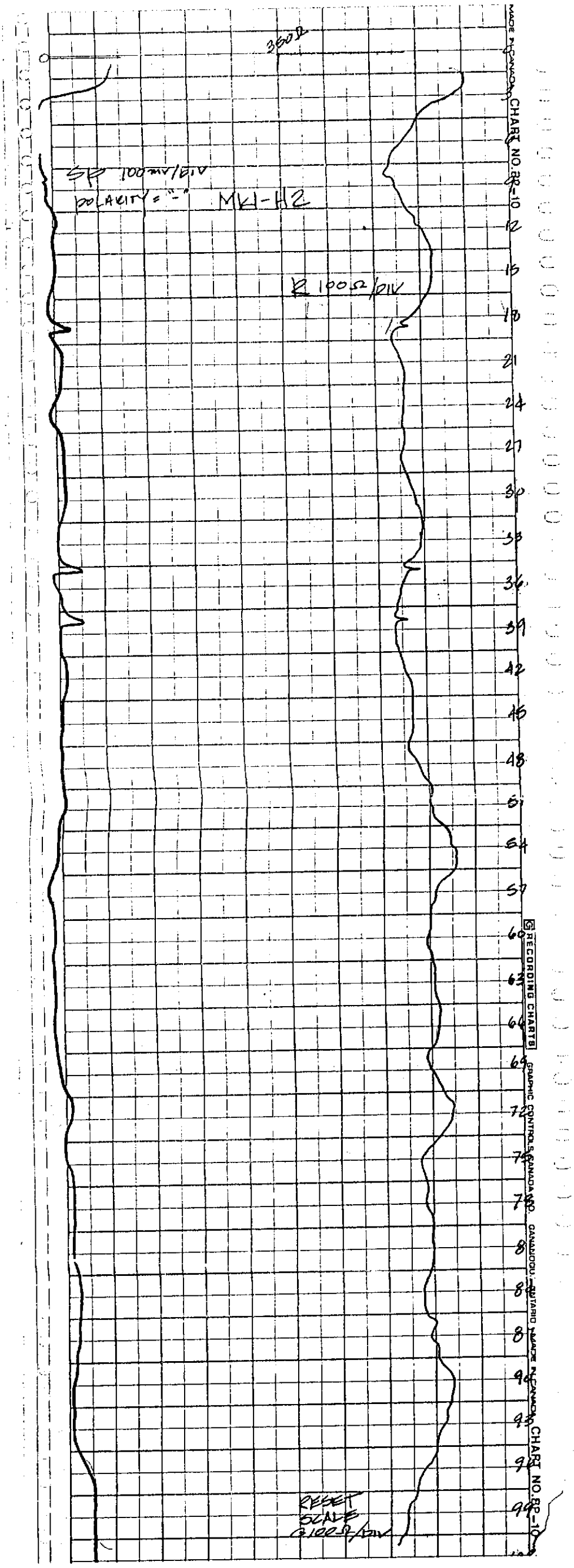


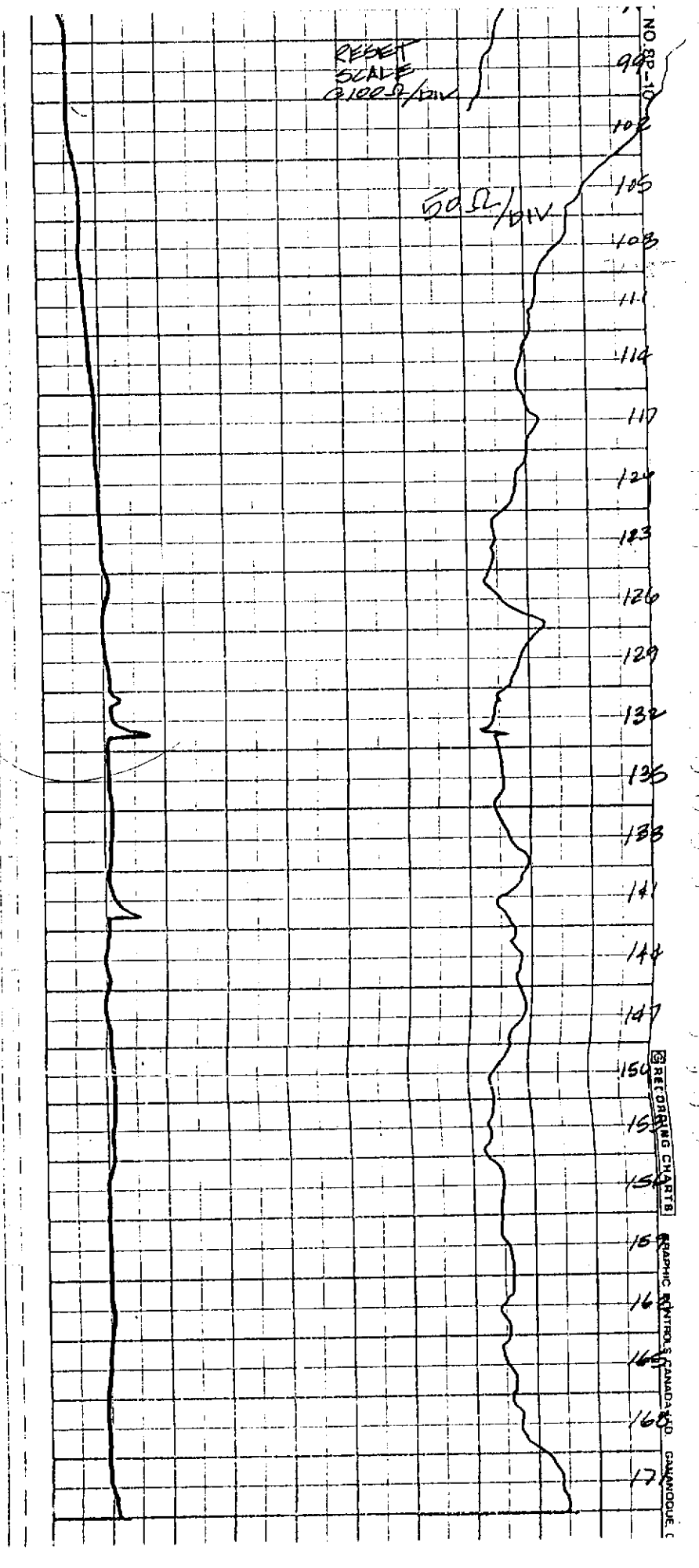
PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
GAMMA RAY LOG

BORING NO.: MW-92 C.D. = 162' ±

GAMMA = 10 CPS/DIV
SCALE: 1 cm = 3'
DATE PERFORMED: 12-1-93



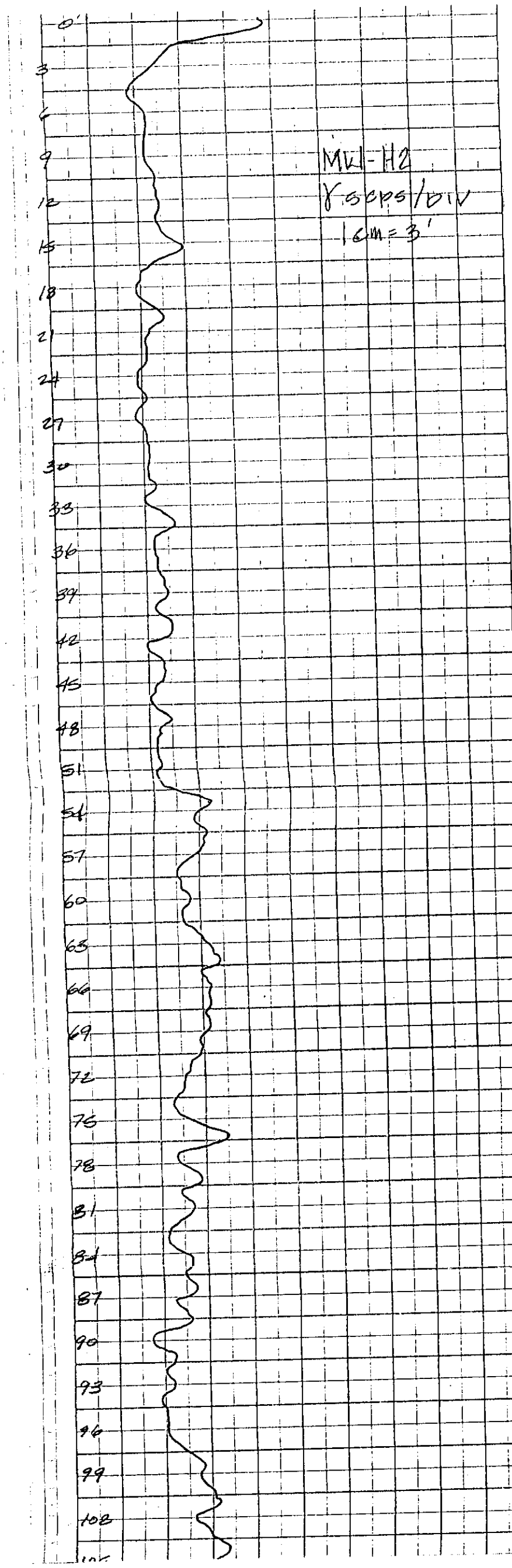


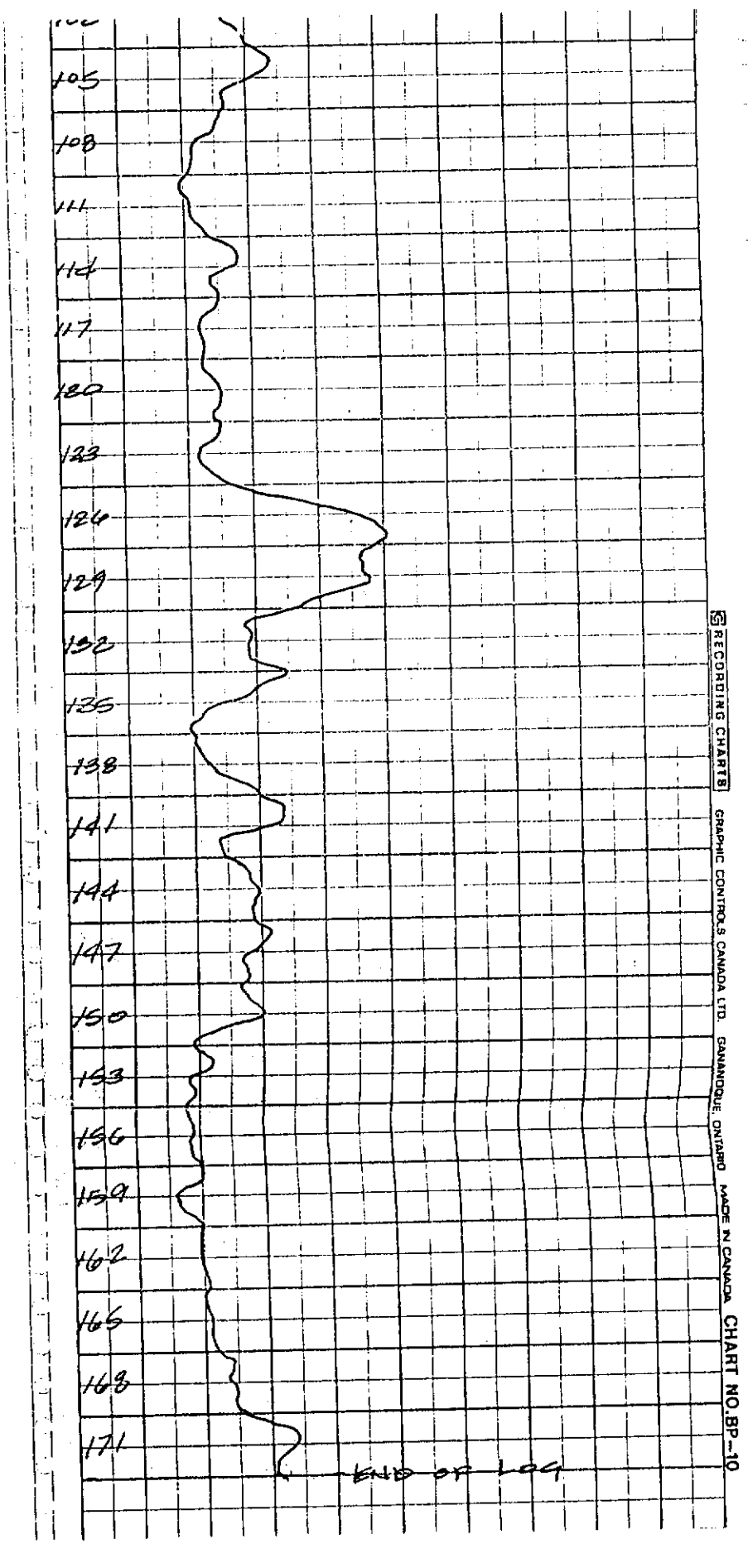
PAULUS SOKOLOWSKI and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
RESISTIVITY/SP LOG

BORING NO.: MW-H2 C.D.= 175'±

RESISTIVITY = 100 OHMS/DIV
SP = 100 MV/DIV POLARITY = " - "
SCALE: 1 cm = 3'
DATE PERFORMED: 11-22-93





PAULUS
SOKOLOWSKI
and SARTOR, INC.
CONSULTING ENGINEERS

SMITHTOWN LANDFILL
GAMMA RAY LOG

BORING NO.: MW-H2 C.D.= 175'±

GAMMA = 5 CPS/DIV
SCALE: 1 cm = 3'
DATE PERFORMED: 11-22-93

COMPANY: MURPHY GEORGE

HOLE ID: MW-12

LOCATION: SMITHTOWN

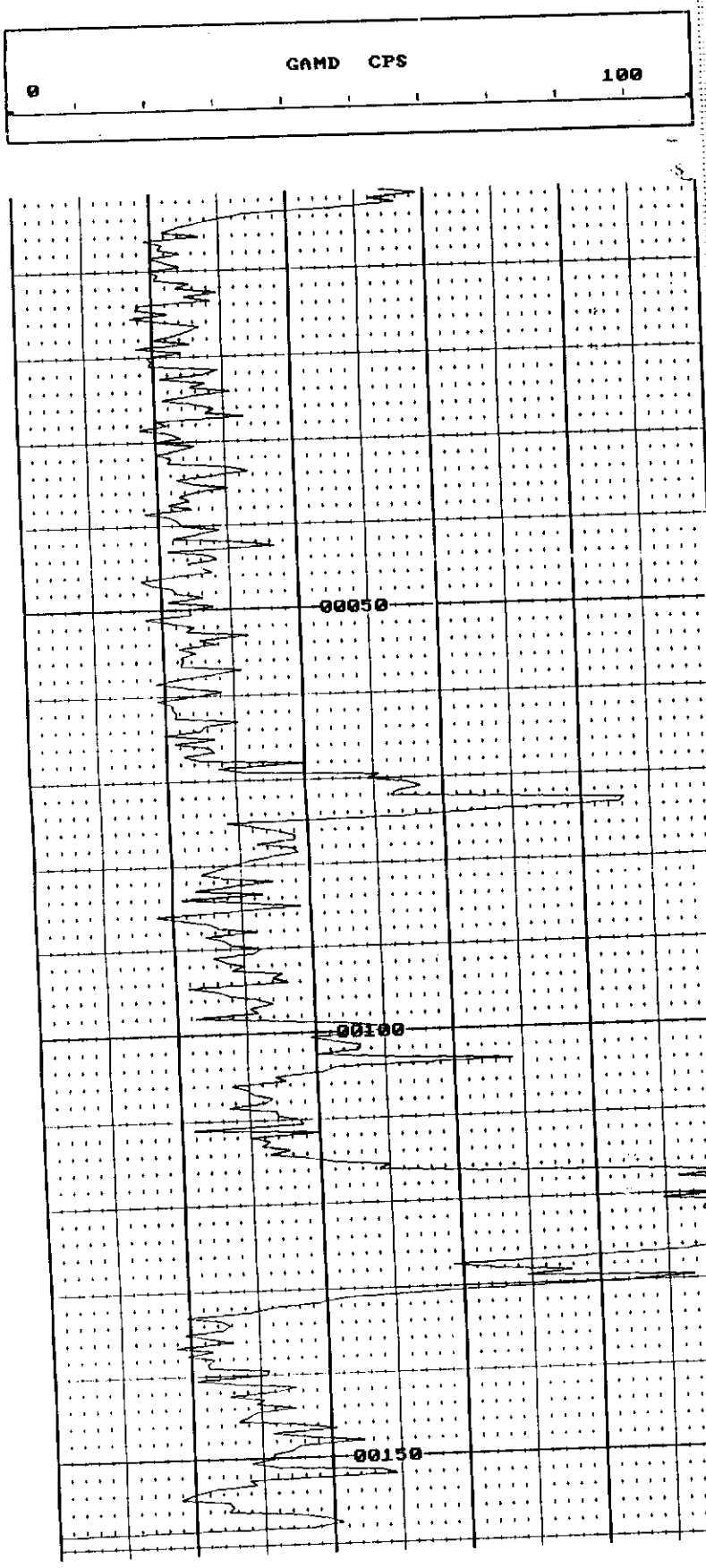
DATE: 11-15-93

TIME: 0900

OPERATOR: GE

COMMENT1: GAMMA UP

COMMENT2:



LOCATION: SMITHTOWN

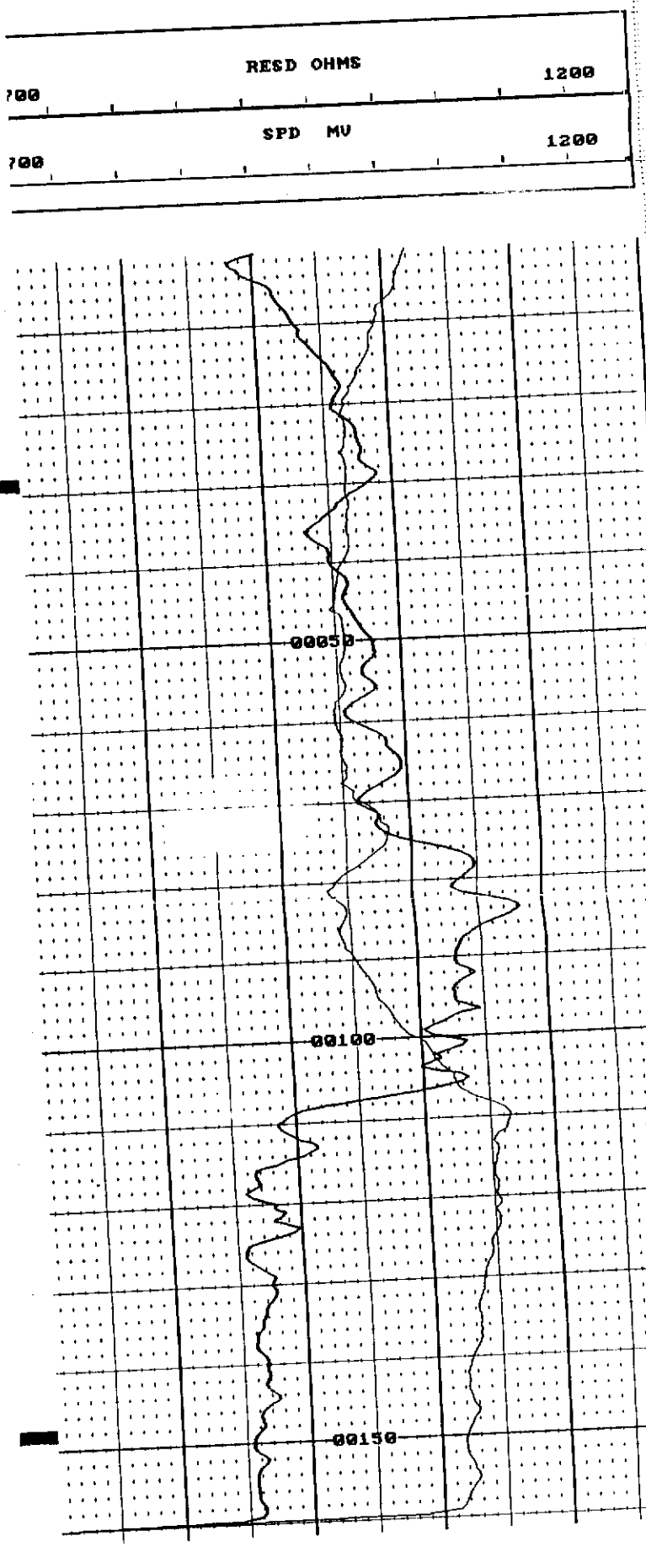
DATE: 11-15-93

TIME: 0900

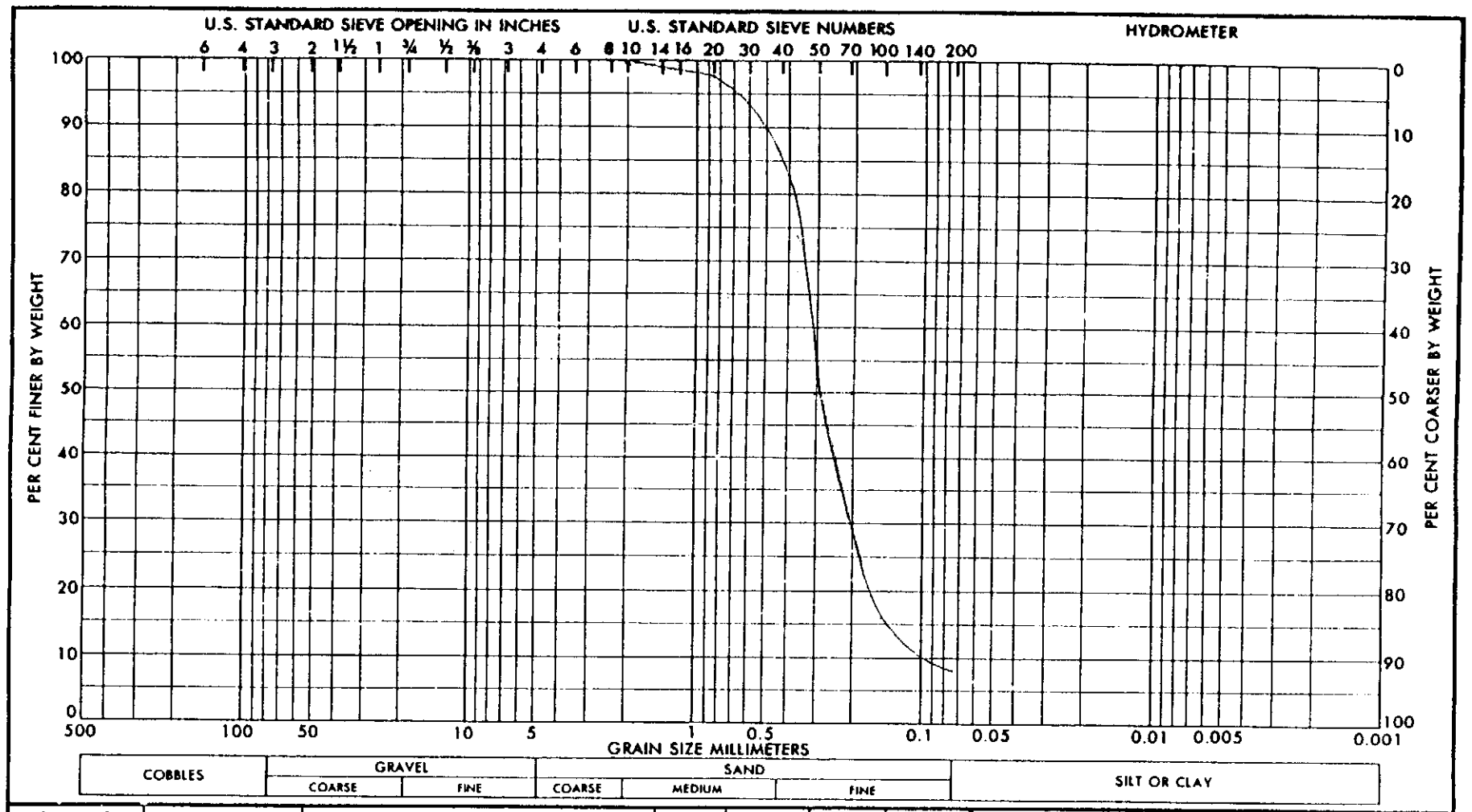
OPERATOR: GE

COMMENT1: R-SP UP

COMMENT2:



APPENDIX C



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	105-107	Brown fine/medium Sand trace silt				

GRADATION CURVES

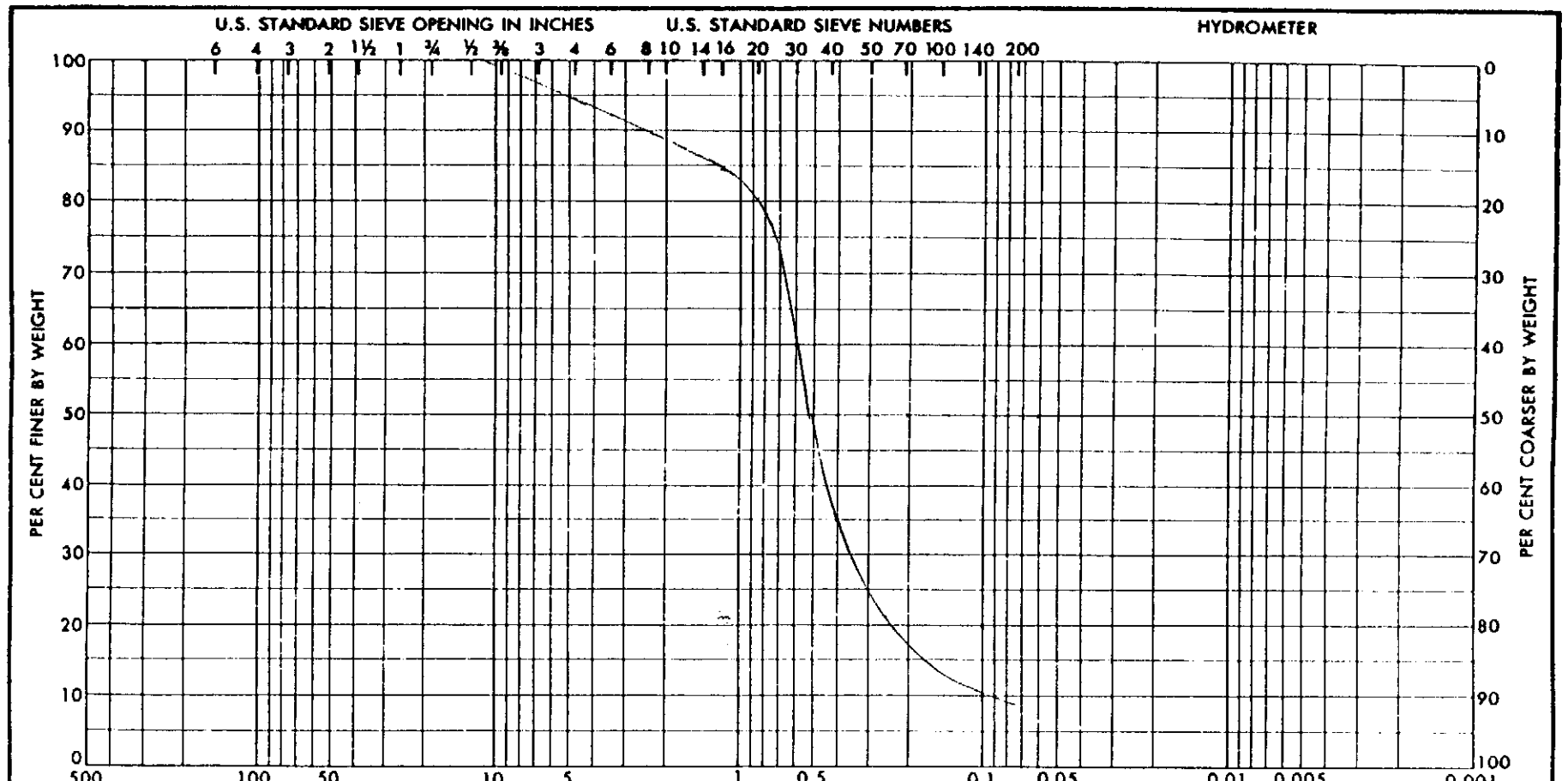
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
2	110-112	Brown medium/fine Sand trace gravel & silt				

GRADATION CURVES

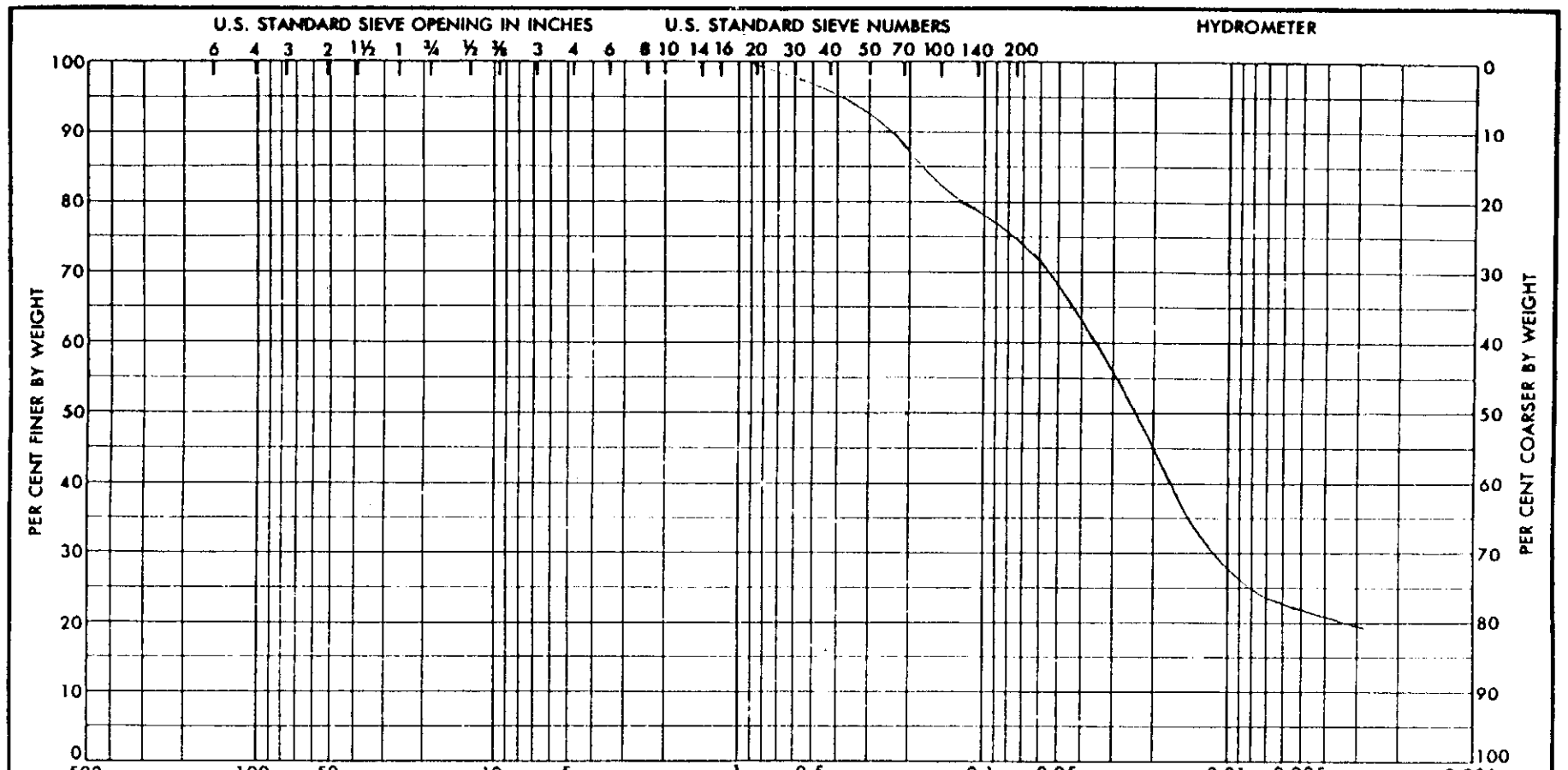
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW-9b

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
3	115-117	Light brown Silt				
		some fine Sand and clay				

GRADATION CURVES

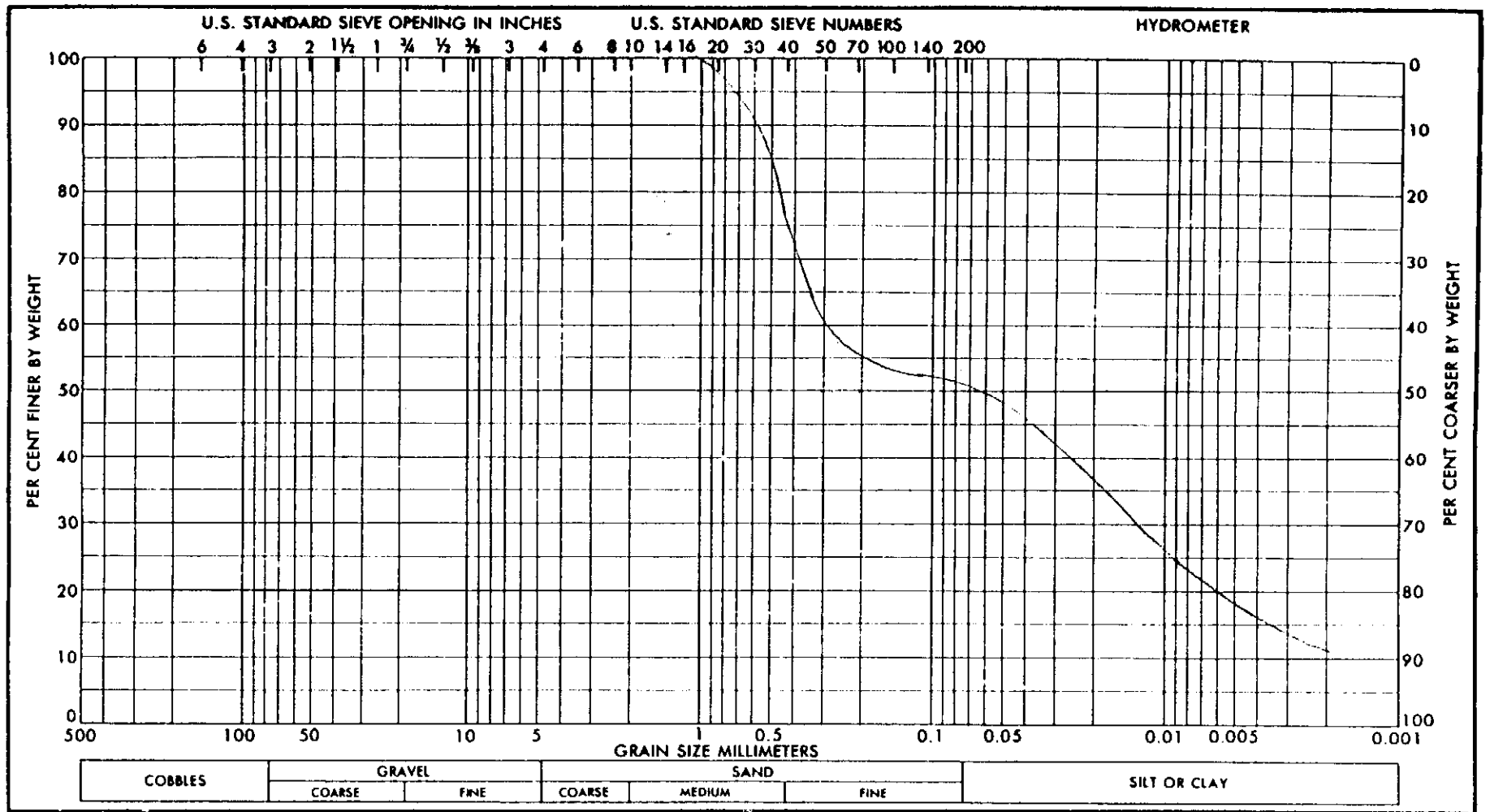
PROJECT Warren George Inc.

AREA MSF

BORING NO MW 9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

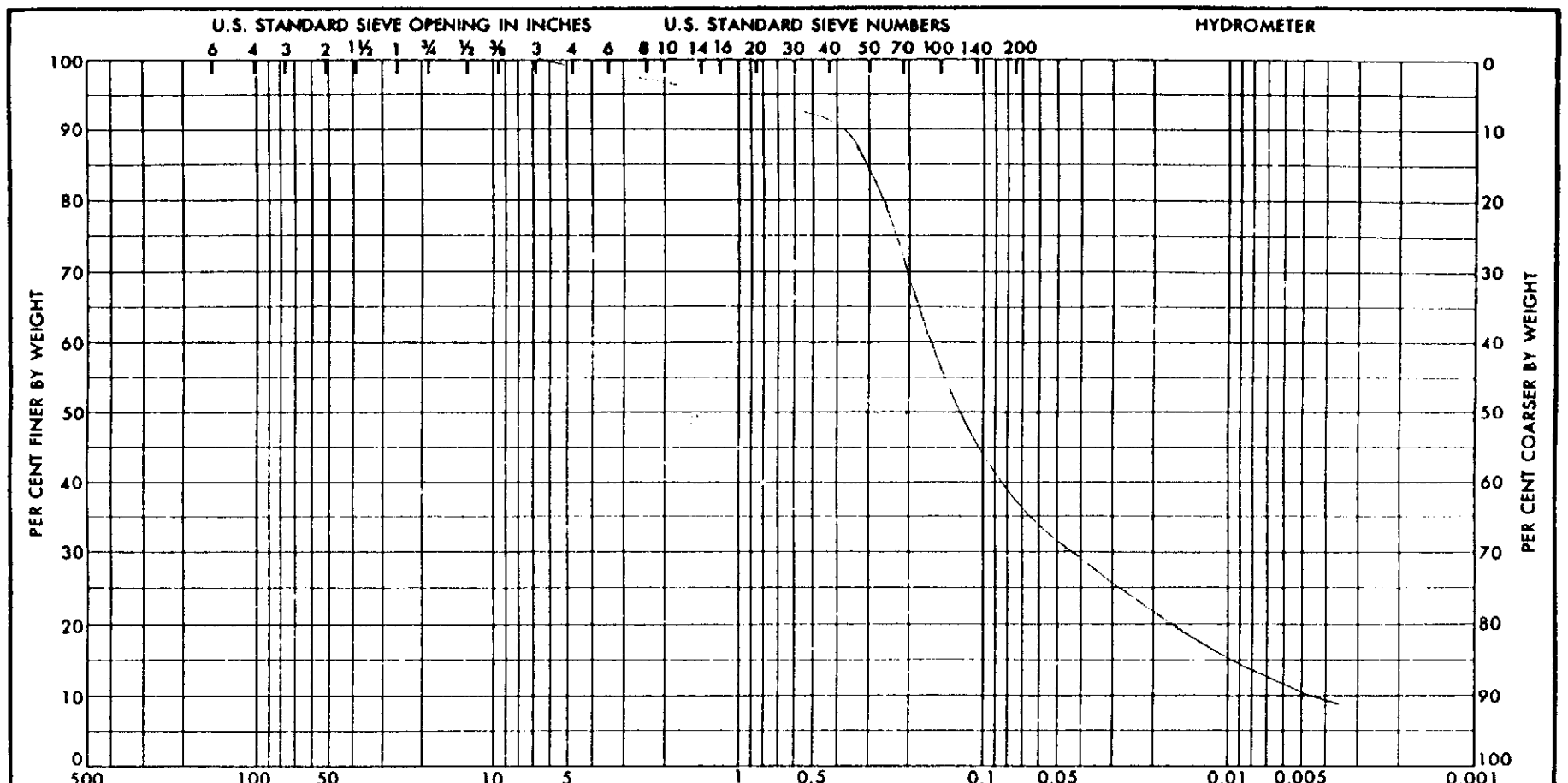


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	120-122	Brown medium Sand & Silt little clay				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO	MW-9b
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
5	125-127	Brown,gray fine SAND				
		some silt				
		little clay				

GRADATION CURVES

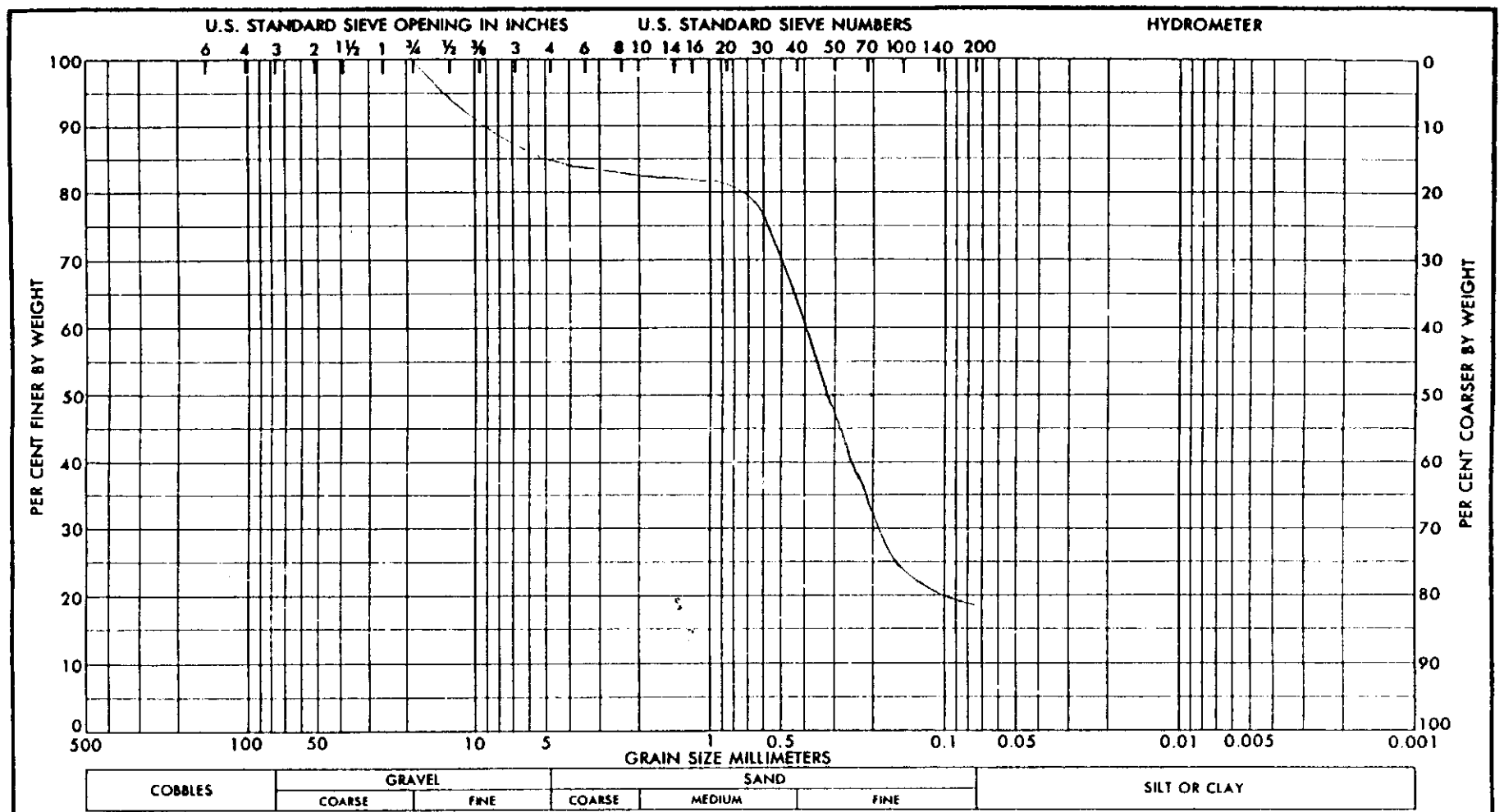
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

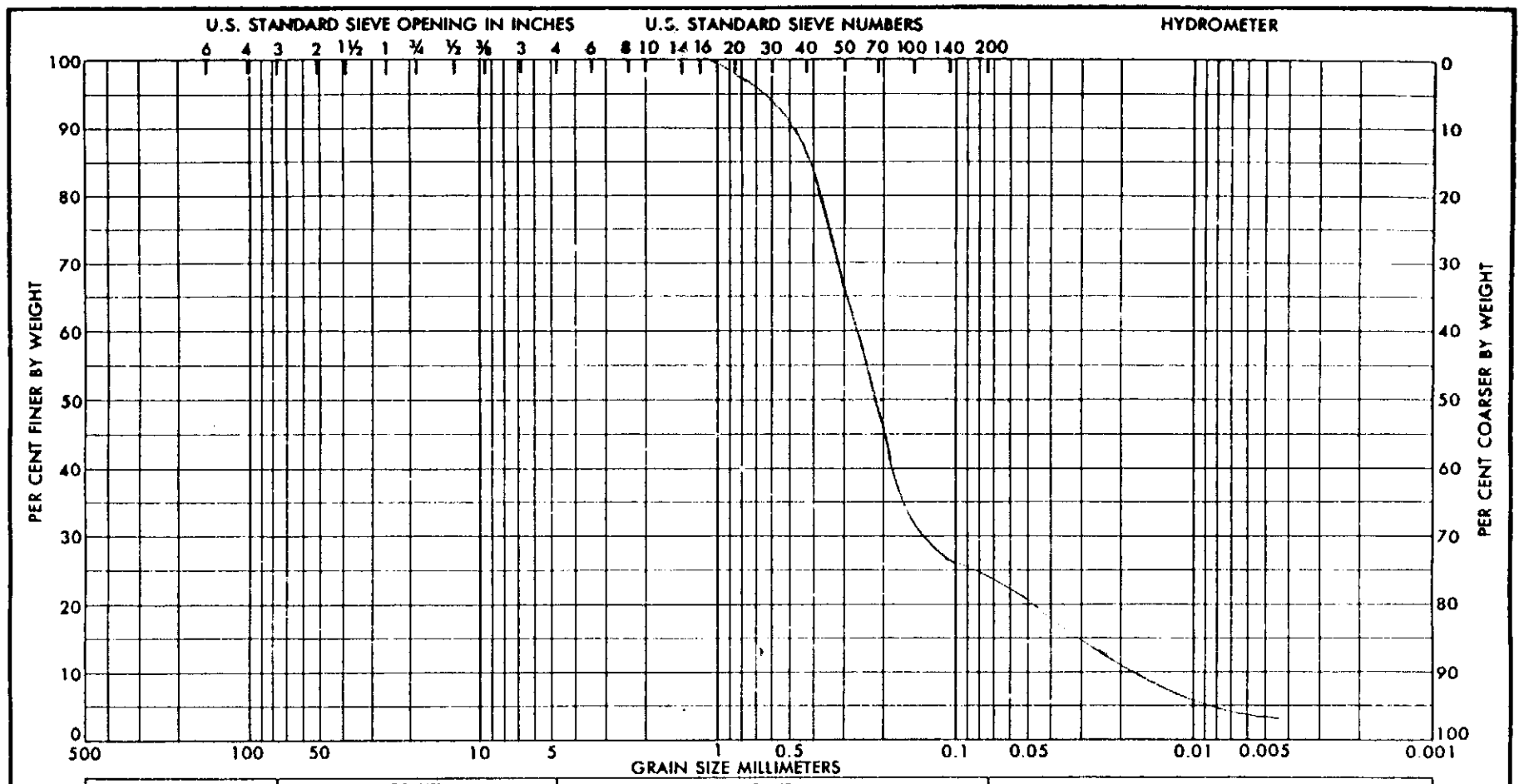


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
6	130-132	Gray fine/medium Sand little gravel & Silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO	MW 9b
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
7	135-137	Red-brown + gray fine/medium SAND				
		little silt				
		trace clay				

GRADATION CURVES

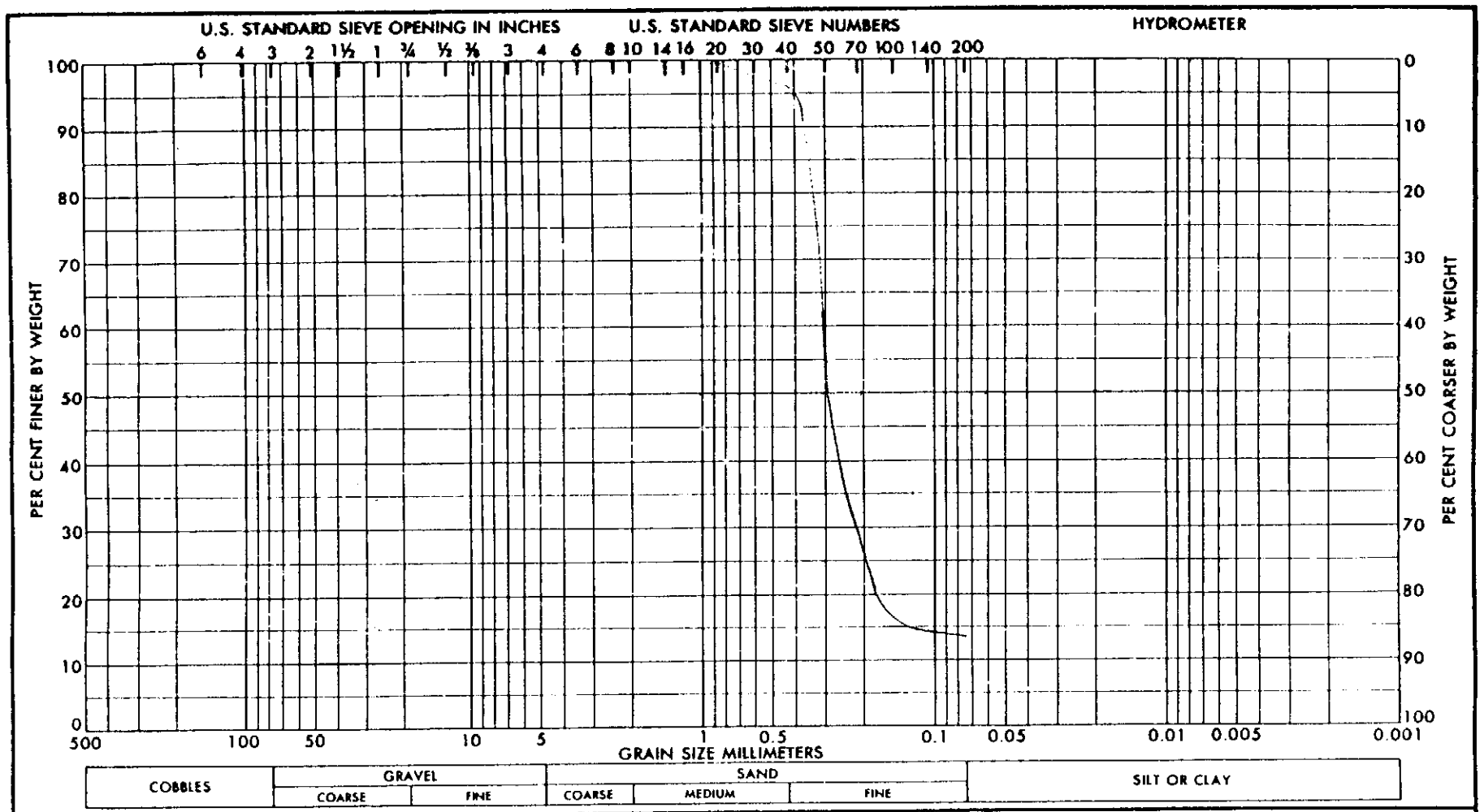
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
8	140-142	Gray & brown fine Sand little silt				

GRADATION CURVES

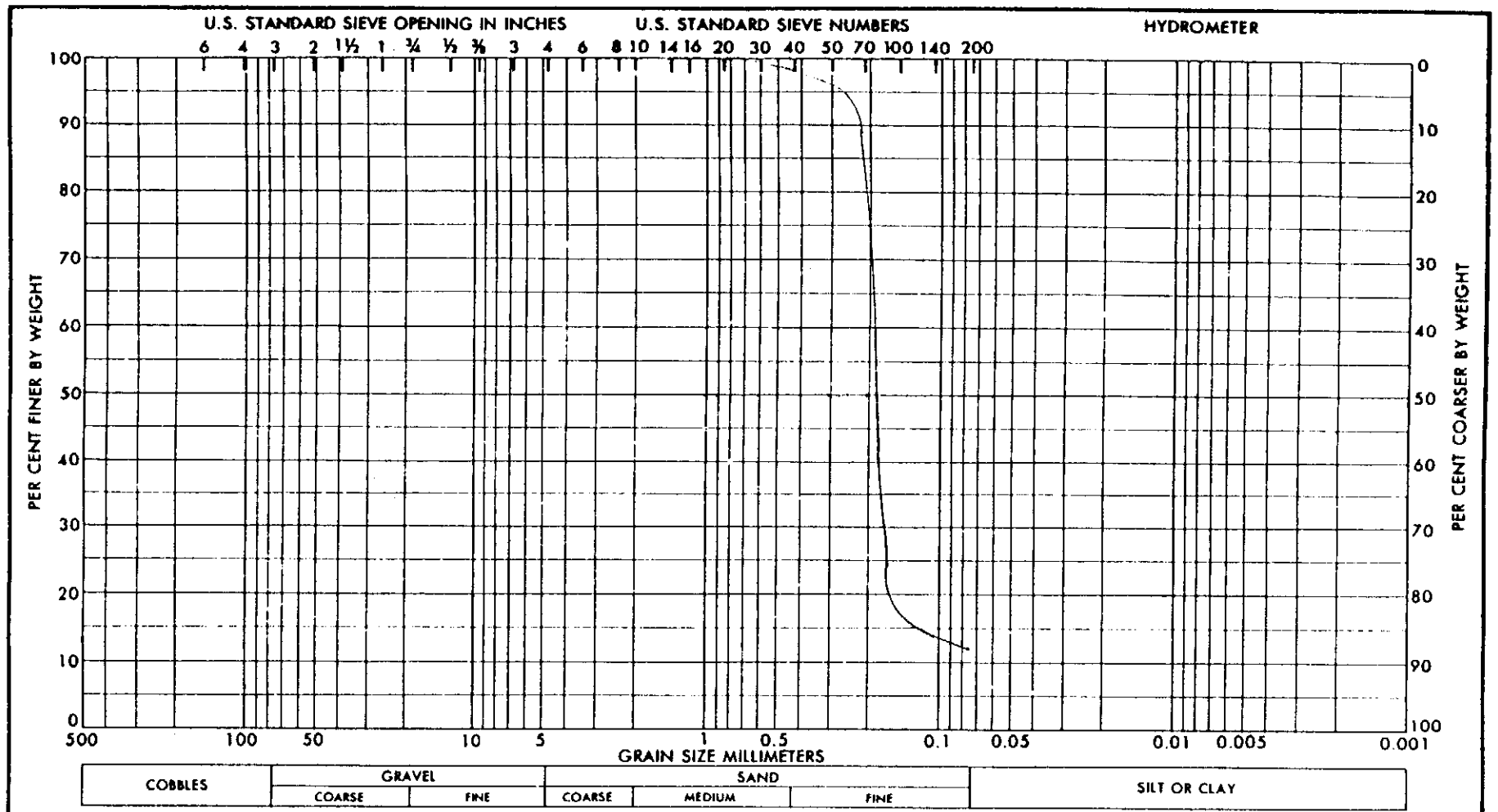
PROJECT: Warren George

AREA: MSF

BORING NO: MW 9b

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
9	145-147	Gray fine Sand				
		little silt				

GRADATION CURVES

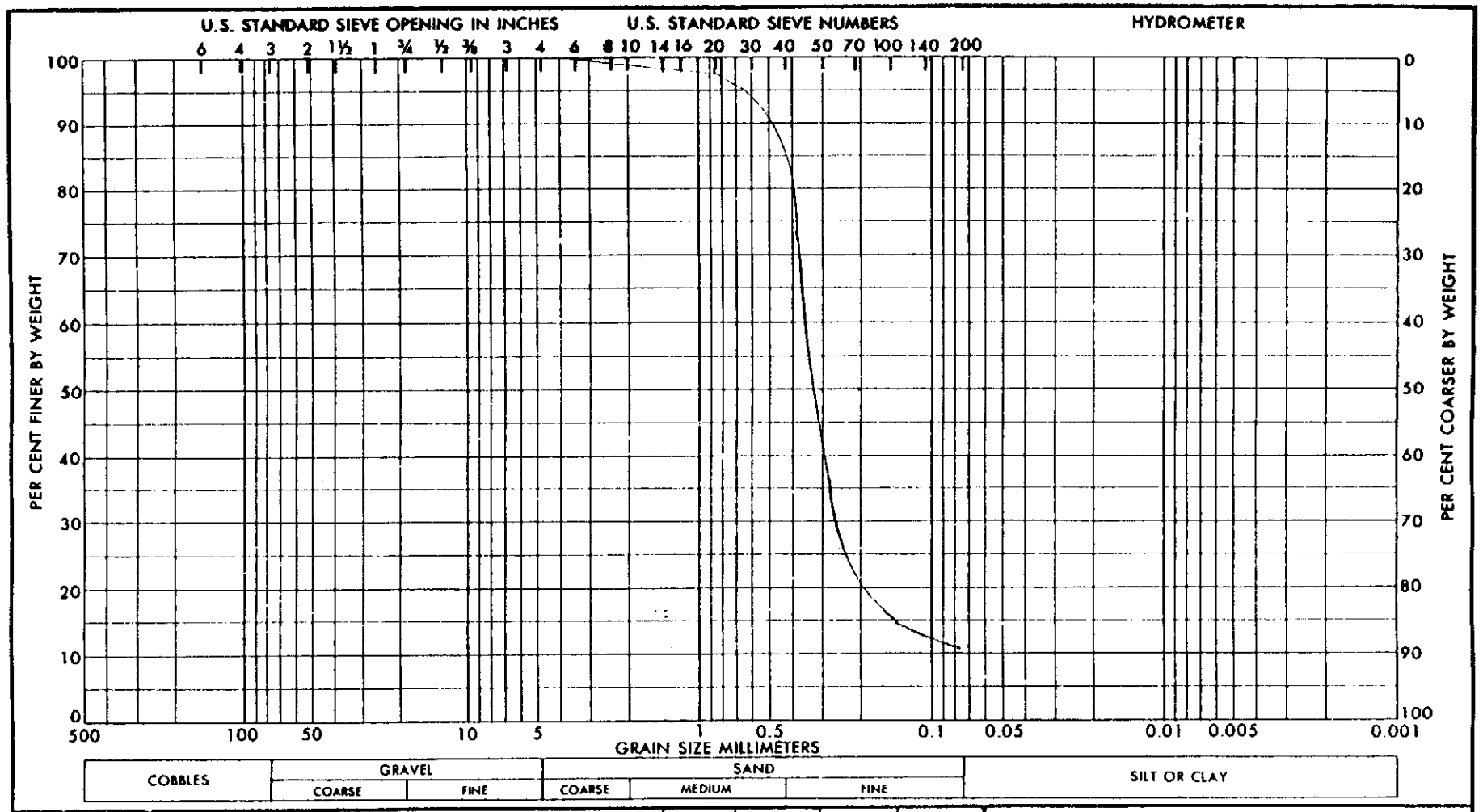
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	150-152	Gray-brown fine/medium Sand little silt				

GRADATION CURVES

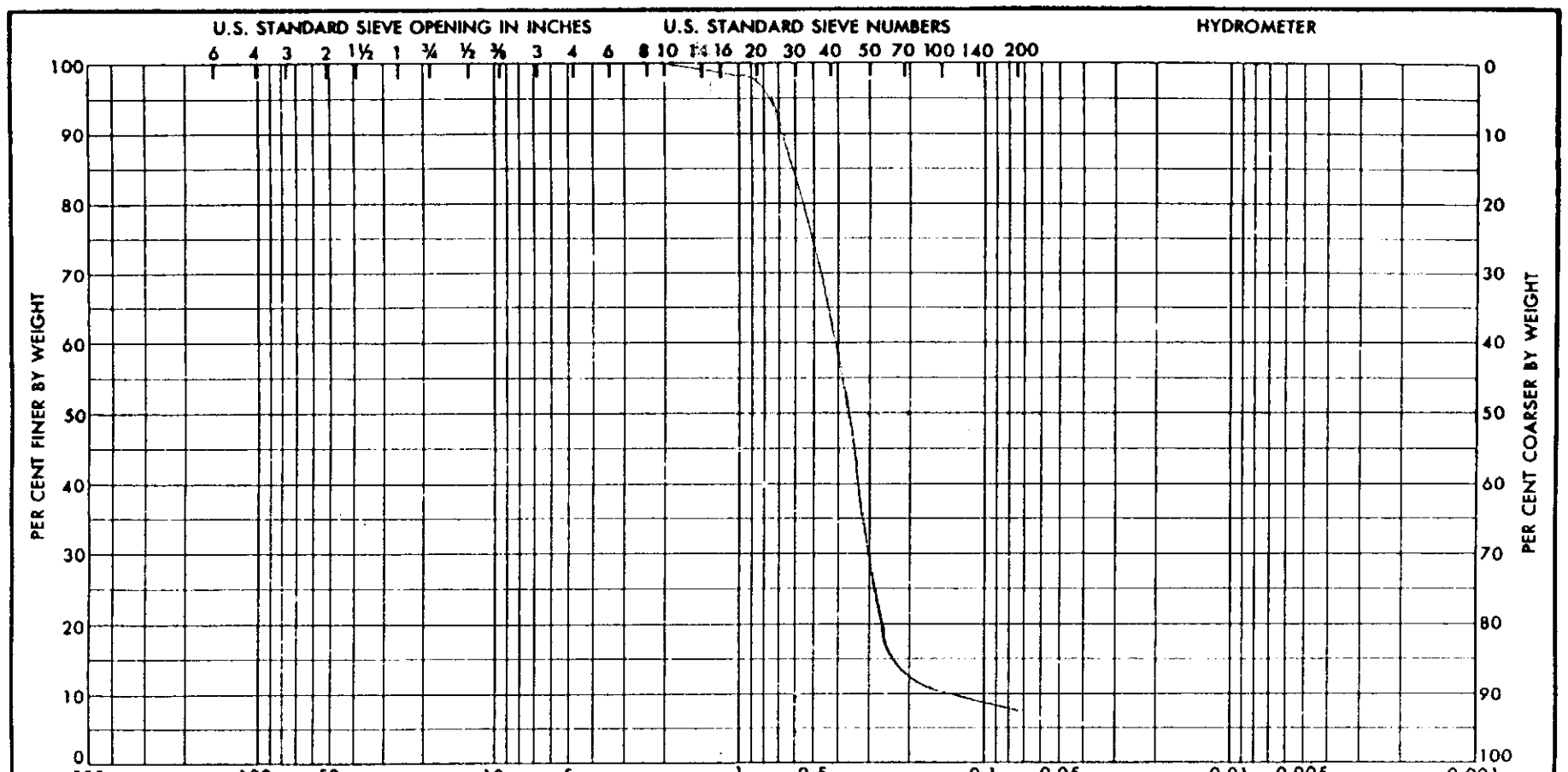
PROJECT Warren George Inc.

AREA MSF

BORING NO MW 9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
11	155-157	Gray fine/medium Sand trace silt				

GRADATION CURVES

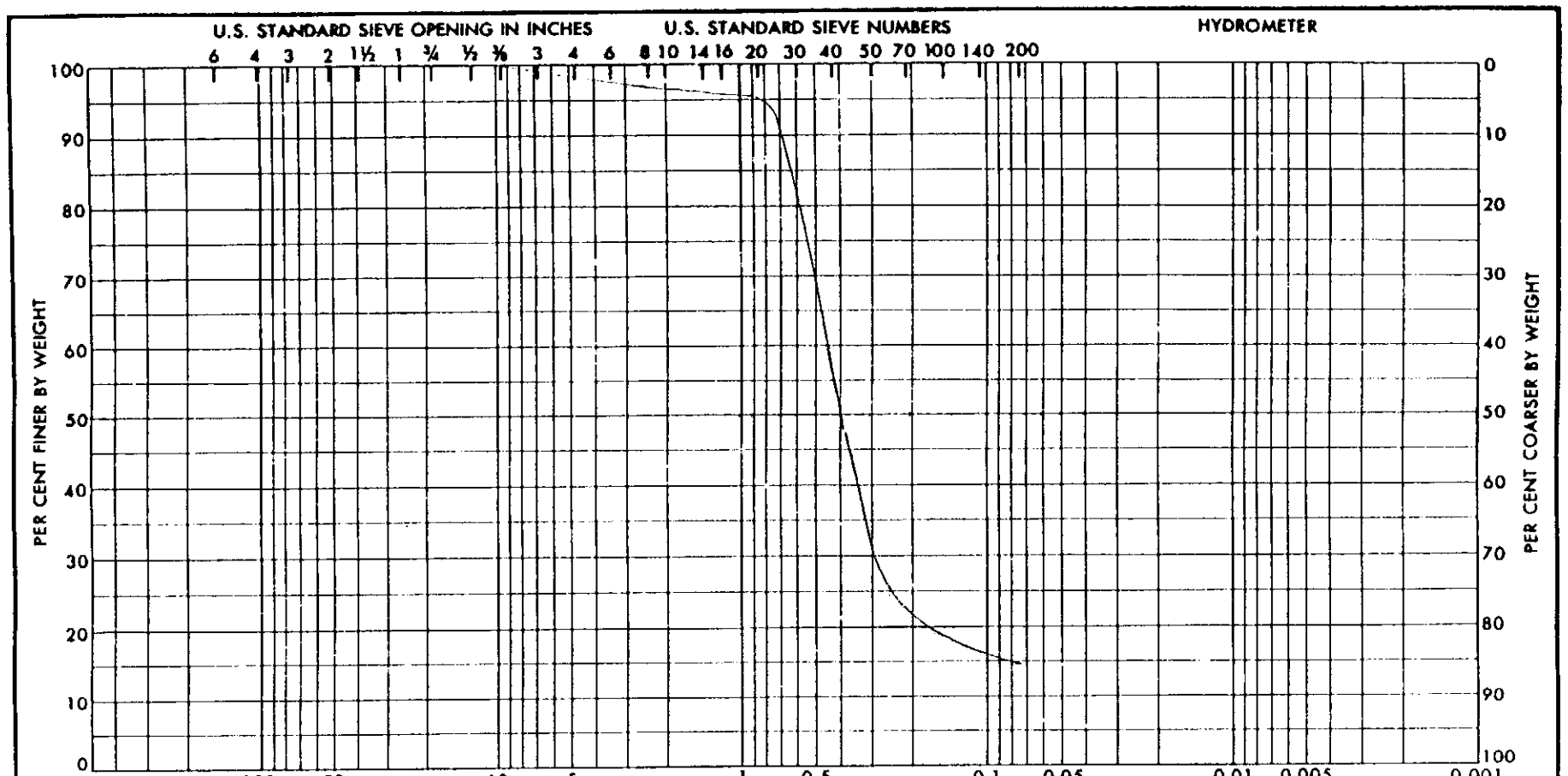
PROJECT Warren George INc.

AREA MSF

BORING NO. MW 9b

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
12	160-162	Light brown fine/medium				
		Sand				
		little silt				

GRADATION CURVES

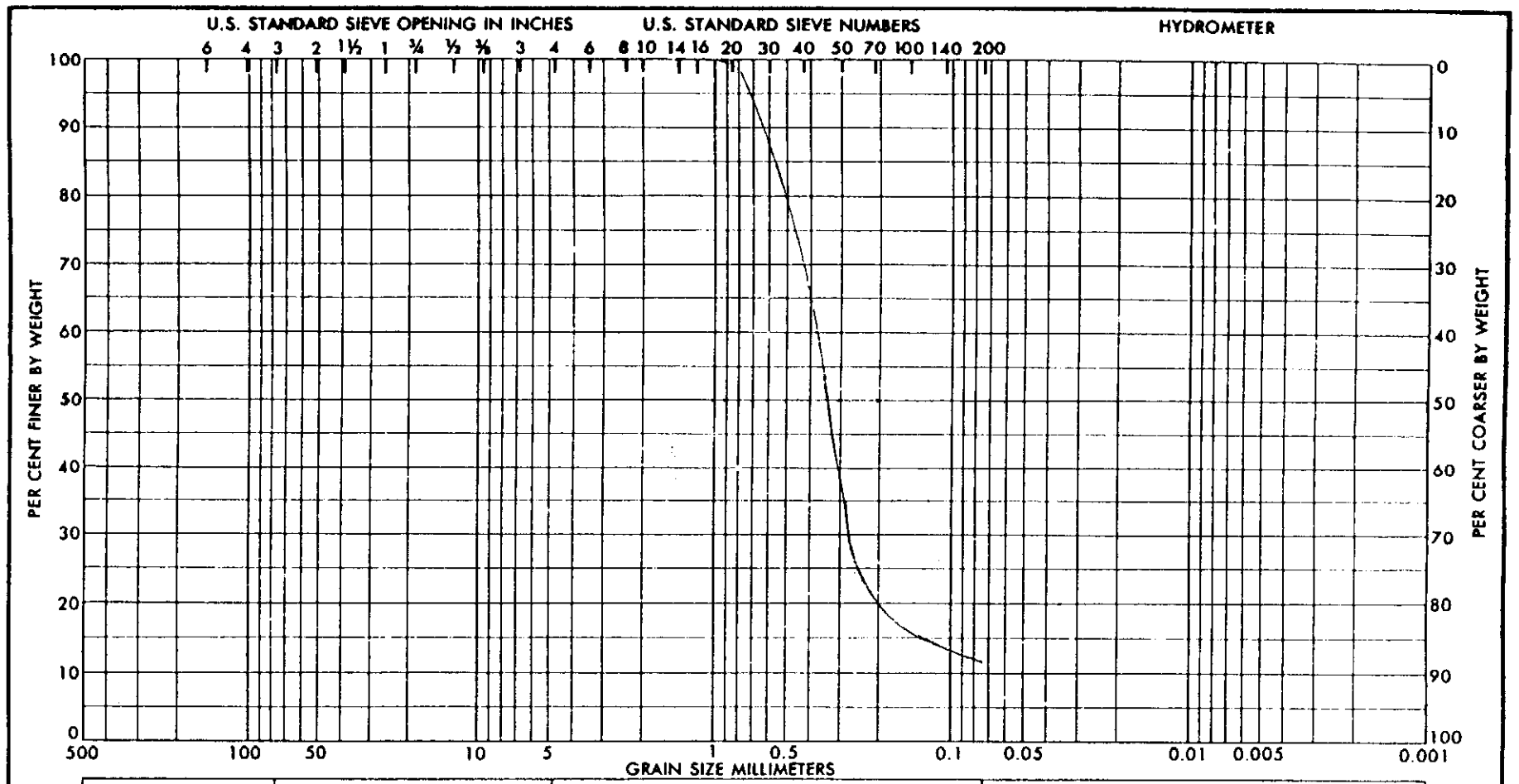
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW 9b

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

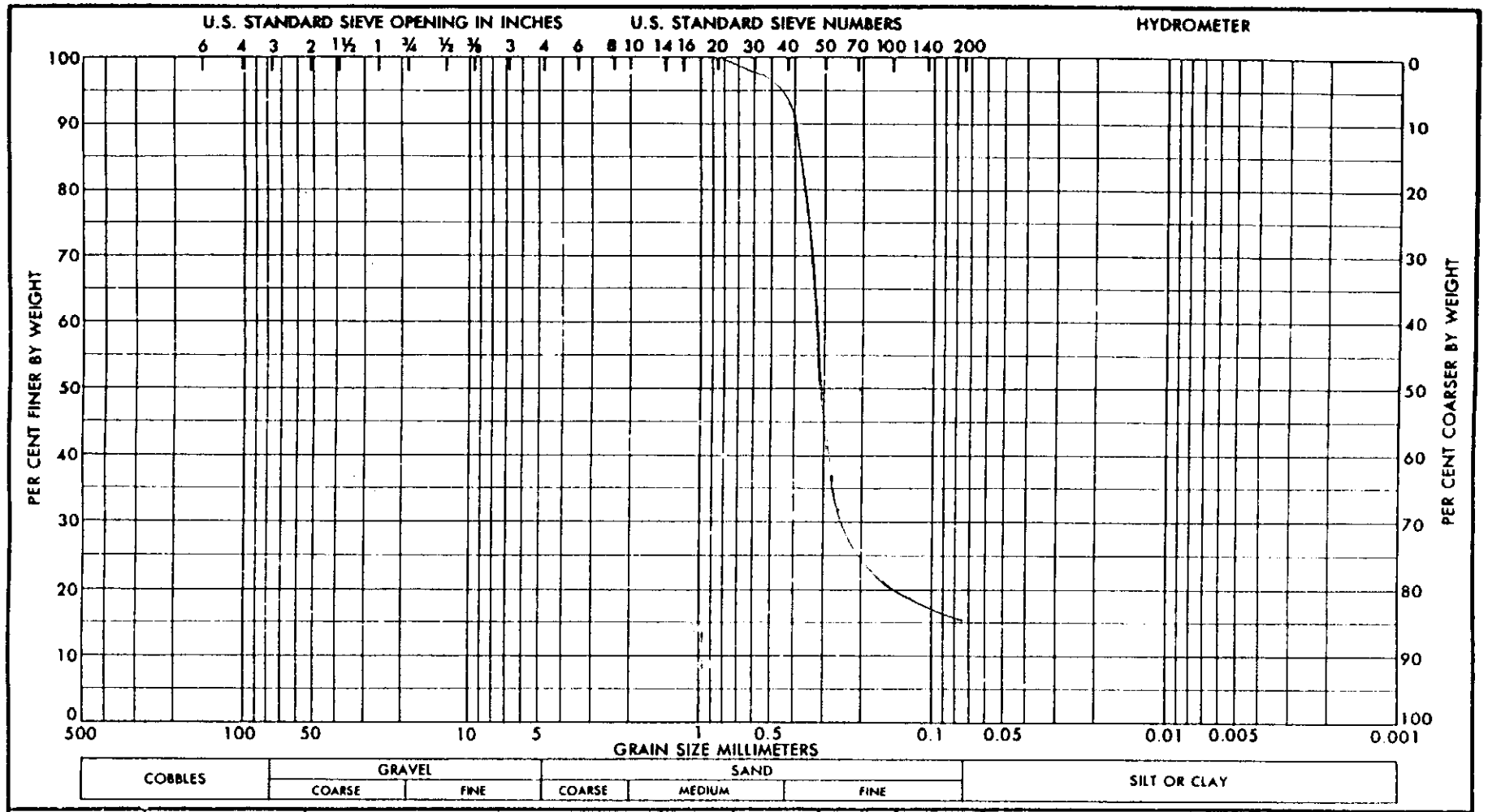


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
13	165-167	Light brown-gray fine/ medium Sand little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW 9b
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-14	170-172	Gray fine/medium SAND				
		little silt				

GRADATION CURVES

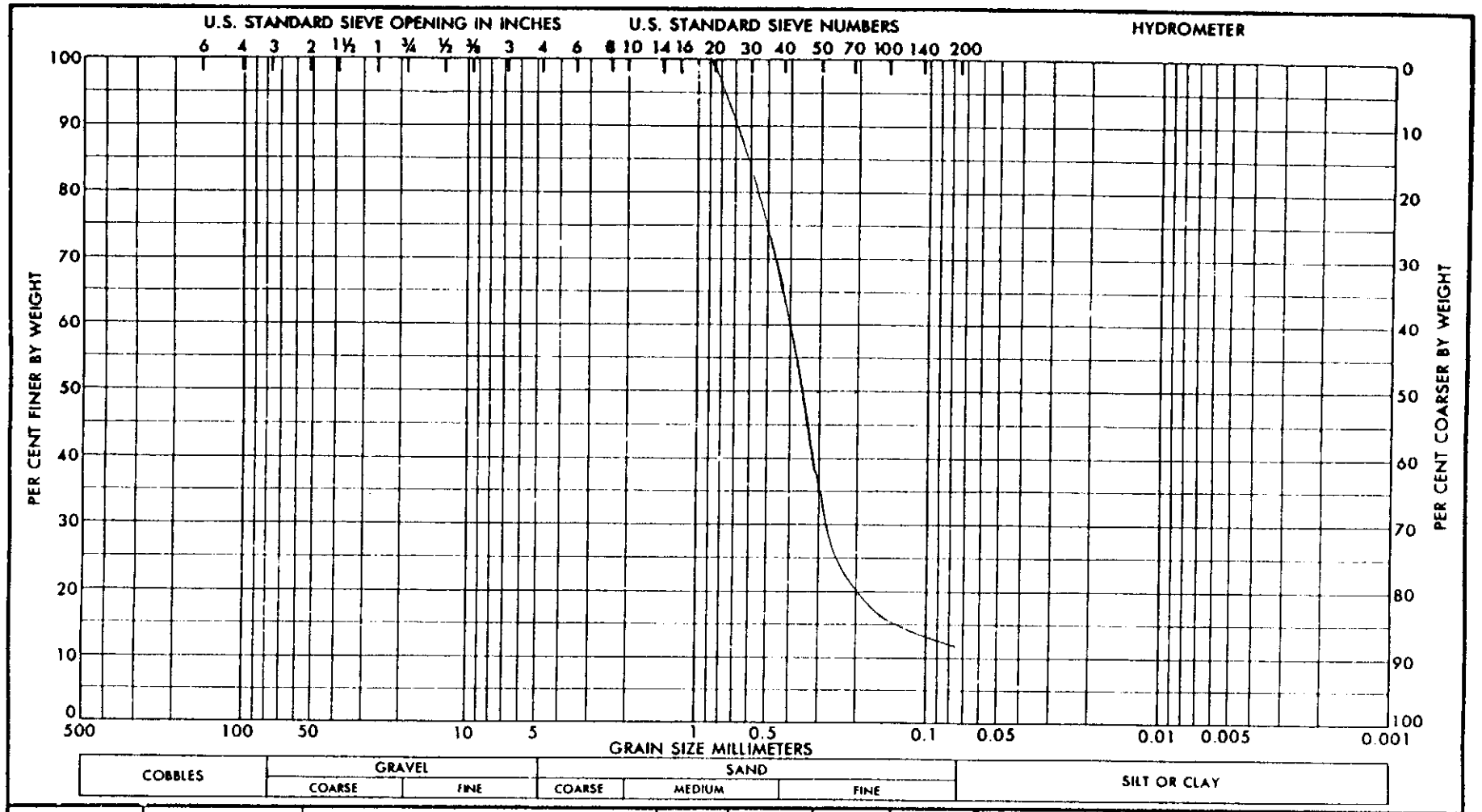
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW 9b

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-15	175-177	Light brown & gray fine/				
		medium SAND				
		little silt				

GRADATION CURVES

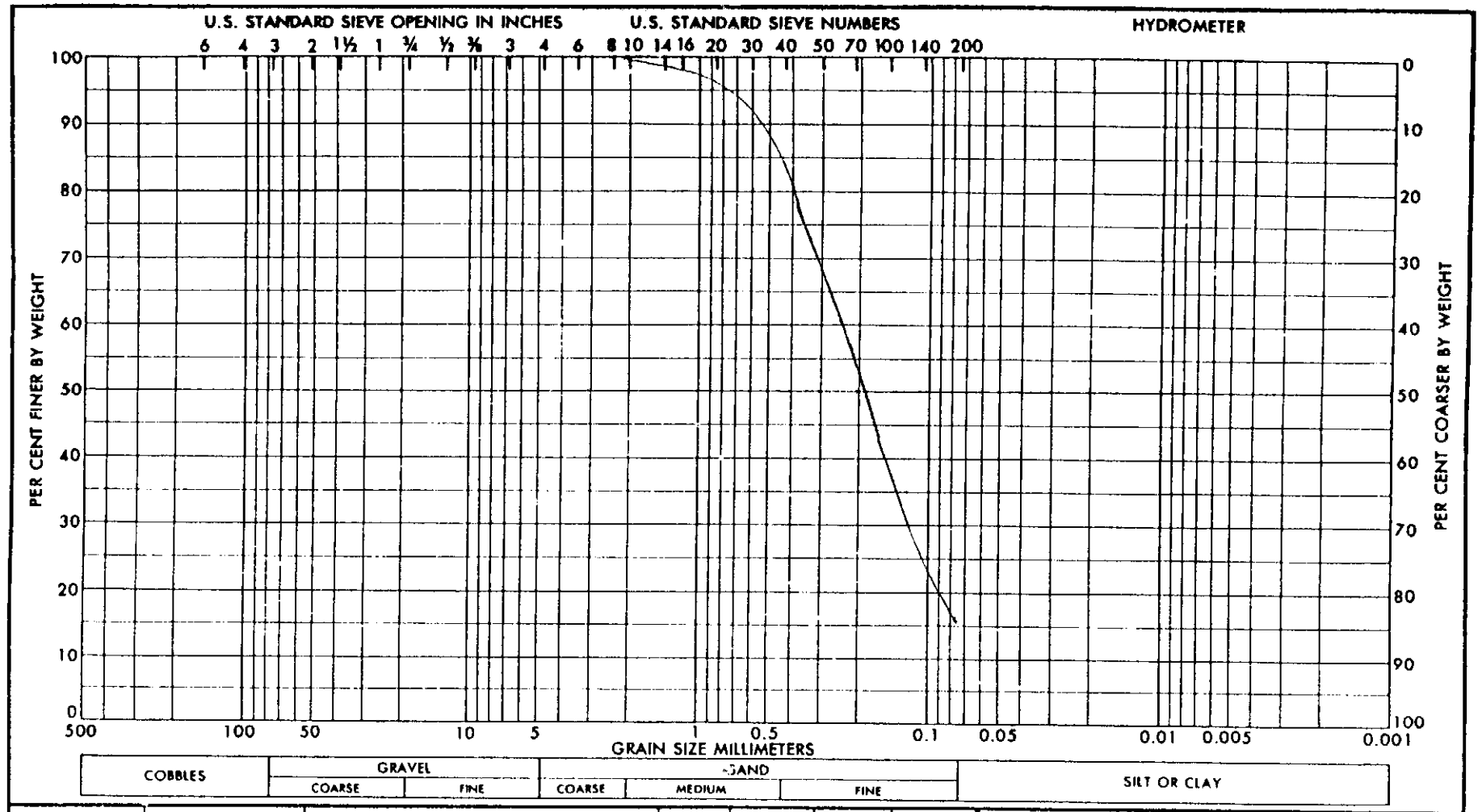
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW 9b

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY

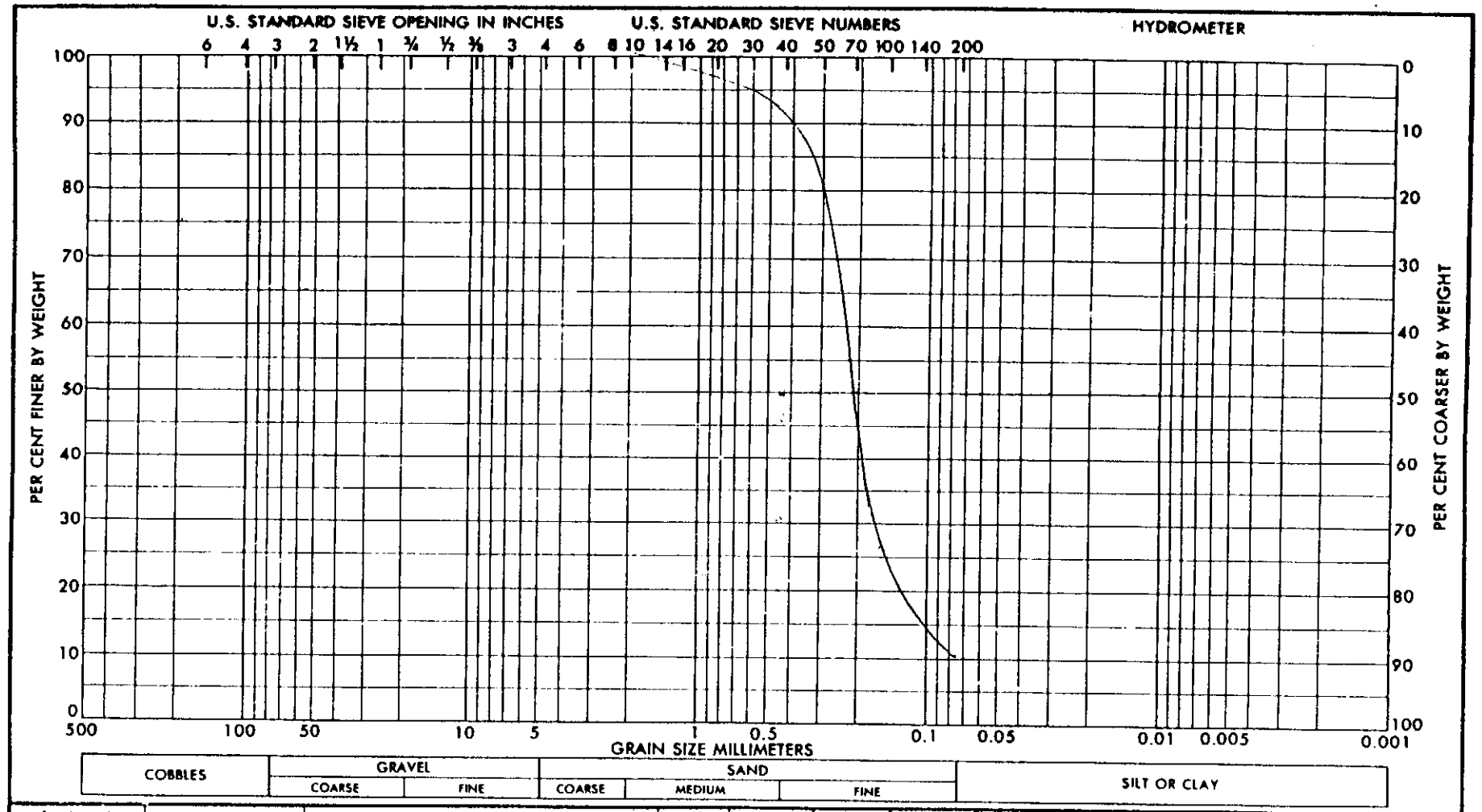


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1 B	105-107	Brown fine/medium Sand				
		little silt				

GRADATION CURVES

PROJECT	Warren George INc.
AREA	MSF
BORING NO.	MW I2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-1A	105-107	Brown fine Sand little silt				

GRADATION CURVES

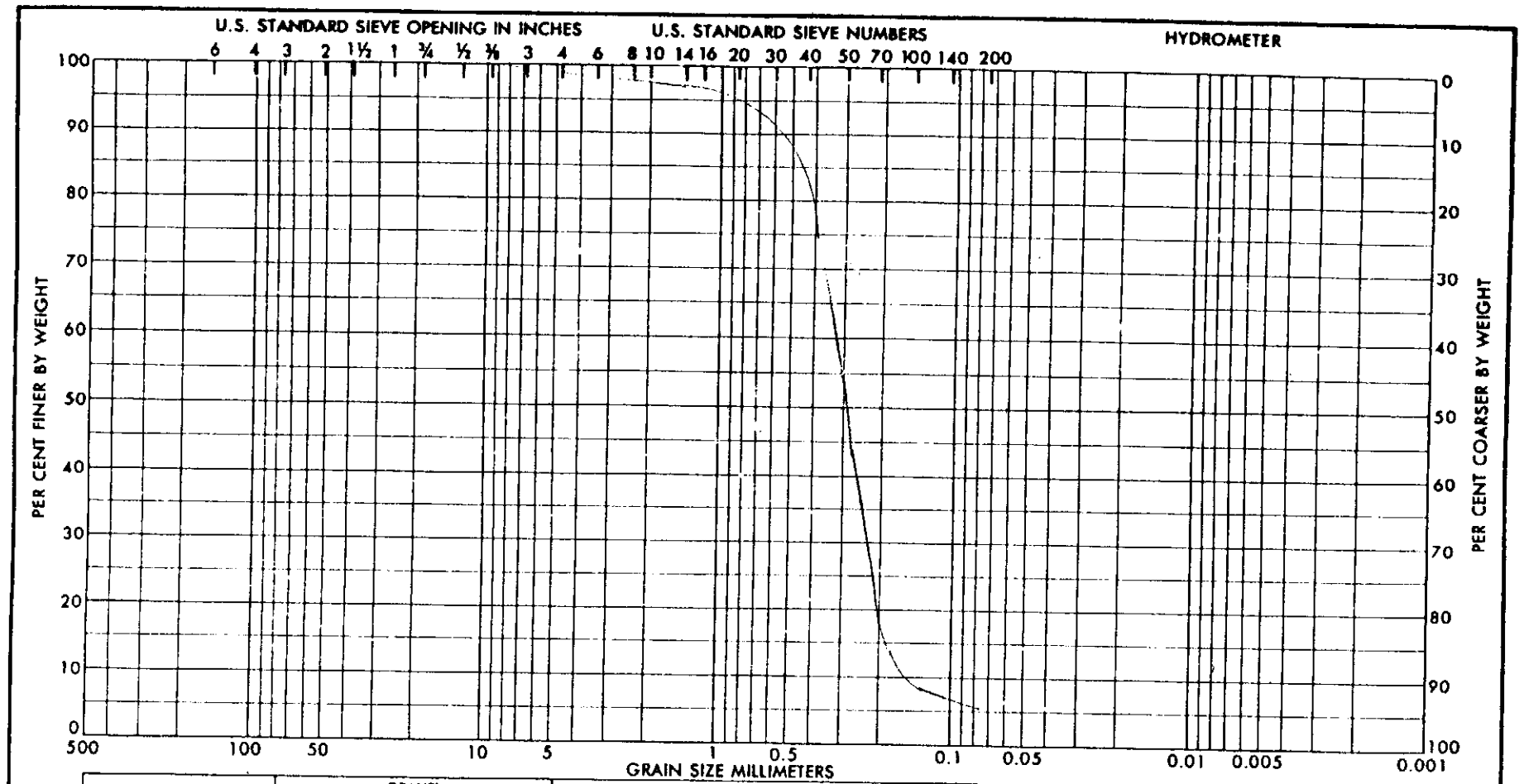
PROJECT Warren George INc.

AREA MSF

BORING NO. MW I2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-2	110-112	Brown fine/medium Sand				
		trace silt				

GRADATION CURVES

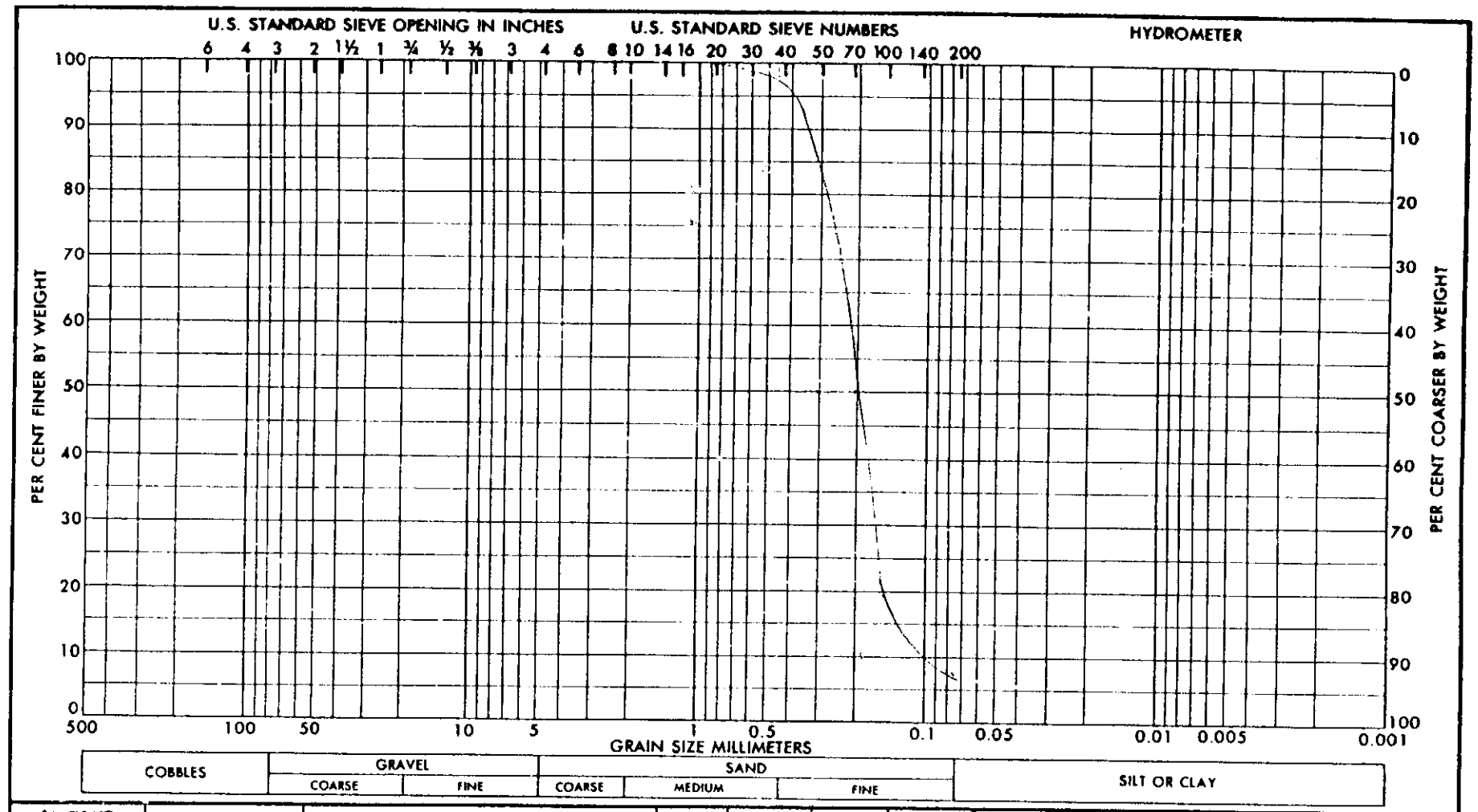
PROJECT Warren George Inc.

AREA MSF

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-3	115-117	Brown fine SAND trace silt				

GRADATION CURVES

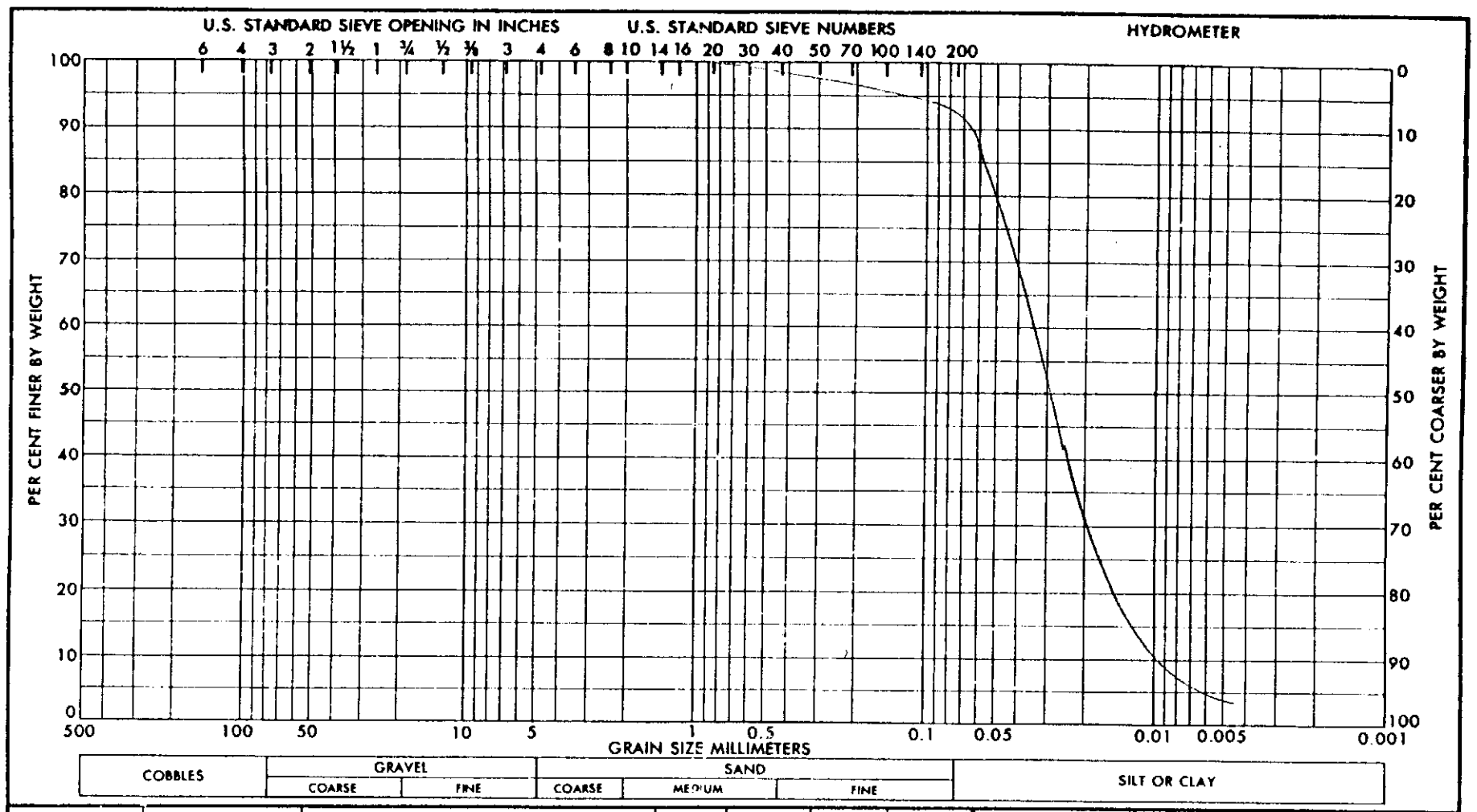
PROJECT Warren George Inc.

AREA

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	120-122	Brown Silt				
		trace fine Sand and				
		clay				

GRADATION CURVES

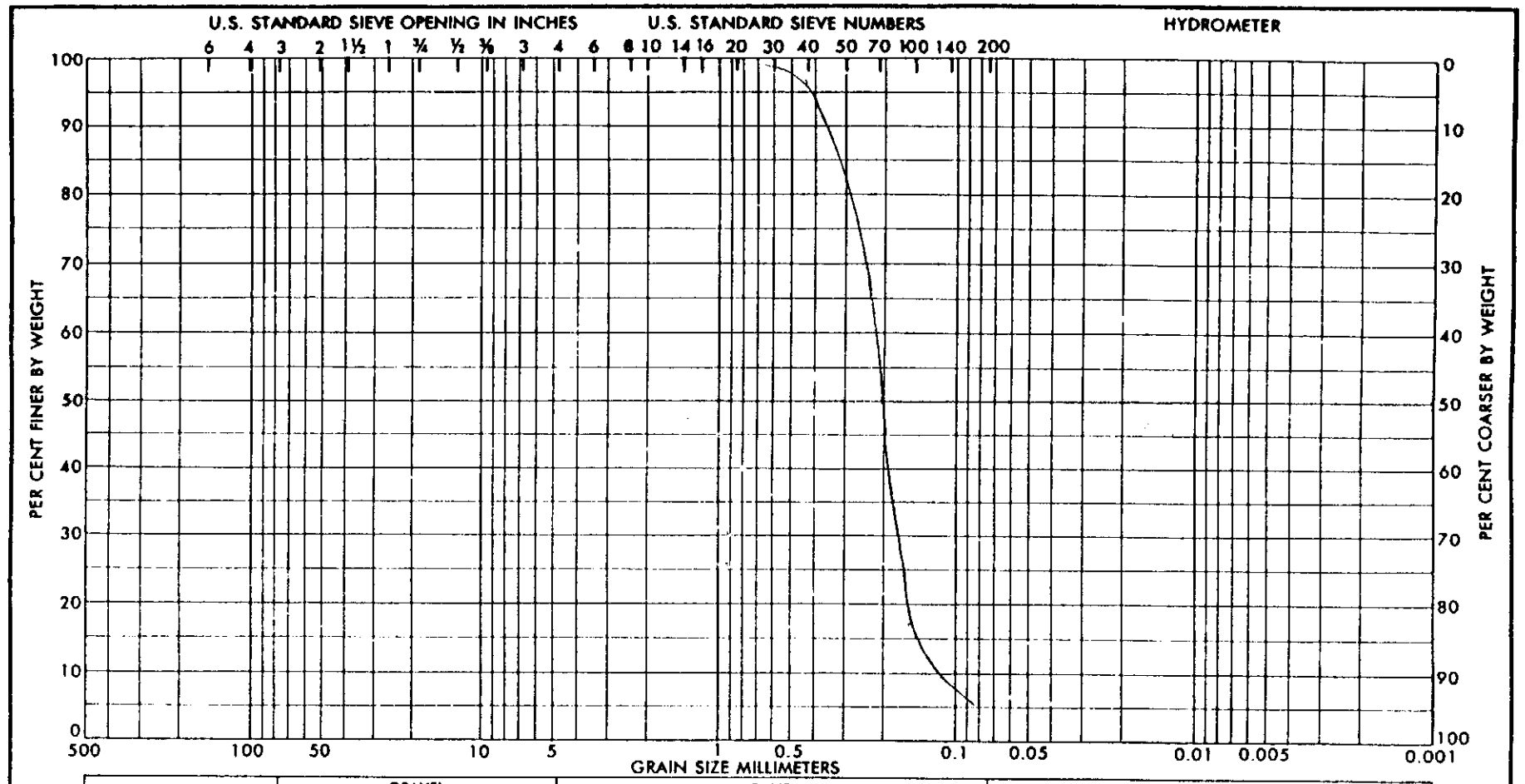
PROJECT Warren George Inc.

AREA MSF

BORING NO MWI-2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-5	125-127	Brown fine Sand trace silt				

GRADATION CURVES

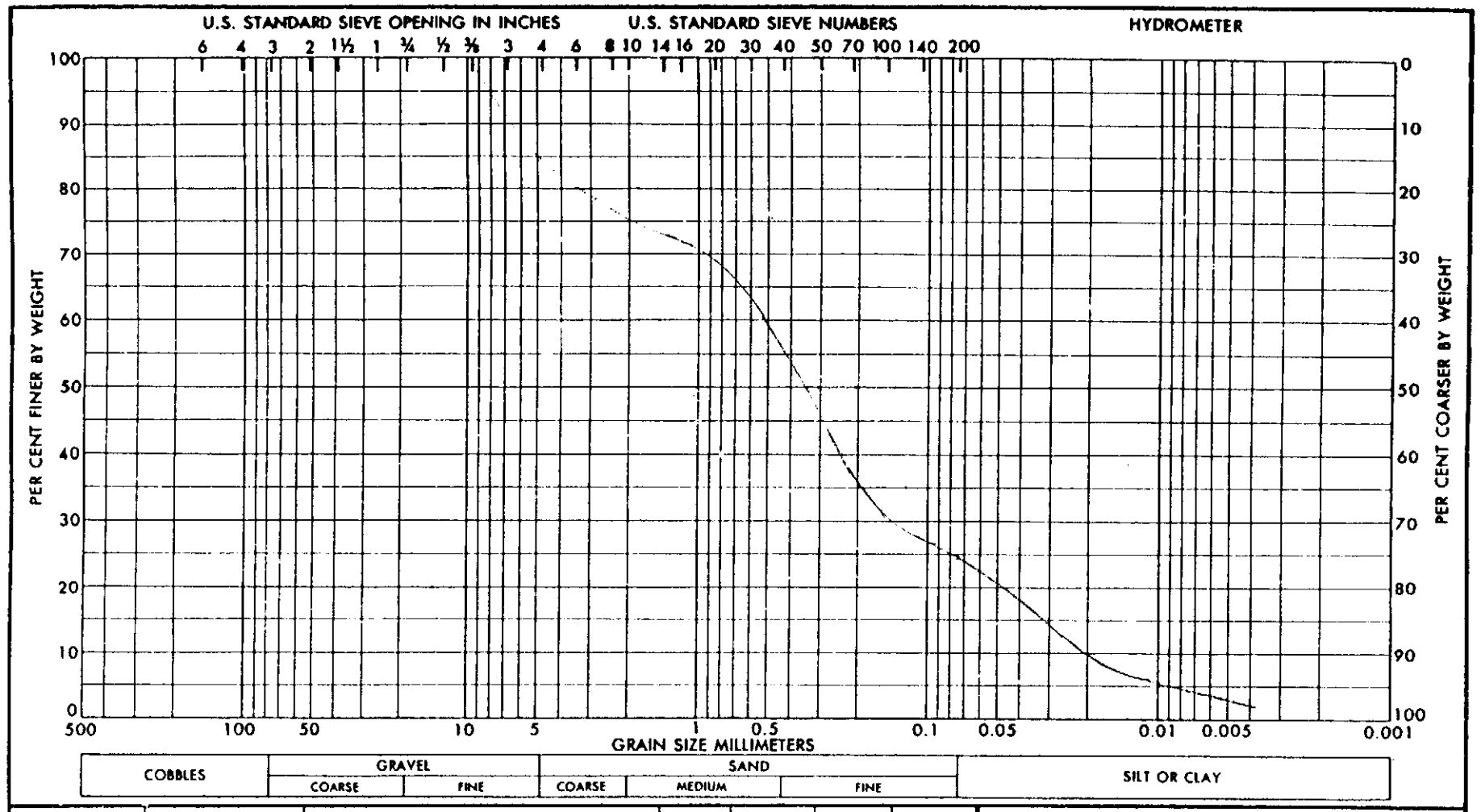
PROJECT Warren George Inc.

AREA

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-6	130-132	Brown fine/coarse SAND little silt & gravel trace clay				

GRADATION CURVES

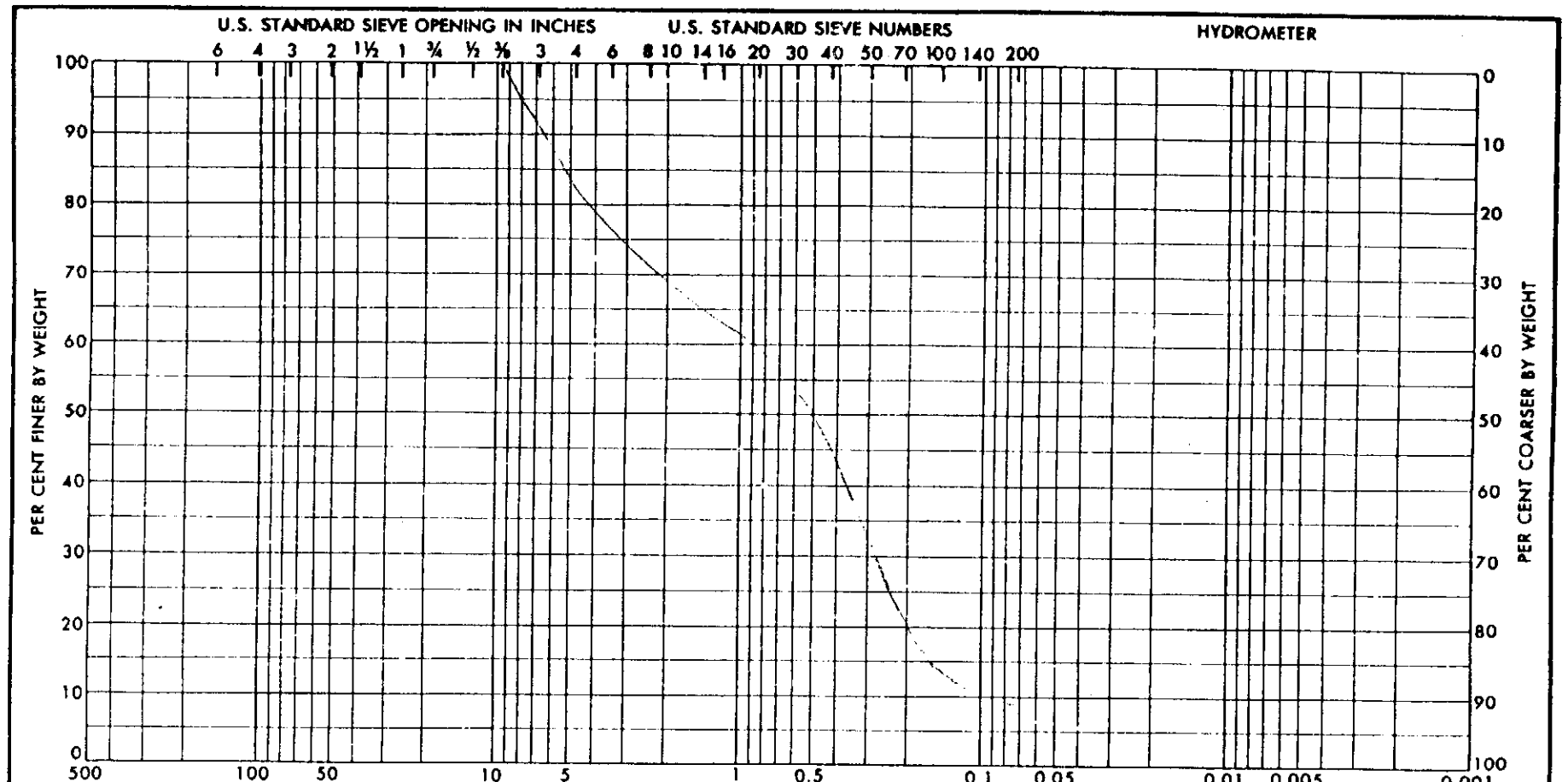
PROJECT Warren George Inc.

AREA

BORING NO. MW-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-7	135-137	Brown coarse/fine SAND				
		little gravel				
		trace silt				

GRADATION CURVES

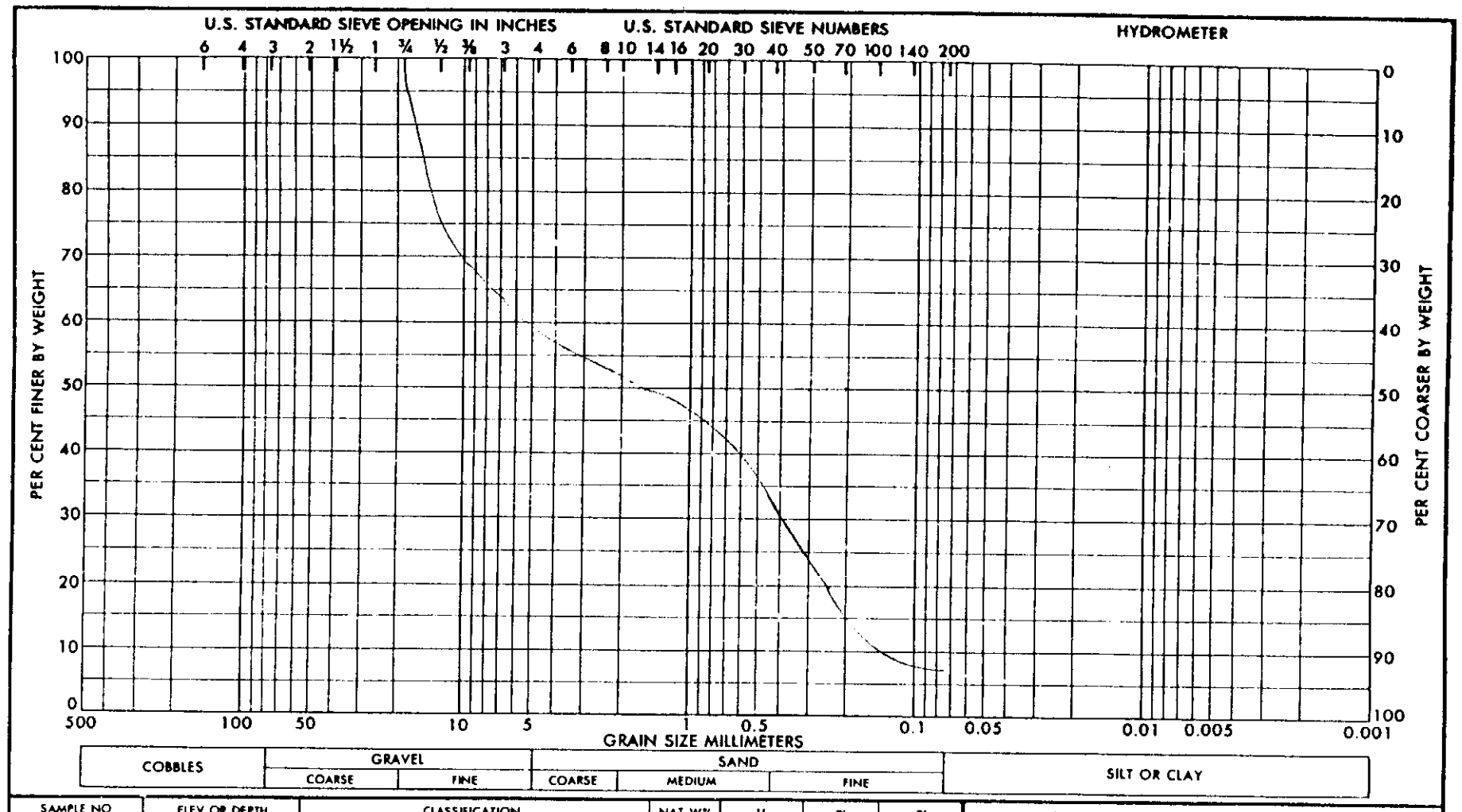
PROJECT Warren George Inc.

AREA

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-8	140-142	Brown coarse/fine SAND				
		some gravel				
		trace silt				

GRADATION CURVES

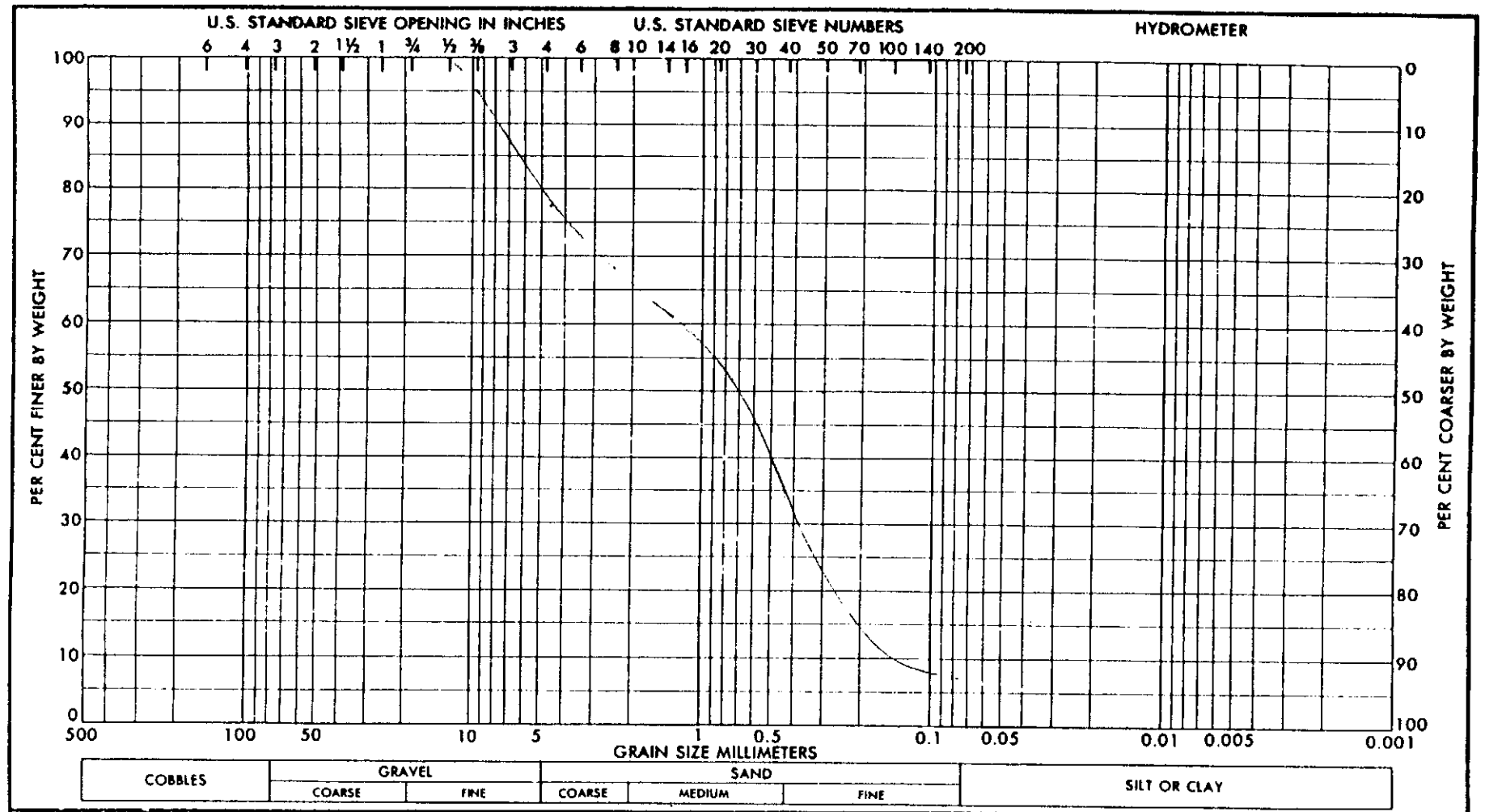
PROJECT Warren George Inc.

AREA

BORING NO. MW1-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-9	145-147	Brown coarse/fine SAND				
		some gravel				
		trace silt				

GRADATION CURVES

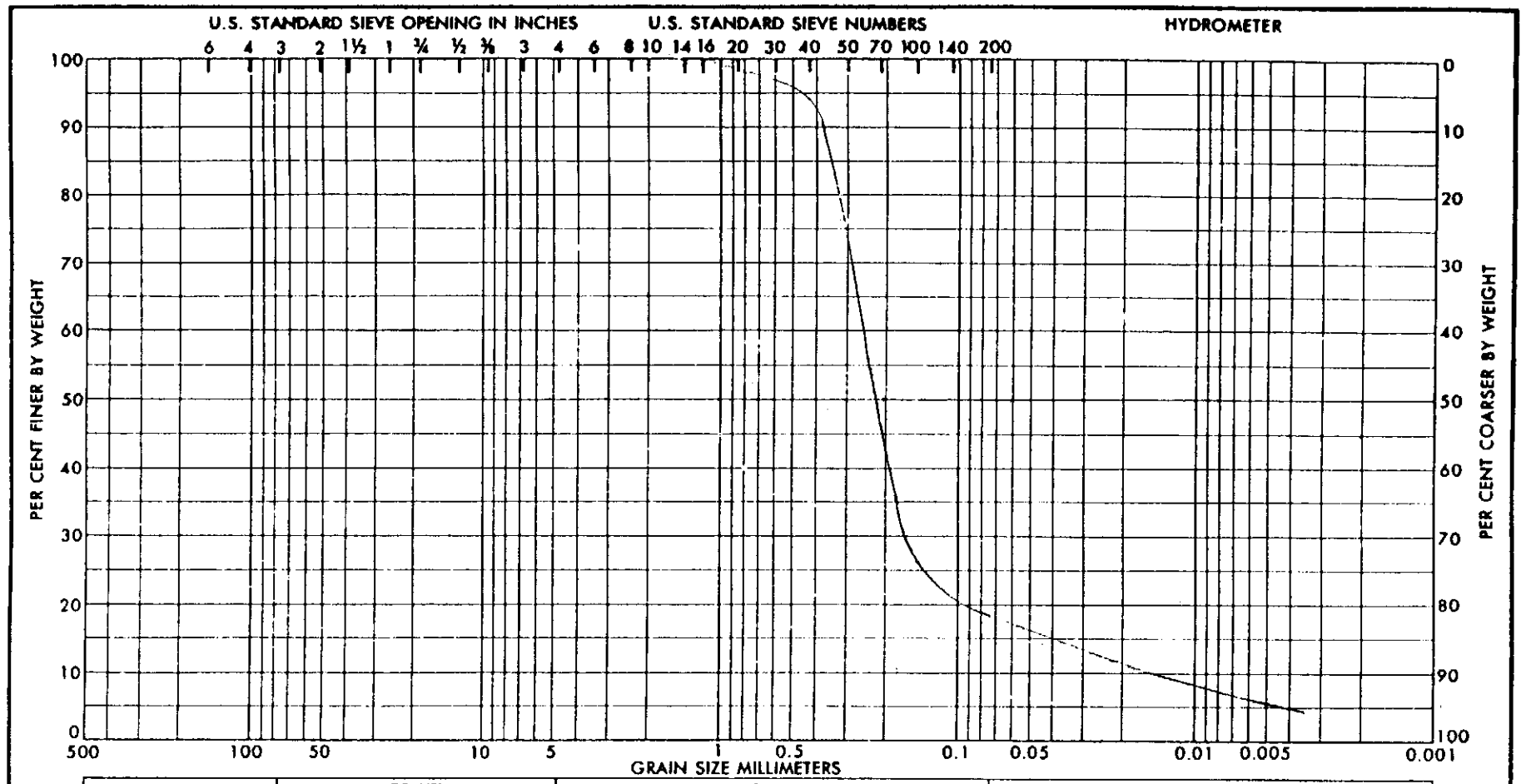
PROJECT Warren George Inc.

AREA

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	150-152	Light brown + gray				
		fine/ SAND				
		little Silt				
		trace clay				

GRADATION CURVES

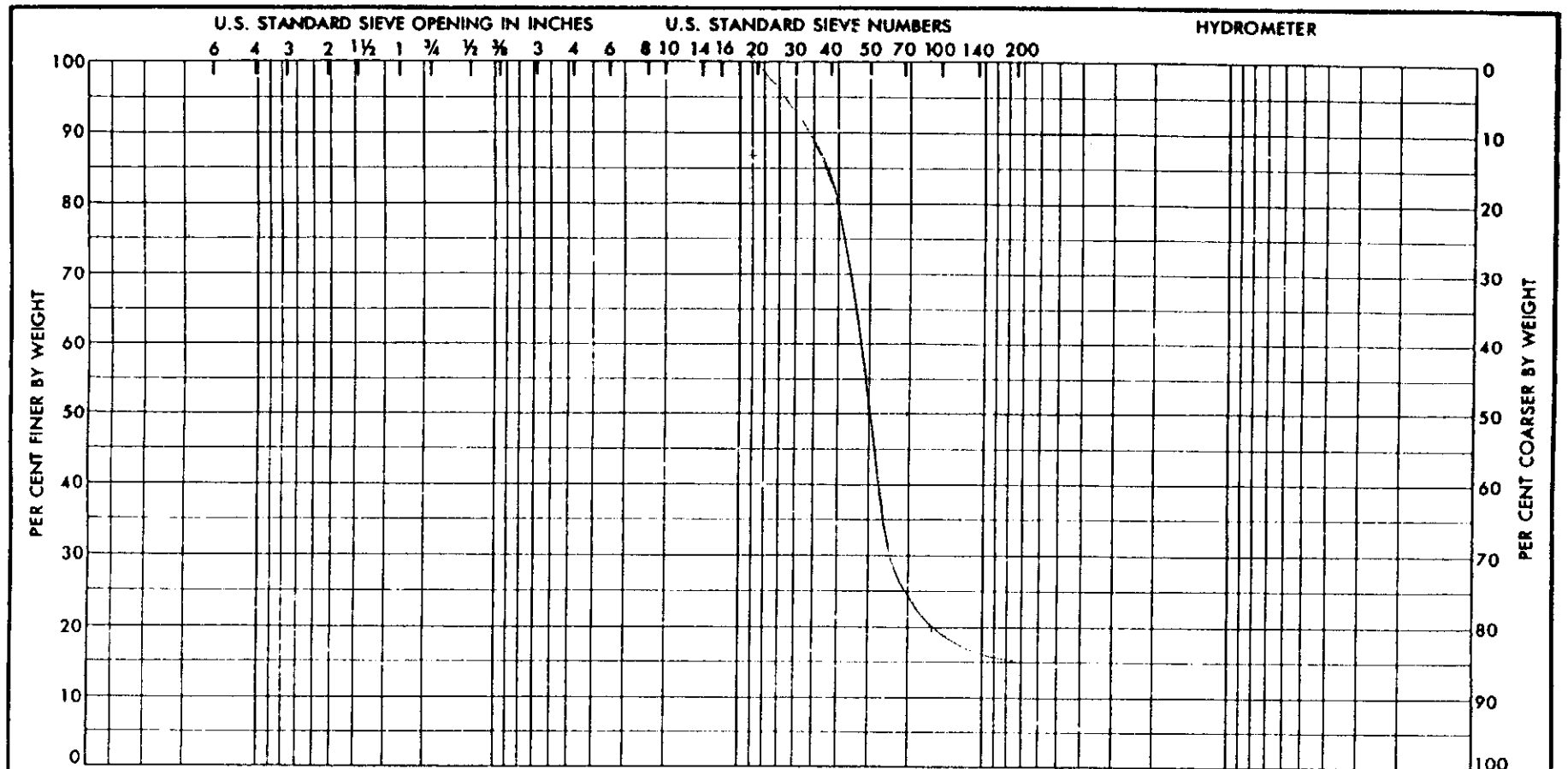
PROJECT Warren George Inc.

AREA MSF

BORING NO. MWI-2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-11	155-157	Brown fine SAND				
		little silt				

GRADATION CURVES

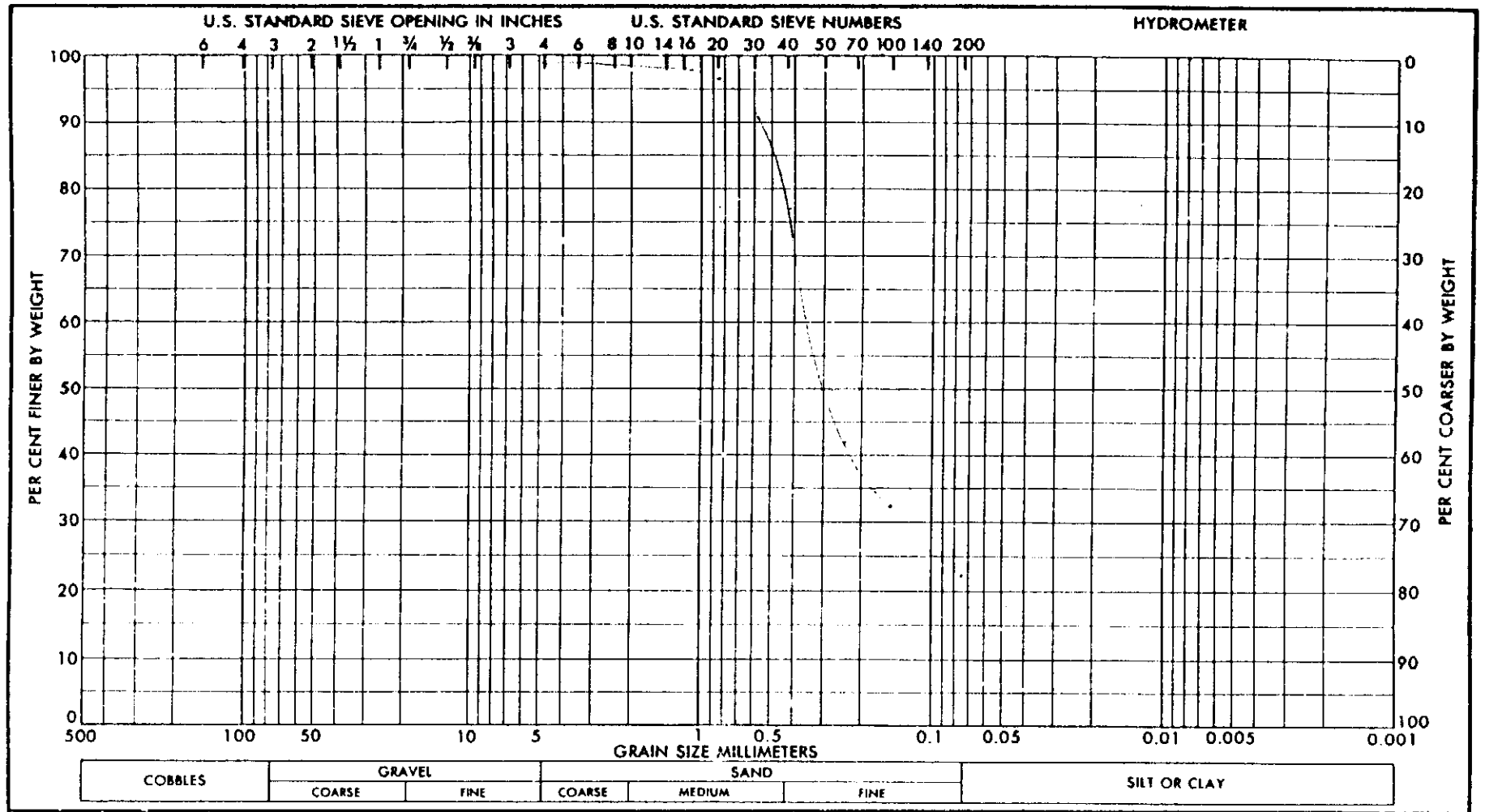
PROJECT Warren George Inc.

AREA

BORING NO. MWI-2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
12	160-162	Gray fine/medium Sand				
		some silt				
		trace of gravel& clay				

GRADATION CURVES

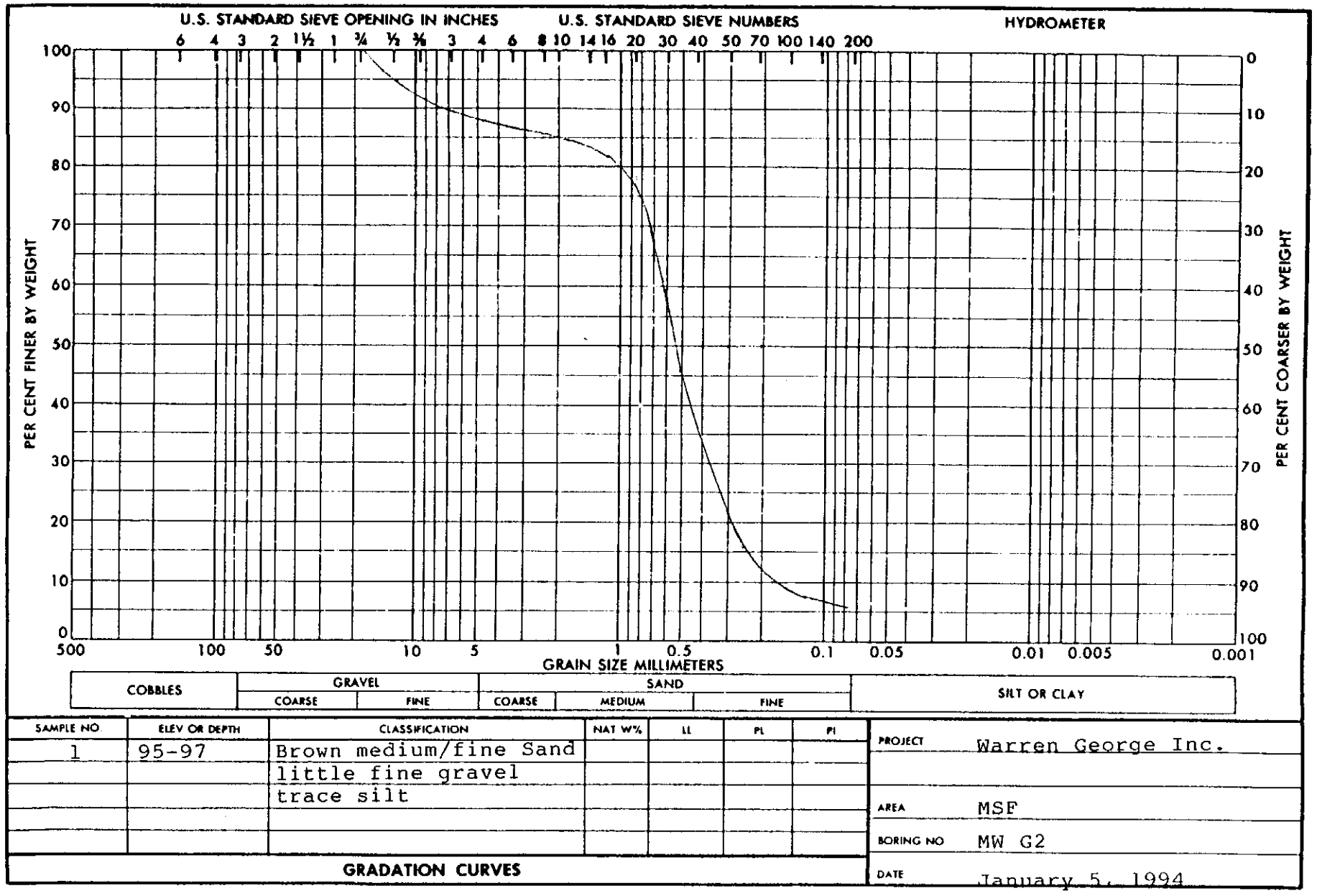
PROJECT Warren George Inc.

AREA MSF

BORING NO MW I-2

DATE Jan. 5,1994

JOHNSON SOILS ENGINEERING LABORATORY

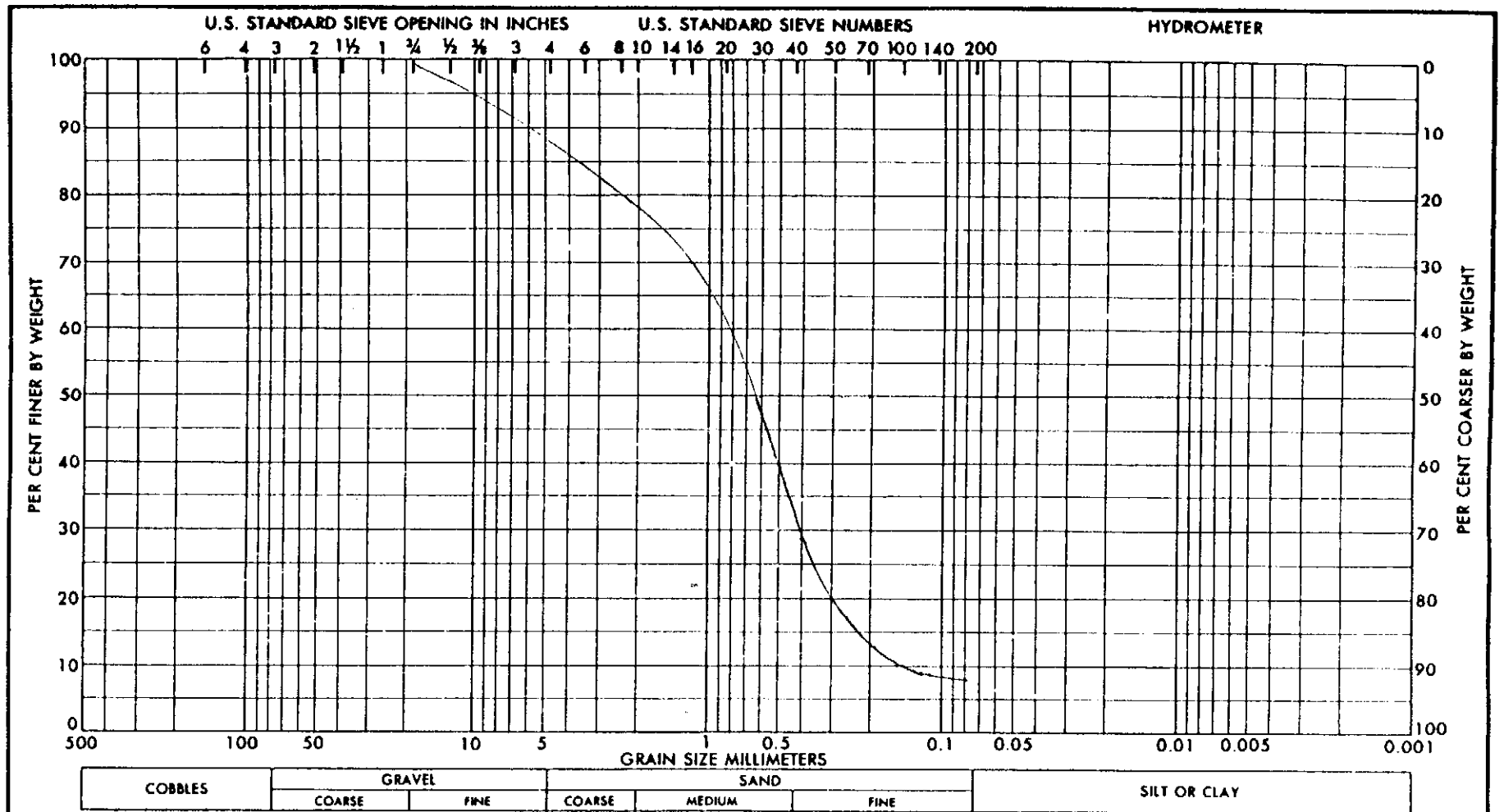


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	95-97	Brown medium/fine Sand				
		little fine gravel				
		trace silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

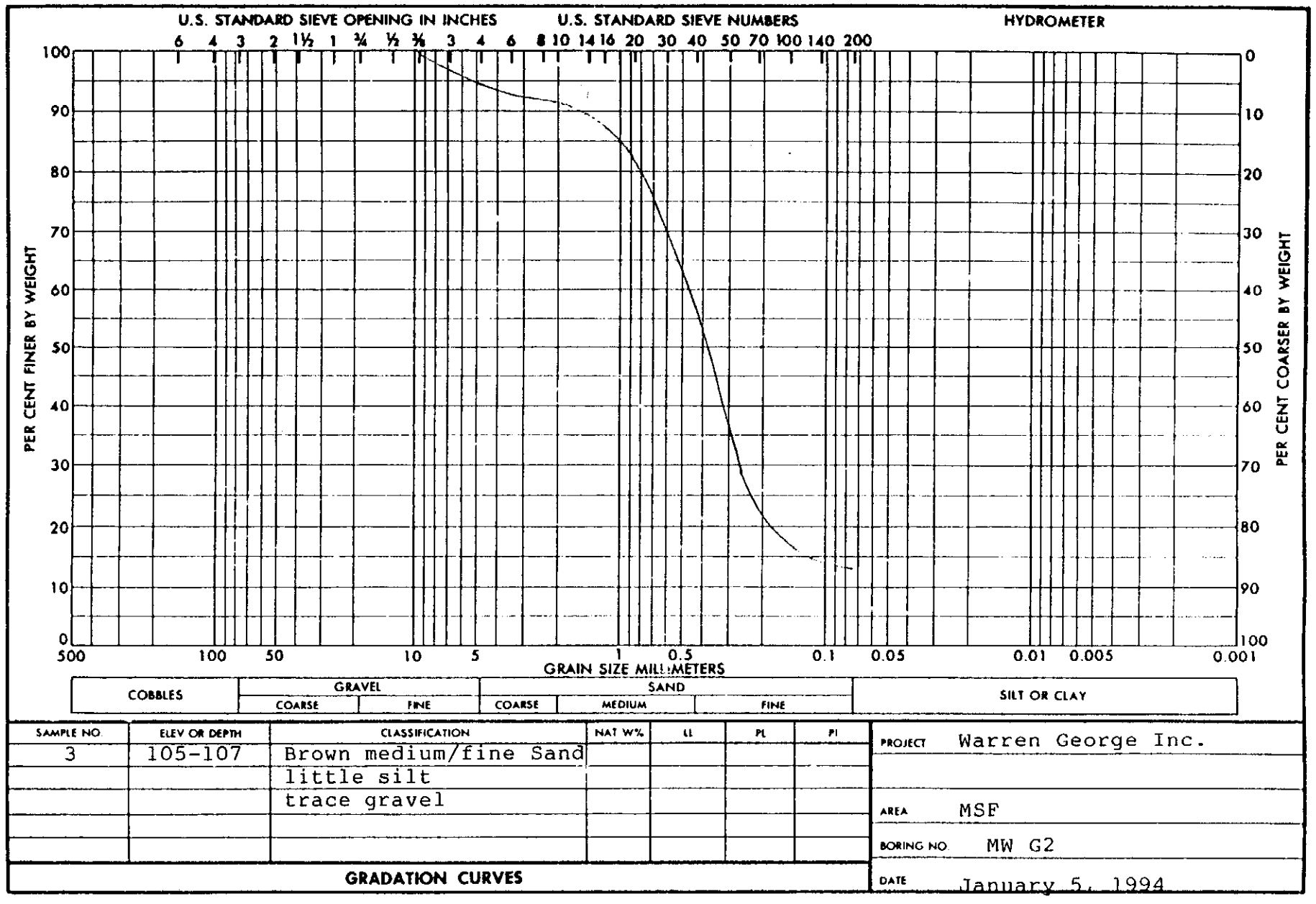


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
2	100-102	Brown coarse/fine Sand				
		little fine gravel +				
		silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
3	105-107	Brown medium/fine Sand				
		little silt				
		trace gravel				

GRADATION CURVES

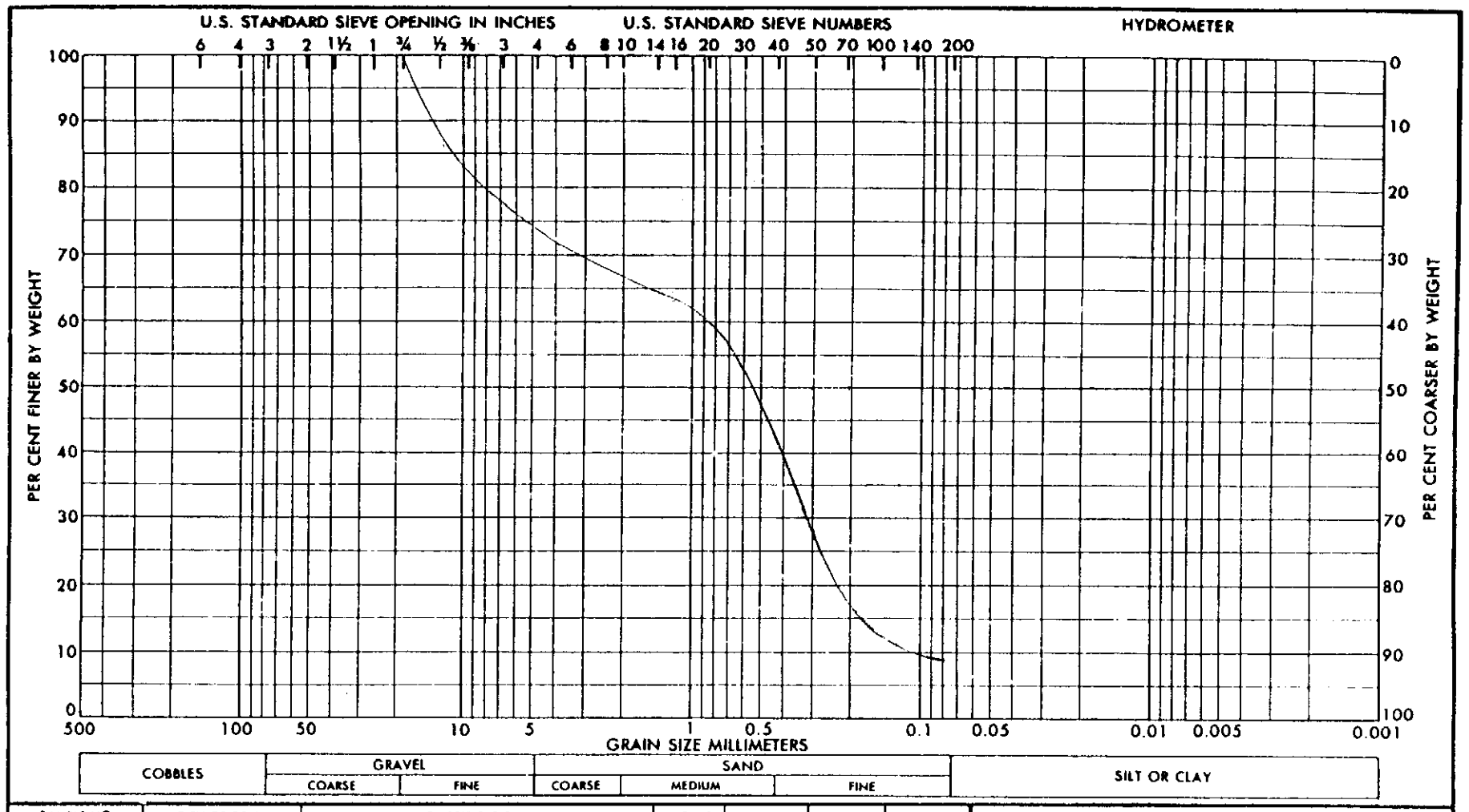
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

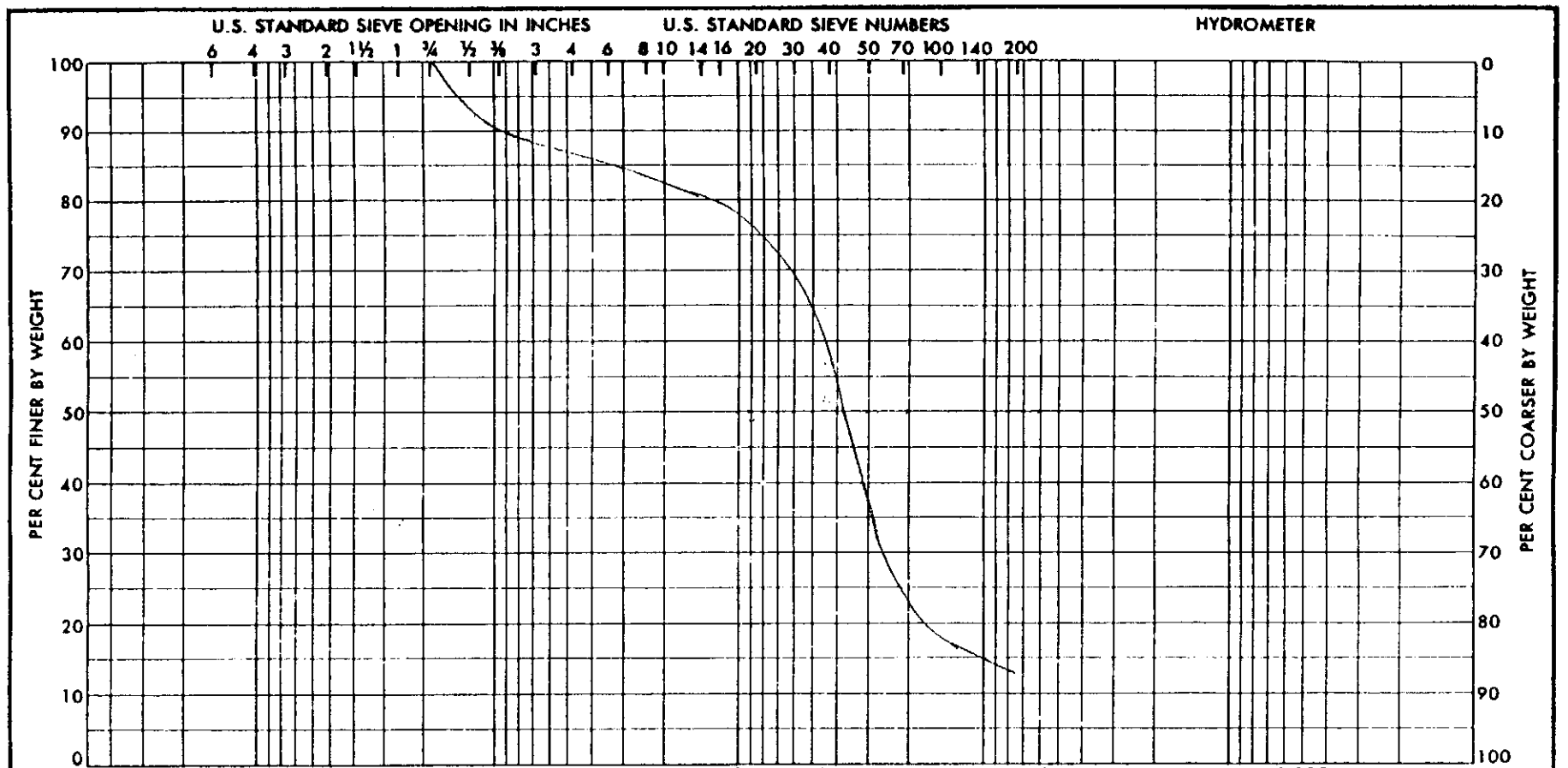


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	110-112	Brown fine/coarse Sand				
		some gravel				
		trace silt				

GRADATION CURVES

PROJECT	Warren George
AREA	MSF
BORING NO.	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

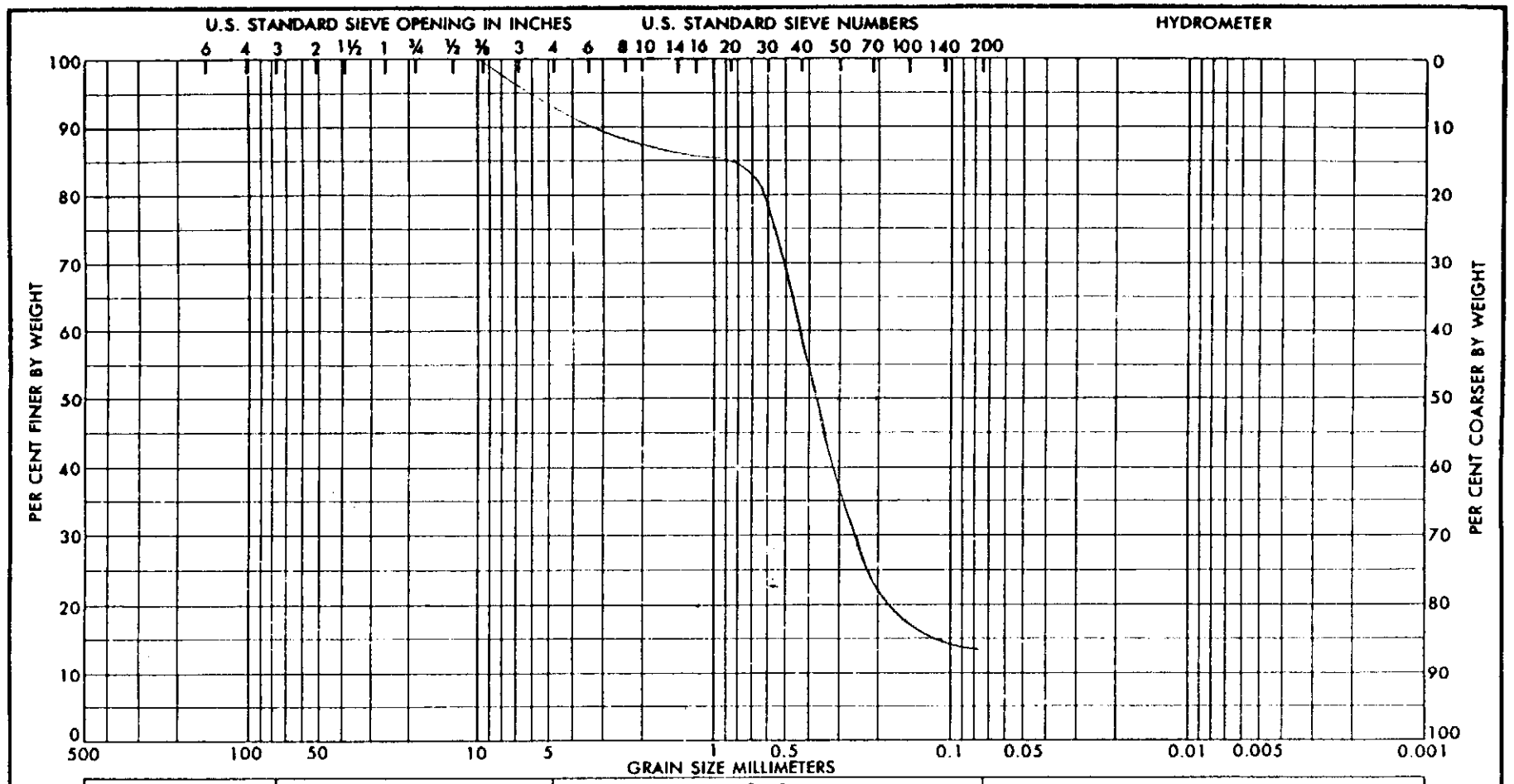


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
5	115-117	Brown medium/fine Sand				
		little gravel + silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

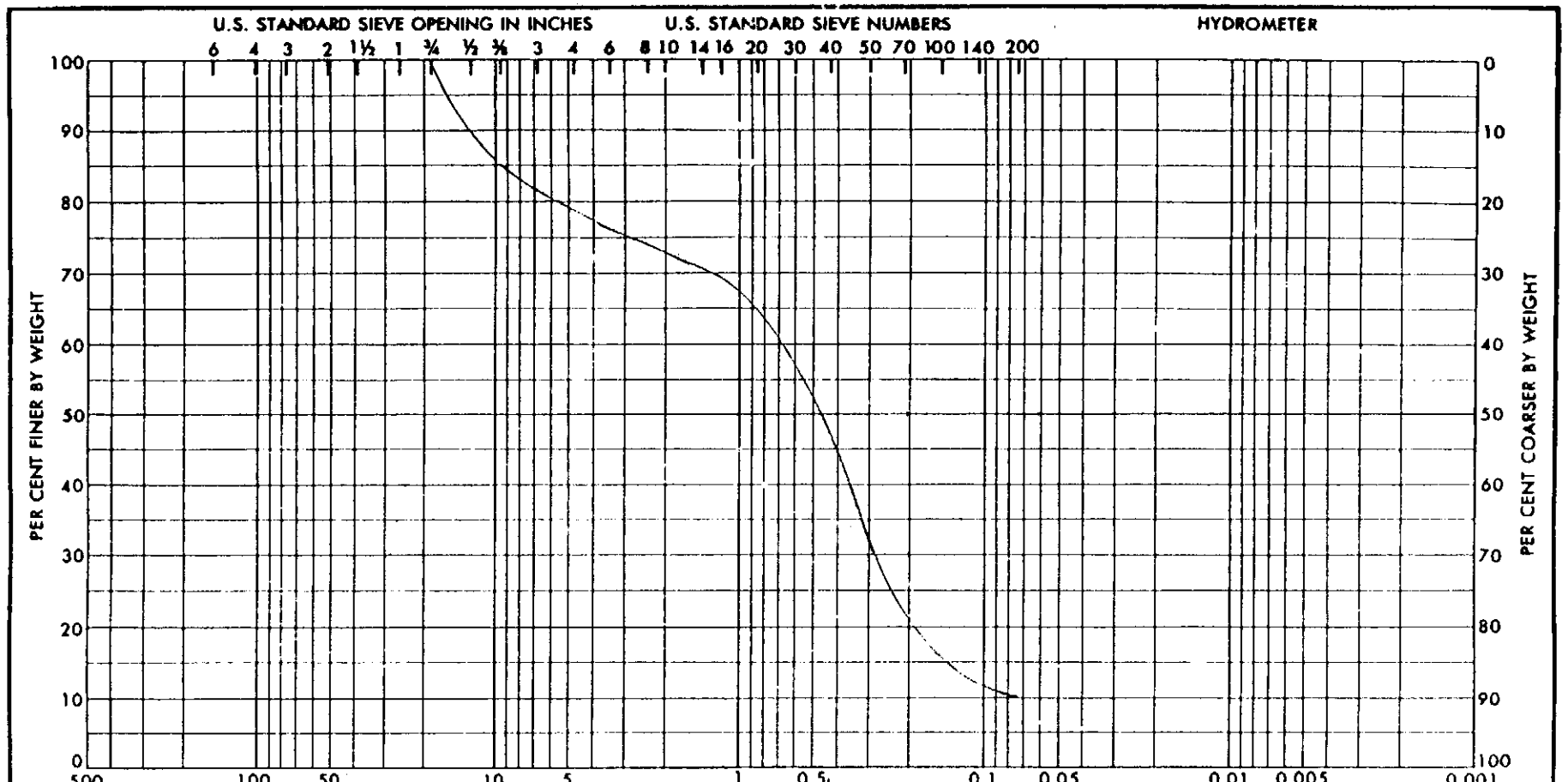


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
6	120-122	Brown medium/fine Sand				
		little silt				
		trace fine gravel				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
7	125-127	Brown fine/coarse Sand				
		some gravel				
		little silt				

GRADATION CURVES

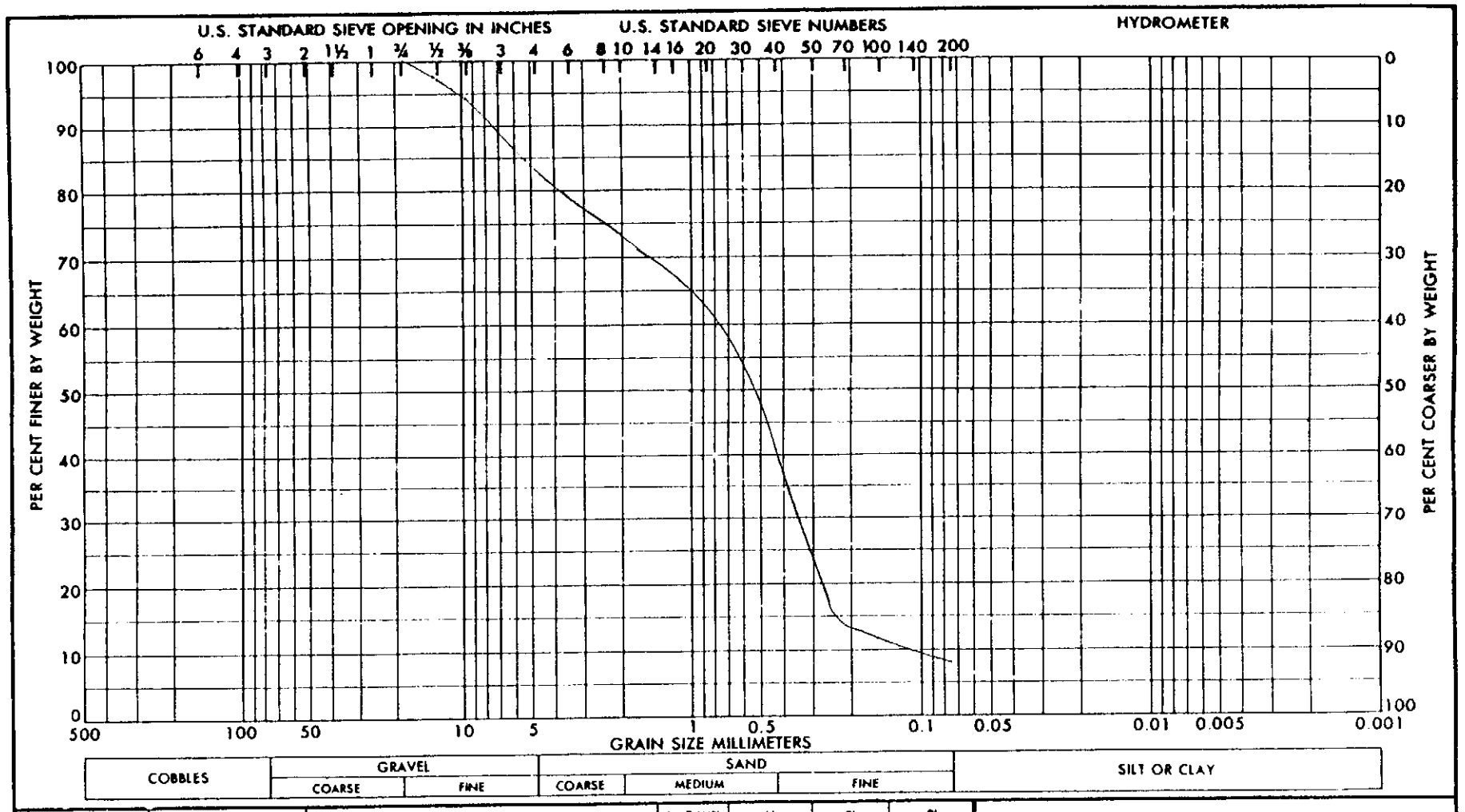
PROJECT: Warren George Inc.

AREA: MSF

BORING NO: MWG-2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
8	130-132	Brown fine/coarse Sand little gravel trace silt				

GRADATION CURVES

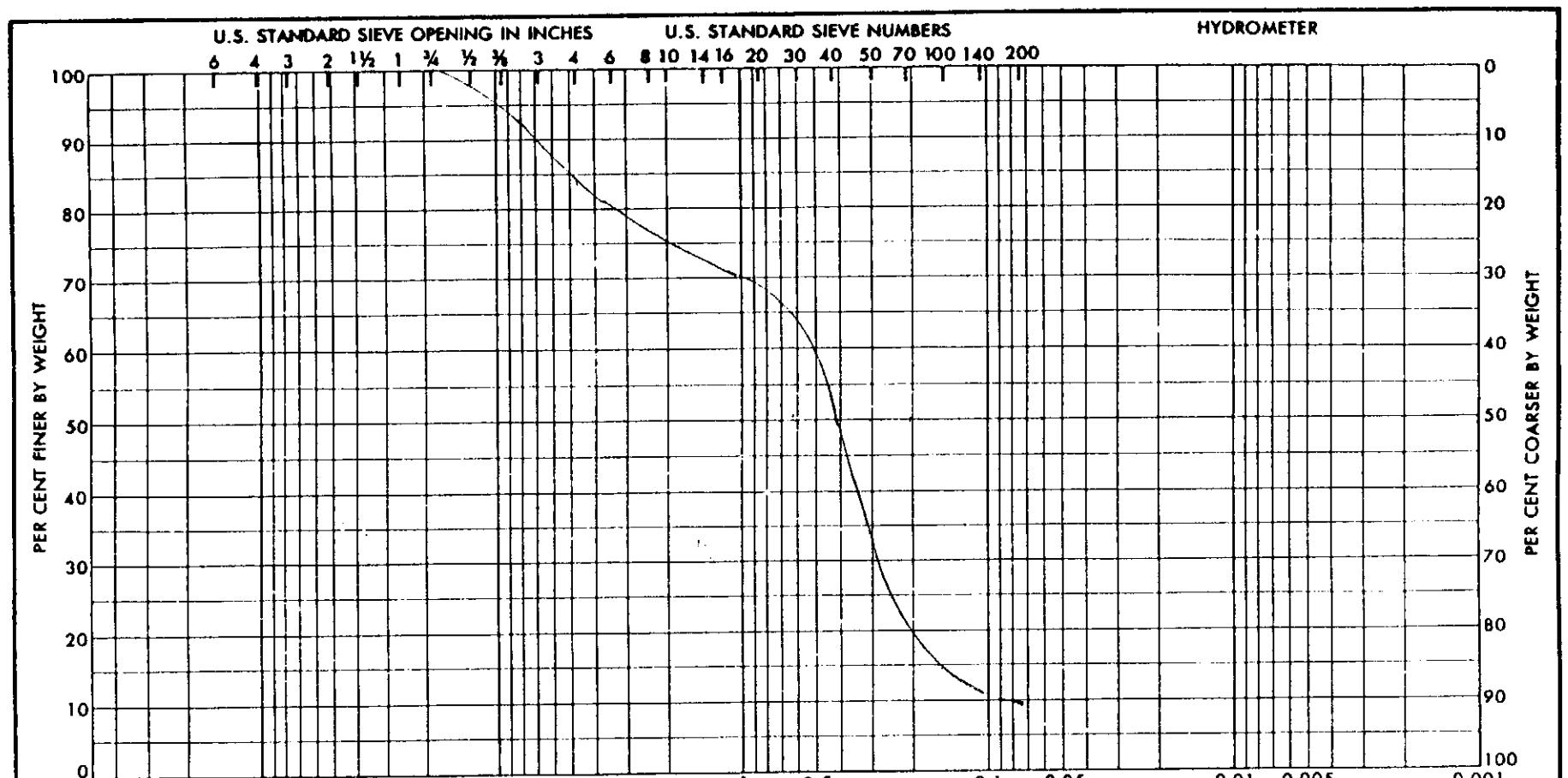
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
9	135-137	Brown fine/coarse Sand little gravel trace silt				

GRADATION CURVES

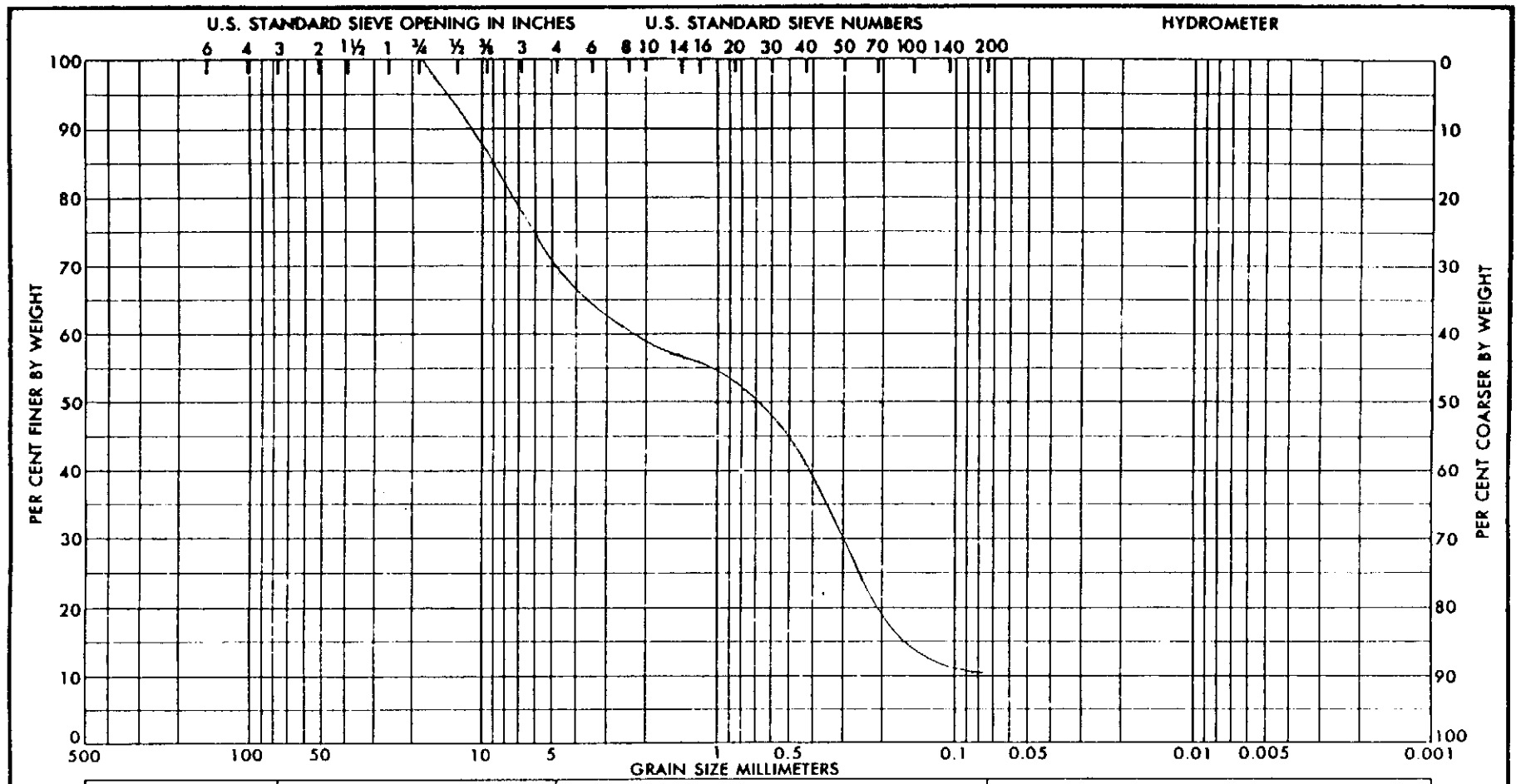
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

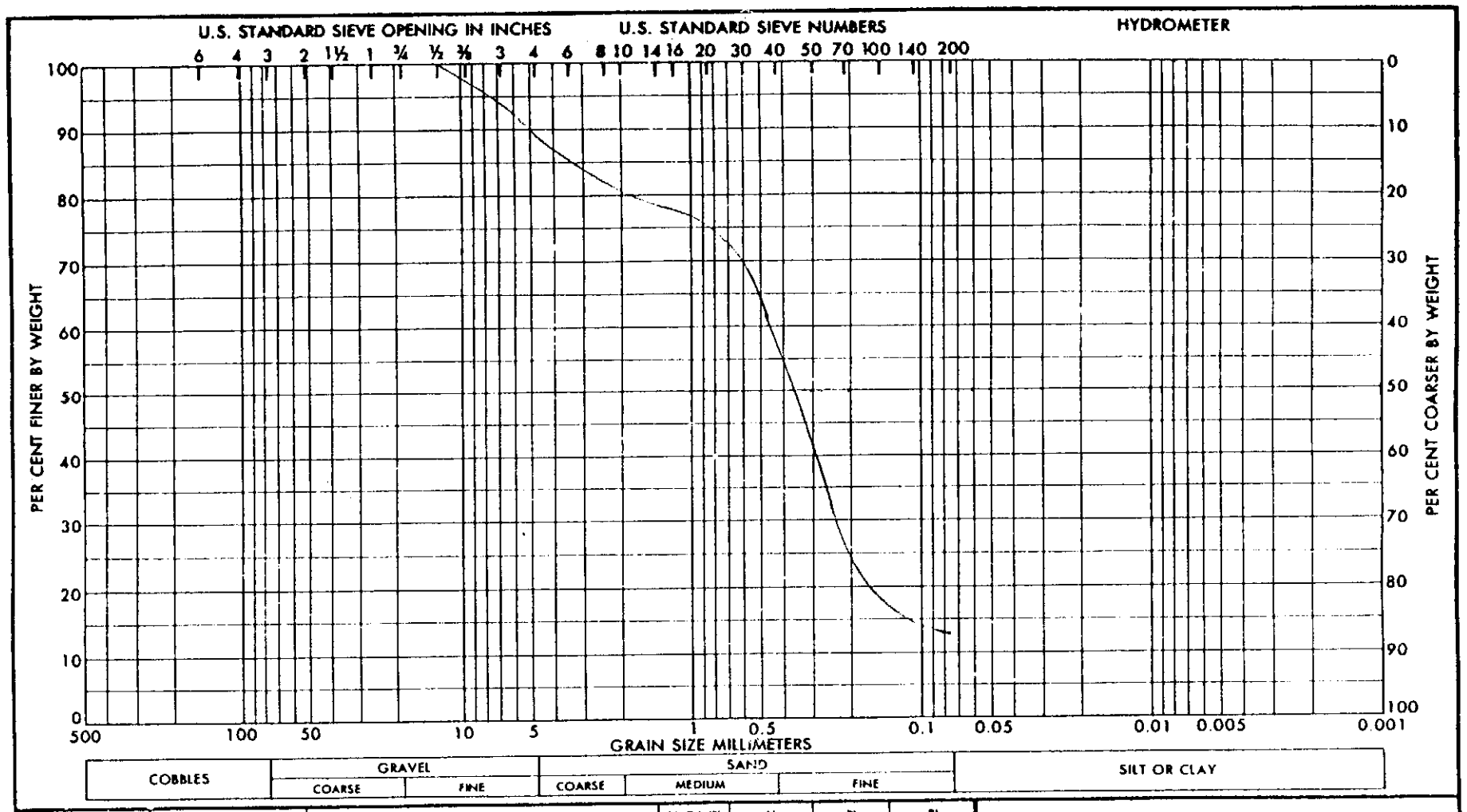


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	140-142	Brown fine/coarse Sand				
		some gravel				
		little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW G2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
11	145-147	Light brown fine/coarse SAND little gravel + silt				

GRADATION CURVES

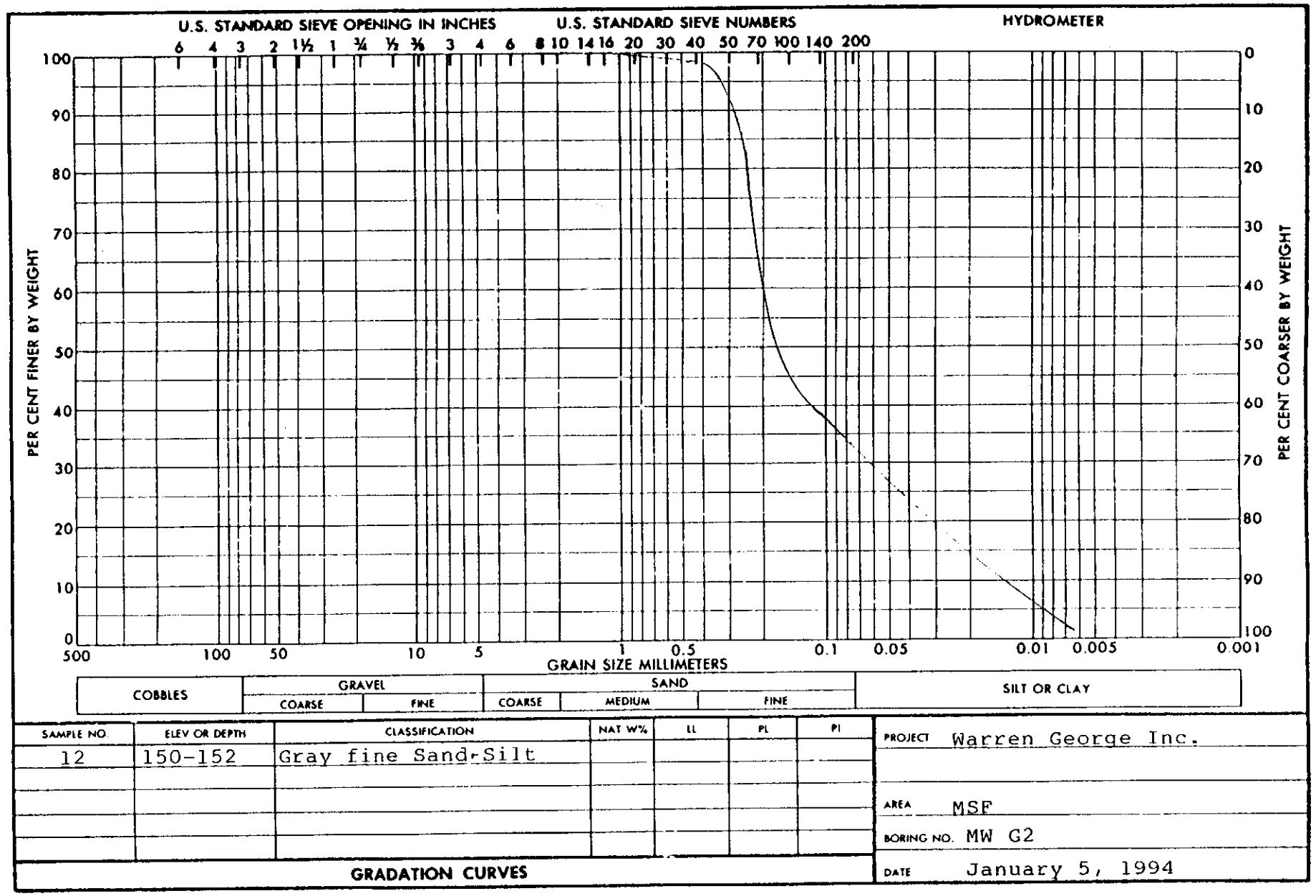
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
12	150-152	Gray fine Sand-Silt				

GRADATION CURVES

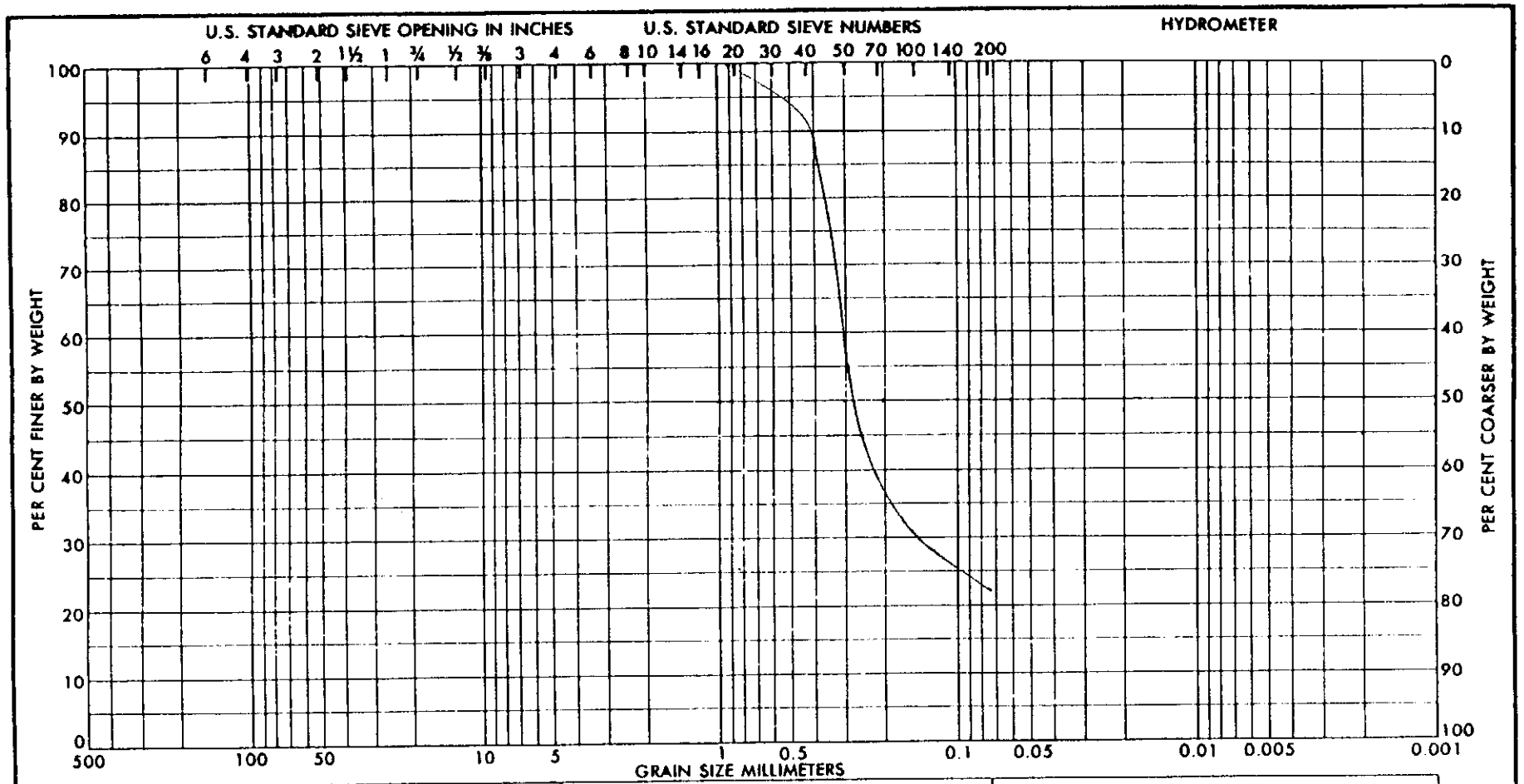
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
13	155-157	Gray fine Sand				
		some silt				

GRADATION CURVES

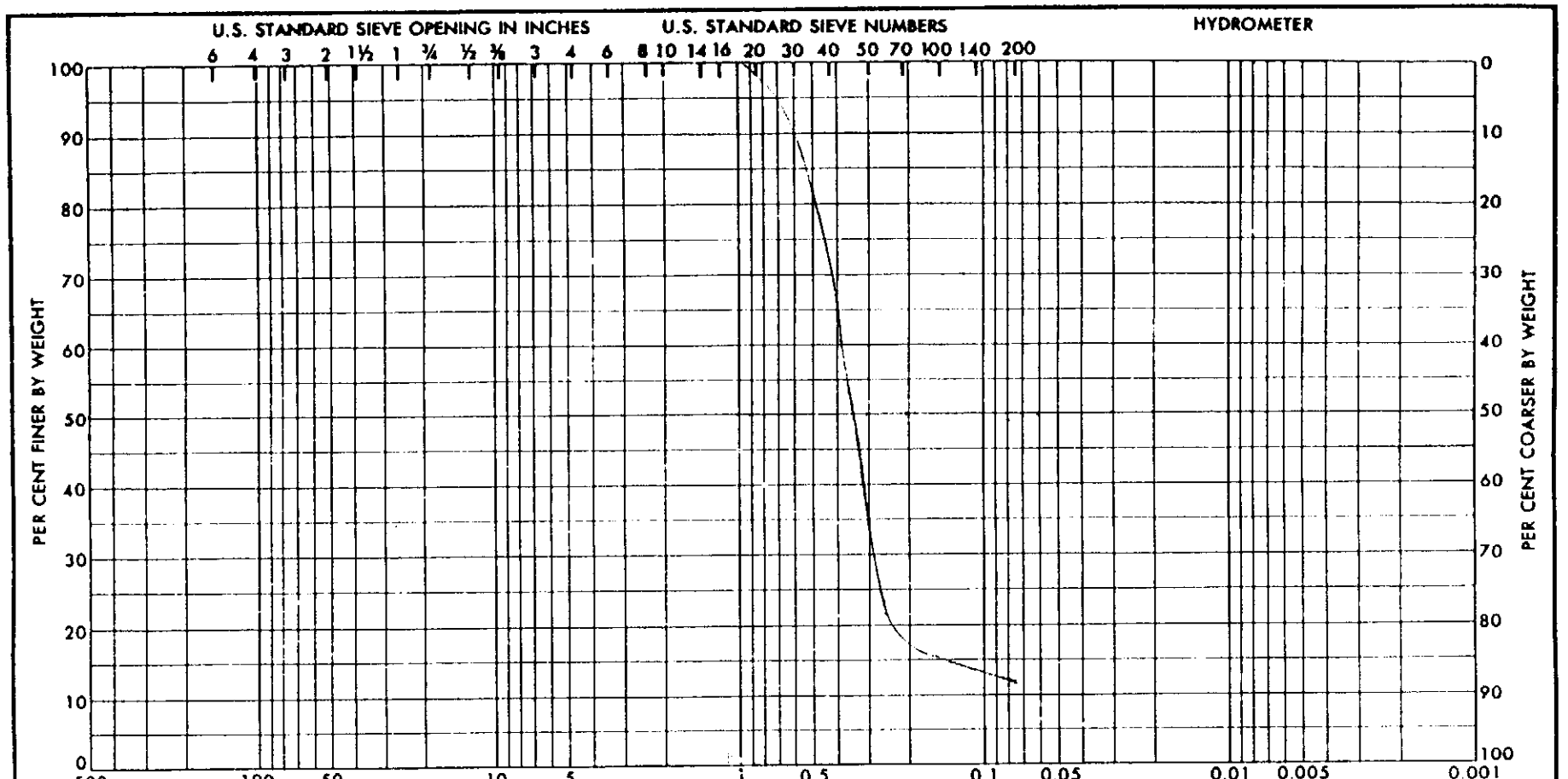
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
14	160-161	Brown fine/medium Sand				
		little silt				

GRADATION CURVES

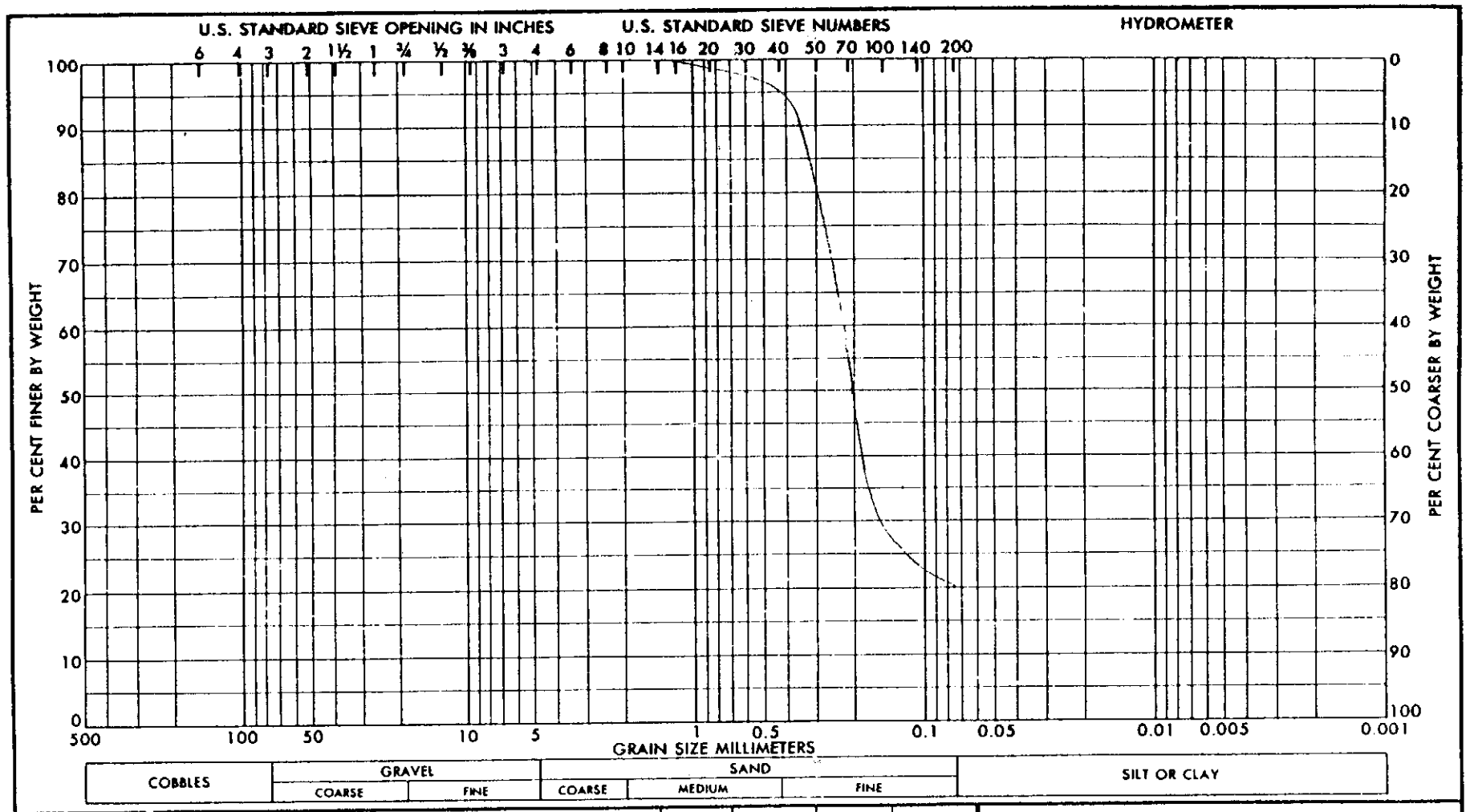
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW-G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
15	165-166	Light brown fine SAND some silt				

GRADATION CURVES

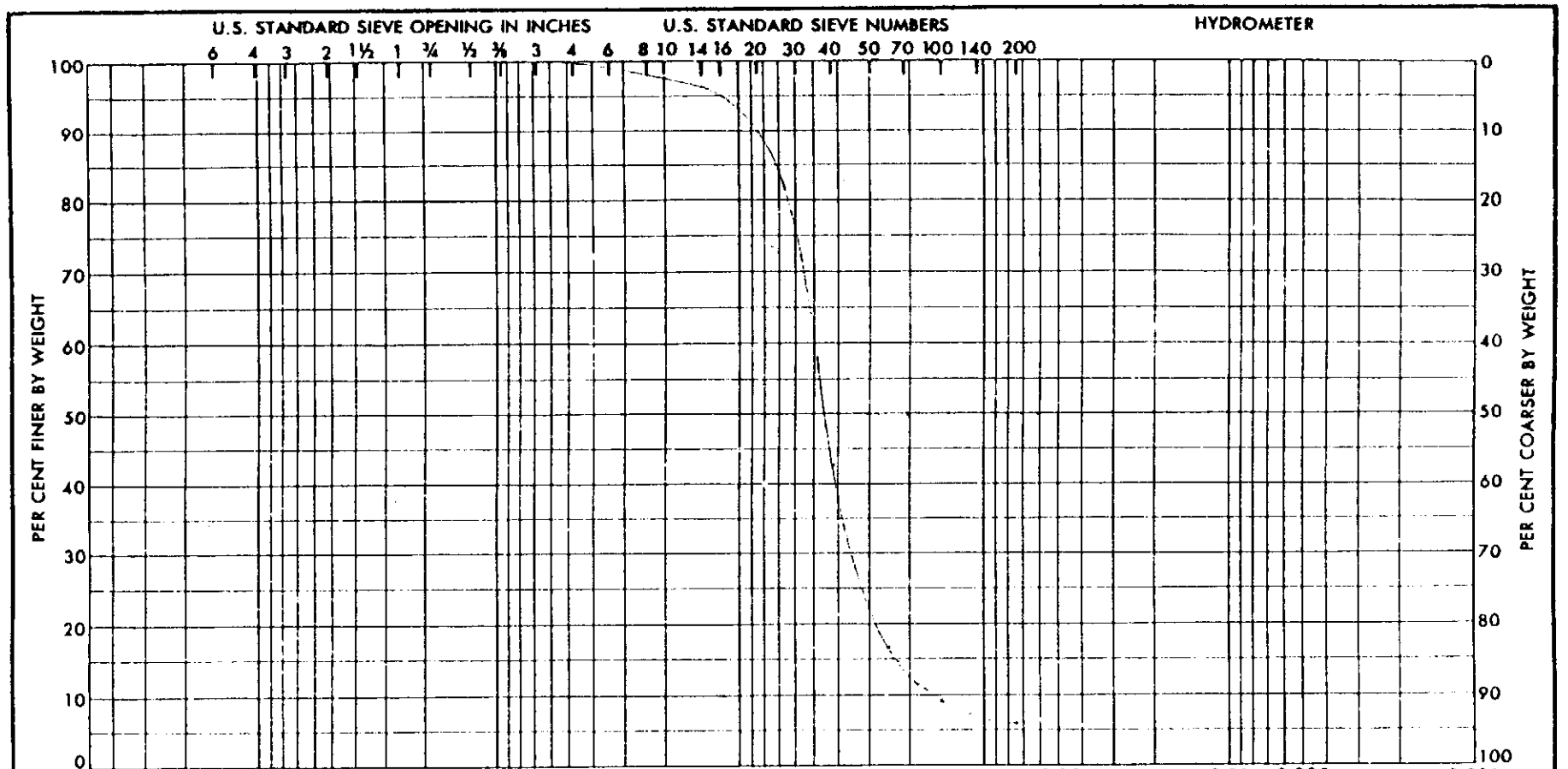
PROJECT Warren George

AREA MSF

BORING NO. MW-G2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	100-102	Fine/medium Sand				
		trace of silt & gravel				

GRADATION CURVES

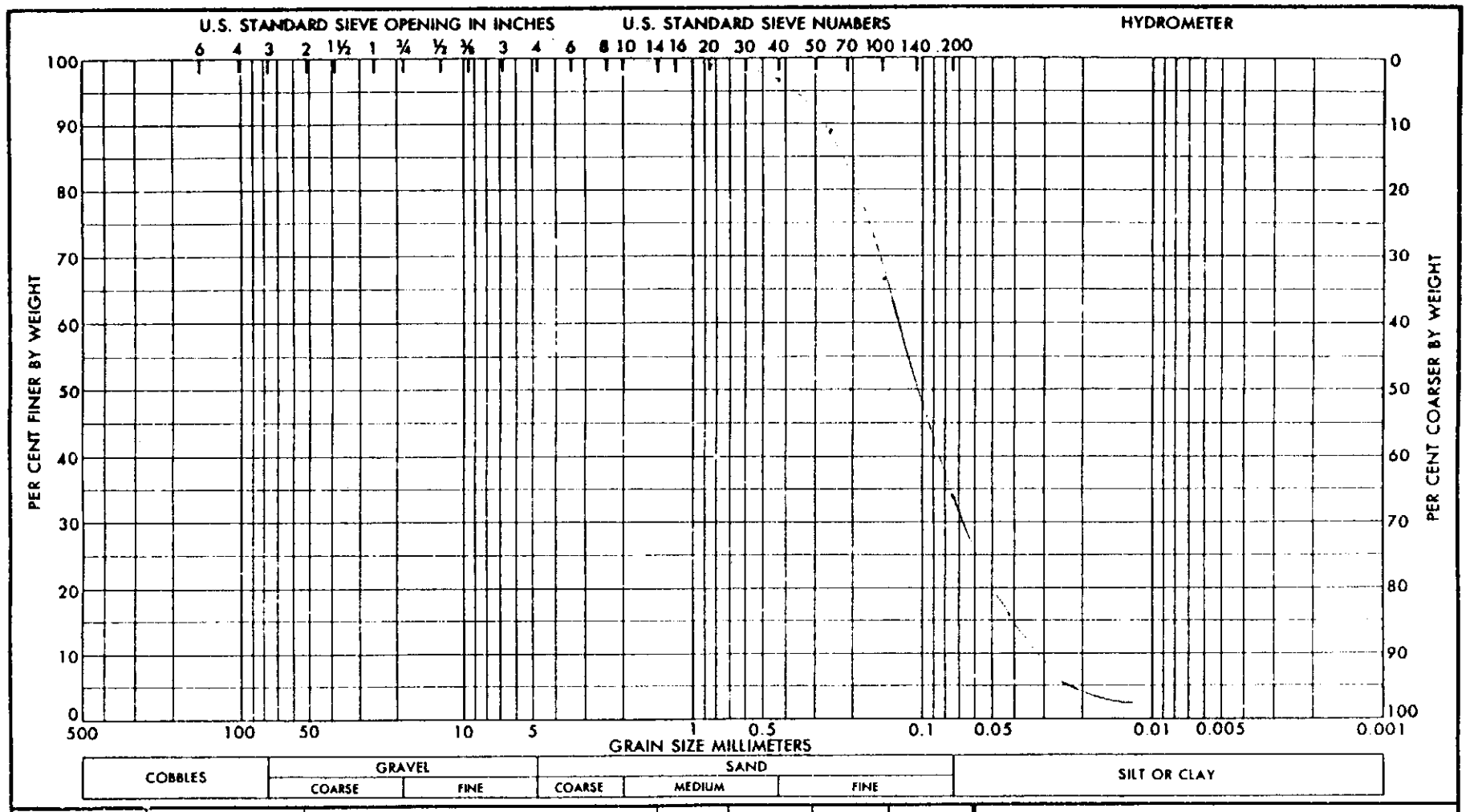
PROJECT Warren George Inc.

AREA MSF

BORING NO MW F-2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
2	105-107	Brown fine Sand some silt				

GRADATION CURVES

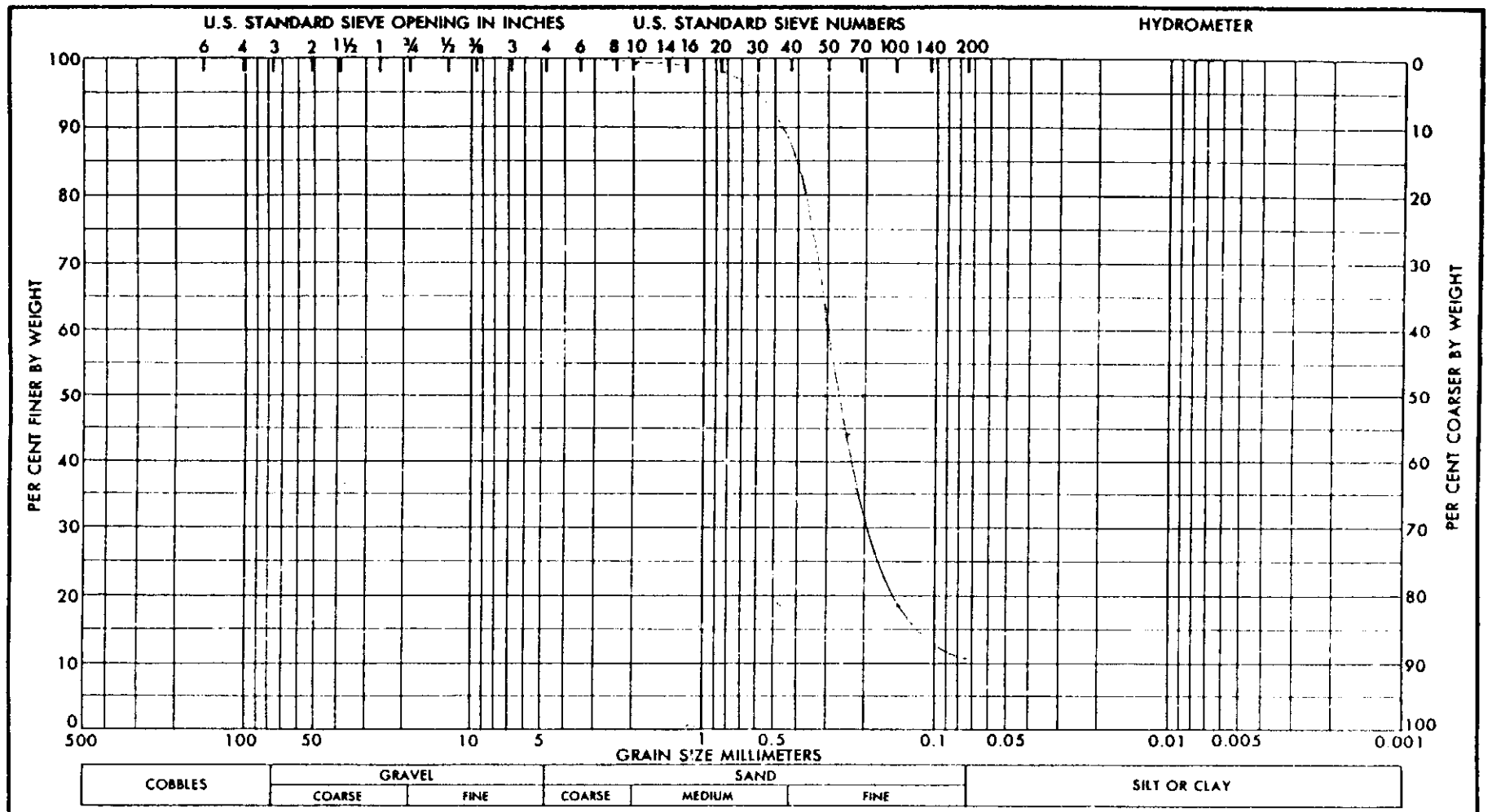
PROJECT Warren George Inc.

AREA

BORING NO. MW F2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

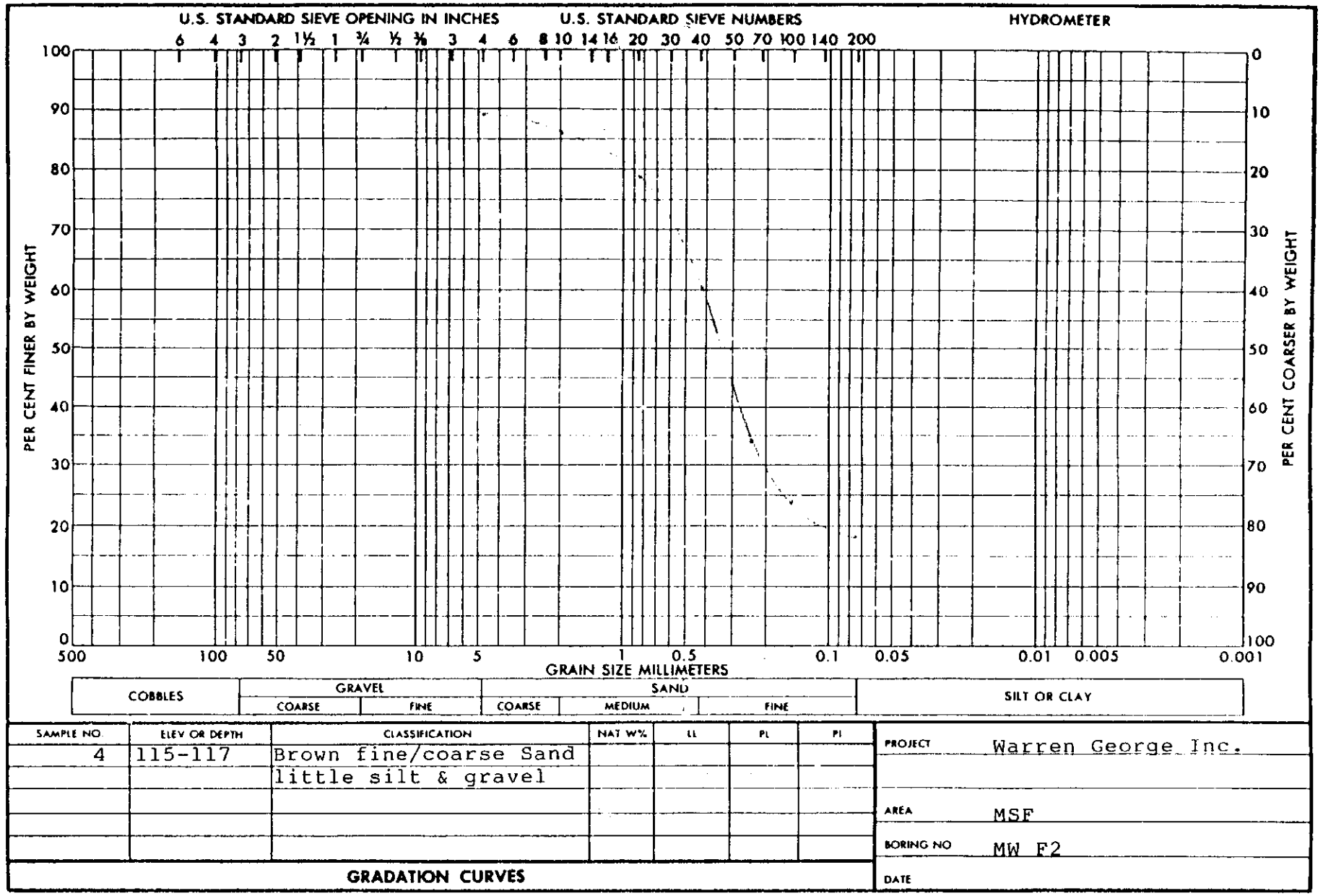


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
3	110~112	Brown fine/medium Sand little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW F2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	115-117	Brown fine/coarse Sand little silt & gravel				

GRADATION CURVES

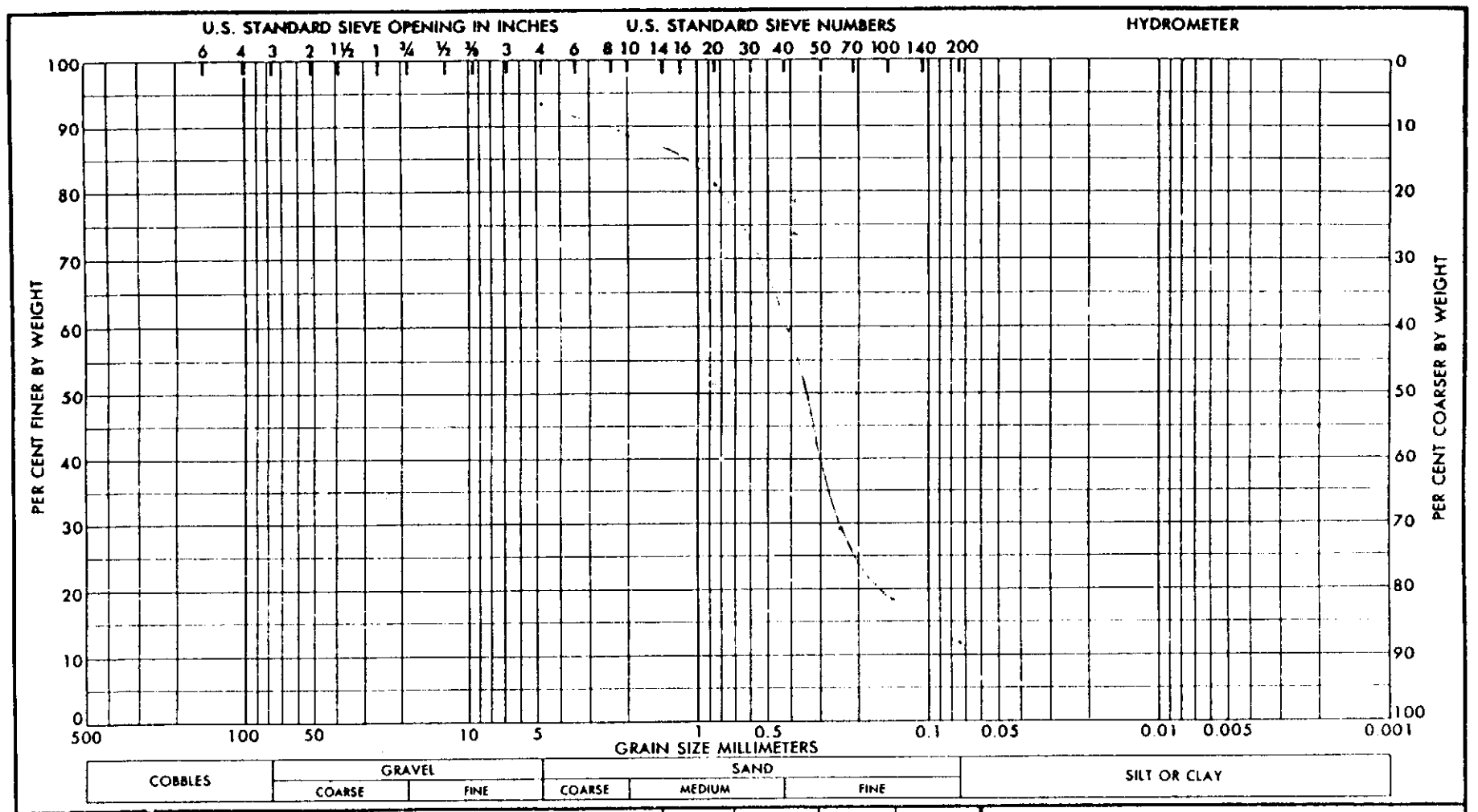
PROJECT Warren George Inc.

AREA MSF

BORING NO MW F2

DATE

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
5	120-122	Brown fine/coarse Sand				
		little silt				
		trace of gravel				

GRADATION CURVES

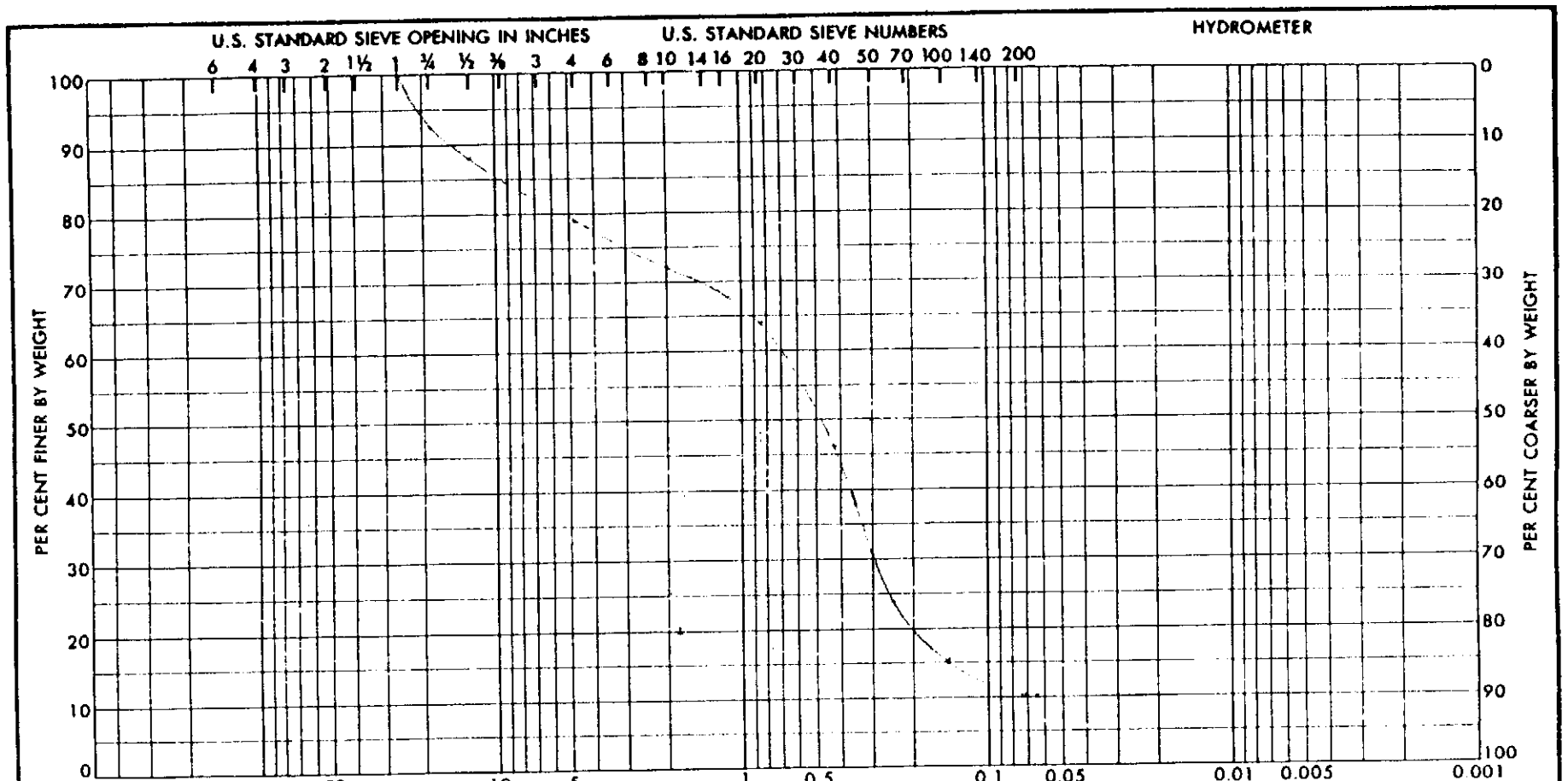
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW F2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
6	125-127	Brown fine/coarse Sand				
		some gravel				
		little silt				

GRADATION CURVES

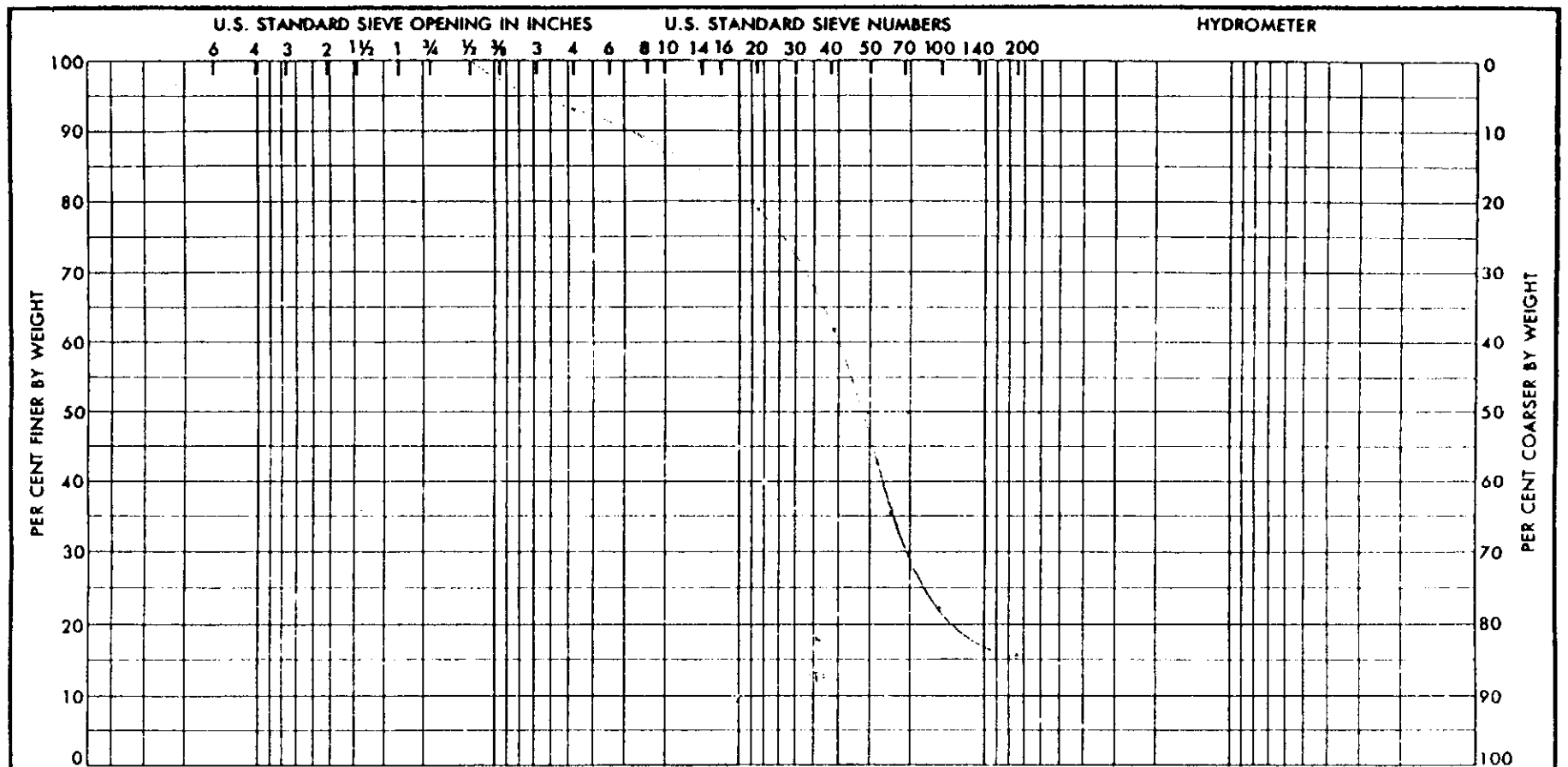
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW F2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
7	130-132	Brown fine/coarse Sand				
		little silt				
		trace gravel				

GRADATION CURVES

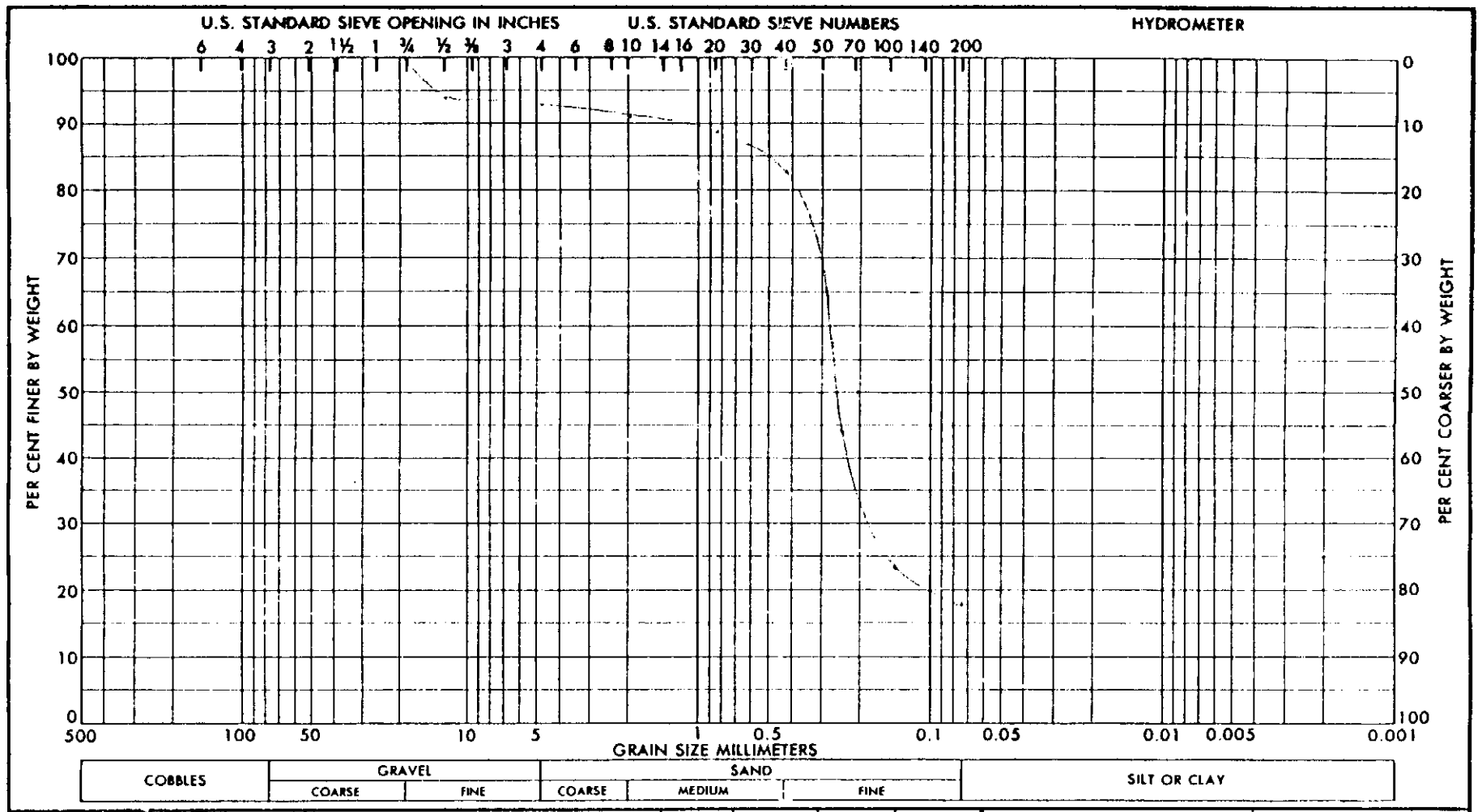
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW F2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

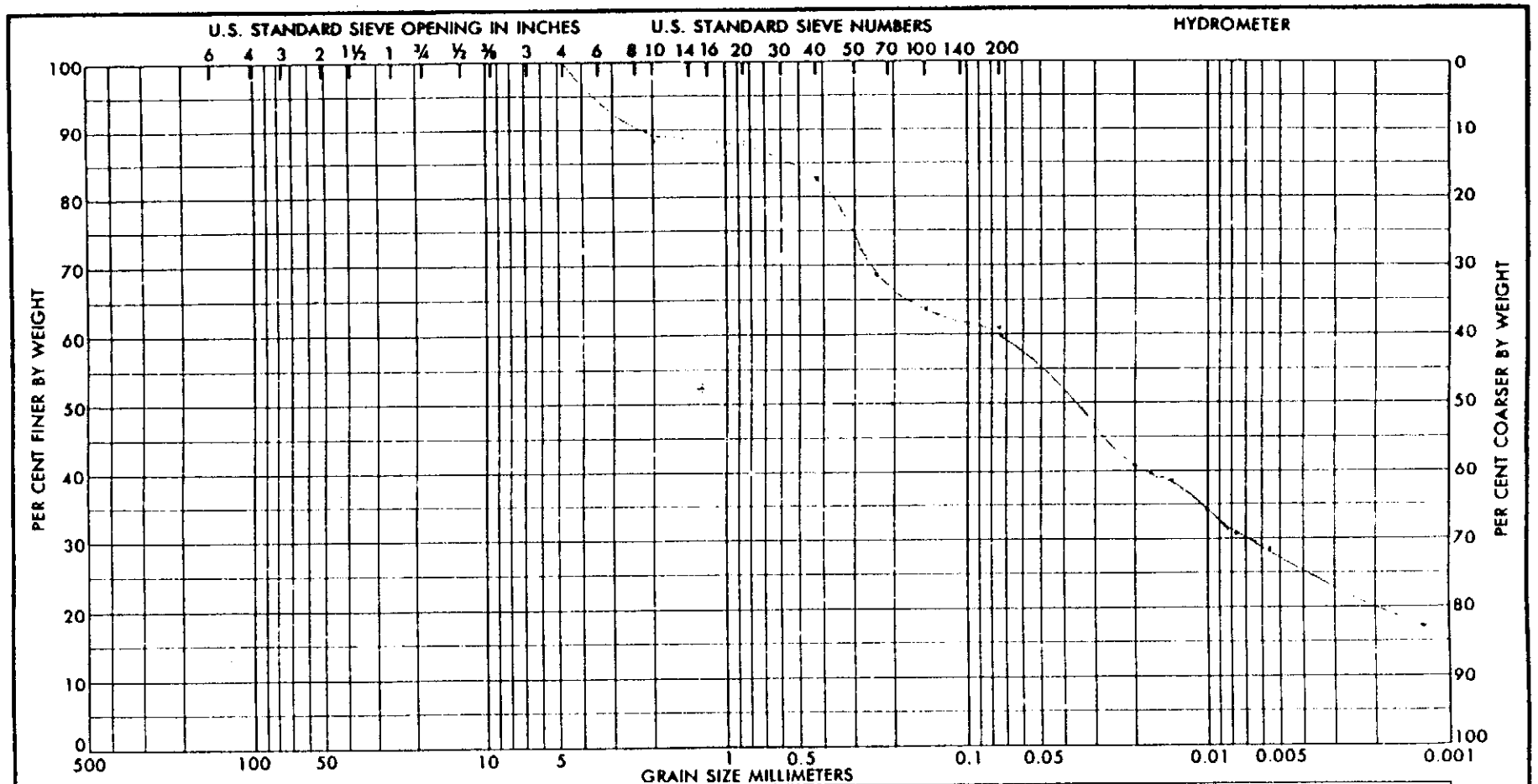


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
8	135-137	Gray-Brown fine/coarse				
		Sand				
		little silt				
		trace gravel				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW F2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
9-A	140-142	Brown Silt & fine/coarse Sand some clay				

GRADATION CURVES

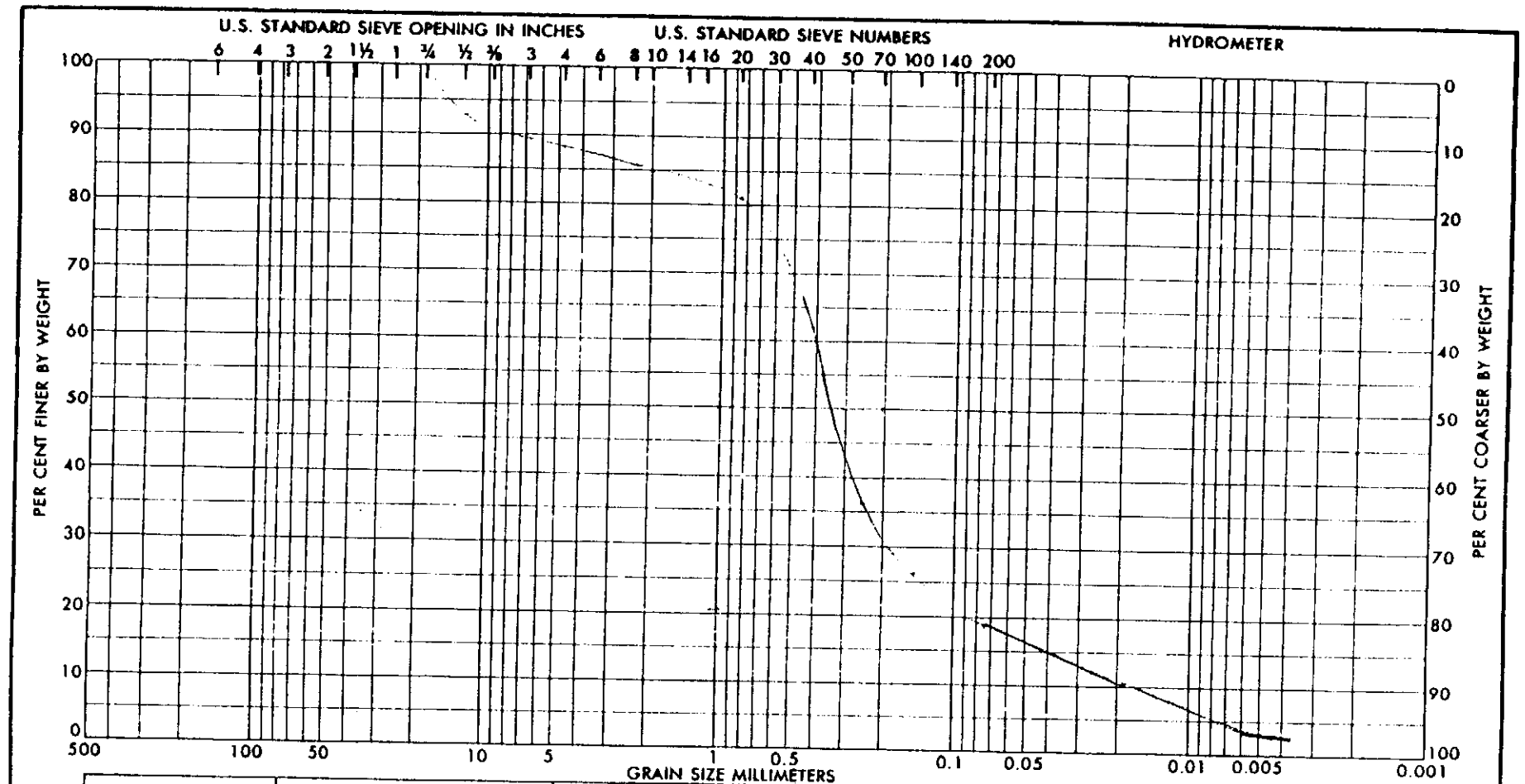
PROJECT Warren George Inc.

AREA MSF

BORING NO MW F2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
9-B	140-142	Brown fine/coarse Sand				
		little silt & gravel				
		trace of clay				

GRADATION CURVES

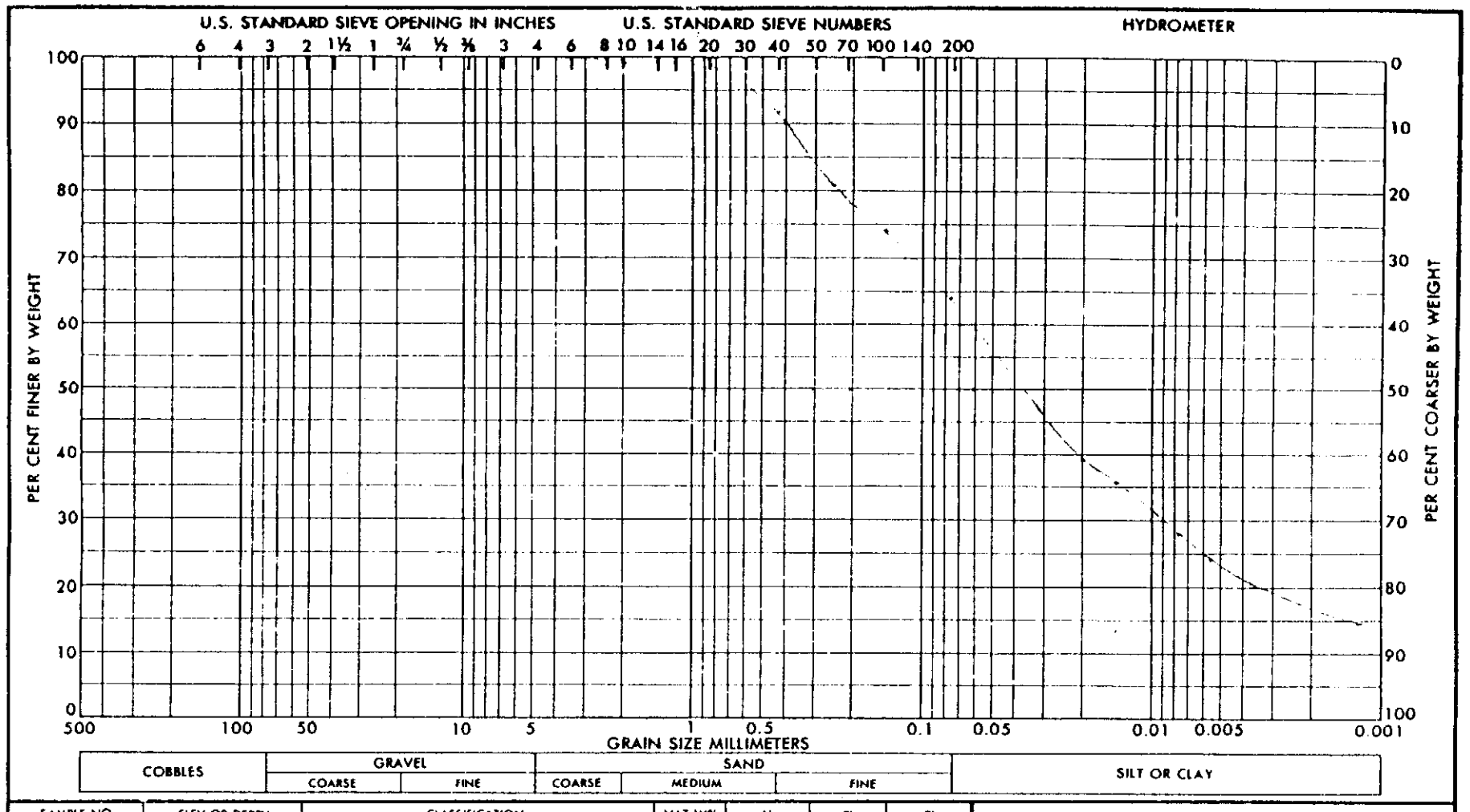
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW F-2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	145-147	Brown silt,some fine/				
		Sand				
		some clay				

GRADATION CURVES

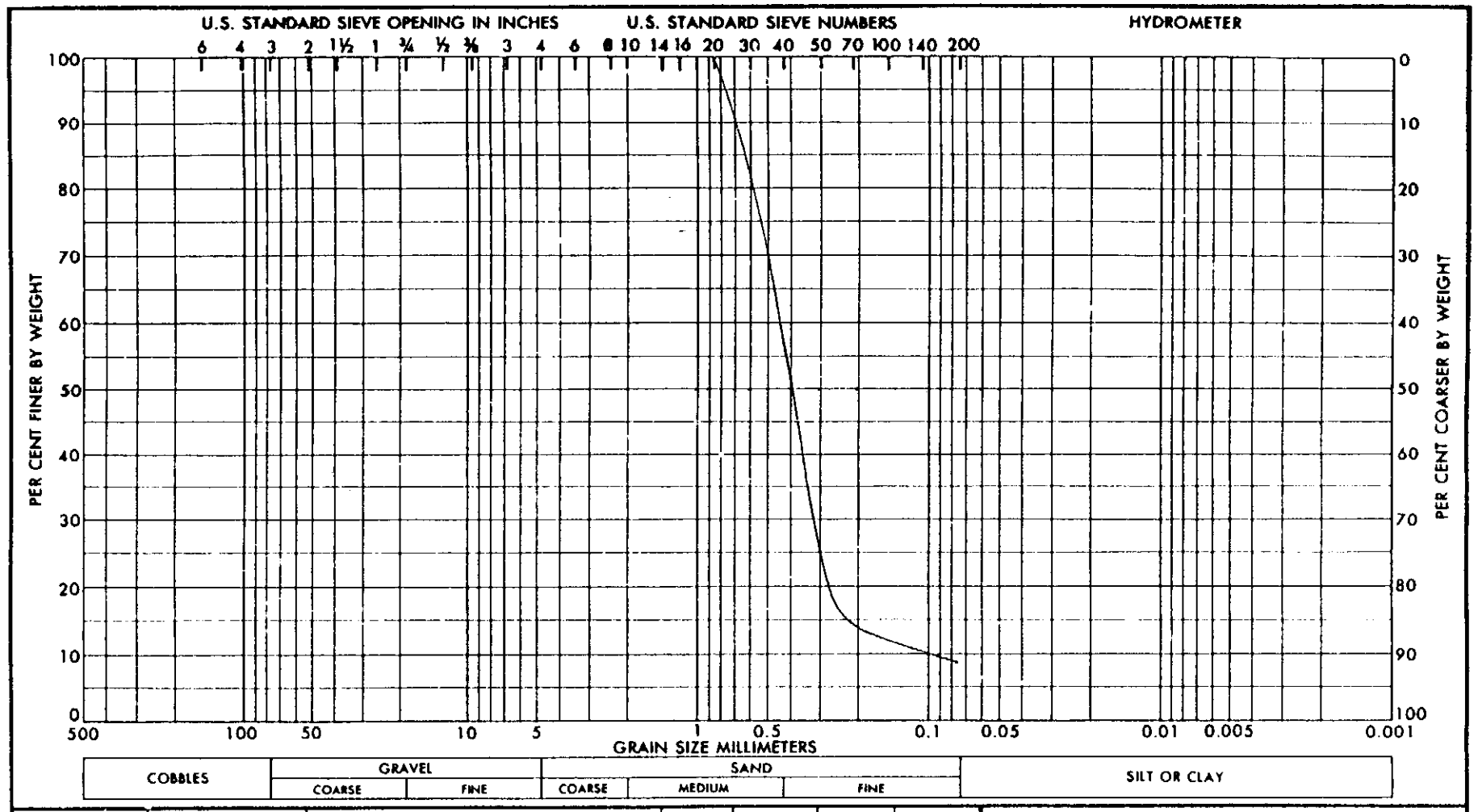
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW F2

DATE Jan 5,1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
11	150-152	Brown fine/medium Sand trace silt				

GRADATION CURVES

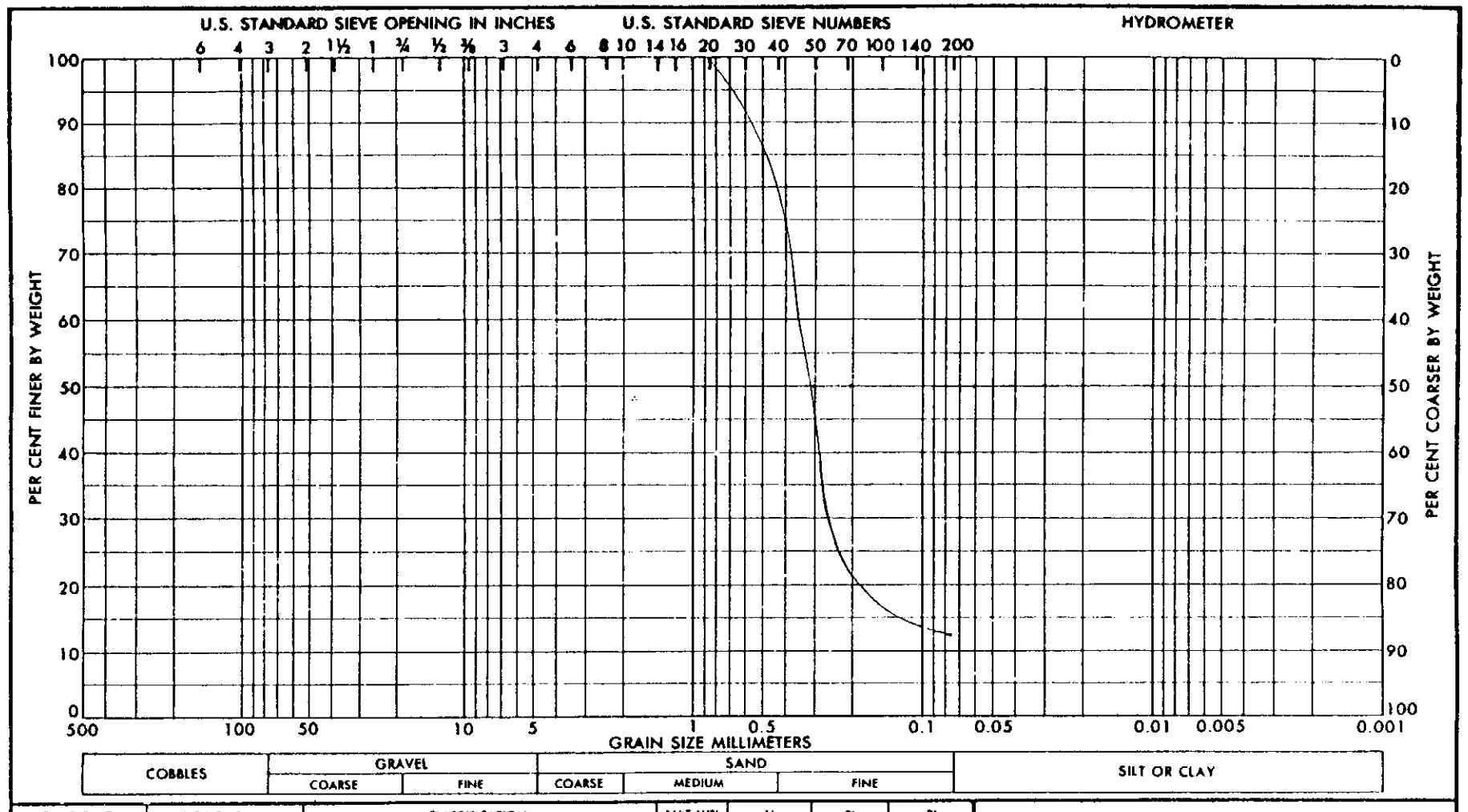
PROJECT Warren George Inc.

AREA MSF

BORING NO MW F-2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

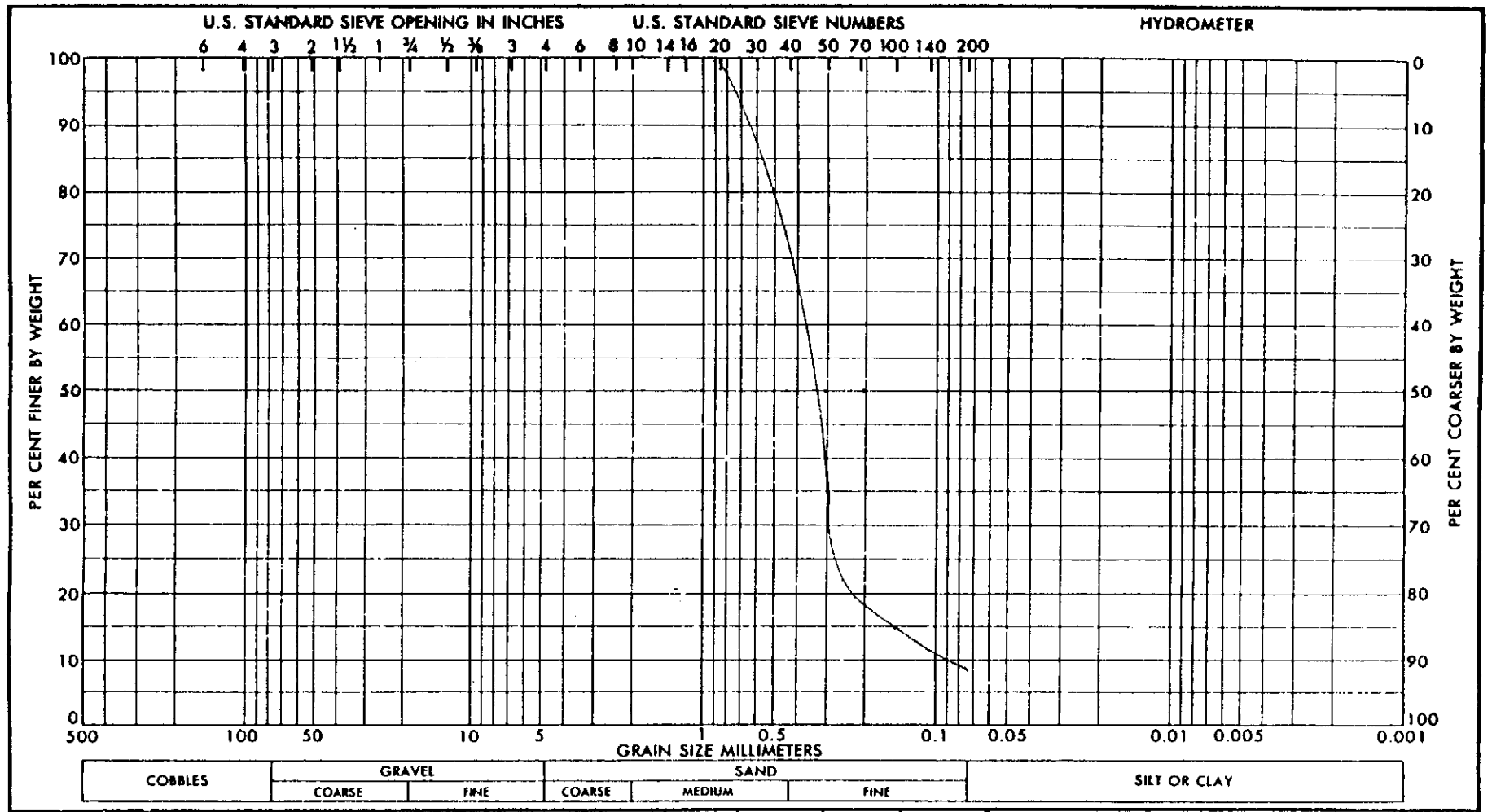


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
12	155-157	Light brown fine/medium Sand little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW F-2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
13	160-162	Light gray fine/medium Sand trace silt				

GRADATION CURVES

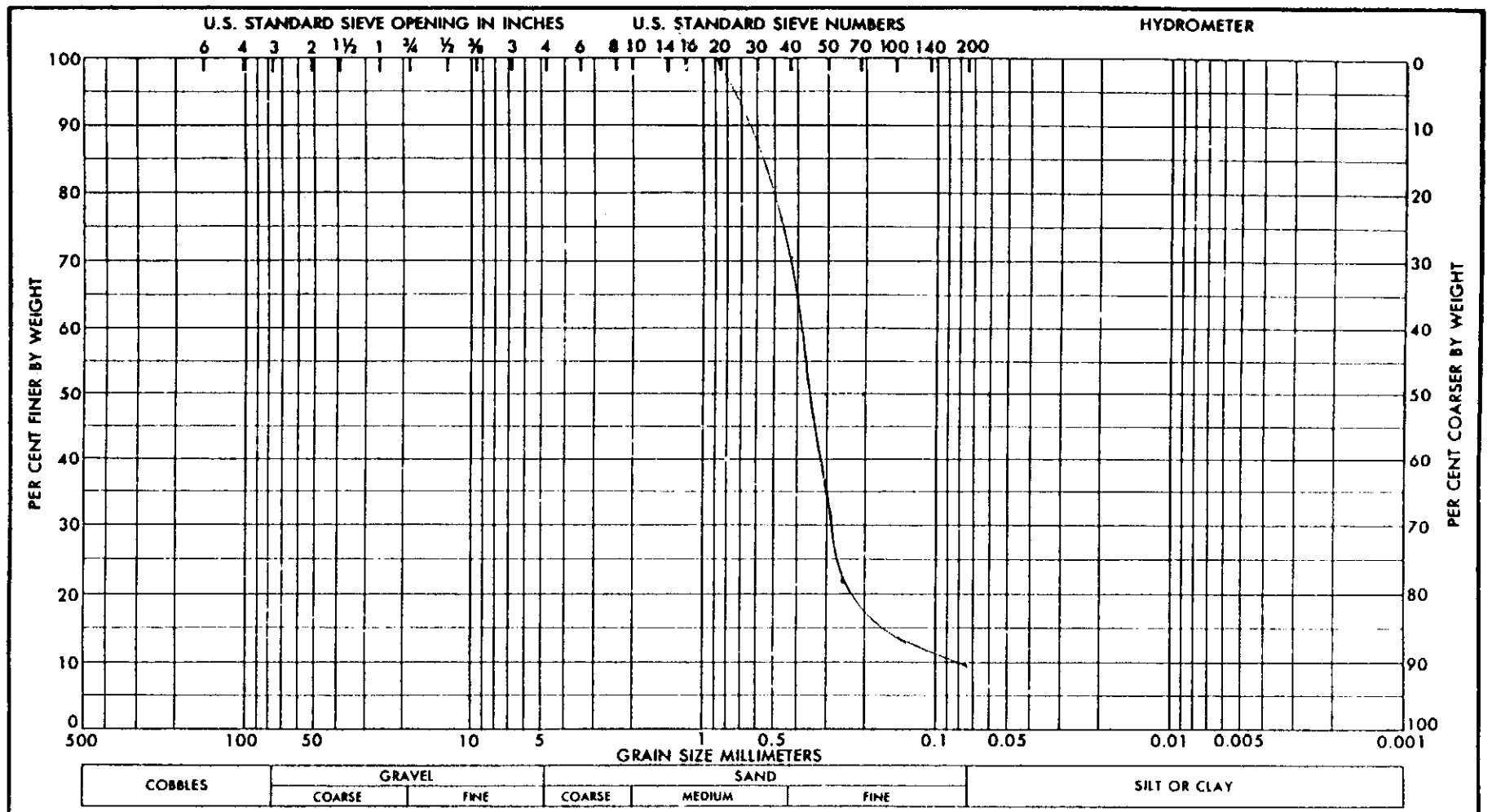
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW F2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
14	165-167	Light gray fine/medium Sand trace silt				

GRADATION CURVES

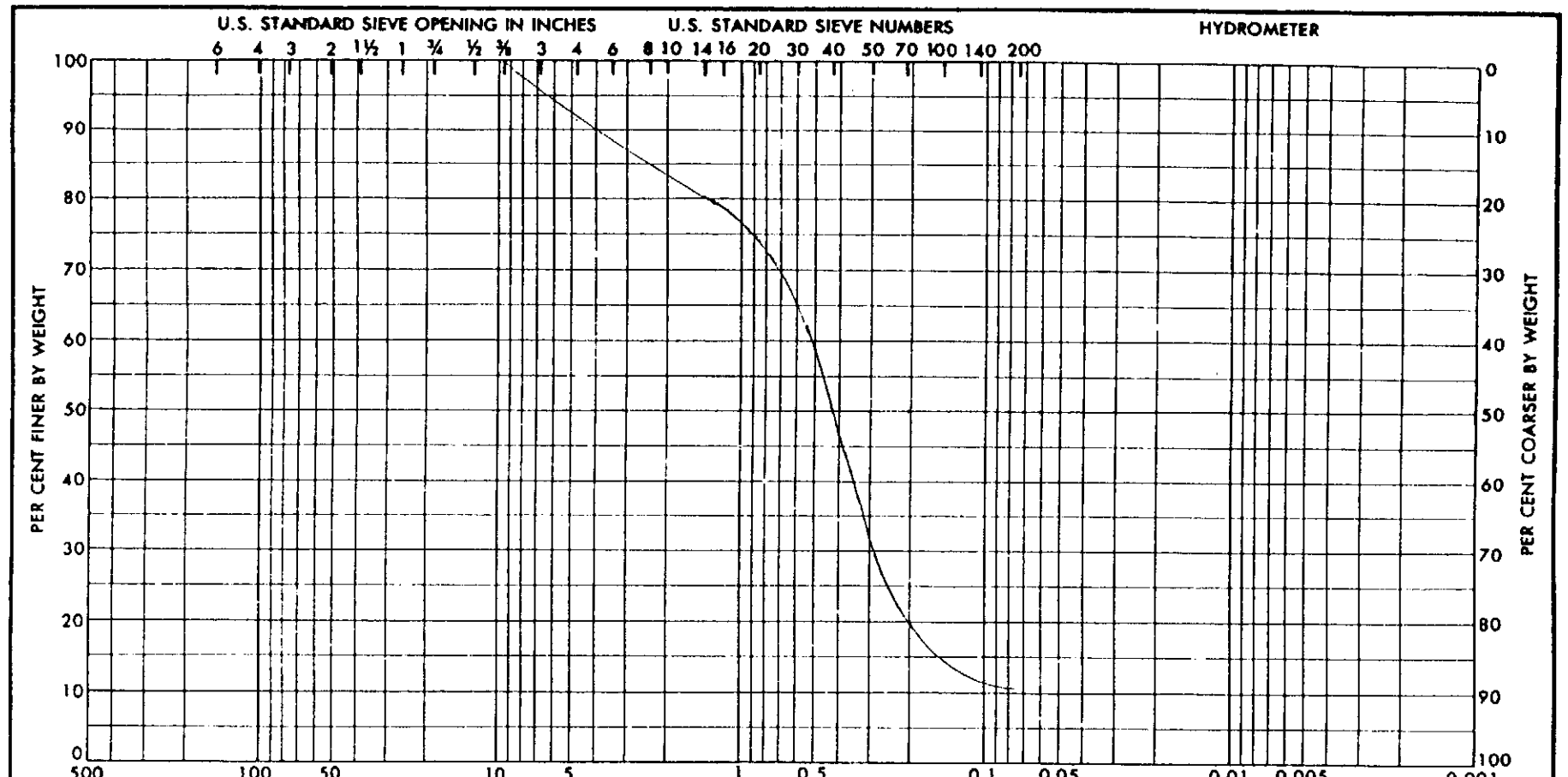
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW_F2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

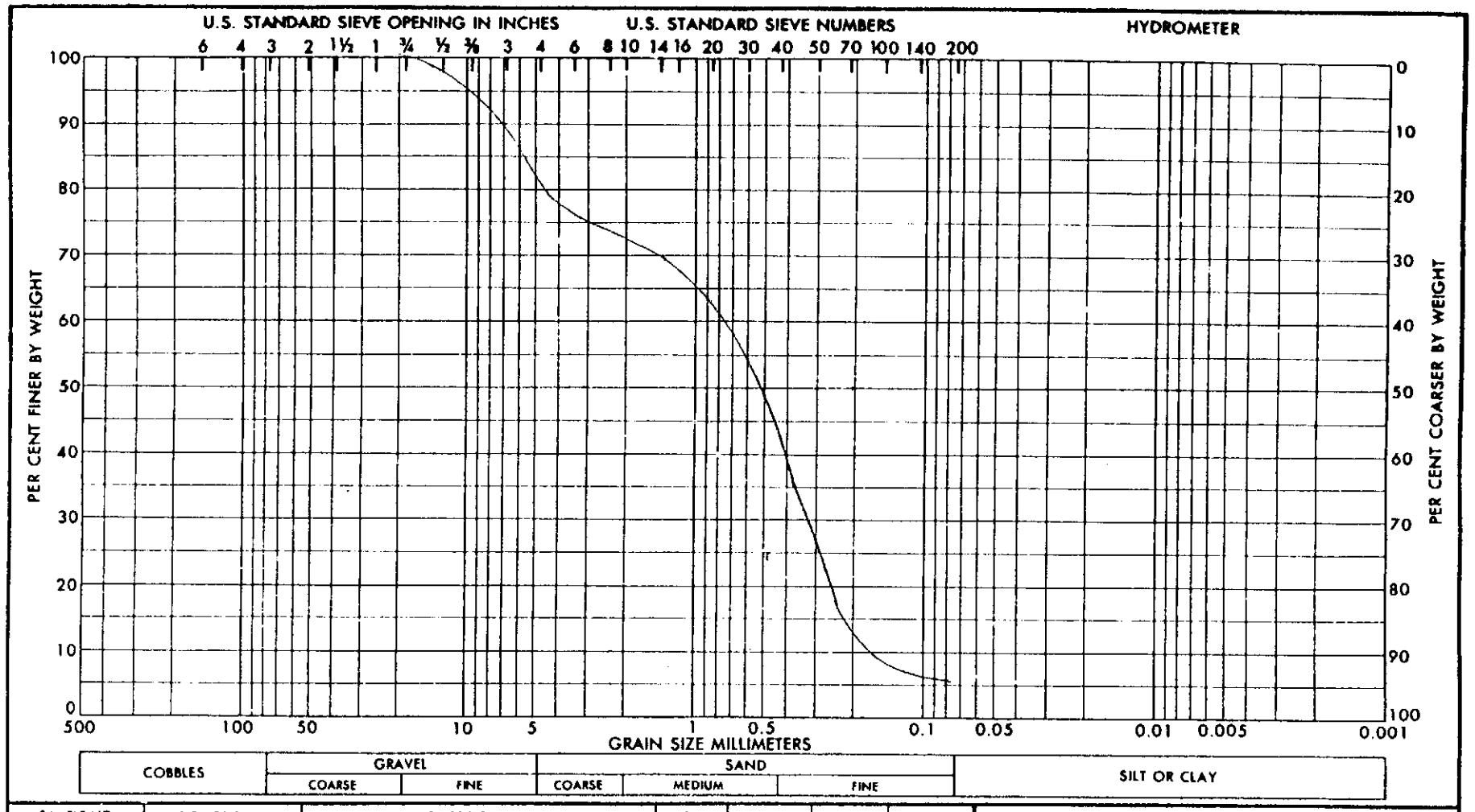


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
1	90-92	Brown fine/coarse Sand				
		little silt				
		trace gravel				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
2	95-97	Brown coarse/fine Sand				
		some gravel				
		trace silt				

GRADATION CURVES

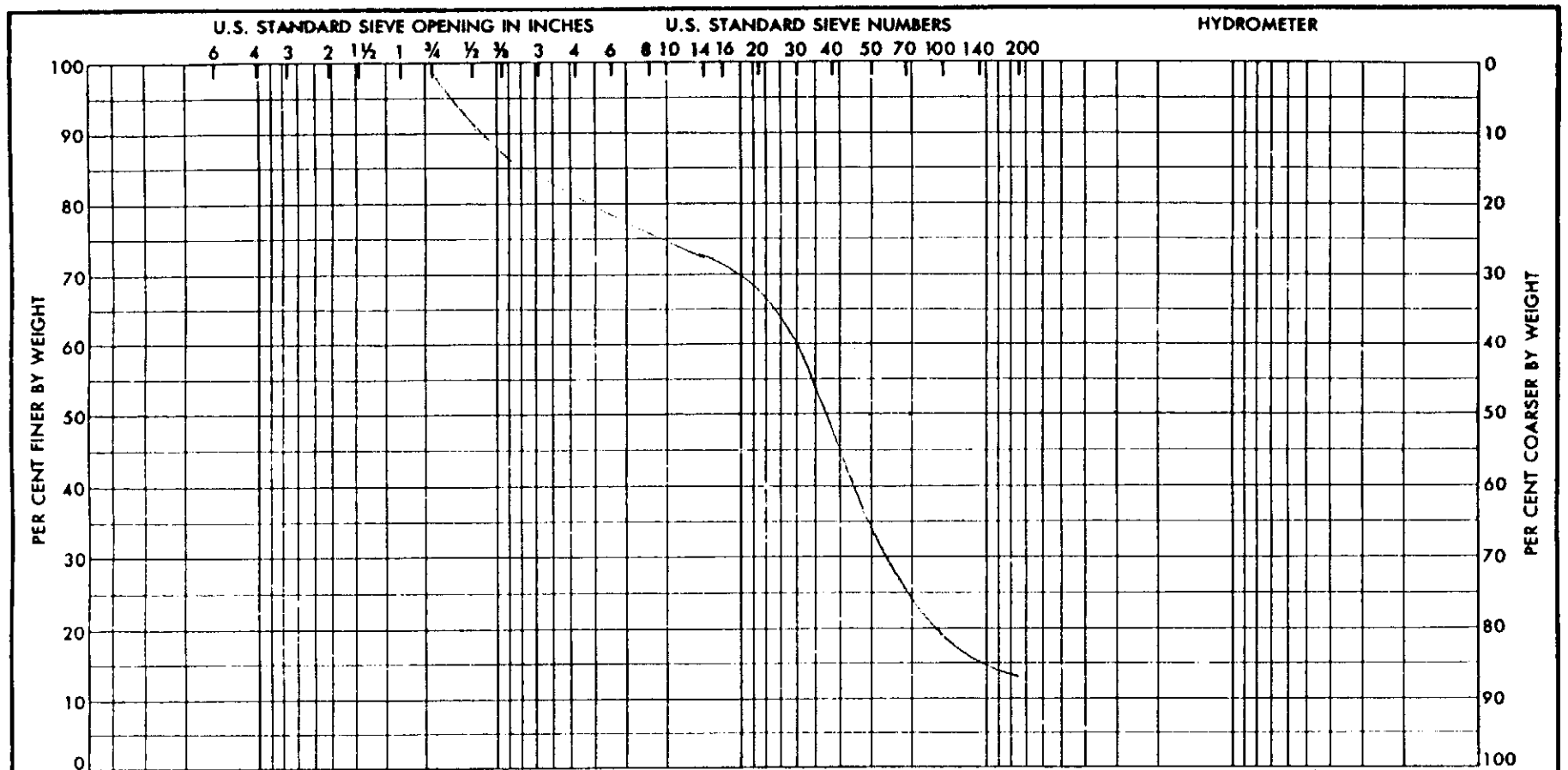
PROJECT Warren George Inc.

AREA MSF

BORING NO. MW H2

DATE January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
3	100-102	Brown fine/coarse Sand little gravel & silt				

GRADATION CURVES

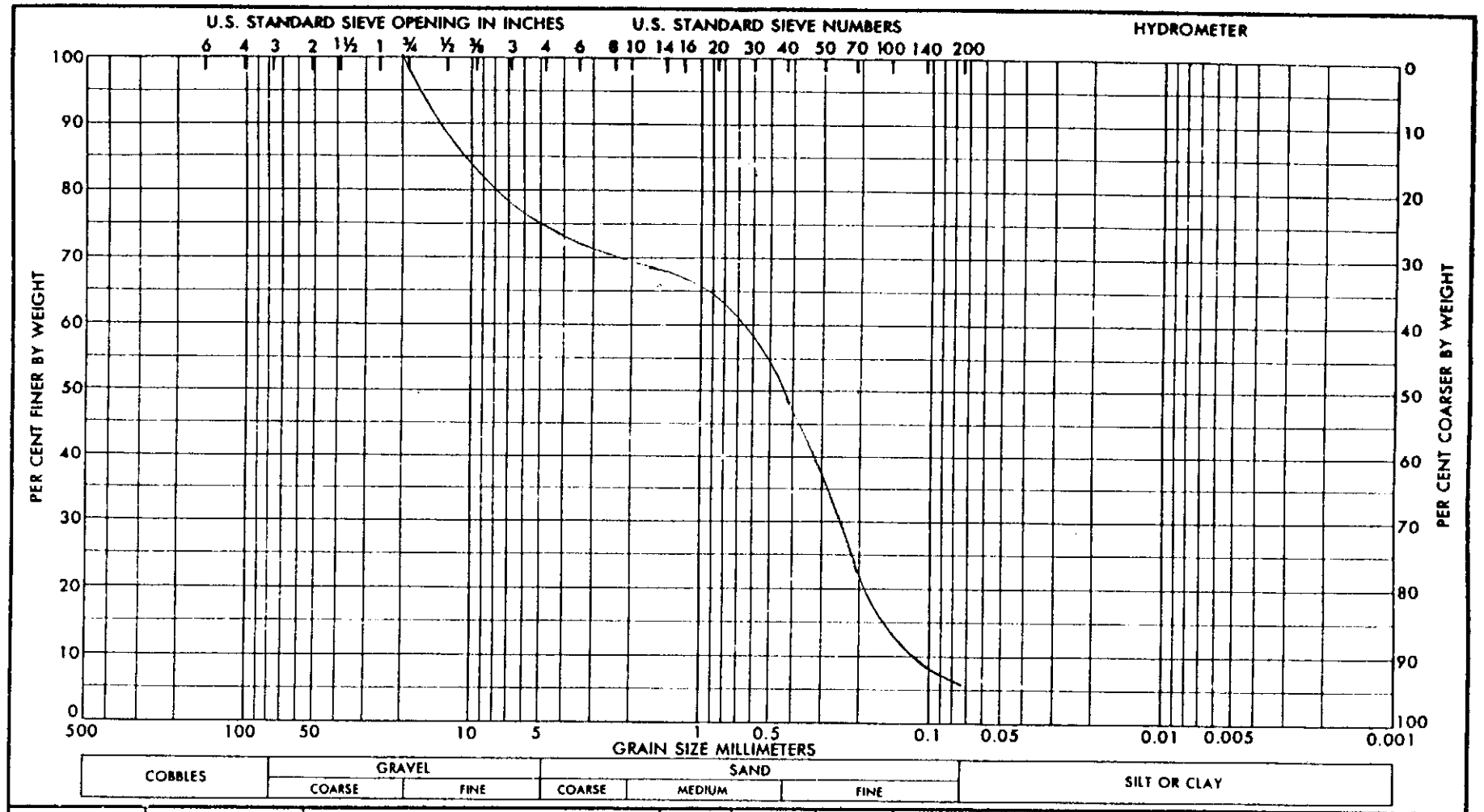
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	105-107	Brown fine/medium Sand				
		some gravel				
		trace silt				

GRADATION CURVES

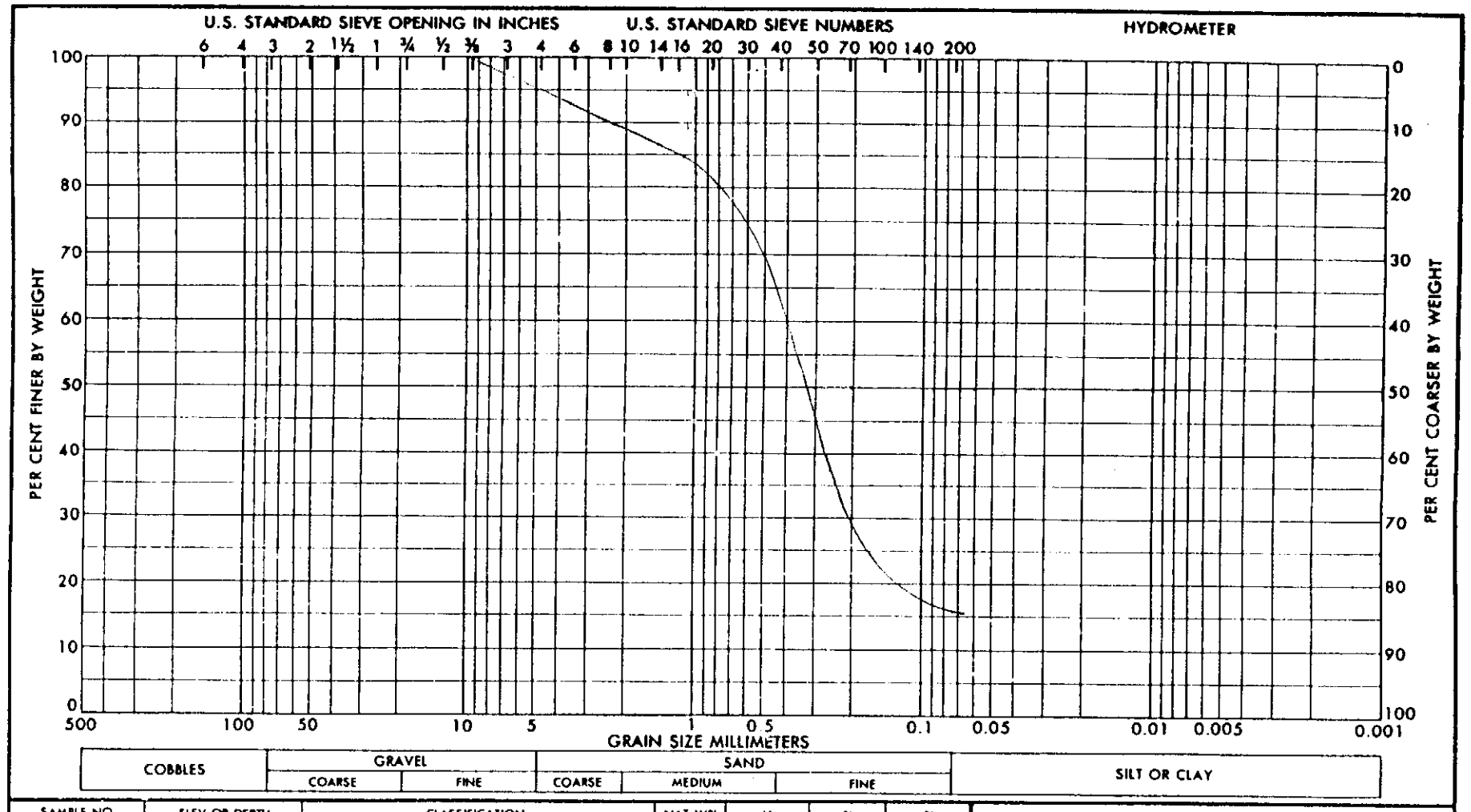
PROJECT: Warren George INc.

AREA: MSF

BORING NO.: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

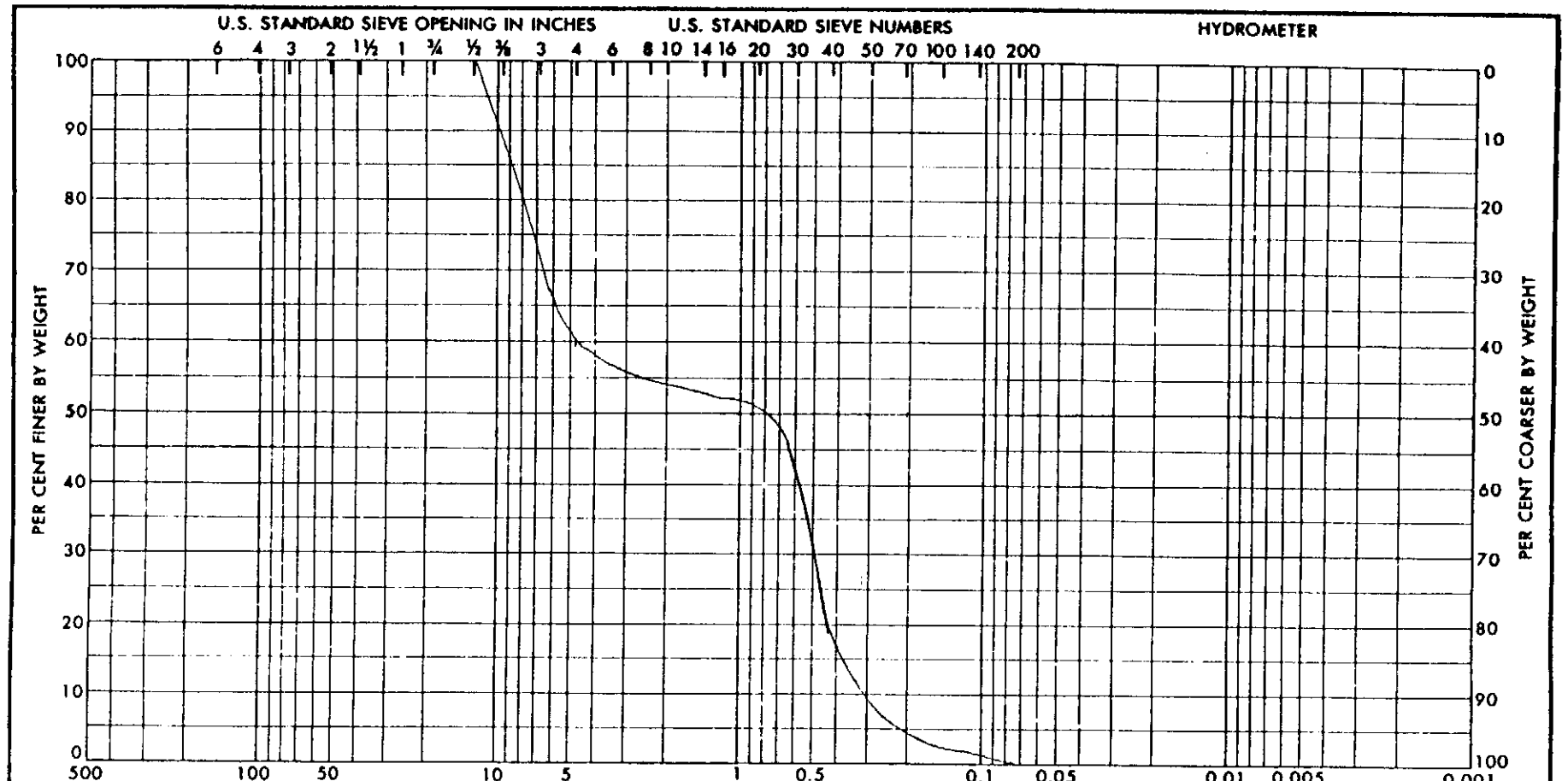


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
5	110-112	Brown fine/medium Sand				
		little silt				
		trace gravel				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
S-6	115-117	Brown medium/coarse SAND & gravel				

GRADATION CURVES

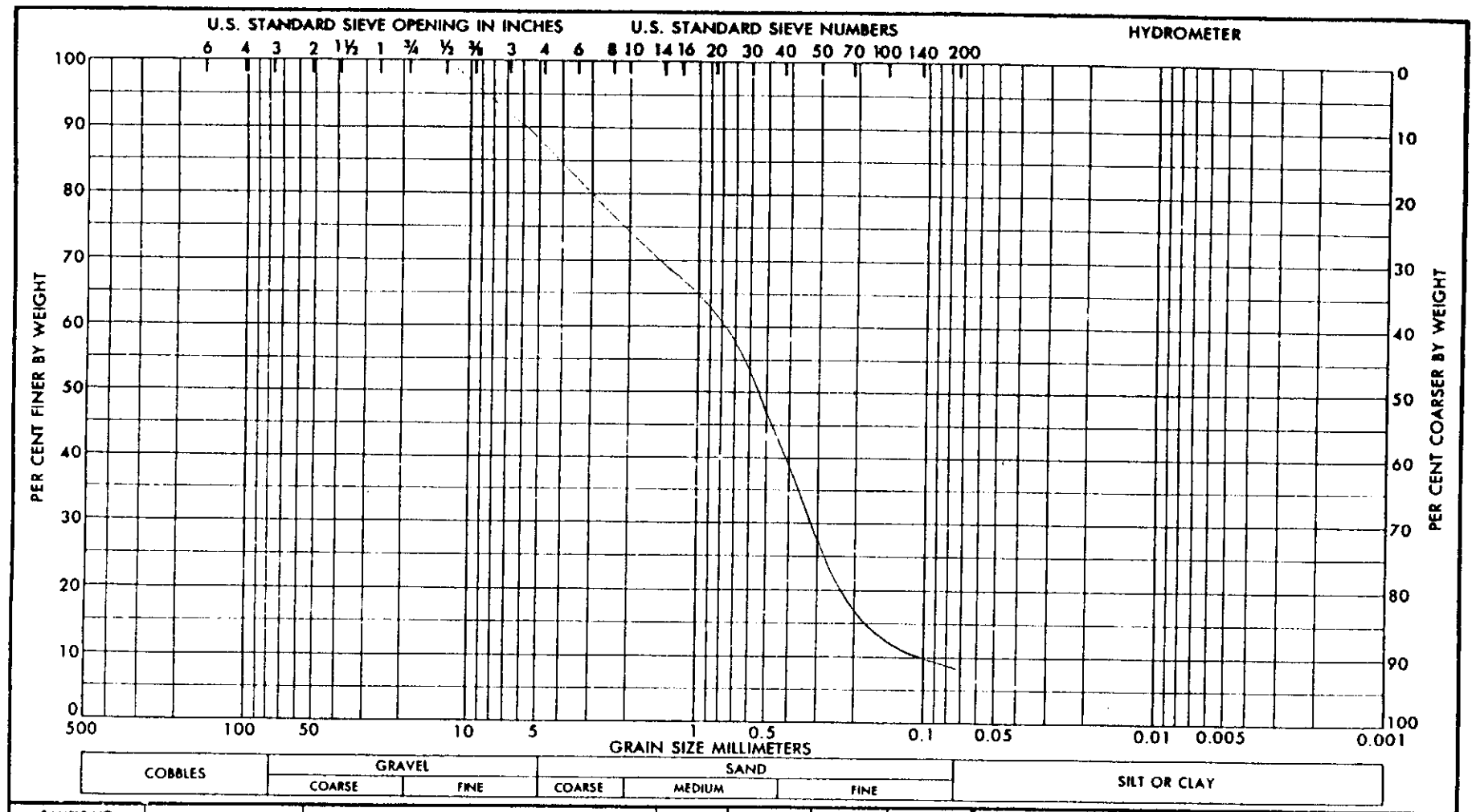
PROJECT Warren George Inc

AREA MSF

BORING NO. MWH 2

DATE January 3, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
7	120-122	Brown fine/coarse Sand				
		little gravel				
		trace silt				

GRADATION CURVES

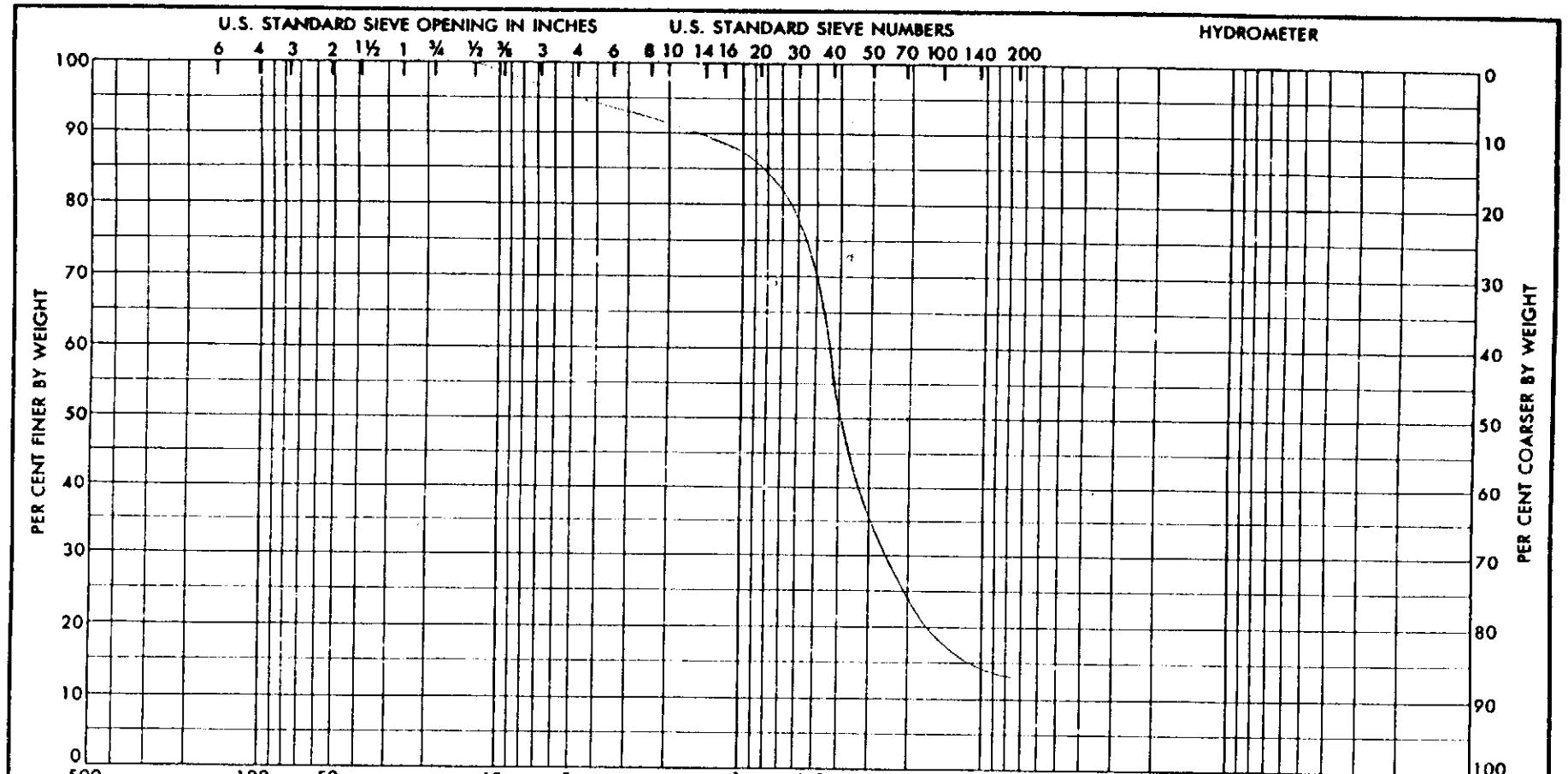
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE:

JOHNSON SOILS ENGINEERING LABORATORY

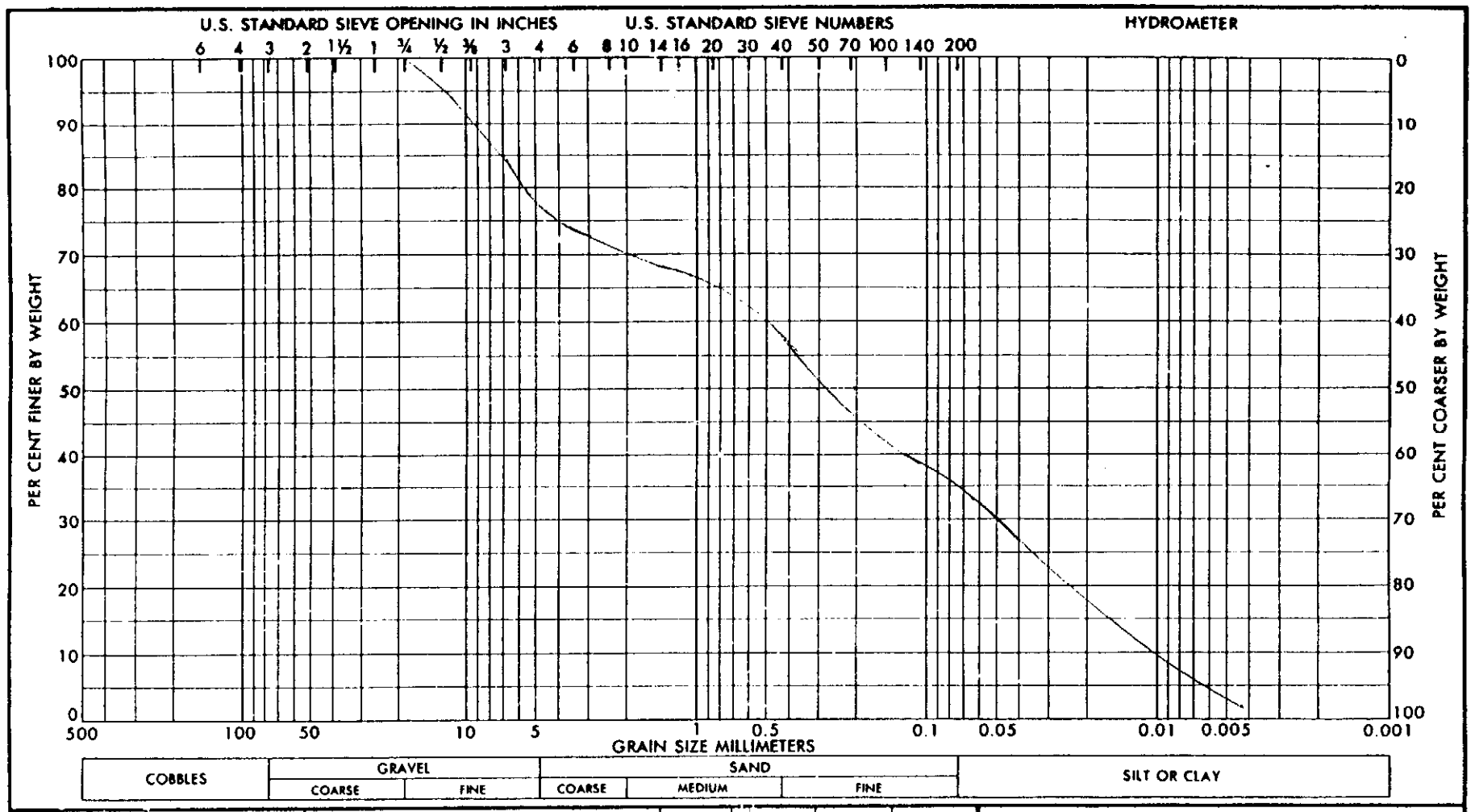


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
8	125-127	Brown fine/medium Sand				
		little silt				
		trace gravel				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

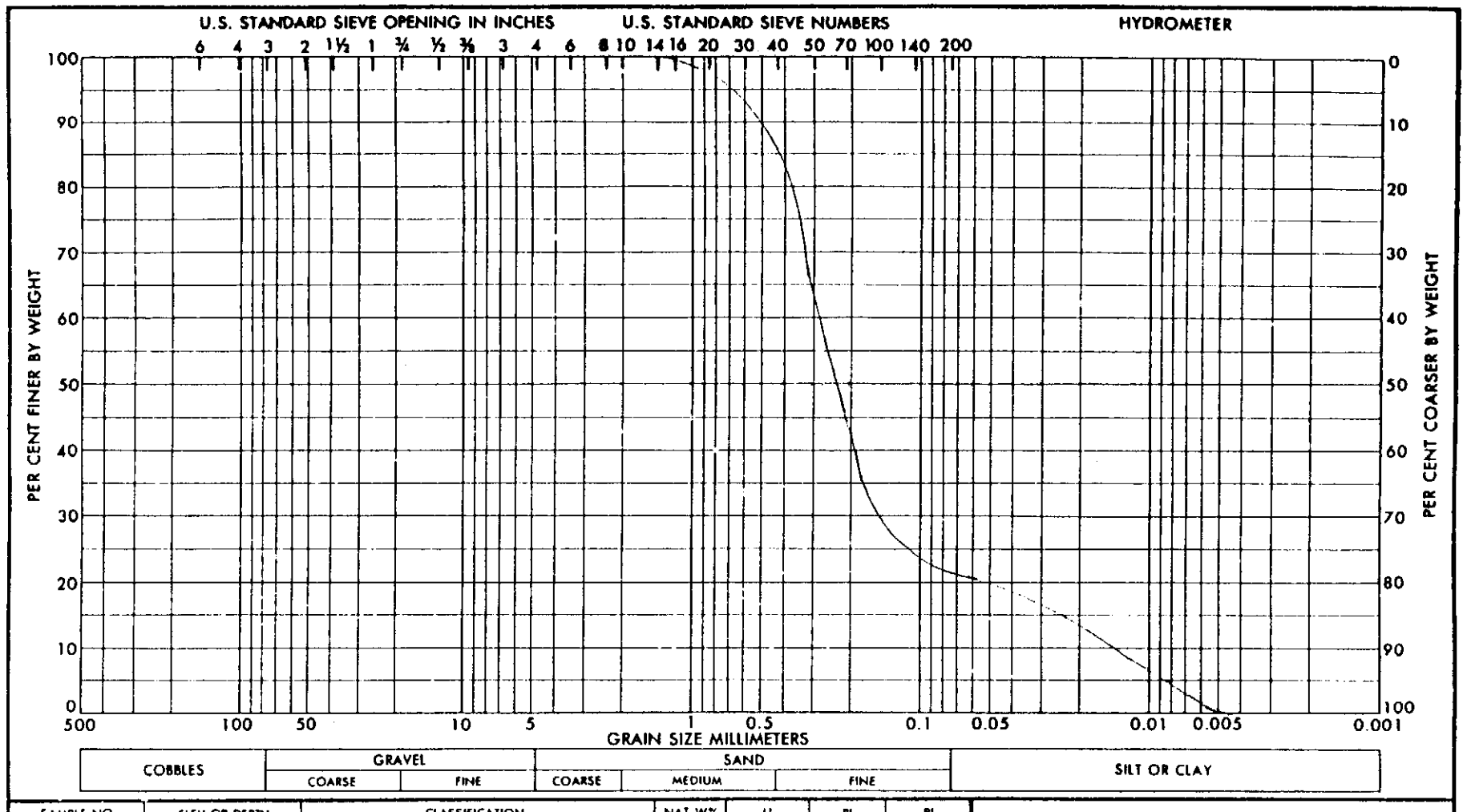


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
9	130-131	Brown fine/coarse Sand				
		some gravel & silt				
		trace clay				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	135-137	Gray fine Sand some silt				

GRADATION CURVES

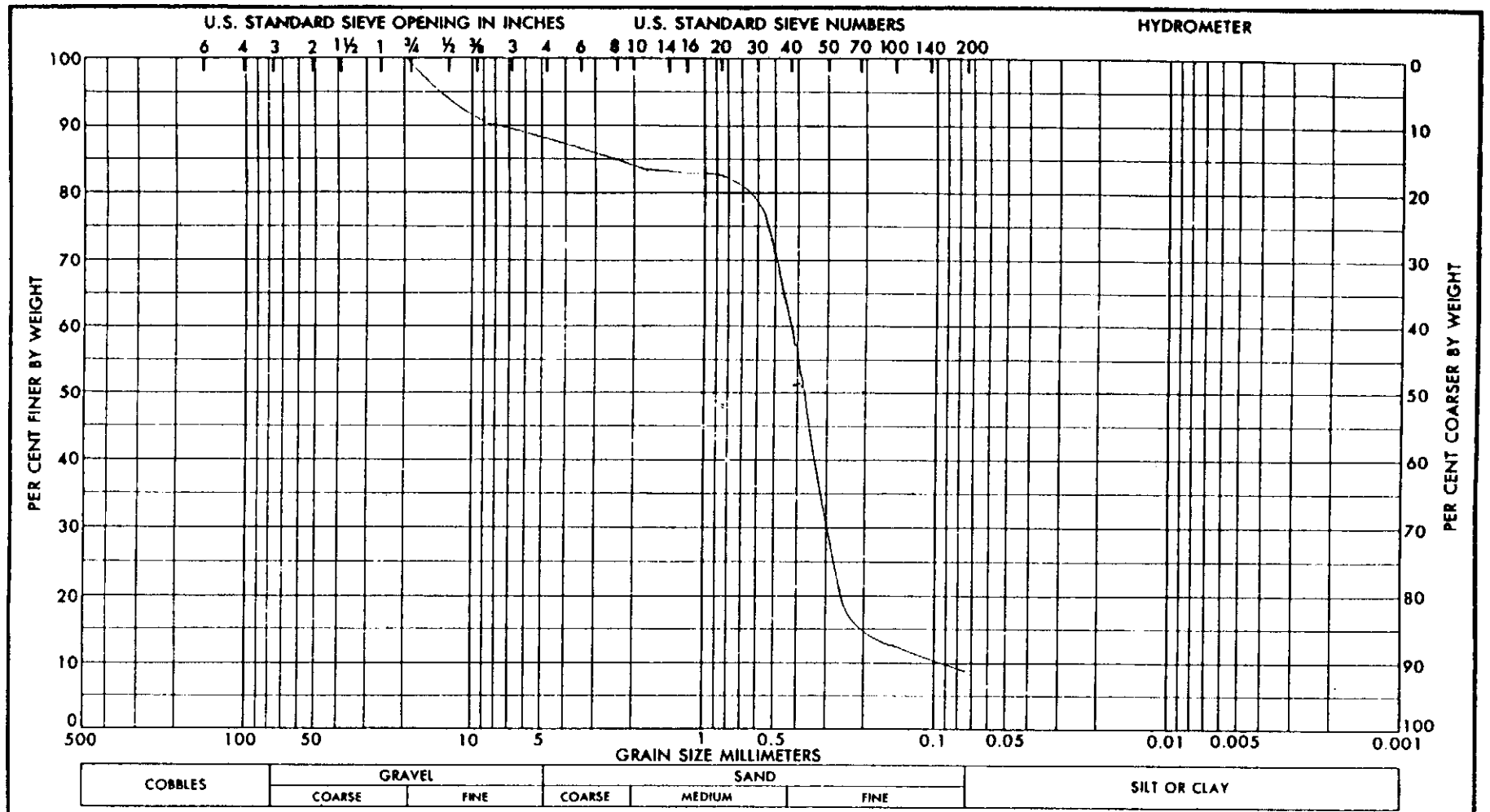
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
11	140-142	Gray fine/medium Sand				
		little gravel				
		trace silt				

GRADATION CURVES

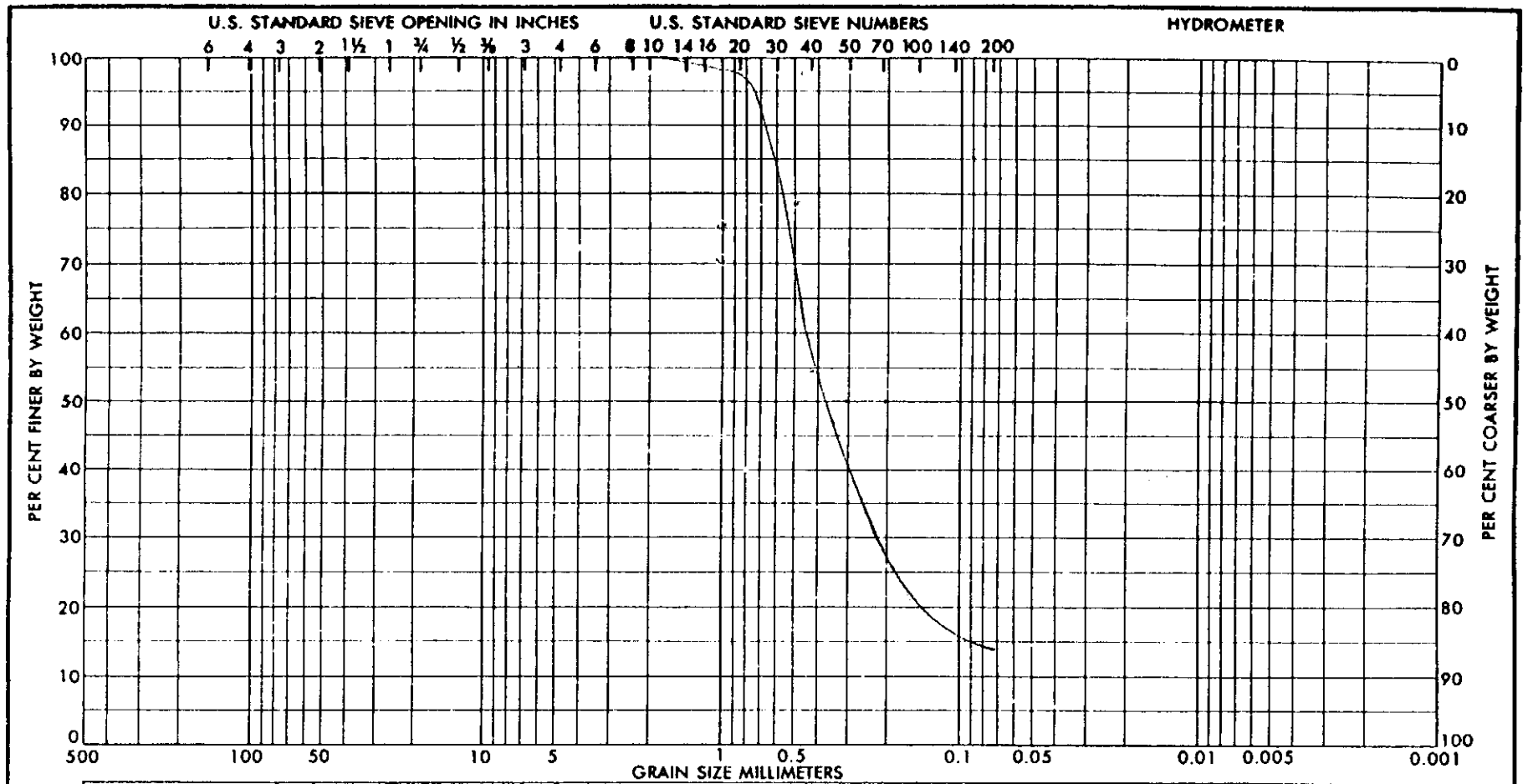
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

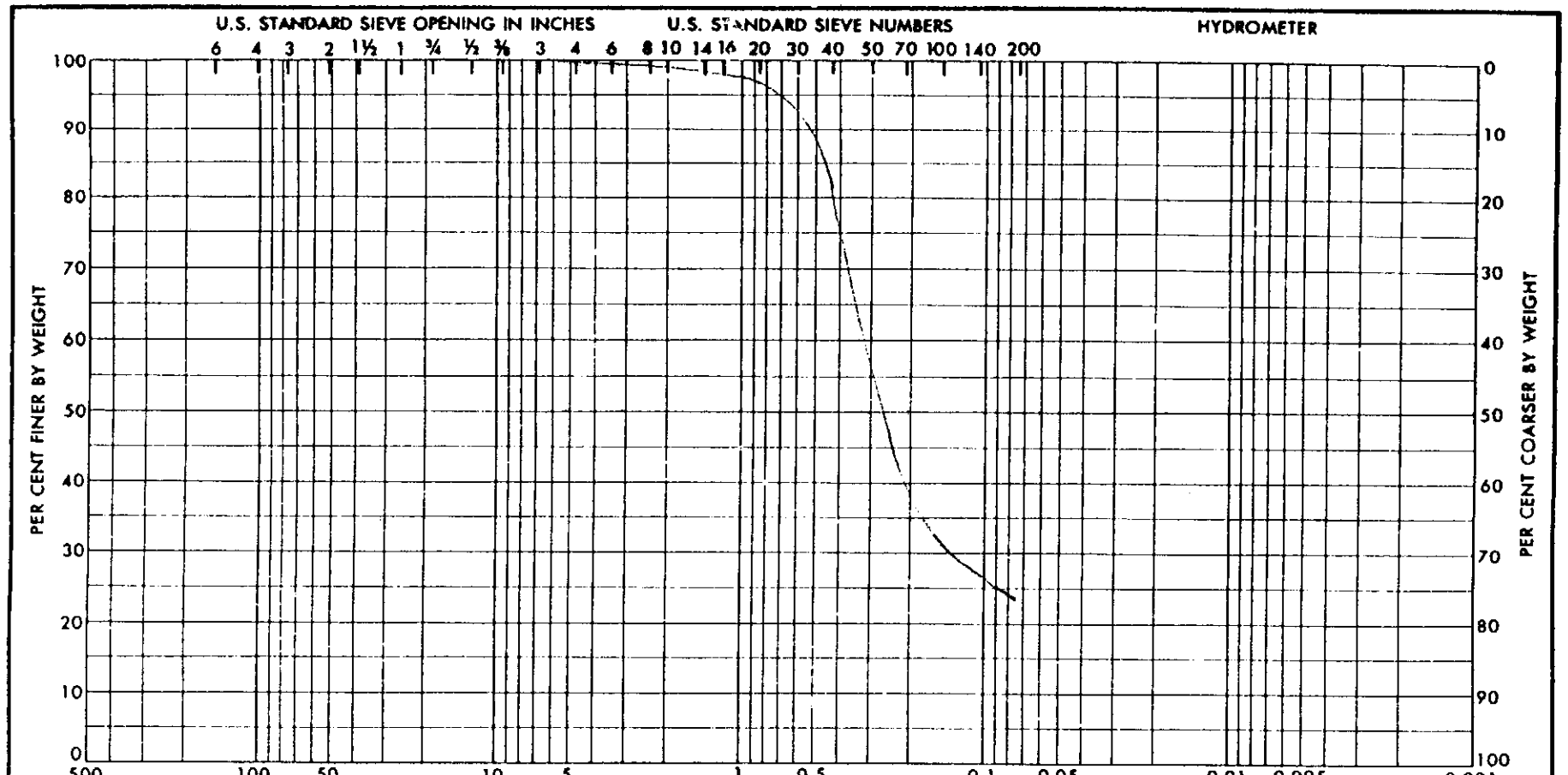


SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
12	145-147	Gray fine/medium Sand				
		little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
13	150-152	Brown fine/medium Sand some silt				

GRADATION CURVES

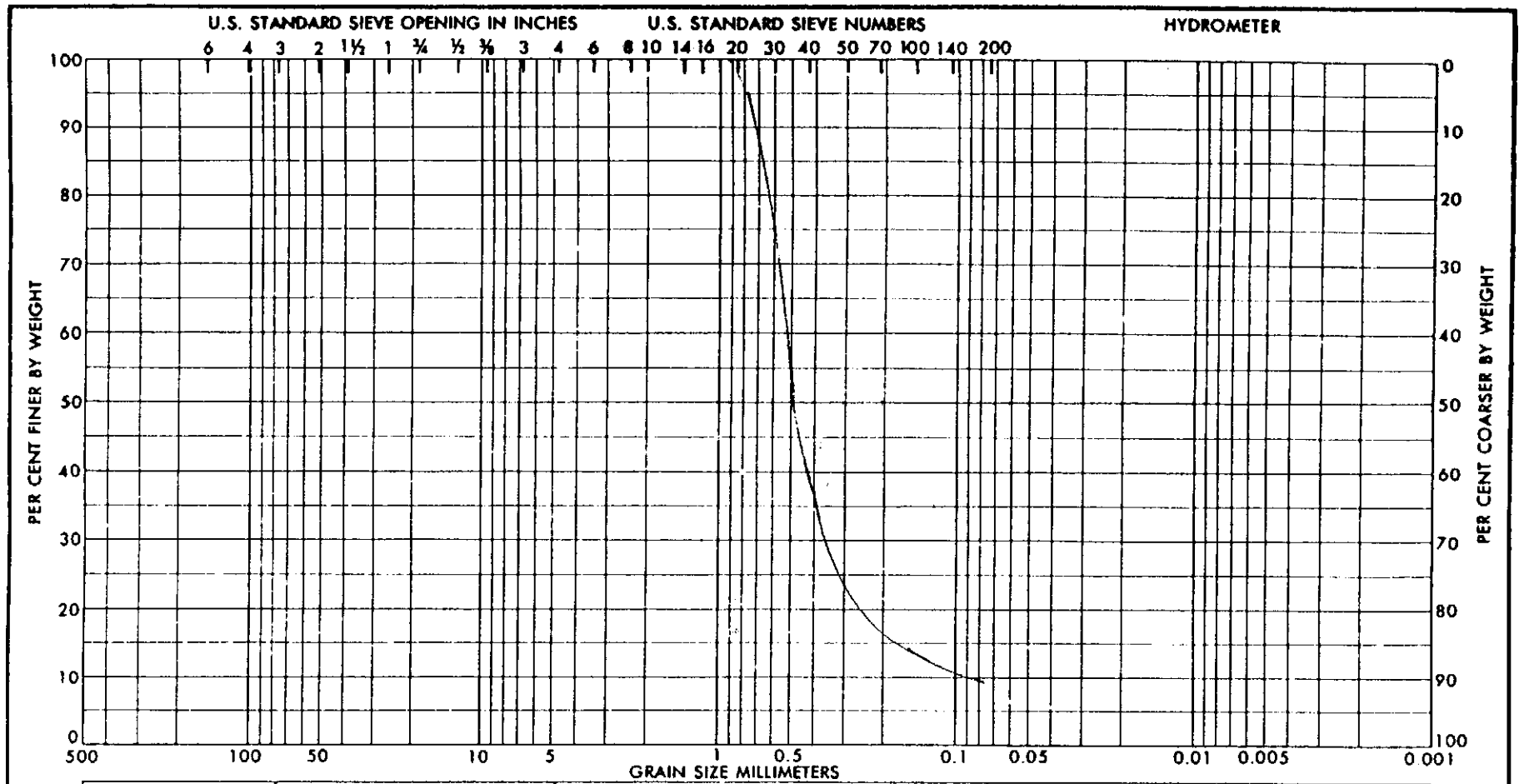
PROJECT: Warren George Inc.

AREA: MSF

BORING NO: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
14	155-157	Light brown fine/medium Sand trace silt				

GRADATION CURVES

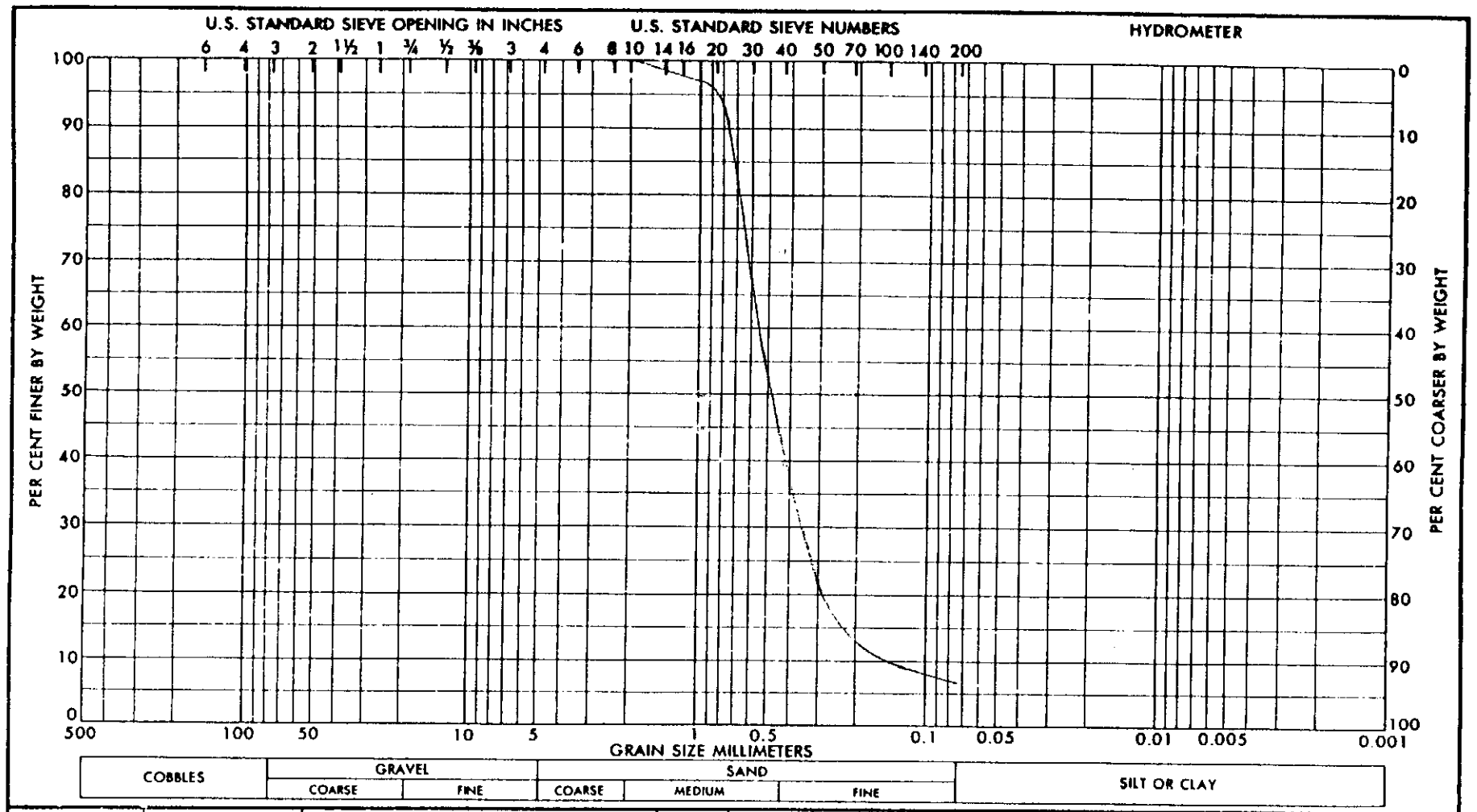
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE: January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

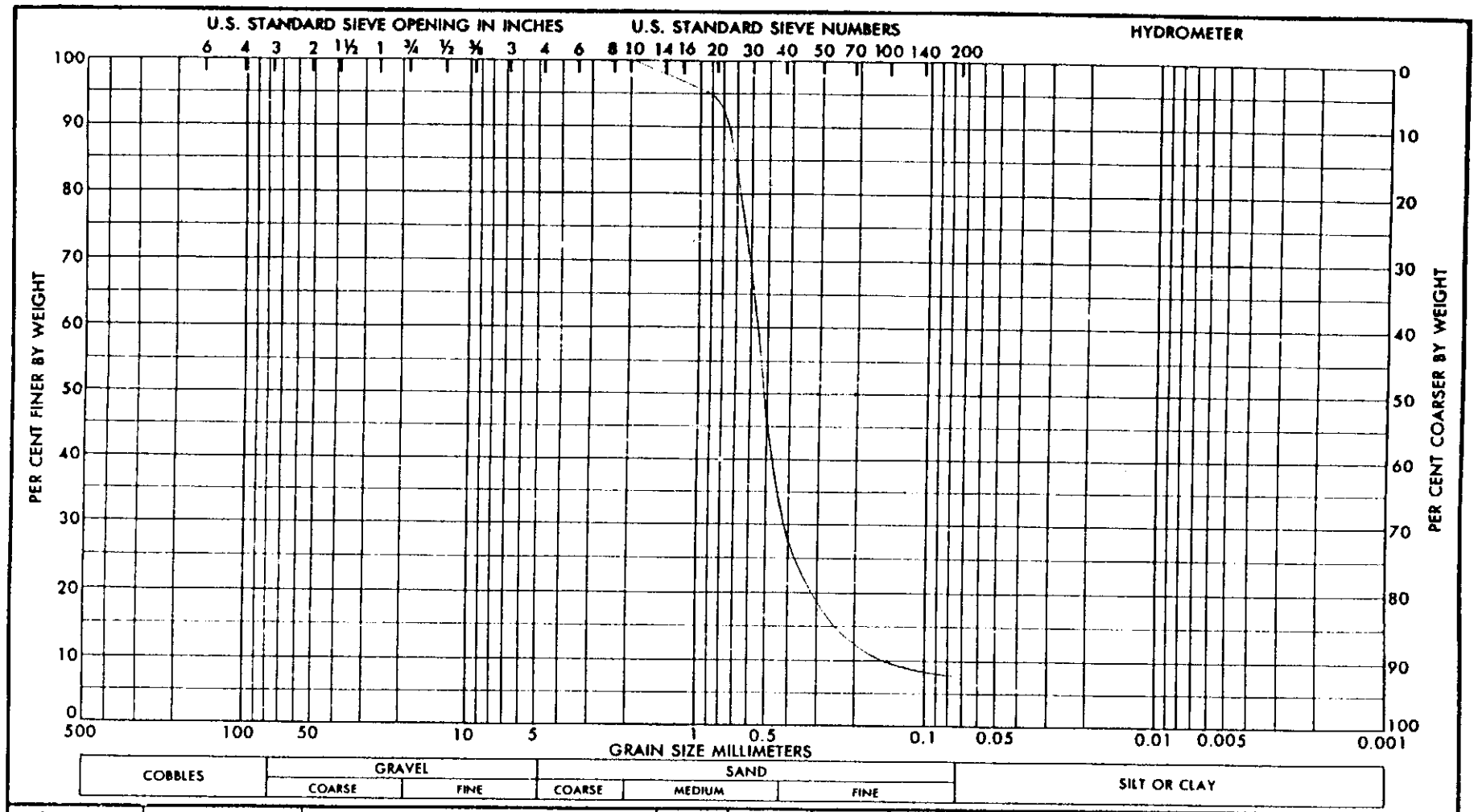


SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
15	160-162	Gray fine/medium Sand				
		trace silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
16	165-167	Light brown medium/fine Sand little silt				

GRADATION CURVES

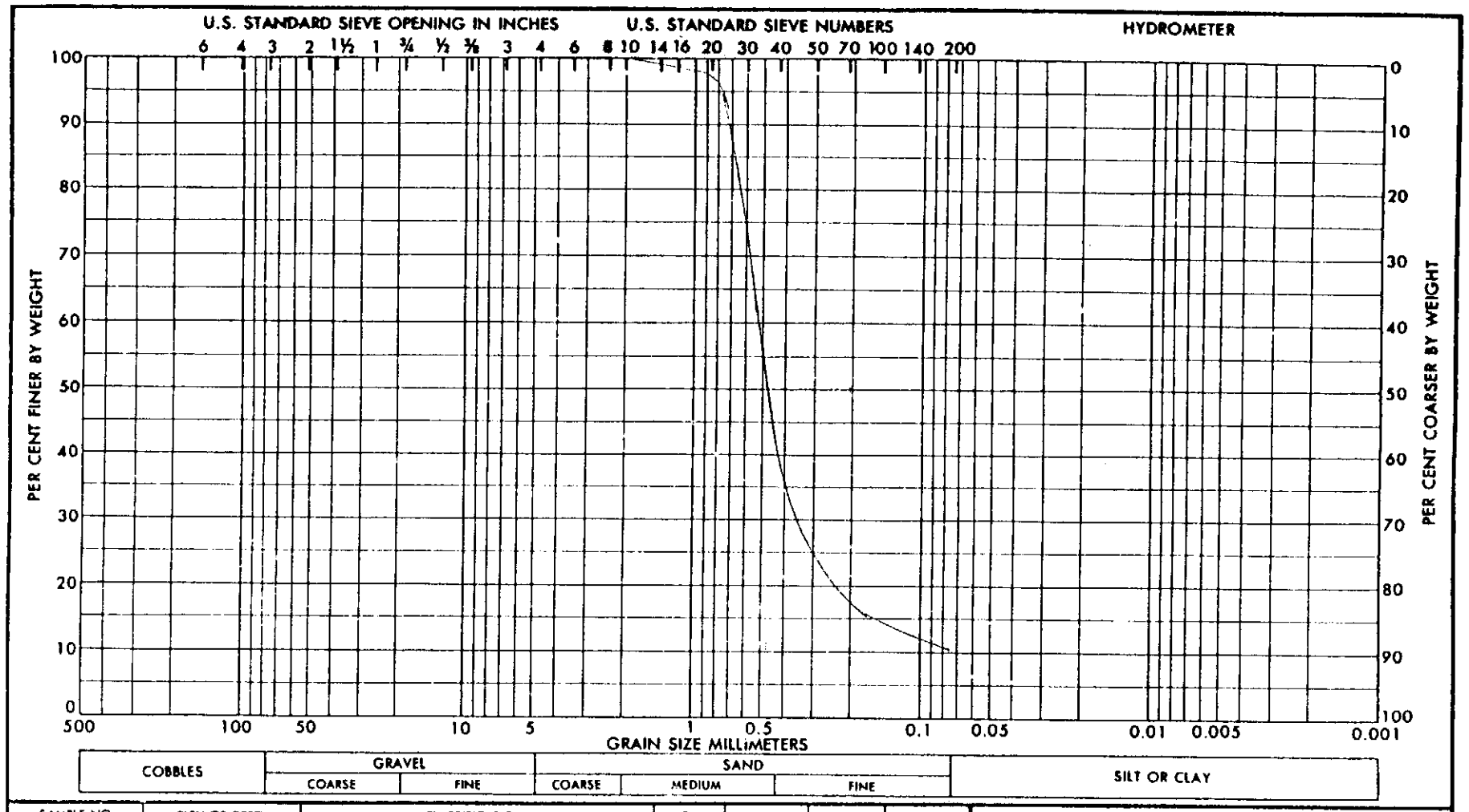
PROJECT: Warren George Inc.

AREA: MSF

BORING NO.: MW H2

DATE:

JOHNSON SOILS ENGINEERING LABORATORY



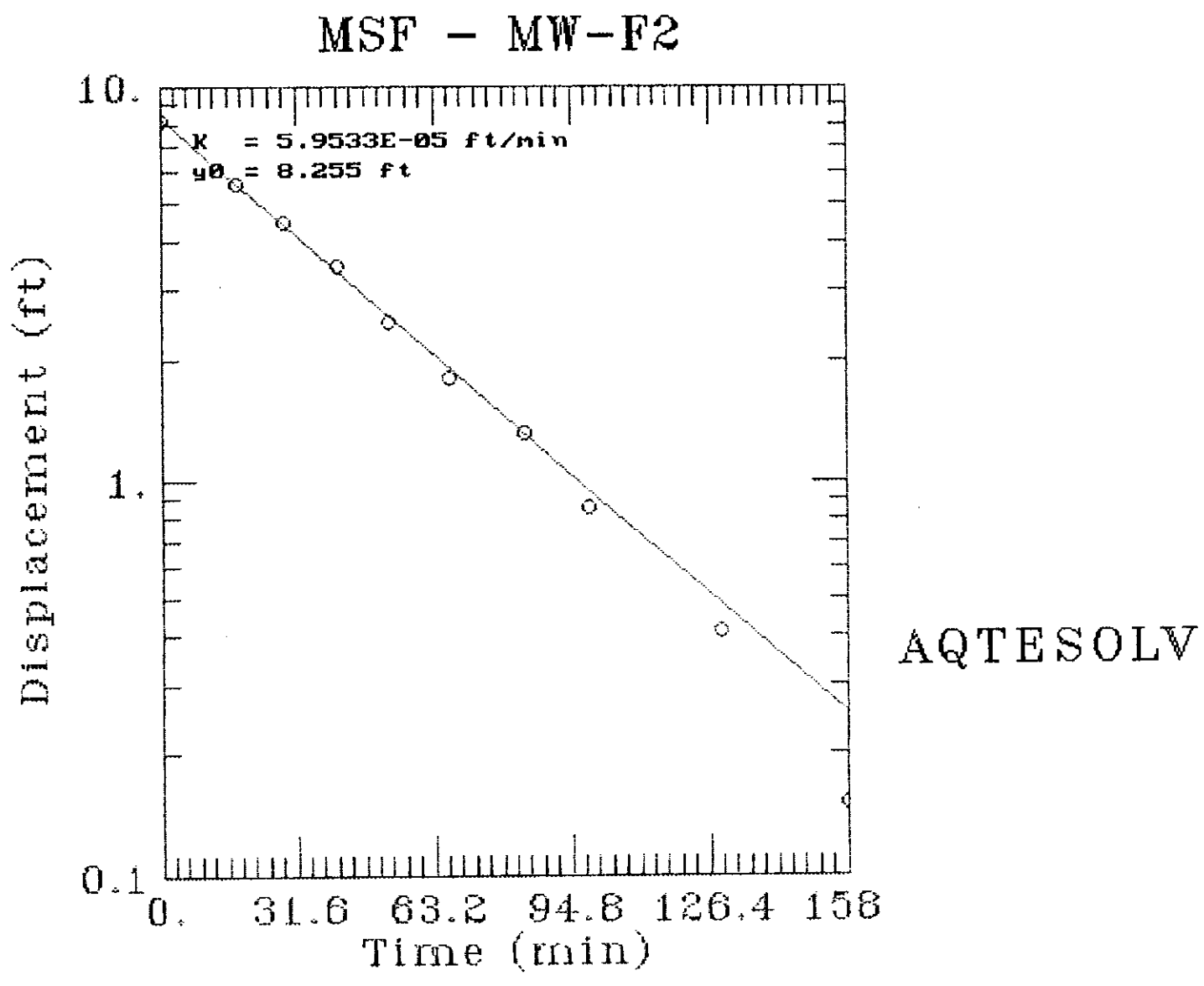
SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
17	170-172	Brown medium/fine Sand				
		little silt				

GRADATION CURVES

PROJECT	Warren George Inc.
AREA	MSF.
BORING NO.	MW H2
DATE	January 5, 1994

JOHNSON SOILS ENGINEERING LABORATORY

APPENDIX D


MSF - MW-F2
K = 5.9533E-05 ft/min
y0 = 8.255 ft
Displacement (ft)
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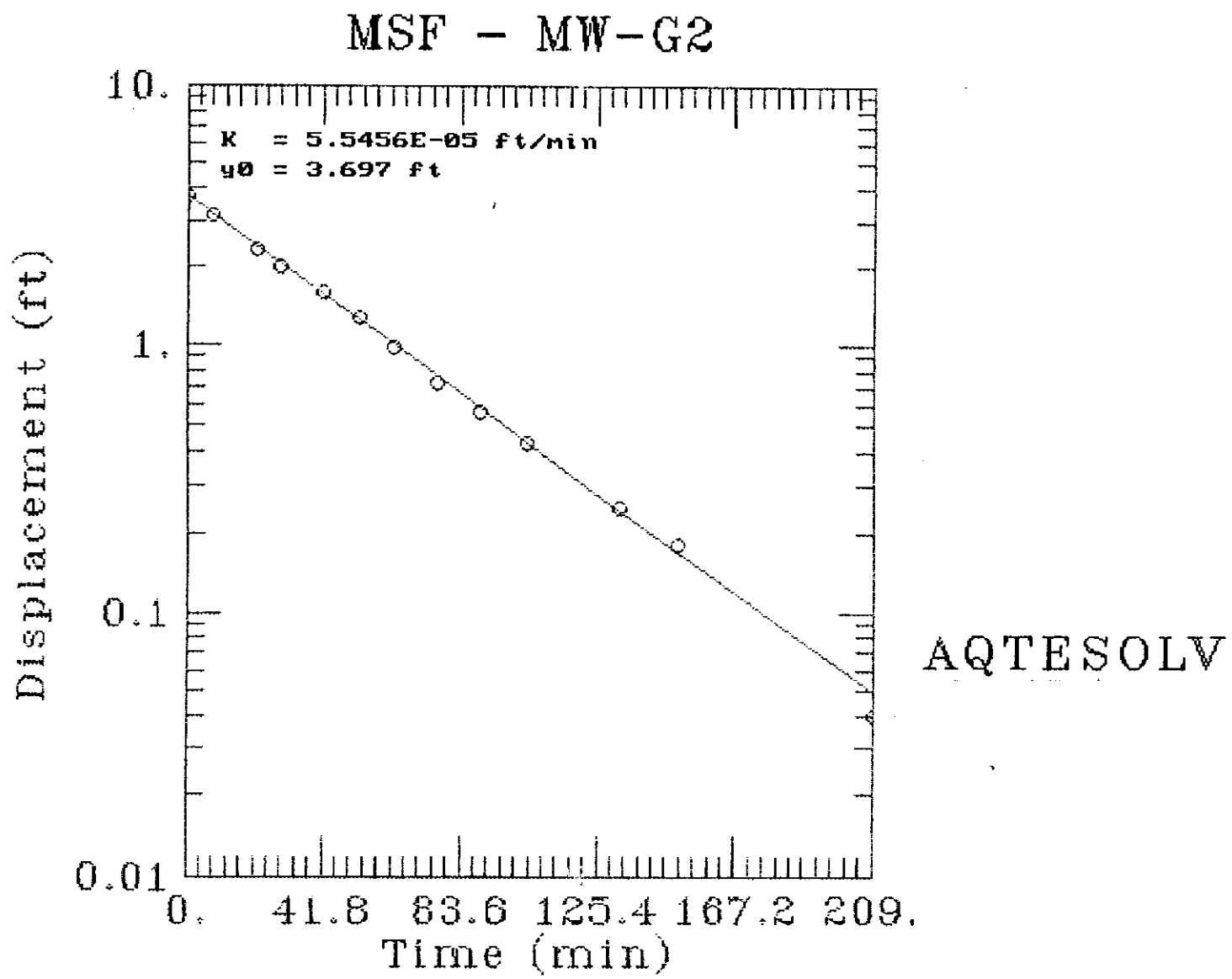
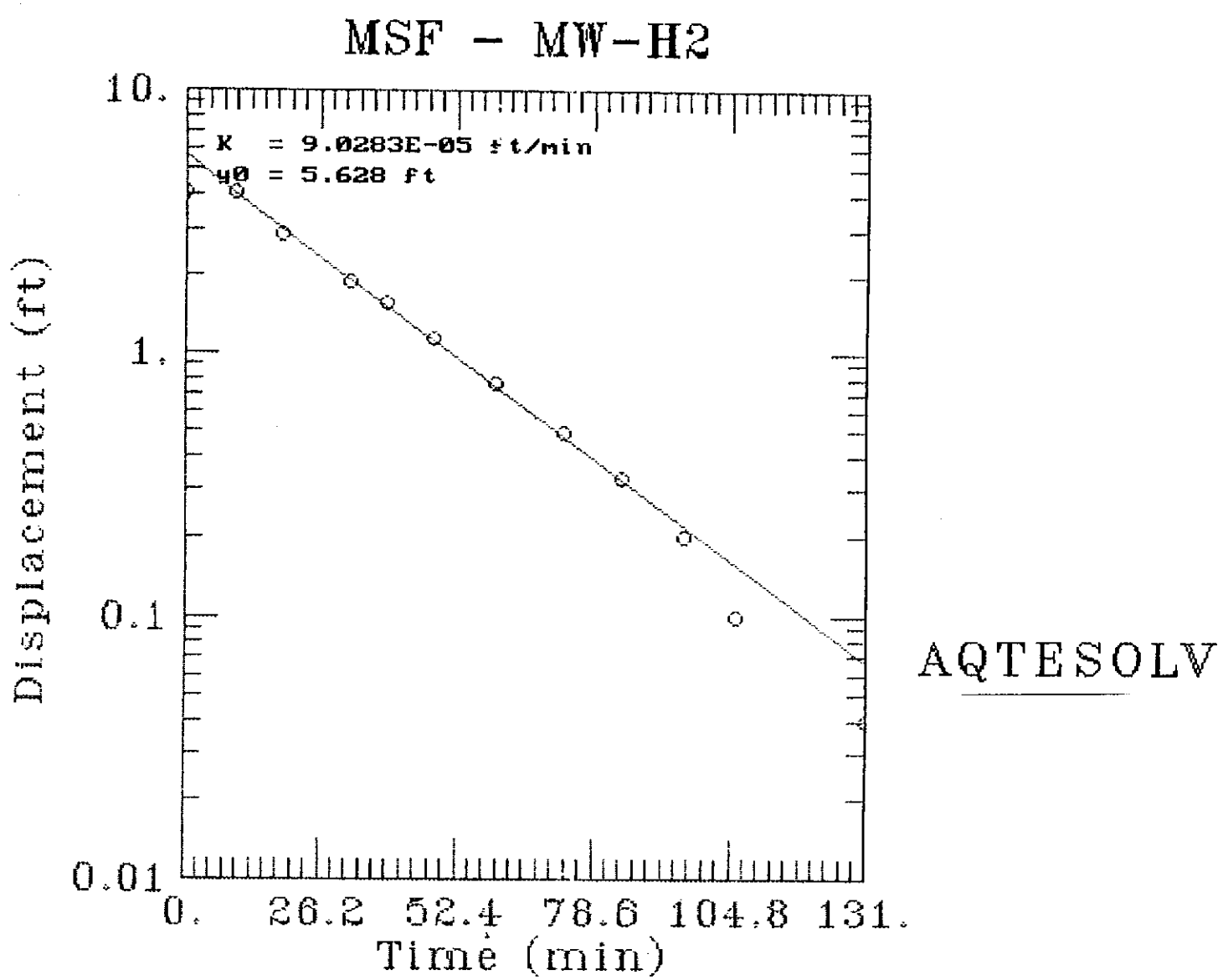
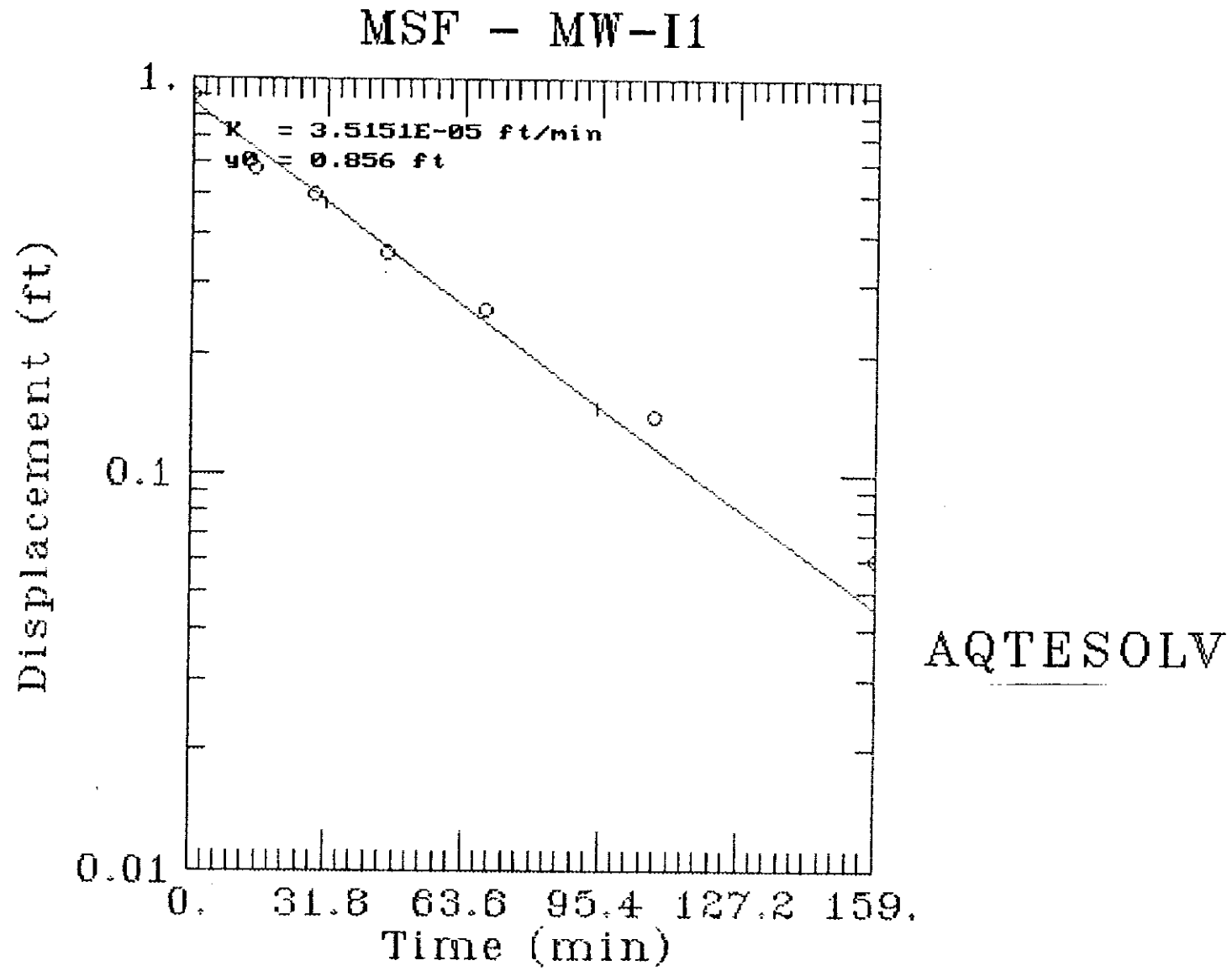
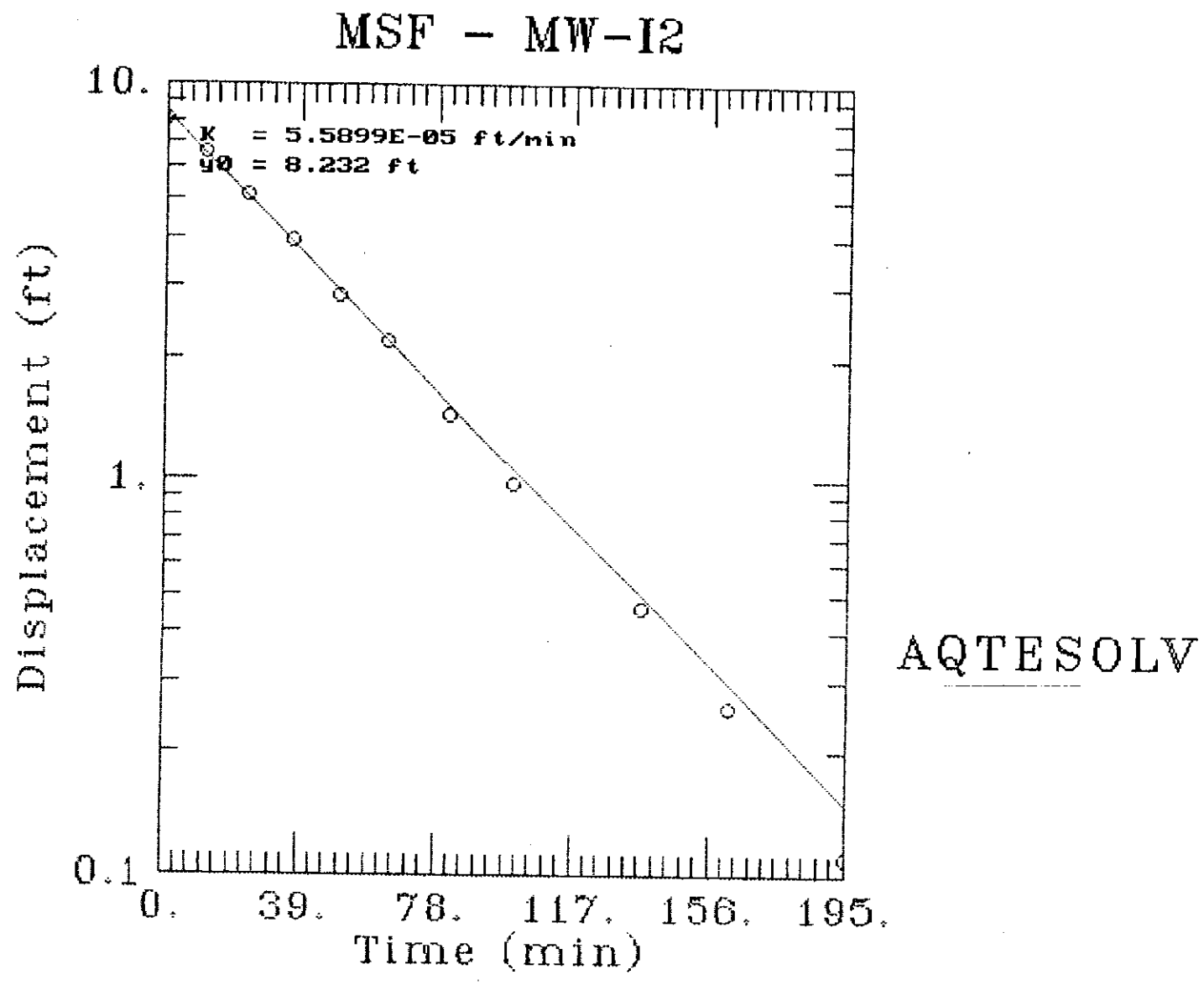
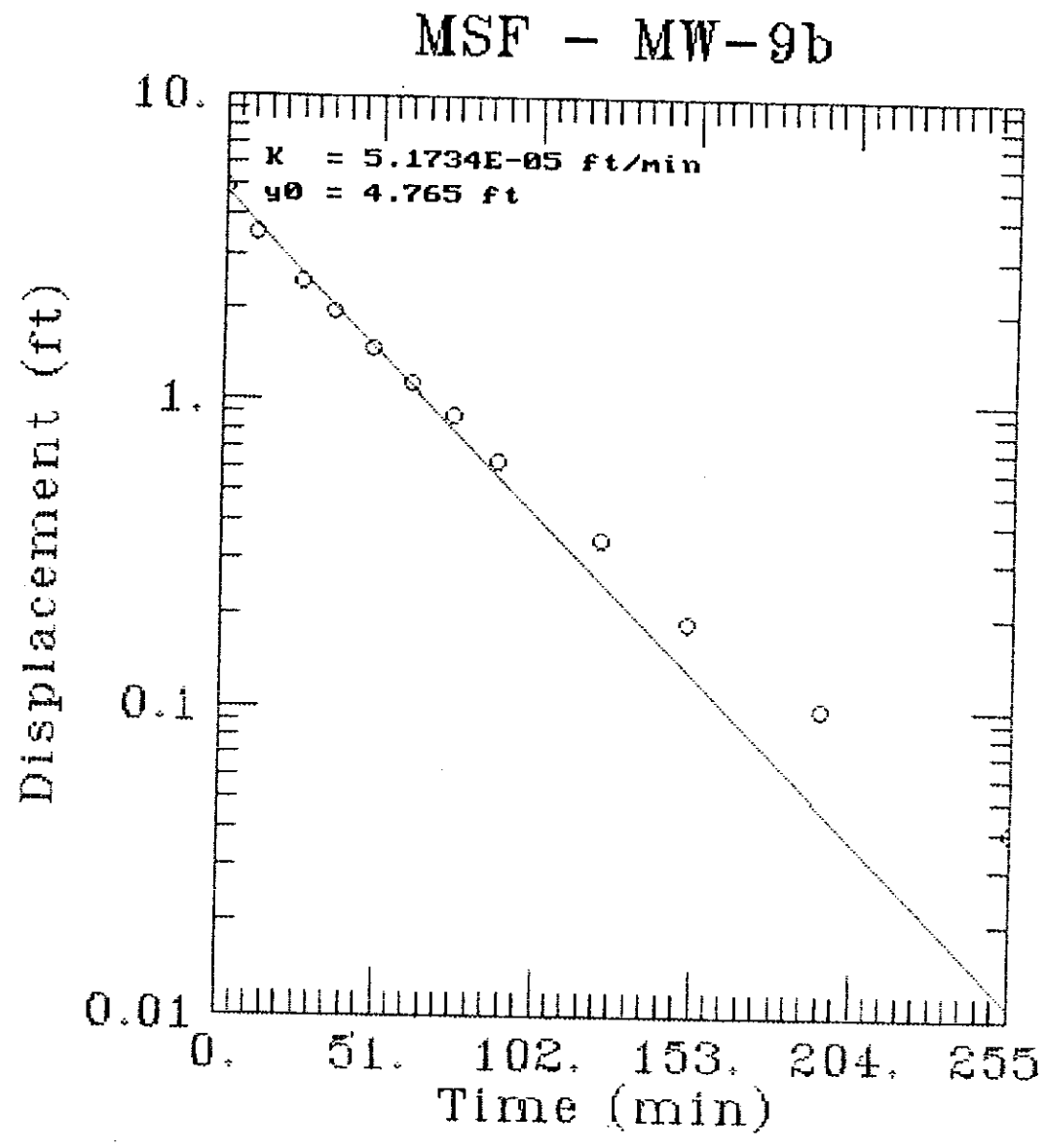
1.
0.1
0.
31.6
63.2
94.8
126.4
158
Time (min)
AQTESOLV


MSF - MW-G2
K = 5.5456E-05 ft/min
y0 = 3.697 ft
Displacement (ft)
10.
1.
0.1
0.01
0.
41.8
83.6
125.4
167.2
209.
Time (min)
AQTESOLV


MSF - MW-H2
K = 9.0283E-05 ft/min
y0 = 5.628 ft
Displacement (ft)
10.
1.
0.1
0.01
0.
26.2
52.4
78.6
104.8
131.
Time (min)
AQTESOLV


MSF - MW-I1
K = 3.5151E-05 ft/min
y0 = 0.856 ft
1.
0.1
0.01
Displacement (ft)
0.
31.8
63.6
95.4
127.2
159.
Time (min)
AQTESOLV


MSF - MW-I2
K = 5.5899E-05 ft/min
y0 = 8.232 ft
10.
1.
0.1
Displacement (ft)
0.
39.
78.
117.
156.
195.
Time (min)
AQTESOLV


MSF - MW-9b
K = 5.1734E-05 ft/min
y0 = 4.765 ft
Displacement (ft)
10.
1.
0.1
0.01
0.
51.
102.
153.
204.
255.
Time (min)

AQTESOLV

SLUG TEST FOR COMPUTING K (HYDRAULIC CONDUCTIVITY)
FOR WELLS WHERE THE SCREENS SPAN THE WATER TABLE.

FROM: KGS OPEN-FILE REPORT 93-44
AN APPROXIMATION TECHNIQUE FOR ANALYSIS OF SLUG
TESTS IN WELLS SCREENED ACROSS THE WATER TABLE.

WELL: MSF - MW-G1

0.35	=n - POROSITY OF GRAVEL PACK	0.018056
13.71	=b, Lw & Le - LENGTH OF SCREEN BELOW THE WATER TABLE	0.340434
0.5417	=rw - RADIUS OF GRAVEL PACK	5.840348
0.16667	=rc - RADIUS OF CASING	0.008051
0.347505	=rs - RADIUS OF GRAVEL PACK CONSIDERING POROSITY (CALCULATED)	
12.95	=H1 - INITIAL WATER LEVEL	1.013216
13.62	=H2 - SECOND HEAD LEVEL	
138	=t1 - TIME FOR H1	
506	=t2 - TIME FOR H2	
25.30921	=Le/rw - FOR USE WITH FIG. 20F B&R UPDATE - CALCULATED)	
200	=H - AQUIFER THICKNESS	
2.6	=A (FROM FIG. 2 OF B&R UPDATE, PG 305)	
0.45	=B (FROM FIG. 2 OF B&R UPDATE, PG 305)	
1.628135	=ln(Re/rw)	

2.14E-06 =K - HYDRAULIC CONDUCTIVITY FT/MIN (CALCULATED)

SLUG TEST FOR COMPUTING K (HYDRAULIC CONDUCTIVITY)
FOR WELLS WHERE THE SCREENS SPAN THE WATER TABLE.

FROM: KGS OPEN-FILE REPORT 93-44
AN APPROXIMATION TECHNIQUE FOR ANALYSIS OF SLUG
TESTS IN WELLS SCREENED ACROSS THE WATER TABLE.

WELL: MSF - MW-F1

0.35	=n - POROSITY OF GRAVEL PACK	0.018056
12.41	=b, Lw & Le - LENGTH OF SCREEN BELOW THE WATER TABLE	0.351264
0.5417	=rw - RADIUS OF GRAVEL PACK	5.847302
0.16667	=rc - RADIUS OF CASING	0.008394
0.347505	=rs - RADIUS OF GRAVEL PACK CONSIDERING POROSITY (CALCULATED)	
11.21	=H1 - INITIAL WATER LEVEL	1.145203
11.57	=H2 - SECOND HEAD LEVEL	
20	=t1 - TIME FOR H1	
207	=t2 - TIME FOR H2	
22.90936	=Le/rw - FOR USE WITH FIG. 20F B&R UPDATE - CALCULATED)	
200	=H - AQUIFER THICKNESS	
2.6	=A (FROM FIG. 2 OF B&R UPDATE, PG 305)	
0.45	=B (FROM FIG. 2 OF B&R UPDATE, PG 305)	
1.725294	=ln(Re/rw)	

2.62E-06 =K - HYDRAULIC CONDUCTIVITY FT/MIN (CALCULATED)

SLUG TEST FOR COMPUTING K (HYDRAULIC CONDUCTIVITY)
FOR WELLS WHERE THE SCREENS SPAN THE WATER TABLE.

FROM: KGS OPEN-FILE REPORT 93-44
AN APPROXIMATION TECHNIQUE FOR ANALYSIS OF SLUG
TESTS IN WELLS SCREENED ACROSS THE WATER TABLE.

WELL: MSF - MW-H1

0.35	=n - POROSITY OF GRAVEL PACK	
11.36	=b, Lw & Le - LENGTH OF SCREEN BELOW THE WATER TABLE	0.018056
0.5417	=rw - RADIUS OF GRAVEL PACK	0.361469
0.16667	=rc - RADIUS OF CASING	5.852383
0.347505	=rs - RADIUS OF GRAVEL PACK CONSIDERING POROSITY (CALCULATED)	0.008698
10.65	=H1 - INITIAL WATER LEVEL	
11.13	=H2 - SECOND HEAD LEVEL	1.04133
5	=t1 - TIME FOR H1	
17	=t2 - TIME FOR H2	
20.97102	=Le/rw - FOR USE WITH FIG. 2OF B&R UPDATE - CALCULATED)	
200	=H - AQUIFER THICKNESS	
2.6	=A (FROM FIG. 2 OF B&R UPDATE, PG 305)	
0.45	=B (FROM FIG. 2 OF B&R UPDATE, PG 305)	
1.63655	=ln(Re/rw)	

6.14E-05 =K - HYDRAULIC CONDUCTIVITY FT/MIN (CALCULATED)

APPENDIX E

WELL INSTALLATION DIAGRAM

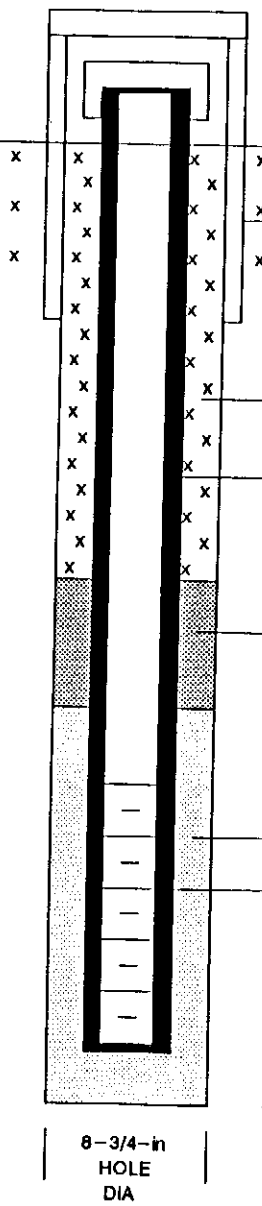
PROJECT: Town of Smithtown Municipal Services Facility

JOB NO. REP No. 93007-1A

WELL NO. MW-9B

DRILLING CONTRACTOR: Warren George, Inc.

ENGINEER: R. E. Pastorino, P.C.



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

140-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

145-ft BOTTOM OF SEAL

150-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .010-in

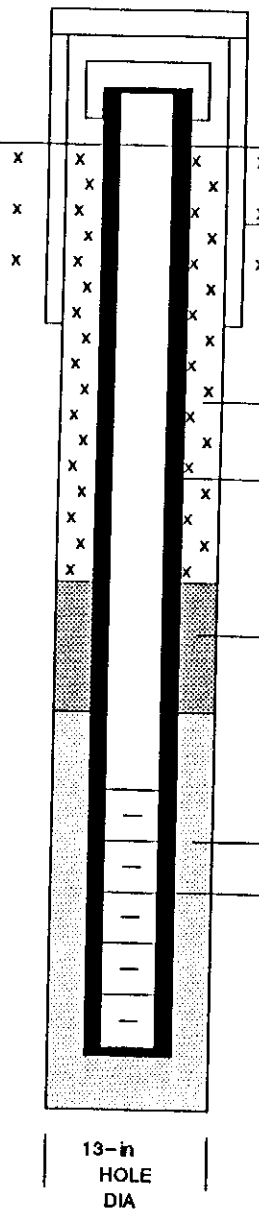
170-ft BOTTOM OF SCREEN

175-ft BOTTOM OF HOLE

8-3/4-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A
	ENGINEER: R. E. Pustorino, P.C.	WELL NO. MW-F1



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

97-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

105-ft BOTTOM OF SEAL

110.5-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

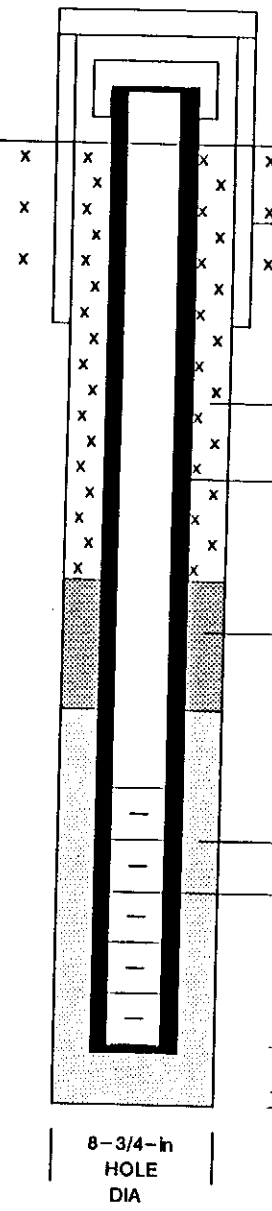
130.5-ft BOTTOM OF SCREEN

136-ft BOTTOM OF HOLE

13-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A
	ENGINEER: R. E. Pustorino, P.C.	WELL NO. MW-F2



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

136-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

148-ft BOTTOM OF SEAL

153-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

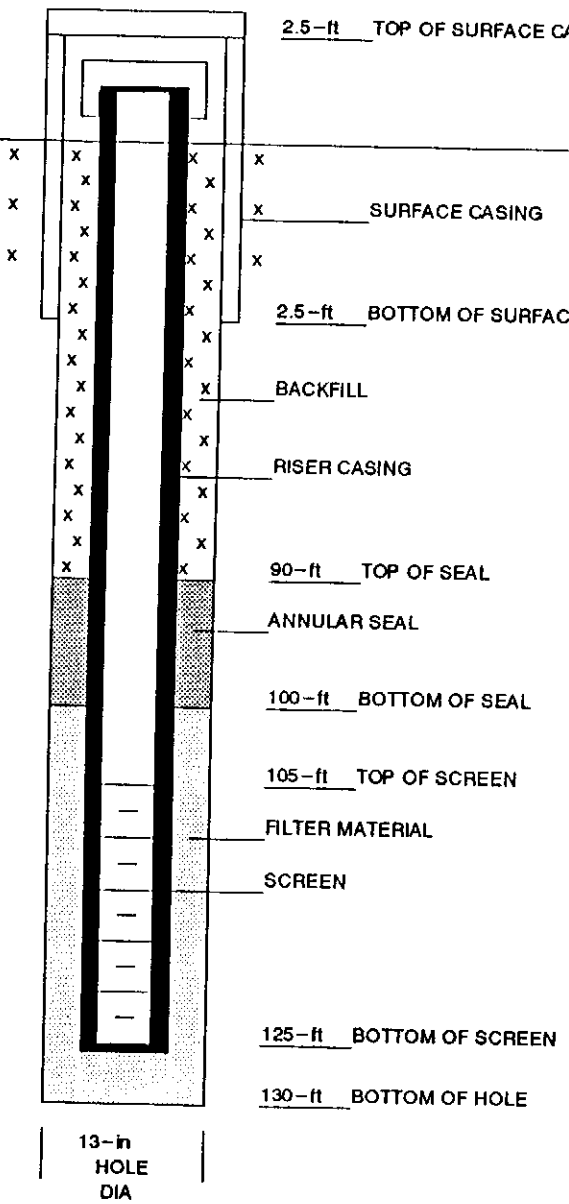
168-ft BOTTOM OF SCREEN

170-ft BOTTOM OF HOLE

8-3/4-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A
	ENGINEER: R. E. Pustorino, P.C.	WELL NO. MW-G1



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

90-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

100-ft BOTTOM OF SEAL

105-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

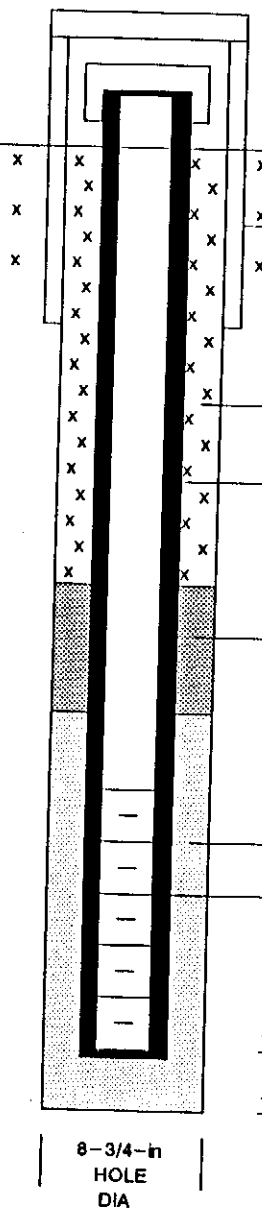
125-ft BOTTOM OF SCREEN

130-ft BOTTOM OF HOLE

13-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A	WELL NO. MW-G2
	ENGINEER: R. E. Pustorino, P.C.		



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

132-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

139-ft BOTTOM OF SEAL

145-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

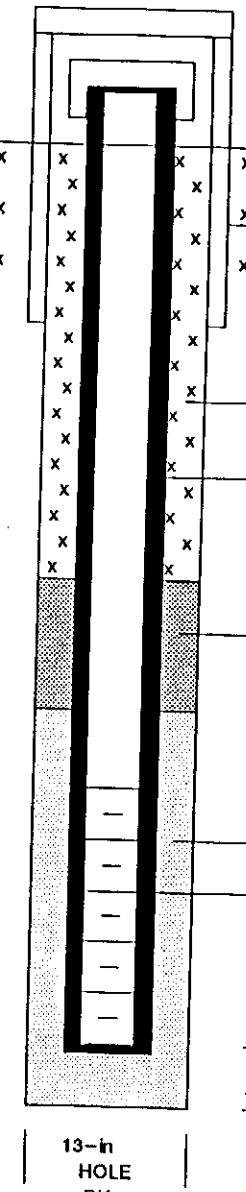
160-ft BOTTOM OF SCREEN

165-ft BOTTOM OF HOLE

8-3/4-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A	WELL NO. MW-H1
	ENGINEER: R. E. Pustorino, P.C.		



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

87-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

95-ft BOTTOM OF SEAL

100-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

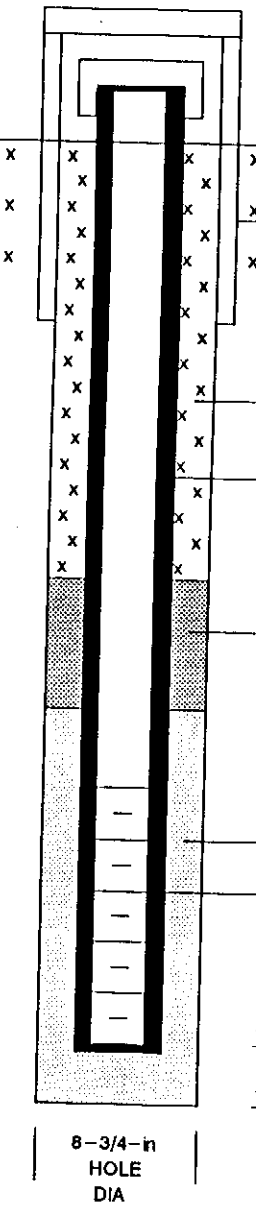
120-ft BOTTOM OF SCREEN

126-ft BOTTOM OF HOLE

13-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A
	ENGINEER: R. E. Pastorino, P.C.	WELL NO. MW-H2



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

136-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

145-ft BOTTOM OF SEAL

150-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

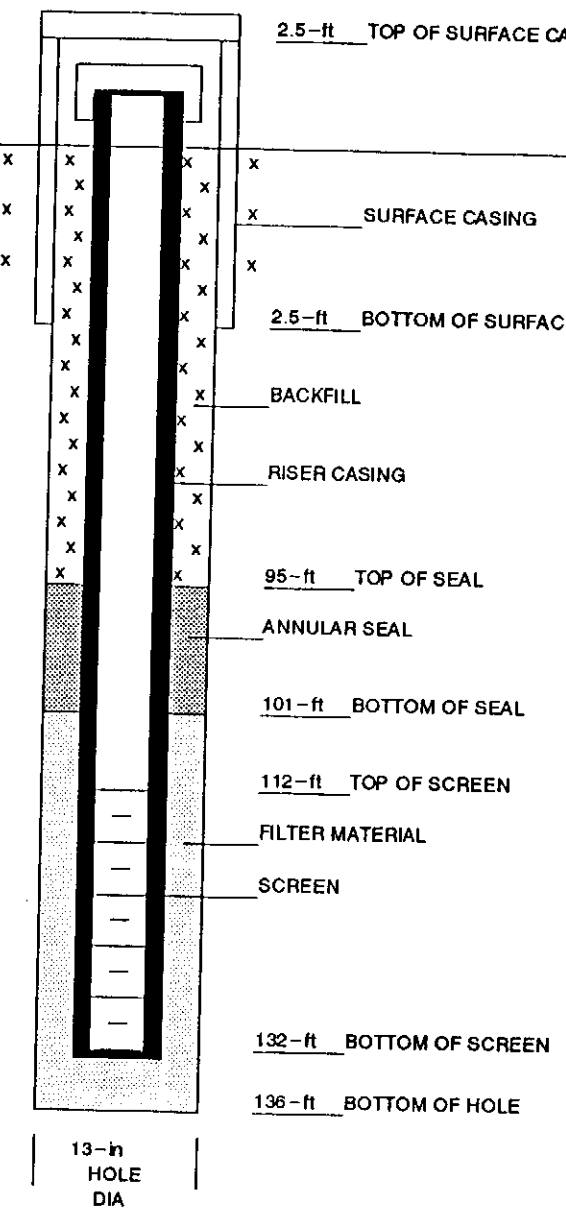
165-ft BOTTOM OF SCREEN

170-ft BOTTOM OF HOLE

8-3/4-in HOLE DIA

WELL INSTALLATION DIAGRAM

DRILLING CONTRACTOR: Warren George, Inc.	PROJECT: Town of Smithtown Municipal Services Facility	JOB NO. REP No. 93007-1A
	ENGINEER: R. E. Pustorino, P.C.	WELL NO. MW-11



WELL INSTALLATION DIAGRAM

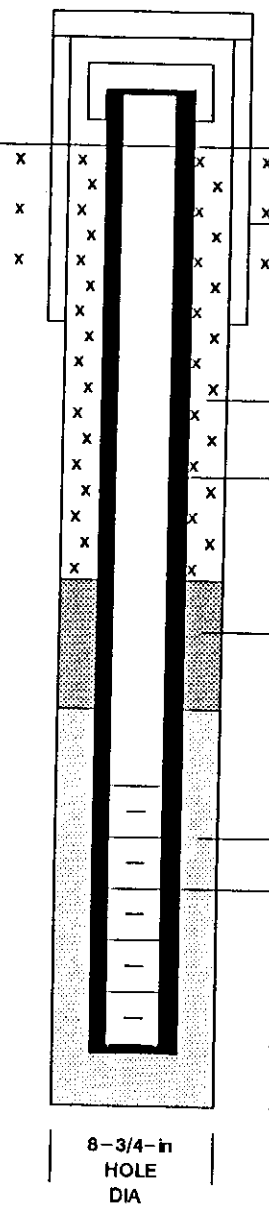
PROJECT:
Town of Smithtown
Municipal Services Facility

JOB NO.
REP No. 93007-1A

WELL NO.
MW-12

DRILLING CONTRACTOR:
Warren George, Inc.

ENGINEER:
R. E. Pastorino, P.C.



2.5-ft TOP OF SURFACE CASING

GROUND SURFACE

SURFACE CASING — DIA: 10 IN, TYPE: Steel

2.5-ft BOTTOM OF SURFACE CASING

BACKFILL — TYPE: Cement Bentonite Grout

RISER CASING — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, Centralizers @ 40-ft intervals

125-ft TOP OF SEAL

ANNULAR SEAL — TYPE: Benseal

131-ft BOTTOM OF SEAL

137-ft TOP OF SCREEN

FILTER MATERIAL — TYPE: Morie No. 1 Well Gravel

SCREEN — DIA: 4-in, TYPE: PVC Flush Joint, Sch 40, SLOT: .020-in

152-ft BOTTOM OF SCREEN

175-ft BOTTOM OF HOLE

8-3/4-in HOLE DIA

APPENDIX F

APPENDIX G

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	118.52
pH	-	-	6.62
Spec Conductivity (mhos)	-	-	630
Temp (Deg C)	-	-	12
eH (mV)	-	-	175
CONSTITUENT			
Alkalinity (Total)	-	-	58
Aluminum	-	-	0.84
Ammonia	2.0	-	0.06
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	3.8
Boron	1.0	-	0.14
Cadmium	0.01	0.01	<0.001
Calcium	-	-	39
Chlorides	250	250	140
Chromium	0.05	-	<0.005
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	80
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	170
Iron	0.3*	0.3*	0.65
Kjeldahl Nitrogen (Total)	-	-	0.8
Lead	0.025	0.05	0.004
Magnesium	-	-	-
Manganese	0.3*	0.3*	5.2
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	15
Odor (units)	-	-	2 (1)
Phenol	1	0.005	<0.001
pH (units)	-	-	6.4
Potassium	-	-	-
Sodium	20	-	53
Silver	0.05	0.05	0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	750
Sulfate	250	-	30
Thallium	-	-	<0.005
TOC	-	-	5
Tot Dissolved Solids	-	-	440
Turbidity (NTU)	-	-	12
Zinc	0.3	5	0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

(1) Sample has a faint earthy odor.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	2
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	5
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	118.72
pH	-	-	6.69
Spec Conductivity (mhos)	-	-	360
Temp (Deg C)	-	-	12
eH (mV)	-	-	175
CONSTITUENT			
Alkalinity (Total)	-	-	68
Aluminum	-	-	0.42
Ammonia	2.0	-	0.18
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	4
Boron	1.0	-	0.26
Cadmium	0.01	0.01	0.002
Calcium	-	-	27
Chlorides	250	250	49
Chromium	0.05	-	0.007
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	60
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	93
Iron	0.3*	0.3*	0.18
Kjeldahl Nitrogen (Total)	-	-	0.6
Lead	0.025	0.05	0.028
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.07
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	3.3
Odor (units)	-	-	0
Phenol	1	0.005	<0.001
pH (units)	-	-	6.4
Potassium	-	-	-
Sodium	20	-	30
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	360
Sulfate	250	-	20
Thallium	-	-	<0.005
TOC	-	-	3
Tot Dissolved Solids	-	-	230
Turbidity (NTU)	-	-	3.6
Zinc	0.3	5	<0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	2
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	3
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-2
Downgradient, Upper Glacial

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	2
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	9
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. F-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. F-2
Downgradient, Upper Glacial

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxephene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	111.52
pH	-	-	5.89
Spec Conductivity (mhos)	-	-	480
Temp (Deg C)	-	-	12
eH (mV)	-	-	145
CONSTITUENT			
Alkalinity (Total)	-	-	54
Aluminum	-	-	1.4
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	3.7
Boron	1.0	-	0.16
Cadmium	0.01	0.01	0.001
Calcium	-	-	27
Chlorides	250	250	120
Chromium	0.05	-	<0.005
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	130
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	120
Iron	0.3*	0.3*	2.6
Kjeldahl Nitrogen (Total)	-	-	1
Lead	0.025	0.05	0.005
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.95
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	<0.5
Odor (units)	-	-	3 (1)
Phenol	1	0.005	<0.001
pH (units)	-	-	5.5
Potassium	-	-	-
Sodium	20	-	51
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	550
Sulfate	250	-	31
Thallium	-	-	<0.005
TOC	-	-	7
Tot Dissolved Solids	-	-	340
Turbidity (NTU)	-	-	23
Zinc	0.3	5	<0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

(1) Sample has a strong earthy odor.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	3
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	7
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	3
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	26
1,4 Dichlorobenzene	4.7****	-	3
Benzene	0.7	5	2
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. G-1
Downgradient, shallow screen

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	16
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	2
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	2
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	7
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	112.27
pH	-	-	6.47
Spec Conductivity (mhos)	-	-	370
Temp (Deg C)	-	-	12
eH (mV)	-	-	80
CONSTITUENT			
Alkalinity (Total)	-	-	54
Aluminum	-	-	<0.20
Ammonia	2.0	-	5.6
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	4.8
Boron	1.0	-	0.13
Cadmium	0.01	0.01	0.003
Calcium	-	-	21
Chlorides	250	250	47
Chromium	0.05	-	<0.005
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	40
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	77
Iron	0.3*	0.3*	2.6
Kjeldahl Nitrogen (Total)	-	-	6.4
Lead	0.025	0.05	0.005
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.13
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	1.3
Odor (units)	-	-	2 (1)
Phenol	1	0.005	<0.001
pH (units)	-	-	6.5
Potassium	-	-	-
Sodium	20	-	28
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	430
Sulfate	250	-	16
Thallium	-	-	<0.005
TOC	-	-	7
Tot Dissolved Solids	-	-	240
Turbidity (NTU)	-	-	7.6
Zinc	0.3	5	0.17
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

(1) Sample has a faint musty odor.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
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WELL NO. G-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	5
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. G-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	3
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	4
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	14
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-2
Downgradient, Upper Glacial

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-03-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. G-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-03-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	109.41
pH	-	-	5.57
Spec Conductivity (mhos)	-	-	480
Temp (Deg C)	-	-	11
eH (mV)	-	-	170
CONSTITUENT			
Alkalinity (Total)	-	-	14
Aluminum	-	-	1.3
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	2.2
Boron	1.0	-	0.17
Cadmium	0.01	0.01	<0.001
Calcium	-	-	45
Chlorides	250	250	98
Chromium	0.05	-	0.006
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	<40
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	180
Iron	0.3*	0.3*	1.4
Kjeldahl Nitrogen (Total)	-	-	0.4
Lead	0.025	0.05	0.004
Magnesium	-	-	-
Manganese	0.3*	0.3*	7.6
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	6.7
Odor (units)	-	-	0
Phenol	1	0.005	<0.001
pH (units)	-	-	5.9
Potassium	-	-	-
Sodium	20	-	72
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	490
Sulfate	250	-	33
Thallium	-	-	<0.01
TOC	-	-	<1
Tot Dissolved Solids	-	-	280
Turbidity (NTU)	-	-	4.4
Zinc	0.3	5	<0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	5
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	8
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

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R - Routine

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WELL NO. H-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	109.91
pH	-	-	6.51
Spec Conductivity (mhos)	-	-	230
Temp (Deg C)	-	-	11
eH (mV)	-	-	170
CONSTITUENT			
Alkalinity (Total)	-	-	50
Aluminum	-	-	0.49
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	12
Boron	1.0	-	0.28
Cadmium	0.01	0.01	0.001
Calcium	-	-	30
Chlorides	250	250	25
Chromium	0.05	-	0.008
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	60
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	100
Iron	0.3*	0.3*	0.43
Kjeldahl Nitrogen (Total)	-	-	0.8
Lead	0.025	0.05	0.04
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.21
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	1.8
Odor (units)	-	-	0
Phenol	1	0.005	<0.001
pH (units)	-	-	6.5
Potassium	-	-	-
Sodium	20	-	22
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	230
Sulfate	250	-	12
Thallium	-	-	<0.005
TOC	-	-	13
Tot Dissolved Solids	-	-	150
Turbidity (NTU)	-	-	9.6
Zinc	0.3	5	0.14
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-2
Downgradient, Upper Glacial

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. H-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	2
Fluoranthene	-	50	<1
Pyrene	-	50	<10*
Benzidine	-	-	<100*
Butyl benzyl phthalate	-	50	<10*
Bis(2ethylhexl)phthalate	50	50	21
Chrysene	-	50	<10*
Benzo (a) anthracene	-	50	<10*
3,3-Dichlorobenzidine	-	50	<100*
Di-n-octyl phthalate	-	50	<10*
Benzo (b) fluoranthene	-	50	<10*
Benzo (k) fluoranthene	-	50	<10*
Benzo (a) pyrene	ND	50	<10*
Indeno (1,2,3-c,d) pyrene	-	50	<10*
Dibenzo (a,h) anthracene	-	50	<10*
Benzo (g,h,I) perylene	-	50	<10*
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.
* Elevated detection levels due to interference in sample.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. H-2
Downgradient, Upper Glacial

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
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WELL NO. H-2
Downgradient, Upper Glacial

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. I-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	112.14
pH	-	-	6.03
Spec Conductivity (mhos)	-	-	520
Temp (Deg C)	-	-	11
eH (mV)	-	-	170
CONSTITUENT			
Alkalinity (Total)	-	-	38
Aluminum	-	-	0.96
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	4
Boron	1.0	-	0.14
Cadmium	0.01	0.01	0.002
Calcium	-	-	26
Chlorides	250	250	75
Chromium	0.05	-	0.006
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	60
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	91
Iron	0.3*	0.3*	1.1
Kjeldahl Nitrogen (Total)	-	-	0.2
Lead	0.025	0.05	0.01
Magnesium	-	-	-
Manganese	0.3*	0.3*	31
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	16
Odor (units)	-	-	0
Phenol	1	0.005	<0.001
pH (units)	-	-	5.7
Potassium	-	-	-
Sodium	20	-	31
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	590
Sulfate	250	-	25
Thallium	-	-	<0.005
TOC	-	-	3
Tot Dissolved Solids	-	-	360
Turbidity (NTU)	-	-	7.1
Zinc	0.3	5	<0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. I-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	3
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. I-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	7
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	18
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. I-1
Downgradient, shallow screen

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. I-1
Downgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. I-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis	6 NYCRR Part 703.5	10 NYCRR Part 5	1-B
SAMPLING DATE	NYSDEC	NYSDOH	02-02-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	123.04
pH	-	-	6.62
Spec Conductivity (mhos)	-	-	250
Temp (Deg C)	-	-	11
eH (mV)	-	-	185
CONSTITUENT			
Alkalinity (Total)	-	-	42
Aluminum	-	-	<0.20
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	2.7
Boron	1.0	-	<0.10
Cadmium	0.01	0.01	0.001
Calcium	-	-	21
Chlorides	250	250	27
Chromium	0.05	-	0.012
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	<40
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	67
Iron	0.3*	0.3*	0.17
Kjeldahl Nitrogen (Total)	-	-	0.8
Lead	0.025	0.05	0.006
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.5
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	3
Odor (units)	-	-	0
Phenol	1	0.005	<0.001
pH (units)	-	-	6.5
Potassium	-	-	-
Sodium	20	-	14
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	250
Sulfate	250	-	9
Thallium	-	-	<0.005
TOC	-	-	2
Tot Dissolved Solids	-	-	140
Turbidity (NTU)	-	-	1.7
Zinc	0.3	5	<0.02
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. I-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. I-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	1
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	17
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. I-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. I-2
Downgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.1
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9
Upgradient, shallow screen

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	Average Backround Quality**	1-B 02-03-94
FIELD MEASUREMENTS				
DTW (ft.)	-	-	-	127.34
pH	-	-	-	6.34
Spec Conductivity (mhos)	-	-	284	300
Temp (Deg C)	-	-	-	11
eH (mV)	-	-	199	200
CONSTITUENT				
Alkalinity (Total)	-	-	24	8
Aluminum	-	-	4.6	0.46
Ammonia	2.0	-	<0.05	<0.05
Antimony	-	-	0.007	<0.005
Arsenic	0.025	0.05	0.011	<0.002
Beryllium	-	-	0.001	<0.001
BOD5	-	-	6.9	3
Boron	1.0	-	0.11	<0.10
Cadmium	0.01	0.01	0.028	<0.001
Calcium	-	-	19	14
Chlorides	250	250	68	47
Chromium	0.05	-	<0.005	<0.005
Chromium Hex	0.05	0.05	<0.02	<0.02
Copper	0.2	1.0	0.085	<0.02
Color (units)	-	-	<5	<5
COD	-	-	40	80
Cyanide	0.1	-	<0.02	<0.02
Hardness (Total)	-	-	67	53
Iron	0.3*	0.3*	9.39	0.45
Kjeldahl Nitrogen (Total)	-	-	1.25	0.4
Lead	0.025	0.05	0.034	0.007
Magnesium	-	-	4.6	-
Manganese	0.3*	0.3*	0.24	0.07
Mercury	0.002	0.002	<0.00025	<0.00025
Nickel	-	-	<0.10	<0.10
Nitrate	10.0	-	0.6	<0.5
Odor (units)	-	-	0.25	0
Phenol	1	0.005	0.002	<0.001
pH (units)	-	-	6.1	5.7
Potassium	-	-	3.8	-
Sodium	20	-	31	15
Silver	0.05	0.05	<0.001	<0.001
Selenium	0.01	0.01	0.003	<0.002
Spec Conductivity (mhos)	-	-	210	230
Sulfate	250	-	25	21
Thallium	-	-	<0.005	<0.005
TOC	-	-	5.5	4
Tot Dissolved Solids	-	-	183	140
Turbidity (NTU)	-	-	62	5.3
Zinc	0.3	5	0.27	0.04
MBAS	-	-	<0.1	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

** Average of sampling events dated 4/24/89, 6/9/89, 1/31/90, 6/8/90.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9
Upgradient, shallow screen

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	Average Backround Quality**	1-B 02-03-94
VOLATILE ORGANIC				
Chloromethane	5	5	<1	<1
Bromomethane	5	5	<1	<1
Dichlorodifluoromethane	-	-	<1	<1
Vinyl Chloride	2	2	<1	<1
Chloroethane	5	5	<1	<1
Methylene Chloride	5	5	<1.75	<1
Trichlorofluoromethane	5	-	<2	<1
1,1 Dichloroethene	5	5	<1.75	<1
1,1 Dichloroethane	5	5	<1.75	<1
1,2 Dichloroethene	5	-	<1.75	<1
Chloroform	7	100	<1	<1
1,2-Dichloroethane	5	5	<1.75	<1
1,1,1 Trichloroethane	5	5	<1	<1
Carbon Tetrachloride	5	5	<1	<1
Bromodichloromethane	5	100	<1	<1
1,2-Dichloropropane	5	5	<1.75	<1
Trans-1,3-Dichloropropene	5	5	<2	<1
Trichloroethylene	10	-	<1	<1
Chlorodibromomethane	-	-	<1	<1
1,1,2 Trichloroethane	0.6	5	<2	<1
Cis-1,3-Dichloropropene	5	5	<2	<1
2 Chloroethylvinylether	-	-	<2	<1
Bromoform	-	100	<1.75	<1
1,1,2,2-Tetrachloroethane	5	5	<2	<1
Tetrachloroethene	5	-	<1	<1
Chlorobenzene	5	5	<1	<1
1,3 Dichlorobenzene	5	-	<1.75	<1
1,2 Dichlorobenzene	4.7****	-	<1.75	<1
1,4 Dichlorobenzene	4.7****	-	<1.75	<1
Benzene	0.7	5	<1	<1
Toluene	5	5	<2	<1
Ethylbenzene	5	5	<1	<1
m+p Xylene	10***	-	<2	<2
o Xylene	5	-	<4	<1
Acrolein	-	-	<100	<25
Acrylonitrile	-	-	<100	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.
** Average of sampling events dated 4/24/89, 6/9/89, 1/31/90, 6/8/90.
*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9
Upgradient, shallow screen

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	Average Backround Quality**	1-B 02-03-94
BASE NEUTRAL EXTRACTABLES				
1,3 Dichlorobenzene	4.7****	5	<10	<1
1,4 Dichlorobenzene	4.7****	5	<10	<1
Hexachloroethane	-	50	<10	<1
Bis(2-Chloroethyl)ether	-	5	<10	<1
1,2-Dichlorobenzene	5	5	<10	<1
Bis(2-chloroisopropyl)ether	-	5	<10	<1
N-nitroso-di-n-propyl-amine	-	50	<10	<1
Nitrobenzene	-	5	<10	<1
Hexachlorobutadiene	-	5	<10	<1
1,2,4-Trichlorobenzene	-	5	<10	<1
Isophorone	-	50	<10	<1
Naphthalene	-	50	<10	<1
Bis(2-chloroethoxy)methane	-	50	<10	<1
Hexachlorocyclopentadiene	-	50	<10	<10
Chloronaphthalene	-	-	<10	<1
Acenapthalylene	-	50	<10	<1
Acenapthene	-	50	<10	<1
Dimethyl phthalate	-	50	<10	<1
2,6-Dinitrotoluene	-	50	<10	<1
Fluorene	-	50	<10	<1
4-Chlorophenyl phenyl ether	-	50	<10	<1
2,4-Dinitrotoluene	-	50	<10	<1
1,2-Diphenyl hydrazine	-	-	<10	<1
Diethyl phthalate	-	50	<10	<1
N-Nitrosodiphenylamine	-	50	<10	<1
Hexachlorobenzene	0.35	5	<10	<1
4-Bromophenylphenylether	-	50	<10	<1
Phenanthrene	-	50	<10	<1
Anthracene	-	50	<10	<1
Di-n-butyl phthalate	50	50	<10	2
Fluoranthene	-	50	<10	<1
Pyrene	-	50	<10	<1
Benzidine	-	-	<63	<10
Butyl benzyl phthalate	-	50	<10	<1
Bis(2ethylhexl)phthalate	50	50	17	2
Chrysene	-	50	<10	<1
Benzo (a) anthracene	-	50	<10	<1
3,3-Dichlorobenzidine	-	50	<18	<5
Di-n-octyl phthalate	-	50	<10	<1
Benzo (b) fluoranthene	-	50	<10	<1
Benzo (k) fluoranthene	-	50	<10	<1
Benzo (a) pyrene	ND	50	<10	<1
Indeno (1,2,3-c,d) pyrene	-	50	<10	<1
Dibenzo (a,h) anthracene	-	50	<10	<1
Benzo (g,h,I) perylene	-	50	<10	<1
n-nitrosodimethylamine	-	-	<10	<1

All results in ug/l unless otherwise indicated.
** Average of sampling events dated 4/24/89, 6/9/89, 1/31/90, 6/8/90.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

WELL NO. 9
Upgradient, shallow screen

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	Average Backround Quality**	1-B 02-03-94
ACID EXTRACTABLES				
2-Chlorophenol	1	5	<10	<1
2-Nitrophenol	1	50	<10	<1
Phenol	1	50	<10	<1
2,4-Dimethylphenol	1	50	<10	<1
2,4-Dichlorophenol	1	5	<10	<1
2,4,6-Trichlorophenol	1	5	<10	<1
4-Chloro-3-methylphenol	1	50	<10	<1
2,4-Dinitrophenol	1	50	<50	<10
2-Methyl-4,6-dinitrophenol	1	50	<50	<10
Pentachlorophenol	1	5	<40	<10
4-Nitrophenol	1	50	<40	<10

All results in ug/l unless otherwise indicated.
** Average of sampling events dated 4/24/89, 6/9/89, 1/31/90, 6/8/90.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9
Upgradient, shallow screen

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	Average Backround Quality**	1-B 02-03-94
PESTICIDES				
Lindane	-	4	<0.05	<0.05
Heptachlor	ND	50	<0.05	<0.05
Aldrin	ND	50	<0.05	<0.05
Heptachlor Epoxide	50	50	<0.05	<0.05
p,p-DDE	ND	50	<0.05	<0.05
Dieldrin	ND	50	<0.05	<0.05
Endrin	ND	0.2	<0.05	<0.05
p,p-DDD	ND	50	<0.05	<0.05
p,p-DDT	ND	50	<0.05	<0.1
Chlordane	0.1	50	<0.2	<0.2
Toxaphene	ND	5	<1	<1
Endrin Aldehyde	-	-	<0.3	<0.3
a BHC	-	50	<0.05	<0.05
b BHC	-	50	<0.05	<0.05
d BHC	-	50	<0.05	<0.05
Endosulfan 1	-	50	<0.1	<0.1
Endosulfan 2	-	50	<0.1	<0.2
Endosulfan Sulfate	-	50	<0.3	<0.3
Arochlor 1016	0.1	50	<1	<1
Arochlor 1221	0.1	50	<1	<1
Arochlor 1232	0.1	50	<1	<1
Arochlor 1242	0.1	50	<1	<1
Arochlor 1248	0.1	50	<1	<1
Arochlor 1254	0.1	50	<1	<1
Arochlor 1260	0.1	50	<1	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.
** Average of sampling events dated 4/24/89, 6/9/89, 1/31/90, 6/8/90.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9-B
Upgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
FIELD MEASUREMENTS			
DTW (ft.)	-	-	127.24
pH	-	-	6.94
Spec Conductivity (mhos)	-	-	240
Temp (Deg C)	-	-	11
eH (mV)	-	-	185
CONSTITUENT			
Alkalinity (Total)	-	-	42
Aluminum	-	-	0.23
Ammonia	2.0	-	<0.05
Antimony	-	-	<0.005
Arsenic	0.025	0.05	<0.002
Beryllium	-	-	<0.001
BOD5	-	-	4.7
Boron	1.0	-	0.25
Cadmium	0.01	0.01	0.002
Calcium	-	-	22
Chlorides	250	250	18
Chromium	0.05	-	0.007
Chromium Hex	0.05	0.05	<0.02
Copper	0.2	1.0	<0.02
Color (units)	-	-	<5
COD	-	-	40
Cyanide	0.1	-	<0.02
Hardness (Total)	-	-	72
Iron	0.3*	0.3*	0.29
Kjeldahl Nitrogen (Total)	-	-	0.4
Lead	0.025	0.05	0.017
Magnesium	-	-	-
Manganese	0.3*	0.3*	0.13
Mercury	0.002	0.002	<0.00025
Nickel	-	-	<0.10
Nitrate	10.0	-	3.3
Odor (units)	-	-	1 (1)
Phenol	1	0.005	<0.001
pH (units)	-	-	7.4
Potassium	-	-	-
Sodium	20	-	13
Silver	0.05	0.05	<0.001
Selenium	0.01	0.01	<0.002
Spec Conductivity (mhos)	-	-	210
Sulfate	250	-	10
Thallium	-	-	<0.005
TOC	-	-	10
Tot Dissolved Solids	-	-	130
Turbidity (NTU)	-	-	6
Zinc	0.3	5	0.07
MBAS	-	-	<0.1

All results in mg/l unless otherwise noted.

* Combined concentration of iron and manganese shall not exceed 0.5 mg/l.

(1) Sample has a very faint earthy odor.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9-B
Upgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
VOLATILE ORGANIC			
Chloromethane	5	5	<1
Bromomethane	5	5	<1
Dichlorodifluoromethane	-	-	<1
Vinyl Chloride	2	2	<1
Chloroethane	5	5	<1
Methylene Chloride	5	5	<1
Trichlorofluoromethane	5	-	<1
1,1 Dichloroethene	5	5	<1
1,1 Dichloroethane	5	5	<1
1,2 Dichloroethene	5	-	<1
Chloroform	7	100	<1
1,2-Dichloroethane	5	5	<1
1,1,1 Trichloroethane	5	5	<1
Carbon Tetrachloride	5	5	<1
Bromodichloromethane	5	100	<1
1,2-Dichloropropane	5	5	<1
Trans-1,3-Dichloropropene	5	5	<1
Trichloroethylene	10	-	<1
Chlorodibromomethane	-	-	<1
1,1,2 Trichloroethane	0.6	5	<1
Cis-1,3-Dichloropropene	5	5	<1
2 Chloroethylvinylether	-	-	<1
Bromoform	-	100	<1
1,1,2,2-Tetrachloroethane	5	5	<1
Tetrachloroethene	5	-	<1
Chlorobenzene	5	5	<1
1,3 Dichlorobenzene	5	-	<1
1,2 Dichlorobenzene	4.7****	-	<1
1,4 Dichlorobenzene	4.7****	-	<1
Benzene	0.7	5	<1
Toluene	5	5	<1
Ethylbenzene	5	5	<1
m+p Xylene	10***	-	<2
o Xylene	5	-	<1
Acrolein	-	-	<25
Acrylonitrile	-	-	<25

All results in ug/l unless otherwise noted.
ND Not dectectable or below the minimum attainable detection limit.

*** Limit is 5 ug/L for each isomer of Xylene.
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9-B
Upgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs. Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
BASE NEUTRAL EXTRACTABLES			
1,3 Dichlorobenzene	4.7****	5	<1
1,4 Dichlorobenzene	4.7****	5	<1
Hexachloroethane	-	50	<1
Bis(2-Chloroethyl)ether	-	5	<1
1,2-Dichlorobenzene	5	5	<1
Bis(2-chloroisopropyl)ether	-	5	<1
N-nitroso-di-n-propyl-amine	-	50	<1
Nitrobenzene	-	5	<1
Hexachlorobutadiene	-	5	<1
1,2,4-Trichlorobenzene	-	5	<1
Isophorone	-	50	<1
Naphthalene	-	50	<1
Bis(2-chloroethoxy)methane	-	50	<1
Hexachlorocyclopentadiene	-	50	<10
Chloronaphthalene	-	-	<1
Acenapthalylene	-	50	<1
Acenapthene	-	50	<1
Dimethyl phthalate	-	50	<1
2,6-Dinitrotoluene	-	50	<1
Fluorene	-	50	<1
4-Chlorophenyl phenyl ether	-	50	<1
2,4-Dinitrotoluene	-	50	<1
1,2-Diphenyl hydrazine	-	-	<1
Diethyl phthalate	-	50	<1
N-Nitrosodiphenylamine	-	50	<1
Hexachlorobenzene	0.35	5	<1
4-Bromophenylphenylether	-	50	<1
Phenanthrene	-	50	<1
Anthracene	-	50	<1
Di-n-butyl phthalate	50	50	1
Fluoranthene	-	50	<1
Pyrene	-	50	<1
Benzidine	-	-	<10
Butyl benzyl phthalate	-	50	<1
Bis(2ethylhexl)phthalate	50	50	11
Chrysene	-	50	<1
Benzo (a) anthracene	-	50	<1
3,3-Dichlorobenzidine	-	50	<10
Di-n-octyl phthalate	-	50	<1
Benzo (b) fluoranthene	-	50	<1
Benzo (k) fluoranthene	-	50	<1
Benzo (a) pyrene	ND	50	<1
Indeno (1,2,3-c,d) pyrene	-	50	<1
Dibenzo (a,h) anthracene	-	50	<1
Benzo (g,h,i) perylene	-	50	<1
n-nitrosodimethylamine	-	-	<1

All results in ug/l unless otherwise indicated.
** Average of sampling events dated
****Limit is 4.7 ug/L for sum of 1,2 and 1,4 isomers of Dichlorobenzene.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9-B
Upgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
ACID EXTRACTABLES			
2-Chlorophenol	1	5	<1
2-Nitrophenol	1	50	<1
Phenol	1	50	<1
2,4-Dimethylphenol	1	50	<1
2,4-Dichlorophenol	1	5	<1
2,4,6-Trichlorophenol	1	5	<1
4-Chloro-3-methylphenol	1	50	<1
2,4-Dinitrophenol	1	50	<10
2-Methyl-4,6-dinitrophenol	1	50	<10
Pentachlorophenol	1	5	<10
4-Nitrophenol	1	50	<10

All results in ug/l unless otherwise indicated.

Town of Smithtown
Municipal Services Facility
Groundwater Monitoring Well Analysis

WELL NO. 9-B
Upgradient, Upper Glacial

Analysis:
B - Baseline
R - Routine

Laboratory Codes:
1 - EcoTest Laboratories, Inc.
2 - H2M Labs, Inc.
3 - Pednault Associates, Inc.

Laboratory Code-Analysis SAMPLING DATE	6 NYCRR Part 703.5 NYSDEC	10 NYCRR Part 5 NYSDOH	1-B 02-02-94
PESTICIDES			
Lindane	-	4	<0.05
Heptachlor	ND	50	<0.05
Aldrin	ND	50	<0.05
Heptachlor Epoxide	50	50	<0.05
p,p-DDE	ND	50	<0.05
Dieldrin	ND	50	<0.05
Endrin	ND	0.2	<0.05
p,p-DDD	ND	50	<0.05
p,p-DDT	ND	50	<0.1
Chlordane	0.1	50	<0.2
Toxaphene	ND	5	<1
Endrin Aldehyde	-	-	<0.3
a BHC	-	50	<0.05
b BHC	-	50	<0.05
d BHC	-	50	<0.05
Endosulfan 1	-	50	<0.1
Endosulfan 2	-	50	<0.2
Endosulfan Sulfate	-	50	<0.3
Arochlor 1016	0.1	50	<1
Arochlor 1221	0.1	50	<1
Arochlor 1232	0.1	50	<1
Arochlor 1242	0.1	50	<1
Arochlor 1248	0.1	50	<1
Arochlor 1254	0.1	50	<1
Arochlor 1260	0.1	50	<1

All results in ug/l unless otherwise indicated.
ND Not detectable or below the minimum attainable detection limit.

ENVIRONMENTAL CONSULTING & MANAGEMENT
ROUX ASSOCIATES INC

ROUX

1377 MOTOR PARKWAY
ISLANDIA, NEW YORK 11788
TEL 516 232-2600 FAX 516 232-9898

February 4, 1994

Mr. Thomas Powell
EcoTest Laboratories, Inc.
377 Sheffield Avenue
North Babylon, New York 11703

Dear Mr. Powell:

As part of the Phase 2 investigation of Cells 1 through 5, Roux Associates, Inc. collected ground-water samples from a total of ten monitoring wells at the Smithtown Landfill on February 2 and 3, 1994. All ten wells were sampled for baseline parameters using disposable Teflon™ bailers. In addition, the samples collected from Well 9, Well F-1 and Well G-1 were split with the New York State Department of Environmental Conservation (represented by Bob Stewart) for separate analyses. Sampling was performed in accordance with the document titled "Phase I - Cell Nos. 1-5, Hydrogeologic Work Plan for Installation of Test Borings and Monitoring Wells, February 1991" (R.E.Pustorino, P.C. Consulting Engineers, 1991) and the applicable Roux Associates' Standard Operating Procedures.

The field measurements taken for each sample are tabulated below.

February 2:

Sample Designation	Depth to Water (ft)	pH	Conductivity (μS/cm)	Temp (°C)	Eh (mV)	Time
Well I1	112.14	6.03	520	11	+170	0900
Well I2	123.04	6.62	250	11	+185	1015
Well H1	109.41	5.57	480	11	+170	1145
Well H2	109.91	6.51	230	11	+170	1215
Well 9B	127.24	6.94	240	11	+185	1330

February 3:

Sample Designation	Depth to Water (ft)	pH	Conductivity (μS/cm)	Temp (°C)	Eh (mV)	Time
Well 9	127.34	6.34	300	11	+200	0900
Well F1	118.52	6.62	630	12	+175	1040
Well F2	118.72	6.69	360	12	+175	1135
Well G1	111.52	5.89	480	12	+145	1300
Well G2	112.27	6.47	370	12	+80	1415

A trip blank consisting of two vials accompanied the sample bottles each day. An additional quart of ground water was collected from each well (with the exception of Well F1) for laboratory quality control analyses. These bottles are listed on the chain of custody forms as SVQC samples. One field blank was collected during each day of sampling for a full set of baseline parameters. The field blank information is summarized below.

Designation	Date	Time	Sample Collected Following Field Blank Collection
Field Blank #1	February 2, 1994	1100	Well H1
Field Blank #2	February 3, 1994	1350	Well G2

If you have any questions or require additional information regarding this sampling event, please do not hesitate to call.

Sincerely,

Joanne Yeary
Senior Hydrogeologist

cc: W. Grooms, Town of Smithtown Engineering Department
E. Reilly, R.E. Pustorino, P.C.

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #F1, 1040

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	<0.001
Chromium as Cr	mg/L	<0.005
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.004
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	0.02
Boron as B	mg/L	0.14
Sodium as Na	mg/L	53
Calcium as Ca	mg/L	39
Iron as Fe	mg/L	0.65
Manganese as Mn	mg/L	5.2
Aluminum as Al	mg/L	0.84
Tot. Kjeldahl N.	mg/L	0.8
Ammonia as N	mg/L	0.06
Nitrate as N	mg/L	15
BOD5	mg/L	3.8
Tot Organic Carbon	mg/L	5
Tot Dissolved Solids	mg/L	440

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCo3	mg/L	52
Hardness as CaCO3	mg/L	170
Color units		<5
Odor units		2*
Turbidity NTU		12
Spec. Cond. umho/cm		750
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	90
Sulfate as SO4	mg/L	30
pH units		6.4
Chloride as Cl	mg/L	140

cc:

REMARKS: * The sample has a faint earthy odor.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940425/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #P1, 1040

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

PM= 1751 KYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940426/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent,Engrg.Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #F1. 1040

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.05
Endrin	ug/L	<0.05
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.2
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.3
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.3
Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

cc:

REMARKS:

DIRECTOR

NOF 1792 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #F1, 1040
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

SIGNED: _____

rm= 1793 NYSDOH ID# 10310

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #F1, 1040
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	2
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
124-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	5
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
2,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

CC:

REMARKS:

PERFORMED BY

PR# 1794 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/3 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramatere
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #P2, 1135

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	0.002
Chromium as Cr	mg/L	0.027
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.026
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	<0.02
Boron as B	mg/L	0.26
Sodium as Na	mg/L	30
Calcium as Ca	mg/L	27
Iron as Fe	mg/L	0.13
Manganese as Mn	mg/L	0.07
Aluminum as Al	mg/L	0.42
Tot. Kjeldahl N.	mg/L	0.6
Ammonia as N	mg/L	0.13
Nitrate as N	mg/L	3.3
BOD5	mg/L	4.0
Tot Organic Carbon	mg/L	3
Tot Dissolved Solids	mg/L	230

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCo3	mg/L	68
Hardness as CaCO3	mg/L	83
Color	units	<5
Odor	units	0
Turbidity	NTU	3.6
Spec. Cond. umho/cm		360
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	30
Sulfate as SO4	mg/L	20
pH	units	6.4
Chloride as Cl	mg/L	49

CC:

REMARKS:

DIRECTOR

rn= 1795 NYSDOH ID# 10322

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. CS40426/3 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #PS, 1135

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1	Ethyl Benzene	ug/L	<1
Vinyl Chloride	ug/L	<1	m + p Xylene	ug/L	<2
Bromomethane	ug/L	<1	o Xylene	ug/L	<1
Chloroethane	ug/L	<1	Bromoform	ug/L	<1
Trichlorofluomethane	ug/L	<1	1122Tetrachloroethan	ug/L	<1
1,1 Dichloroethene	ug/L	<1	m Dichlorobenzene	ug/L	<1
Methylene Chloride	ug/L	<1	p Dichlorobenzene	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1	o Dichlorobenzene	ug/L	<1
1,1 Dichloroethane	ug/L	2			
Chloroform	ug/L	<1	acrolein	ug/L	<25
111 Trichloroethane	ug/L	<1	acrylonitrile	ug/L	<25
Carbon Tetrachloride	ug/L	<1			
Benzene	ug/L	<1			
1,2 Dichloroethane	ug/L	<1			
Trichloroethene	ug/L	1			
1,2 Dichloropropane	ug/L	<1			
Bromodichloromethane	ug/L	<1			
2chloroethvinylether	ug/L	<1			
t-1,3Dichloropropene	ug/L	<1			
Toluene	ug/L	<1			
c 13 Dichloropropene	ug/L	<1			
112 Trichloroethane	ug/L	<1			
Tetrachloroethene	ug/L	3			
Chlorodibromomethane	ug/L	<1			
Chlorobenzene	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rm= 1795 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/3 02/25/94

Smithtown, Town of
134 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #F2, 1135

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.05
Endrin	ug/L	<0.05
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.2
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.3
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.3
Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

cc:

REMARKS:

FINDSON

FAX 1787 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426/3 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #PZ, 1135
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

rm= 1796 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940426/2 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent,Engrg.Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COLL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #P2, 1135
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	2
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
124-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	9
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
2,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

PR= 1799 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940426/4 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G1, 1000

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005	Chromium hex as Cr	mg/L	<0.02
Arsenic as As	mg/L	<0.002	MBAS as LAS	mg/L	<0.1
Beryllium as Be	mg/L	<0.001	Alkalinity tot CaCO3	mg/L	54
Cadmium as Cd	mg/L	0.001	Hardness as CaCO3	mg/L	120
Chromium as Cr	mg/L	<0.005	Color	units	<5
Copper as Cu	mg/L	<0.02	Odor	units	3*
Lead as Pb	mg/L	0.005	Turbidity	NTU	22
Mercury as Hg	mg/L	<0.00025	Spec. Cond.	umho/cm	560
Nickel as Ni	mg/L	<0.10	Phenols as Phenol	mg/L	<0.001
Selenium as Se	mg/L	<0.002	Cyanide as CN	mg/L	<0.02
Silver as Ag	mg/L	<0.001	COD	mg/L	130
Thallium as Tl	mg/L	<0.005	Sulfate as SO4	mg/L	31
Zinc as Zn	mg/L	<0.02	pH	units	5.5
Boron as B	mg/L	0.15	Chloride as Cl	mg/L	120
Sodium as Na	mg/L	51			
Calcium as Ca	mg/L	37			
Iron as Fe	mg/L	2.6			
Manganese as Mn	mg/L	0.05			
Aluminum as Al	mg/L	1.4			
Tot. Kjeldahl N.	mg/L	1.0			
Ammonia as N	mg/L	<0.05			
Nitrate as N	mg/L	<0.5			
BOD5	mg/L	3.7			
Tot Organic Carbon	mg/L	7			
Tot Dissolved Solids	mg/L	340			

cc:

REMARKS: * The sample has a strong earthy odor.

DIRECTOR

rn= 1800 NYSDOH ID# 10220

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9402429-4 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G1, 1300

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	3
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	7
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	2
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethylvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	3

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	26
o Dichlorobenzene	ug/L	3
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rm= 1801 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C9404256/4 02/03/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dept

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G1, 1300

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.03
Endrin	ug/L	<0.03
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.2
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.3
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.3
Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

cc:

REMARKS:

DIRECTOR

rn= 1802 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9342428-1 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #GL, 1300
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
-Nitrophenol	<1	
4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
-Chloro-3-methylphenol	<1	
4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

rn= 1803 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404210 4 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G1, 1300
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
,4 Dichlorobenzene	16	Phenanthrene	<1
1,2 Dichlorobenzene	2	Anthracene	<1
is(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	1
-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	1
sophorone	<1	BenzylButylPhthalate	<1
is(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
aphthalene	1	Chrysene	<1
exachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	7
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
imethyl Phthalate	<1	Benzo(k)fluoranthene	<1
cenaphthylene	<1	Benzo(a)pyrene	<1
,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
cenaphthene	<1	Dibenzo(a,h)anthracene	<1
,4-Dinitrotoluene	<1	Benzo(ghi)perylene	1
Diethyl Phthalate	<1		
luorene	<1		
-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

rm= 1804 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C9402428-S

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G2, 1415

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005	Chromium hex as Cr	mg/L	<0.02
Arsenic as As	mg/L	<0.002	MBAS as LAS	mg/L	<0.1
Beryllium as Be	mg/L	<0.001	Alkalinity tot CaCO3	mg/L	54
Cadmium as Cd	mg/L	0.002	Hardness as CaCO3	mg/L	77
Chromium as Cr	mg/L	<0.005	Color units		<5
Copper as Cu	mg/L	<0.02	Odor units		2+
Lead as Pb	mg/L	0.005	Turbidity NTU		7.6
Mercury as Hg	mg/L	<0.00025	Spec. Cond. umho/cm		400
Nickel as Ni	mg/L	<0.10	Phenols as Phenol	mg/L	<0.001
Selenium as Se	mg/L	<0.002	Cyanide as CN	mg/L	<0.02
Silver as Ag	mg/L	<0.001	COD	mg/L	<0
Thallium as Tl	mg/L	<0.005	Sulfate as SO4	mg/L	18
Zinc as Zn	mg/L	0.17	pH units		5.5
Boron as B	mg/L	0.13	Chloride as Cl	mg/L	47
Sodium as Na	mg/L	28			
Calcium as Ca	mg/L	21			
Iron as Fe	mg/L	2.8			
Manganese as Mn	mg/L	0.13			
Aluminum as Al	mg/L	<0.20			
Tot. Kjeldahl N.	mg/L	6.4			
Ammonia as N	mg/L	5.6			
Nitrate as N	mg/L	1.2			
BOD5	mg/L	4.8			
Tot Organic Carbon	mg/L	7			
Tot Dissolved Solids	mg/L	240			

cc:

REMARKS: • The sample has a faint musty odor.

DIRECTOR

rn= 1805 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C9404225/5 02 '22 P.

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G2, 1:15

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	5
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<20

cc:

REMARKS:

DIRECTOR

rm= 1806 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. [illegible]

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COLLECTED:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #G2, 1115

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.05
Endrin	ug/L	<0.05
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.5
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.2
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

cc:

REMARKS:

DIRECTOR [signature]

rm= 1807 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9447-02 S

Smithtown, Town of
100 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:01/03/94 RECEIVED:01/03/94

SAMPLE: Water Sample-Monitoring Well #GC, 14S
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
4-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

cn= 1308

NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404418-2 02/22 rs

Smithtown, Town of
100 Main Street
Smithtown, NY 11787
ATTN: Jean Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #8C, 1415
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	3	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	4
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	Benzyl Butyl Phthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	14
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
3,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 940410/3 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #H1, 1145

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	<0.001
Chromium as Cr	mg/L	0.006
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.004
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.01
Zinc as Zn	mg/L	<0.02
Boron as B	mg/L	0.17
Sodium as Na	mg/L	72
Calcium as Ca	mg/L	45
Iron as Fe	mg/L	1.4
Manganese as Mn	mg/L	7.6
Aluminum as Al	mg/L	1.3
Tot. Kjeldahl N.	mg/L	0.4
Ammonia as N	mg/L	<0.05
Nitrate as N	mg/L	6.7
BOD5	mg/L	2.2
Tot Organic Carbon	mg/L	<1
Tot Dissolved Solids	mg/L	280

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCo3	mg/L	14
Hardness as CaC03	mg/L	180
Color	units	<5
Odor	units	0
Turbidity	NTU	4.4
Spec. Cond.	umho/cm	490
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	<40
Sulfate as SO4	mg/L	33
pH	units	5.9
Chloride as Cl	mg/L	98

cc:

REMARKS:

DIRECTOR

rn= 1707 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410-3 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H1, 1145

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rn= 1708 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404410/3 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H1, 1145

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05	Aroclor 1260	ug/L	<1
Heptachlor	ug/L	<0.05			
Aldrin	ug/L	<0.05			
Heptachlor Epoxide	ug/L	<0.05			
p,p-DDE	ug/L	<0.05			
Dieldrin	ug/L	<0.05			
Endrin	ug/L	<0.05			
p,p-DDD	ug/L	<0.05			
p,p-DDT	ug/L	<0.1			
Chlordane	ug/L	<0.2			
Toxaphene	ug/L	<1			
Endrin Aldehyde	ug/L	<0.3			
a BHC	ug/L	<0.05			
b BHC	ug/L	<0.05			
d BHC	ug/L	<0.05			
Endosulfan 1	ug/L	<0.1			
Endosulfan 2	ug/L	<0.1			
Endosulfan Sulfate	ug/L	<0.3			
Aroclor 1016	ug/L	<1			
Aroclor 1221	ug/L	<1			
Aroclor 1232	ug/L	<1			
Aroclor 1242	ug/L	<1			
Aroclor 1248	ug/L	<1			
Aroclor 1254	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rn= 1709 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/3 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #M1, 1145
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
-Chlorophenol	<1	
-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
-Chloro-3-methylphenol	<1	
4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

n= 1710 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H1, 1145
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	5
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	8
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
3,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

rn= 1711 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404010/4 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H2, 1215

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	0.001
Chromium as Cr	mg/L	0.008
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.040
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	0.14
Boron as B	mg/L	0.28
Sodium as Na	mg/L	22
Calcium as Ca	mg/L	30
Iron as Fe	mg/L	0.43
Manganese as Mn	mg/L	0.21
Aluminum as Al	mg/L	0.49
Tot. Kjeldahl N.	mg/L	0.8
Ammonia as N	mg/L	<0.05
Nitrate as N	mg/L	1.8
BOD5	mg/L	12
Tot Organic Carbon	mg/L	13
Tot Dissolved Solids	mg/L	150

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCO3	mg/L	50
Hardness as CaCO3	mg/L	100
Color units		<5
Odor units		0
Turbidity NTU		9.6
Spec. Cond. umho/cm		230
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	60
Sulfate as SO4	mg/L	12
pH units		6.5
Chloride as Cl	mg/L	25

cc:

REMARKS:

DIRECTOR

rn= 1712 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/4 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #HZ, 1215

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1	Ethyl Benzene	ug/L	<1
Vinyl Chloride	ug/L	<1	m + p Xylene	ug/L	<2
Bromomethane	ug/L	<1	o Xylene	ug/L	<1
Chloroethane	ug/L	<1	Bromoform	ug/L	<1
Trichlorofluomethane	ug/L	<1	1122Tetrachloroethan	ug/L	<1
1,1 Dichloroethene	ug/L	<1	m Dichlorobenzene	ug/L	<1
Methylene Chloride	ug/L	<1	p Dichlorobenzene	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1	o Dichlorobenzene	ug/L	<1
1,1 Dichloroethane	ug/L	<1			
Chloroform	ug/L	<1	acrolein	ug/L	<25
111 Trichloroethane	ug/L	<1	acrylonitrile	ug/L	<25
Carbon Tetrachloride	ug/L	<1			
Benzene	ug/L	<1			
1,2 Dichloroethane	ug/L	<1			
Trichloroethene	ug/L	<1			
1,2 Dichloropropane	ug/L	<1			
Bromodichloromethane	ug/L	<1			
2chloroethvinylether	ug/L	<1			
t-1,3Dichloropropene	ug/L	<1			
Toluene	ug/L	<1			
c 13 Dichloropropene	ug/L	<1			
112 Trichloroethane	ug/L	<1			
Tetrachloroethene	ug/L	<1			
Chlorodibromomethane	ug/L	<1			
Chlorobenzene	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rm= 1713 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/4 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H2, 1215

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05	Aroclor 1260	ug/L	<1
Heptachlor	ug/L	<0.05			
Aldrin	ug/L	<0.05			
Heptachlor Epoxide	ug/L	<0.05			
p,p-DDE	ug/L	<0.05			
Dieldrin	ug/L	<0.05			
Endrin	ug/L	<0.05			
p,p-DDD	ug/L	<0.05			
p,p-DDT	ug/L	<0.1			
Chlordane	ug/L	<0.2			
Toxaphene	ug/L	<1			
Endrin Aldehyde	ug/L	<0.2			
a BHC	ug/L	<0.05			
b BHC	ug/L	<0.05			
d BHC	ug/L	<0.05			
Endosulfan 1	ug/L	<0.1			
Endosulfan 2	ug/L	<0.1			
Endosulfan Sulfate	ug/L	<0.2			
Aroclor 1016	ug/L	<1			
Aroclor 1221	ug/L	<1			
Aroclor 1232	ug/L	<1			
Aroclor 1242	ug/L	<1			
Aroclor 1248	ug/L	<1			
Aroclor 1254	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rm= 1714 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.:E940410/4 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H2, 1215
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR Thomas R. Ottati

rm= 1715 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9340410/4 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #H2, 1215
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	2
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<100*
Nitrobenzene	<1	Pyrene	<10*
Isophorone	<1	BenzylButylPhthalate	<10*
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<10*
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<100*
Naphthalene	<1	Chrysene	<10*
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	21
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<10*
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<10*
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<12*
Acenaphthylene	<1	Benzo(a)pyrene	<10*
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<10*
Acenaphthene	<1	Dibenzo(a,h)anthracene	<10*
3,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<10*
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS: *Elevated detection levels due to intereference in sample.

DIRECTOR _____

n= 1716 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9402410 1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I1, 0900

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	0.002
Chromium as Cr	mg/L	0.006
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.010
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	<0.02
Boron as B	mg/L	0.14
Sodium as Na	mg/L	31
Calcium as Ca	mg/L	28
Iron as Fe	mg/L	1.1
Manganese as Mn	mg/L	31
Aluminum as Al	mg/L	0.96
Tot. Kjeldahl N.	mg/L	0.2
Ammonia as N	mg/L	<0.05
Nitrate as N	mg/L	16
BODS	mg/L	4.0
Tot Organic Carbon	mg/L	3
Tot Dissolved Solids	mg/L	360

ANALYTICAL PARAMETERS			
Chromium hex as Cr		mg/L	<0.01
MBAS as LAS		mg/L	<0.1
Alkalinity tot CaCo3		mg/L	38
Hardness as CaCO3		mg/L	91
Color	units		<5
Odor	units		0
Turbidity	NTU		7.1
Spec. Cond.	umho/cm		590
Phenols as Phenol		mg/L	<0.001
Cyanide as CN		mg/L	<0.02
COD		mg/L	50
Sulfate as SO4		mg/L	25
pH	units		5.7
Chloride as Cl		mg/L	75

cc:

REMARKS:

DIRECTOR

rn= 1697 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940410/1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I1, 0900

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	3
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rn= 1698 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 940410/1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I1, 0900

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05	Aroclor 1260	ug/L	<1
Heptachlor	ug/L	<0.05			
Aldrin	ug/L	<0.05			
Heptachlor Epoxide	ug/L	<0.05			
p,p-DDE	ug/L	<0.05			
Dieldrin	ug/L	<0.05			
Endrin	ug/L	<0.05			
p,p-DDD	ug/L	<0.05			
p,p-DDT	ug/L	<0.1			
Chlordane	ug/L	<0.2			
Toxaphene	ug/L	<1			
Endrin Aldehyde	ug/L	<0.3			
a BHC	ug/L	<0.05			
b BHC	ug/L	<0.05			
d BHC	ug/L	<0.05			
Endosulfan 1	ug/L	<0.1			
Endosulfan 2	ug/L	<0.1			
Endosulfan Sulfate	ug/L	<0.3			
Aroclor 1016	ug/L	<1			
Aroclor 1221	ug/L	<1			
Aroclor 1232	ug/L	<1			
Aroclor 1242	ug/L	<1			
Aroclor 1248	ug/L	<1			
Aroclor 1254	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rn= 1699 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940410/1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I1, 0900
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
-Chlorophenol	<1	
-Nitrophenol	<1	
,4-Dimethylphenol	<1	
,4-Dichlorophenol	<1	
-Chloro-3-methylphenol	<1	
,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

Tn= 1700 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. CS40410/1 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I1, 0900
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
is(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	7
-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
itrobenzene	<1	Pyrene	<1
sophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
124-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
aphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	13
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
imethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
cenaphthene	<1	Dibenzo(a,h)anthracene	<1
,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
ethyl Phthalate	<1		
luorene	<1		
-Chlorophenyl phenyl ether	<1		
-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

rn= 1701 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410-2 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I2, 1015

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	0.001
Chromium as Cr	mg/L	0.012
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.006
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	<0.02
Boron as B	mg/L	<0.10
Sodium as Na	mg/L	14
Calcium as Ca	mg/L	21
Iron as Fe	mg/L	0.17
Manganese as Mn	mg/L	0.50
Aluminum as Al	mg/L	<0.20
Tot. Kjeldahl N.	mg/L	0.8
Ammonia as N	mg/L	<0.05
Nitrate as N	mg/L	3.0
BOD5	mg/L	2.7
Tot Organic Carbon	mg/L	2
Tot Dissolved Solids	mg/L	140

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCo3	mg/L	42
Hardness as CaCO3	mg/L	67
Color units		<5
Odor units		0
Turbidity NTU		1.7
Spec. Cond. umho/cm		250
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	<40
Sulfate as SO4	mg/L	9
pH units		6.3
Chloride as Cl	mg/L	27

cc:

REMARKS:

DIRECTOR

rn= 1702 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 940410/2 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I2, 1015

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rm= 1703 NYSDOH ID# 10220

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C9402410-2 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I2, 1015

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05	Aroclor 1260	ug/L	<1
Heptachlor	ug/L	<0.05			
Aldrin	ug/L	<0.05			
Heptachlor Epoxide	ug/L	<0.05			
p,p-DDE	ug/L	<0.05			
Dieldrin	ug/L	<0.05			
Endrin	ug/L	<0.05			
p,p-DDD	ug/L	<0.05			
p,p-DDT	ug/L	<0.1			
Chlordane	ug/L	<0.2			
Toxaphene	ug/L	<1			
Endrin Aldehyde	ug/L	<0.3			
a BHC	ug/L	<0.05			
b BHC	ug/L	<0.05			
d BHC	ug/L	<0.05			
Endosulfan 1	ug/L	<0.1			
Endosulfan 2	ug/L	<0.1			
Endosulfan Sulfate	ug/L	<0.3			
Aroclor 1016	ug/L	<1			
Aroclor 1221	ug/L	<1			
Aroclor 1232	ug/L	<1			
Aroclor 1242	ug/L	<1			
Aroclor 1248	ug/L	<1			
Aroclor 1254	ug/L	<1			

cc:

REMARKS:

DIRECTOR

rn= 1704 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940410'2 02/24/9-

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #I2, 101S
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
-Chloro-3-methylphenol	<1	
,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

rn= 1705 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/2 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #T2, 1015
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	1
N-Nitroso-di-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	17
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
2,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR _____

rm= 1706 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940426-1 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #3, 0900

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005	Chromium hex as Cr	mg/L	<0.02
Arsenic as As	mg/L	<0.002	MBAS as LAS	mg/L	<0.1
Beryllium as Be	mg/L	<0.001	Alkalinity tot CaCO3	mg/L	8
Cadmium as Cd	mg/L	<0.001	Hardness as CaCO3	mg/L	52
Chromium as Cr	mg/L	<0.005	Color	units	<5
Copper as Cu	mg/L	<0.02	Odor	units	2
Lead as Pb	mg/L	0.007	Turbidity	NTU	3.3
Mercury as Hg	mg/L	<0.00025	Spec. Cond.	umho/cm	230
Nickel as Ni	mg/L	<0.10	Phenols as Phenol	mg/L	<0.001
Selenium as Se	mg/L	<0.002	Cyanide as CN	mg/L	<0.02
Silver as Ag	mg/L	<0.001	COD	mg/L	80
Thallium as Tl	mg/L	<0.005	Sulfate as SO4	mg/L	21
Zinc as Zn	mg/L	0.04	pH	units	5.7
Boron as B	mg/L	<0.10	Chloride as Cl	mg/L	47
Sodium as Na	mg/L	15			
Calcium as Ca	mg/L	14			
Iron as Fe	mg/L	0.43			
Manganese as Mn	mg/L	0.07			
Aluminum as Al	mg/L	0.43			
Tot. Kjeldahl N.	mg/L	0.4			
Ammonia as N	mg/L	<0.05			
Nitrate as N	mg/L	<0.5			
BOD5	mg/L	3.0			
Tot Organic Carbon	mg/L	4			
Tot Dissolved Solids	mg/L	140			

cc:

REMARKS:

DIRECTOR

rm= 1785 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C9404[illegible]/1 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #3, 0300

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1	Ethyl Benzene	ug/L	<1
Vinyl Chloride	ug/L	<1	m + p Xylene	ug/L	<2
Bromomethane	ug/L	<1	o Xylene	ug/L	<1
Chloroethane	ug/L	<1	Bromoform	ug/L	<1
Trichlorofluomethane	ug/L	<1	1122Tetrachloroethan	ug/L	<1
1,1 Dichloroetnene	ug/L	<1	m Dichlorobenzene	ug/L	<1
Methylene Chloride	ug/L	<1	p Dichlorobenzene	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1	o Dichlorobenzene	ug/L	<1
1,1 Dichloroethane	ug/L	<1			
Chloroform	ug/L	<1	acrolein	ug/L	<25
111 Trichloroethane	ug/L	<1	acrylonitrile	ug/L	<25
Carbon Tetrachloride	ug/L	<1			
Benzene	ug/L	<1			
1,2 Dichloroethane	ug/L	<1			
Trichloroethene	ug/L	<1			
1,2 Dichloropropane	ug/L	<1			
Bromodichloromethane	ug/L	<1			
2chloroethvinylether	ug/L	<1			
t-1,30ichloropropene	ug/L	<1			
Toluene	ug/L	<1			
c 13 Dichloropropene	ug/L	<1			
112 Trichloroethane	ug/L	<1			
Tetrachloroethene	ug/L	<1			
Chlorodibromomethane	ug/L	<1			
Chlorobenzene	ug/L	<1			

cc:

REMARKS:

DIRECTOR [signature]

rm= 1786 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.:9404026/1 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #3, 0900

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.05
Endrin	ug/L	<0.05
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.2
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.3
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.3
Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

cc:

REMARKS:

DIRECTOR

rn= 1787 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404C6 1 02/05/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Monitoring Well #9, 0900
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
-Nitrophenol	<1	
4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
-Chloro-3-methylphenol	<1	
4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

In= 1788 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9404[illegible] 02/25/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/22/94

SAMPLE: Water Sample-Monitoring Well #9, 0900
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
1,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
1,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
Bis(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	2
N-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
Nitrobenzene	<1	Pyrene	<1
Isophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
1,2,4-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
Naphthalene	<1	Chrysene	<1
Hexachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	2
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
2-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
Dimethyl Phthalate	<1	Benzo(k)fluoranthene	<1
Acenaphthylene	<1	Benzo(a)pyrene	<1
2,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
Acenaphthene	<1	Dibenzo(a,h)anthracene	<1
2,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
Fluorene	<1		
4-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

rn= 1789 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. E940412-E 02/14/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #9B, 1330

ANALYTICAL PARAMETERS		
Antimony as Sb	mg/L	<0.005
Arsenic as As	mg/L	<0.002
Beryllium as Be	mg/L	<0.001
Cadmium as Cd	mg/L	0.002
Chromium as Cr	mg/L	0.007
Copper as Cu	mg/L	<0.02
Lead as Pb	mg/L	0.017
Mercury as Hg	mg/L	<0.00025
Nickel as Ni	mg/L	<0.10
Selenium as Se	mg/L	<0.002
Silver as Ag	mg/L	<0.001
Thallium as Tl	mg/L	<0.005
Zinc as Zn	mg/L	0.07
Boron as B	mg/L	0.25
Sodium as Na	mg/L	13
Calcium as Ca	mg/L	22
Iron as Fe	mg/L	0.29
Manganese as Mn	mg/L	0.13
Aluminum as Al	mg/L	0.23
Tot. Kjeldanl N.	mg/L	0.4
Ammonia as N	mg/L	<0.05
Nitrate as N	mg/L	3.3
BOD5	mg/L	4.7
Tot Organic Carbon	mg/L	10
Tot Dissolved Solids	mg/L	130

ANALYTICAL PARAMETERS		
Chromium hex as Cr	mg/L	<0.02
MBAS as LAS	mg/L	<0.1
Alkalinity tot CaCo3	mg/L	42
Hardness as CaC03	mg/L	72
Color	units	<5
Odor	units	1 •
Turbidity	NTU	6.0
Spec. Cond. umho/cm		210
Phenols as Phenol	mg/L	<0.001
Cyanide as CN	mg/L	<0.02
COD	mg/L	40
Sulfate as SO4	mg/L	10
pH	units	7.4
Chloride as Cl	mg/L	18

cc:

REMARKS: • The sample has a very faint earthy odor.

DIRECTOR

rn= 1717 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAS NO. C940410/S 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #9B, 1330

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rm= 1718 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/5 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #9B, 1330

ANALYTICAL PARAMETERS		
Lindane	ug/L	<0.05
Heptachlor	ug/L	<0.05
Aldrin	ug/L	<0.05
Heptachlor Epoxide	ug/L	<0.05
p,p-DDE	ug/L	<0.05
Dieldrin	ug/L	<0.05
Endrin	ug/L	<0.05
p,p-DDD	ug/L	<0.05
p,p-DDT	ug/L	<0.1
Chlordane	ug/L	<0.2
Toxaphene	ug/L	<1
Endrin Aldehyde	ug/L	<0.3
a BHC	ug/L	<0.05
b BHC	ug/L	<0.05
d BHC	ug/L	<0.05
Endosulfan 1	ug/L	<0.1
Endosulfan 2	ug/L	<0.1
Endosulfan Sulfate	ug/L	<0.3
Aroclor 1016	ug/L	<1
Aroclor 1221	ug/L	<1
Aroclor 1232	ug/L	<1
Aroclor 1242	ug/L	<1
Aroclor 1248	ug/L	<1
Aroclor 1254	ug/L	<1

ANALYTICAL PARAMETERS		
Aroclor 1260	ug/L	<1

cc:

REMARKS:

DIRECTOR

rn= 1719 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410-S 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #9B, 1030
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS
Phenol	<1	
2-Chlorophenol	<1	
2-Nitrophenol	<1	
2,4-Dimethylphenol	<1	
2,4-Dichlorophenol	<1	
4-Chloro-3-methylphenol	<1	
2,4,6-Trichlorophenol	<1	
4-Nitrophenol	<10	
2,4-Dinitrophenol	<10	
2-Methyl-4,6-dinitrophenol	<10	
Pentachlorophenol	<10	

cc:

REMARKS:

DIRECTOR

rm= 1720 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940410/5 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Monitoring Well #9B, 1330
UNITS: ug/L

ANALYTICAL PARAMETERS		ANALYTICAL PARAMETERS	
N-Nitrosodimethylamine	<1	1,2-Diphenylhydrazine	<1
Bis(2-chloroethyl)ether	<1	4-Bromophenyl phenyl ether	<1
,3 Dichlorobenzene	<1	Hexachlorobenzene	<1
,4 Dichlorobenzene	<1	Phenanthrene	<1
1,2 Dichlorobenzene	<1	Anthracene	<1
is(2-chloroisopropyl)ether	<1	Di-n-Butyl Phthalate	1
-Nitrosodi-n-propylamine	<1	Fluoranthene	<1
Hexachloroethane	<1	Benzidine	<10
"itrobenzene	<1	Pyrene	<1
sophorone	<1	BenzylButylPhthalate	<1
Bis(2-chloroethoxy)methane	<1	Benzo(a)anthracene	<1
124-Trichlorobenzene	<1	3,3'-Dichlorobenzidine	<10
aphthalene	<1	Chrysene	<1
exachlorobutadiene	<1	Bis(2-ethylhexyl)phthalate	11
Hexachlorocyclopentadiene	<10	Di-n-octyl Phthalate	<1
-Chloronaphthalene	<1	Benzo(b)fluoranthene	<1
imethyl Phthalate	<1	Benzo(k)fluoranthene	<1
cenaphthylene	<1	Benzo(a)pyrene	<1
,6-Dinitrotoluene	<1	Indeno(1,2,3-cd)pyrene	<1
cenaphthene	<1	Dibenzo(a,h)anthracene	<1
,4-Dinitrotoluene	<1	Benzo(ghi)perylene	<1
Diethyl Phthalate	<1		
luorene	<1		
-Chlorophenyl phenyl ether	<1		
N-Nitrosodiphenylamine	<1		

cc:

REMARKS:

DIRECTOR

rn= 1721 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C940412/7 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:01/31/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Trip Blank, 5:30 pm

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rm= 1723 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C940410/6 02/24/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent,Engrg.Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/02/94

SAMPLE: Water Sample-Field Blank #1, 1100

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroethvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rn= 1722 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. 9940-026/S 02/08/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Paramaters
COLLECTED BY: Roux Assoc DATE COL'D:02/03/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Field Blank, 10:50

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Vinyl Chloride	ug/L	<1
Bromomethane	ug/L	<1
Chloroethane	ug/L	<1
Trichlorofluomethane	ug/L	<1
1,1 Dichloroethene	ug/L	<1
Methylene Chloride	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1
1,1 Dichlorcethane	ug/L	<1
Chloroform	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Benzene	ug/L	<1
1,2 Dichloroethane	ug/L	<1
Trichloroethene	ug/L	<1
1,2 Dichloropropane	ug/L	<1
Bromodichloromethane	ug/L	<1
2chloroetnvinylether	ug/L	<1
t-1,3Dichloropropene	ug/L	<1
Toluene	ug/L	<1
c 13 Dichloropropene	ug/L	<1
112 Trichloroethane	ug/L	<1
Tetrachloroethene	ug/L	<1
Chlorodibromomethane	ug/L	<1
Chlorobenzene	ug/L	<1

ANALYTICAL PARAMETERS		
Ethyl Benzene	ug/L	<1
m + p Xylene	ug/L	<2
o Xylene	ug/L	<1
Bromoform	ug/L	<1
1122Tetrachloroethan	ug/L	<1
m Dichlorobenzene	ug/L	<1
p Dichlorobenzene	ug/L	<1
o Dichlorobenzene	ug/L	<1
acrolein	ug/L	<25
acrylonitrile	ug/L	<25

cc:

REMARKS:

DIRECTOR

rm= 1810 NYSDOH ID# 10320

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO. C94040[illegible] 02/03/94

Smithtown, Town of
124 Main Street
Smithtown, NY 11787
ATTN: John Trent, Engrg. Dpt

SOURCE OF SAMPLE: Smithtown Landfill-Baseline Parameters
COLLECTED BY: Roux Assoc DATE COL'D:02/02/94 RECEIVED:02/03/94

SAMPLE: Water Sample-Trip Blank, 3:30 pm

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1	Ethyl Benzene	ug/L	<1
Vinyl Chloride	ug/L	<1	m + p Xylene	ug/L	<2
Bromomethane	ug/L	<1	o Xylene	ug/L	<1
Chloroethane	ug/L	<1	Bromoform	ug/L	<1
Trichlorofluomethane	ug/L	<1	1122Tetrachloroethan	ug/L	<1
1,1 Dichloroethene	ug/L	<1	m Dichlorobenzene	ug/L	<1
Methylene Chloride	ug/L	<1	p Dichlorobenzene	ug/L	<1
t-1,2-Dichloroethene	ug/L	<1	o Dichlorobenzene	ug/L	<1
1,1 Dichloroethane	ug/L	<1			
Chloroform	ug/L	<1	acrolein	ug/L	<25
111 Trichloroethane	ug/L	<1	acrylonitrile	ug/L	<25
Carbon Tetrachloride	ug/L	<1			
Benzene	ug/L	<1			
1,2 Dichloroethane	ug/L	<1			
Trichloroethene	ug/L	<1			
1,2 Dichloropropane	ug/L	<1			
Bromodichloromethane	ug/L	<1			
2chloroethvinylether	ug/L	<1			
t-1,3Dichloropropene	ug/L	<1			
Toluene	ug/L	<1			
c 13 Dichloropropene	ug/L	<1			
112 Trichloroethane	ug/L	<1			
Tetrachloroethene	ug/L	<1			
Chlorodibromomethane	ug/L	<1			
Chlorobenzene	ug/L	<1			

cc:

REMARKS:

DIRECTOR

vm= 1911 NYSDOH ID# 10320