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GROUND-WATER AND SOIL QUALITY INVESTIGATION AT THE MOBIL OIL CORPORATION TAPPAN TERMINAL HASTINGS-ON-HUDSON GREENBURGH, NEW YORK

Prepared For

Mobil Oil Corporation

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GROUND-WATER AND SOIL QUALITY INVESTIGATION AT THE MOBIL OIL CORPORATION TAPPAN TERMINAL HASTINGS-ON-HUDSON GREENBURGH, NEW YORK

INTRODUCTION

In October 1986, Leggette, Brashears & Graham, Inc. (LBG) was retained by Mobil Oil Corporation (MOC) to conduct a field investigation, including hydrogeologic aspects, to detect any soil or ground-water contamination at the Tappan Terminal, Hastings-on-Hudson, New York. An investigation plan was developed by LBG in cooperation with Mobil Research and Development Corporation (MRDC), Paulsboro, New Jersey and submitted to Mobil Oil Corporation on October 27, 1986. The scope of work consisted of seven tasks and involved the following: drilling of test borings, installation of monitor wells, ground-water and tidal-influence monitoring, collection of water and soil samples, investigation regarding site sewer and drainage, data evaluation and preparation of a report. The onsite investigation began on November 4 and ended on December 16, 1986.

LBG work was conducted under Contract No. W606003. The drilling and installation of wells was subcontracted to Technical Environmental Specialists Corporation (TES). The soil and water samples for chemical analysis were collected by LBG and analyzed by Mobil Oil Corporation Technical Services Laboratories (TSL), Princeton, New Jersey, and Environmental Testing and Certification (ETC), Edison, New Jersey.

SITE LOCATION

Tappan Terminal is located on the eastern bank of the Hudson River in the village of Hastings-on-Hudson, Town of Greenburgh, Westchester County, New York. To the east of

the Tappan Terminal is the property of Paul Uhlich & Company, Inc., an active dye factory and to the north a former Anaconda wire mill, which presently is used as a storage facility. The location of the Tappan Terminal is shown on figure 1. The terminal consists of a building, loading rack and a tank farm with 4 storage tanks. Presently, no storage or distribution of petroleum products are taking place at the terminal.

PRELIMINARY EVALUATION OF THE SITE

In May 1986, a preliminary evaluation regarding possible contamination of soil and ground water by petroleum products was conducted by LBG. Nine borings were completed as shallow monitor wells. The drilling method was hollow-stem auger, with continuous soil sampling from land surface to several feet below the water table. Each sample was logged by describing the soil characteristics and noting the presence of hydrocarbon product by odor and/or visual evidence. The geologic logs of the borings are attached in Appendix I and the locations of these wells (MW-1 through MW-9) are shown on figure 2.

The soil samples collected during the drilling of MW-5 showed visual evidence of petroleum hydrocarbon between 4 and 6 feet bg (below grade). Also, hydrocarbon odor was detected in soil samples collected during the drilling of MW-5 at depths between 2 and 6 feet and in samples collected from MW-8 at depths between 5 and 9 feet bg. No odor or visual evidence of hydrocarbons were detected during the drilling of the remaining 7 soil borings. A composite soil sample from each test boring was analyzed by Envirotest Laboratories, Inc. for total petroleum hydrocarbons. Total petroleum hydrocarbons were detected in soil samples collected from MW-5 (370 ppm) and MW-4 (30 ppm) which are located in the tank farm area. The data indicate 44 ppm (parts per million) of total hydrocarbons in soil samples

collected from MW-8. Soil samples collected from the remaining borings showed moderate levels of total hydrocarbons (between 0.29 to 1.9 ppm).

Water samples obtained from all 9 monitor wells showed the presence of total petroleum hydrocarbons ranging from less than 20 ppb (parts per billion) to 140 ppb. The data indicated the presence of petroleum hydrocarbons in soil and ground water in two isolated areas in the tank farm (MW-4 and MW-5) and loading rack (MW-8). No free hydrocarbon product was found during the drilling and after completion of the monitor wells. Additional investigations were recommended to define the magnitude and extent of contamination by hydrocarbon or other chemical compounds at the site.

FIELD INVESTIGATION

Between November 4 and December 16, 1986, LBG conducted an expanded subsurface investigation, for the purpose of further defining contamination of soil and ground water at the site. The onsite investigation consisted of drilling test borings, installation of monitor wells, ground-water level measurements, tidal-influence monitoring, collection of soil and water samples, and a well elevation survey.

Test Borings Drilling and Monitor Well Installation

Between November 4 and 17, 1986, 27 test borings were drilled at the site. As specified in the scope of work, 12 of the test borings were backfilled after sampling and 15 were completed as ground-water monitoring wells. The locations of test borings and monitor wells are shown on figure 2. The borings which were backfilled are marked on figure 2 as TB (test borings) and those completed as monitor wells are marked as OW (monitor wells). Monitor wells completed during the previous preliminary investigation are designated as MW.

Of the 27 test borings, 16 were drilled by the hollow-stem auger method using a 6-inch diameter auger, with continuous split-spoon samples taken from ground surface to the water-table surface. An additional spoon sample was obtained at 5 feet below the average ground-water level.

The remaining 11 test borings were drilled by the drive-and-wash method, using a portable gas-powered engine and a tripod, because surface obstructions prevented access by a larger drilling rig. The drive-and-wash procedure consisted of driving 5-foot sections of 3-inch diameter casing into the ground to support the hole. After an individual section was driven, a drilling bit was lowered and operated inside the casing, while water was pumped to flush the cuttings. The split-spoon soil sampling procedure was similar to that of the auger-drilled holes.

Fourteen test borings were completed with 2-inch diameter PVC screen and riser pipe and one well was constructed with 4-inch diameter screen and pipe. These test borings were selected to be completed as monitor wells based on visual evidence of contamination in soil samples collected during the drilling. Each well was screened from the bottom of the hole to approximately 1 to 2 feet below ground surface. After each well was in place, the annular space between the screen and drilled hole was filled gradually with coarse sand (No. 2), from the bottom to approximately 0.5 to 1 foot above the top of the screen. A bentonite plug was placed on top of the sand pack and the rest of the annular space was sealed with cement. Each well was completed with a riser pipe above ground surface and a locking PVC cap, with the exception of OW-16, which was equipped with a gate box below ground level. The geologist's logs and well construction details are in Appendix I. Table 1 lists the depth of the test borings and monitor well construction details. Following installation, each well was developed for approximately 45 minutes by pumping until the water was relatively free of sediment.

Ground-Water and Tidal-Influence Monitoring

On November 13, 1986, water-level recorders were installed in Wells MW-4, MW-5, MW-7, MW-8 and a stilling well in the Hudson River. Because of wave effects in the Hudson River induced by boat traffic, the recorder could not be used to determine the river tide. On November 18, 1986 a data logger (transducer) was installed in the stilling well.

Water levels were taken in all existing wells during the low and high tide in the Hudson River on December 2, 1986. Because these data were insufficient for defining the relationship between the ground water and the river, additional measurements were conducted on December 9, 1986. These measurements are presented in table 2.

Elevation Survey

All 24 wells installed at the site were located on an existing map and the elevations of the tops of their PVC riser pipes were determined by Peter Hustis, a licensed New York State Surveyor. The elevations are tied to an arbitrary datum and are listed on table 1. It should be noted that a mean sea level elevation was not obtained because no bench mark is available in the vicinity of the site. (The closest bench mark is at approximately 1.25 miles to the north and is located on the railroad.)

Soil Sampling

During the drilling, continuous split-spoon samples were obtained from ground surface to the water table and one sample was collected approximately 5 feet below average ground-water level. The split spoon was cleaned between each sampling with soap and water. Each sample was logged by the onsite hydrogeologist and a complete description of the material was made. Before the sample was disturbed, a Polaroid camera was used to take a picture of the soil and split spoon. The picture was then labelled with the well number, sampling interval, date of collection, and project

location. The sample was then removed from the spoon and placed in a glass jar which was sealed with plastic tape. The jar was also labelled with the same information as the corresponding picture. In general, 3 to 4 samples were collected per boring. Soil samples which indicated noticeable odors or staining were delivered to TSL in Princeton, New Jersey, for analysis. The soil samples which were delivered to the laboratory are listed in the attached chain-of-custody forms (Appendix II).

Water Sampling

Between November 18 and 19, 1986, 16 monitor wells and the Hudson River were sampled for water-quality analysis. Prior to sampling at each well, the depth to water and the depth of the well bottom were measured using a sonic probe, and the standing volume of water in the well was calculated. Following this, three standing volumes of water were removed from the well using a clean PVC bailer. The well was then allowed to recover prior to sampling. The water samples were taken with a dedicated bottom-loading PVC bailer. Water samples for metal analyses were filtered in the field using a 50-millimeter pump and 0.45-micron filters, and were placed in 1-liter plastic containers. Water samples from OW-18 and OW-5 were not filtered because of visual presence of hydrocarbons. However, the samples collected from OW-5 and OW-18 were filtered in the laboratory. Samples for volatile organics were placed in septum vials, and those for semivolatiles were stored in glass bottles.

Seven samples were taken from each well: 3 in 1-liter glass jars, 3 in 25-milliliter vials and one in a 1-liter plastic container. The samples were labelled with the well number, date of collection, and project name, and placed in ice-packed coolers. Field blanks were prepared using distilled water from a 1-gallon glass container provided by the laboratory. The samples were placed in separate coolers depending on container type.

Samples designated for TSL in Princeton (3 vials, 1-liter plastic jars and 1-liter glass jar) were delivered on November 20, 1986, by LBG personnel. Several field blanks were included with the samples. Two bottles of 1-liter capacity each were delivered on the same day to ETC laboratory in Edison, New Jersey. A chain-of-custody form was completed for all samples delivered (Appendix II).

RESULTS OF INVESTIGATION

Geology

The flat area along the eastern bank of the Hudson River in Hastings is underlain by unconsolidated deposits which overlie the Inwood Marble and Fordham Gneiss bedrock. The bedrock is approximately at 70 feet bg. At the Mobil Terminal, the borings generally encountered 2 to 4 feet of fill material consisting of a mixture of sand, silt, clay, wood and brick. Below this, the fill consists of fine sand with silt and trace of gravel. The deepest onsite boring was drilled to 17 feet and no significant changes in subsurface material were observed. Figures 3 and 4 are cross sections showing the subsurface material at the Mobil facility. The location of the sections are shown on figure 5.

Hydrogeology

The wells indicate the presence of a water-table aquifer which is influenced by the tide in the adjacent Hudson River. The water table was found at depths ranging between 1 and 5 feet below grade. The tide in the Hudson River and tidal influence in the water table were determined using a data logger and 4 water-level recorders. Figure 6 is a plot of data logger measurements and indicates that the Hudson River is tidal in the vicinity of the terminal, having a fluctuation of approximately 3.5 feet. Figures 6 and 7 show the elevation of water level in the Hudson River

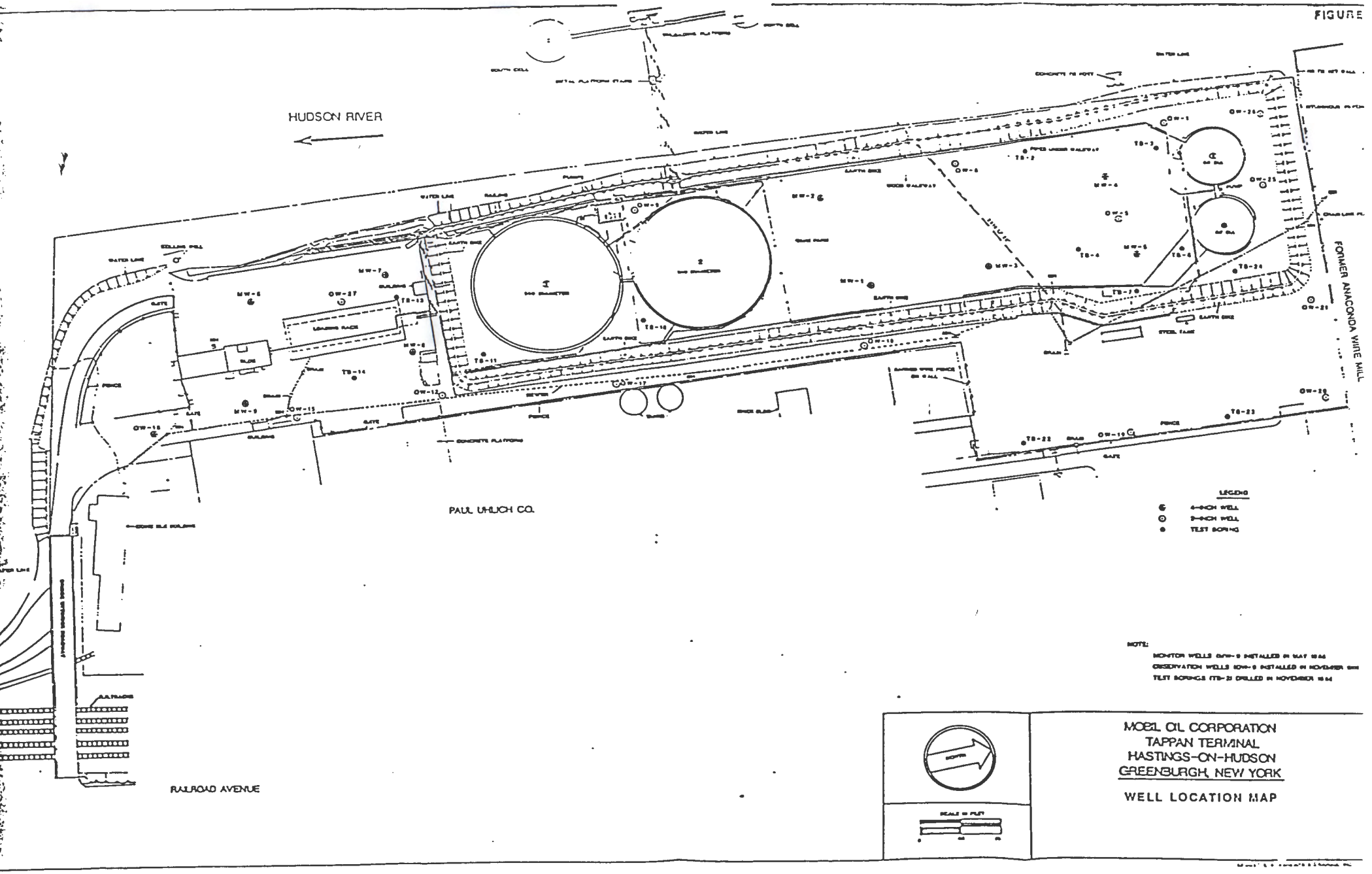
and corresponding tidal effects in wells located in the loading rack and tank farm areas. As shown on figure 6, the tidal influence beneath the loading rack ranges from 0.3 foot in MW-8 to 1 foot in MW-7. The tidal-influence lag time was 2 hours in MW-7 and 5 hours in MW-8. Figure 7 shows that the tidal influence in the water table beneath the tank farm area ranges from 0.1 to 0.2 foot, having a lag time of approximately 5 hours for the entire area.

The elevations of the water table on December 2, 1986, are shown on figure 8. The December 2nd contours were based on approximately simultaneous measurements during a high tide in the Hudson River. As shown on figure 8, the direction of ground-water flow is in general from inland towards the Hudson River with the exception of some local areas (between MW-2 and MW-1; between MW-4, OW-5 and MW-5; between MW-6 and MW-5) where the flow appears to be reversed as a result of tidal influence (see water-level elevation in monitor wells, table 2 and figure 8).

Figure 9 shows the amplitude of the tidal influence in ground water on December 9, 1986. The contour lines indicate a strong tidal influence in the loading rack area which decreases proportionally with distance from the river. The amplitude values also indicate a good hydraulic connection between the Hudson River and the sediments in the loading rack area. The tidal influence in the tank farm is smaller and appears to be controlled by the flood dike installed along the Hudson River. However, a stronger tidal influence was observed at the north end of the tank farm area inside of the flood dike.

The elevations of the water table on December 9, 1986, are shown on figures 10 and 11. The contour lines on figure 10 were constructed using the lowest water levels recorded immediately after the low tide in the Hudson River. Figure 11 contours reflect the highest ground-water levels following the river high tide. Both maps indicate that ground-water flows onto the property from the southeast and

FIGURE



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HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

WELL LOCATION MAP

generally all the ground-water flowing beneath the property appears to discharge to the Hudson River. Figure 12 illustrates water-level elevation contours based on average levels calculated for a tidal cycle and indicate a ground-water movement towards the Hudson River.

All maps showed that some low water levels were measured in OW-18 and OW-21. The low water-level elevation in OW-18 may be related to the location of this well in the vicinity of the sewer. Insufficient data are available to explain the unusually low elevation measured in OW-21.

Soil Analysis

The results of soil samples analysis as reported by TSL are presented on tables 3, 4, and 5 and figures 13 through 15.

Total Petroleum Hydrocarbons

In general, soil samples collected from the fill material above the water table at depths between 0 and 4 feet showed low levels of total petroleum hydrocarbons for the loading rack and most of the tank farm area. As shown on figure 13, elevated levels of total petroleum hydrocarbons were detected to the south of Tank 5 and 6 and in the vicinity of OW-19, TB-22 and OW-18.

Figure 14 illustrates total petroleum hydrocarbons detected in soil samples collected from depths below the average water-table level. In general, the data show elevated levels of total petroleum hydrocarbons in a smaller area below the water table than between 0 and 4 feet, but the contamination appears to be related to the same source or sources.

Semivolatile Organics

Five soil samples were analyzed for 47 semivolatile organic compounds and all samples with the

exception of OW-18, indicated non-detectable limits corresponding to the minimum detection limit used for these analyses. The results are summarized in table 4.

Dye Analysis of Soil Extracts

Dye stain was visually observed in soil samples collected from 7 test borings (geologist's logs). Four soil samples were analyzed to determine the type and amount of dye present; the results are listed in table 5.

Based on visual observation of the soil samples and laboratory results the approximate areal extent of dye in the soil was determined and is illustrated on figure 15. The dye appears to be distributed along the sewer line which parallels the eastern boundary of the terminal. Dye was also found in OW-27 at approximately 140 feet from the main sewer line. The presence of dye in this area may be related to the migration of dye along the drainage line which is connected to the main sewer. The presence of dye in the soil beneath the Mobil Terminal is apparently related to the dye factory located to the east of the site.

Water Quality

Water samples were collected from 16 wells and the Hudson River. Each sample was tested for pH, temperature and electric conductivity, and analyzed for volatile organics, semivolatile (base neutral and acid extractable) compounds and Priority Pollutant metals.

Ground-Water Parameters

All water samples were measured for pH, temperature and electric conductivity. The results are listed in table 6. These measurements showed higher temperature in OW-12, OW-15, OW-16 and OW-17 which may be related to the location of these wells in the vicinity

of the sewer. The pH measurements appear to be normal for the ground-water system.

Volatile Organic Compounds

Eighteen water samples (16 from monitor wells, one from Hudson River and one field blank) were analyzed for 31 volatile organic compounds using EPA Method 624. The data showed nondetectable levels of all 31 compounds with the exception of chlorobenzene, which was detected in 8 samples (table 7). Chlorobenzene, a halogenated aromatic hydrocarbon, is generally related to solvent recovery plants, or is used as an intermediate in manufacturing dye, aniline, insecticide, phenol and chloronitrobenzene (Verschueren, 1977). The highest concentration of chlorobenzene was found in OW-12 (12,380 ppb). The concentrations diminish with distance from OW-12, and reach a value of 8.5 ppb in water collected from OW-9. The approximate distribution of chlorobenzene contamination in ground water beneath the terminal is shown on figure 16.

As shown in figure 16, a source of chlorobenzene appears to be located in the vicinity of OW-12. The chlorobenzene apparently moved in the direction of ground-water flow and was found in smaller concentrations in monitor wells located in the vicinity of the Hudson River.

As reported by TSL, 8 water samples showed concentrations of diethyl ether and isopropyl ether. These compounds, which are used as solvents for waxes, fats, oils, perfumes, alkaloids and gums (Merck Index, Tenth Edition, 1983), were found in water samples collected from monitor wells located to the northern boundary of the terminal (OW-1, OW-5, OW-19, OW-20, OW-21, OW-25 and OW-26) (table 8). The highest concentrations of these ether compounds were found in OW-21 (1,900 ppb).

The concentration of ether compounds in ground water is shown on figure 17.

Priority Pollutants - Metals

Table 9 lists the analytical results for 13 Priority Pollutant metals. The data show low levels of zinc in eleven samples and low levels of arsenic in samples collected from OW-19.

Priority Pollutants - Semivolatile Compounds

Analyses of base neutral and acid extractable semivolatile compounds was performed by ETC using EPA Method 625. The results are summarized in table 10; laboratory reports are in Appendix II. In most of the water samples, semivolatiles were either not detectable or were found below the minimum detection level. Seven of the samples did contain small amounts of at least one semi-volatile compound.

Sewer Investigation and Sewer Water Quality

The sewer system located on the Tappan Terminal property is used for discharge of nontreated industrial water and is connected to the City of Yonkers treatment plant. Presently, the sewer receives water discharge from Paul Uhlich & Company, Inc., a dye factory located to the east of the site.

Appendix II (tables II-1 through II-5) summarizes analytical results of samples collected from the sewer system, as reported by Westchester County Industrial Pretreatment Program. These samples were collected from a manhole located on the Tappan Terminal property, and are listed as water discharge from Paul Uhlich & Company, Inc. As shown in these tables, water samples were analyzed for volatile organics, base neutrals, acid extractables, metals and other conventional and non-conventional pollutants. Correlation could not be made between compounds found in the

sewer and in nearby monitoring wells since analyses were performed for generally different sets of parameters. The only compound which was found in both the sewer and ground water is dye extract, which dye was also detected in soil samples collected during the drilling of test borings.

CONCLUSIONS

1. The ground water at the Tappan Terminal site occurs under water-table conditions at depths ranging between 1 and 5 feet below land surface. The ground-water level is strongly influenced by the tide in the adjacent Hudson River. The general direction of ground-water flow beneath the Mobil terminal is towards the Hudson River.

2. No significant petroleum hydrocarbons were found in the soil samples collected from the loading rack and most of the tank farm. The drilling of test borings indicated visual evidence of hydrocarbon in several areas in the tank farm. There are well-defined zones in the tank farm area and along portions of the eastern boundary where elevated levels of total petroleum hydrocarbons were found in the soils. No free hydrocarbon was found during the drilling and after completion of the monitor wells, with the exception of OW-18, which indicated a film of oil.

3. Dye extracts were found in soil samples collected from test borings drilled parallel to the sewer system located on the eastern boundary of the Tappan Terminal.

4. Significant chlorobenzene contamination was found in water samples collected from monitor wells located in the loading rack and south of the tank farm area. The highest level of chlorobenzene was found in the water sample from Well OW-12.

5. The source of the dye and chlorobenzene contamination found under the terminal facility appears to be the Paul Uhlich & Company property immediately to the east of the terminal.

6. Diethyl ether and isopropyl ether were detected in ground-water samples from wells near the northern end of the terminal property. The source for the ethers found at the north end of the terminal has not been determined. These compounds are not known to have been used at the Mobil terminal.

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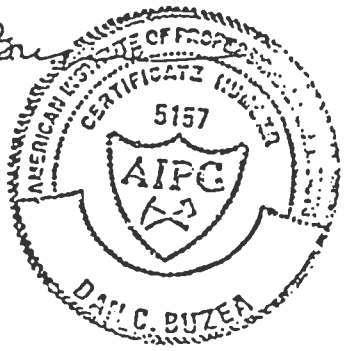
Dan C. Buzea
Associate



John Benvegna
Project Hydrogeologist

Reviewed by:

R. G. Slayback, CPG
President

dmt
March 26, 1987
87buz

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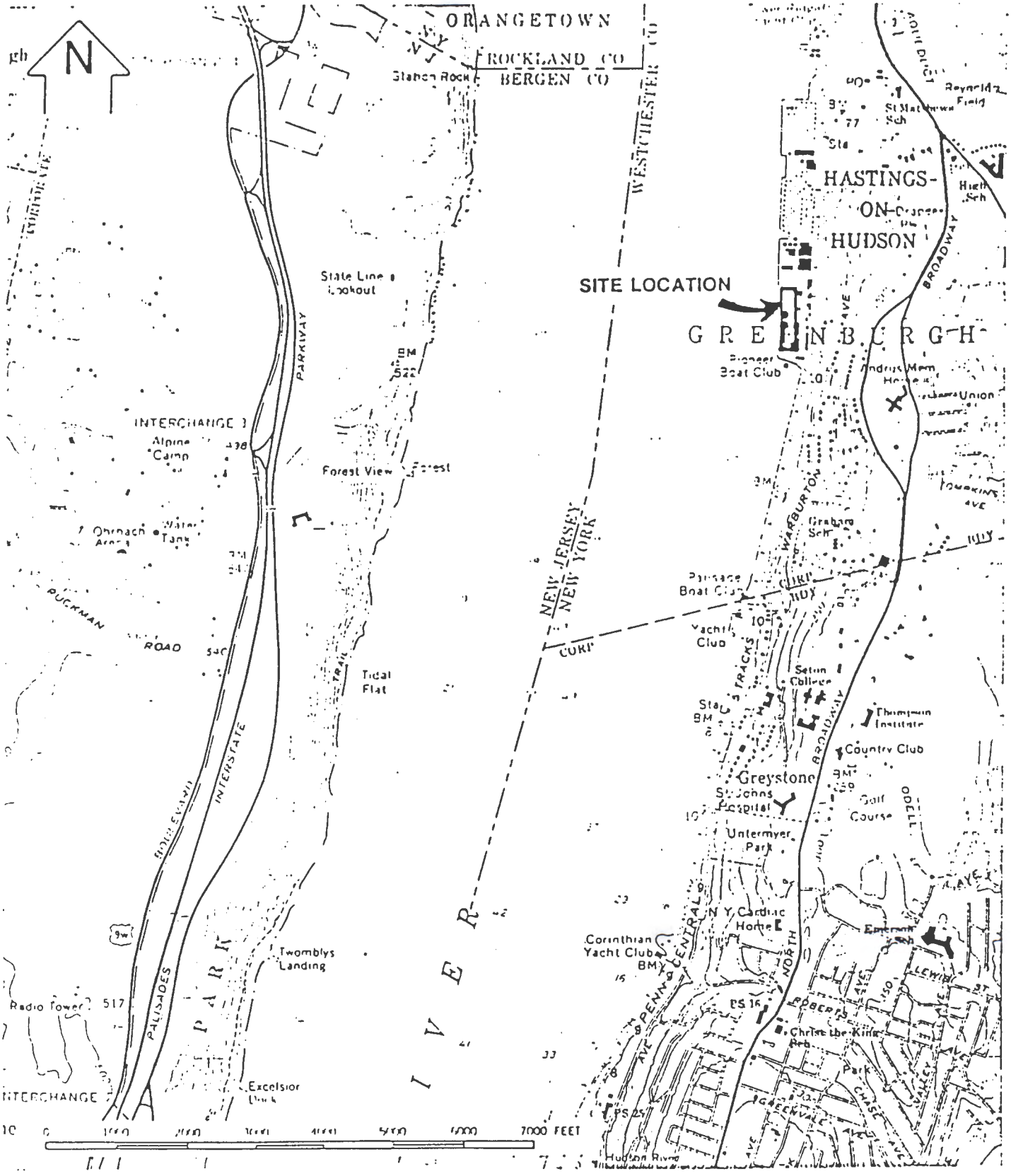
Verschueren, Karel, 1977, "Handbook of Environmental Data on Organic Chemicals", Van Nostrand Reinhold Company, New York, New York, pages 173 and 174.

The Merck Index, Tenth Edition, 1983, pg. 551.

FIGURES

FIGURE 1



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SITE LOCATION MAP

FIGURE 3

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GEOLOGIC CROSS-SECTIONS
A - A' AND B - B'

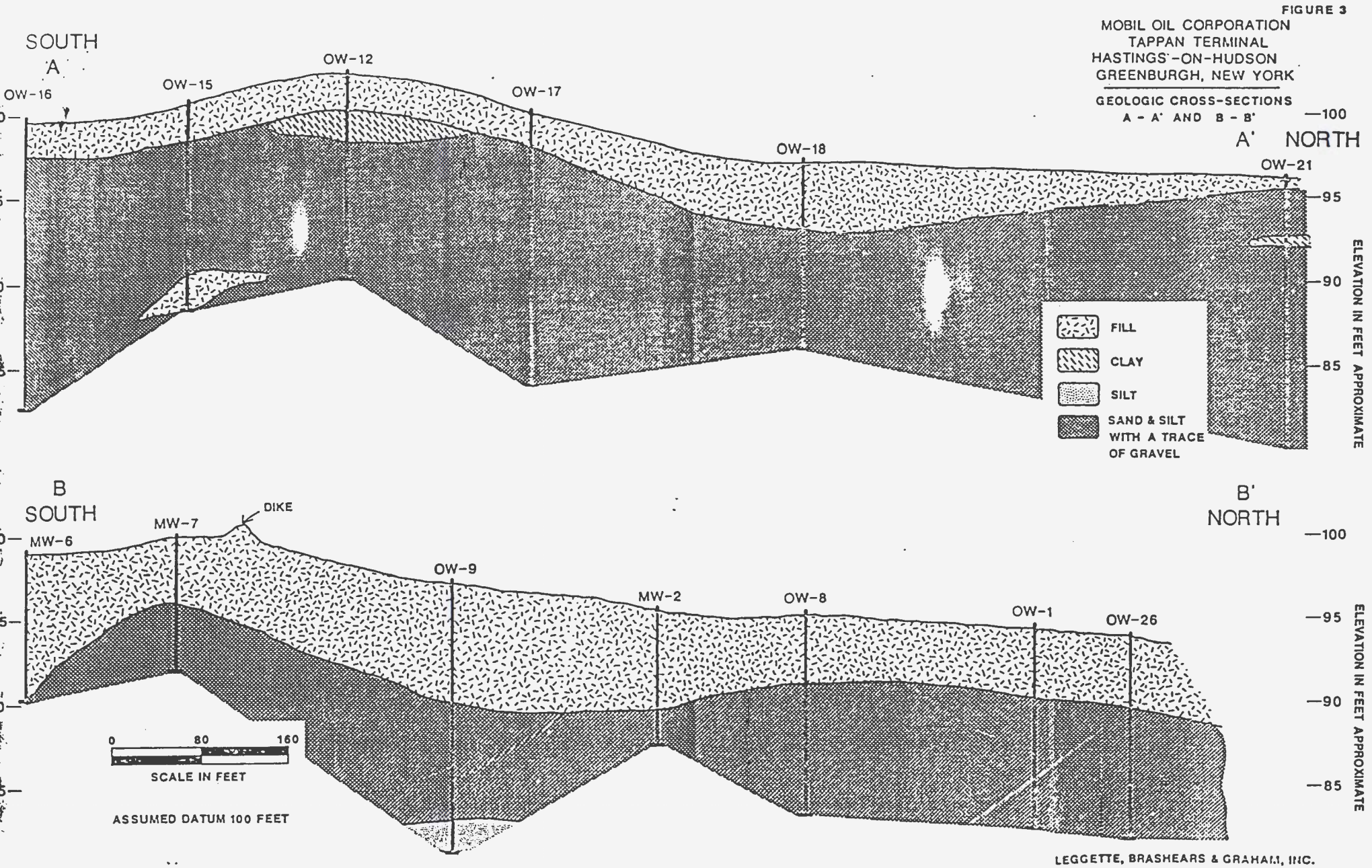

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FIGURE 4

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GEOLOGIC CROSS-SECTIONS
C - C' AND D - D'

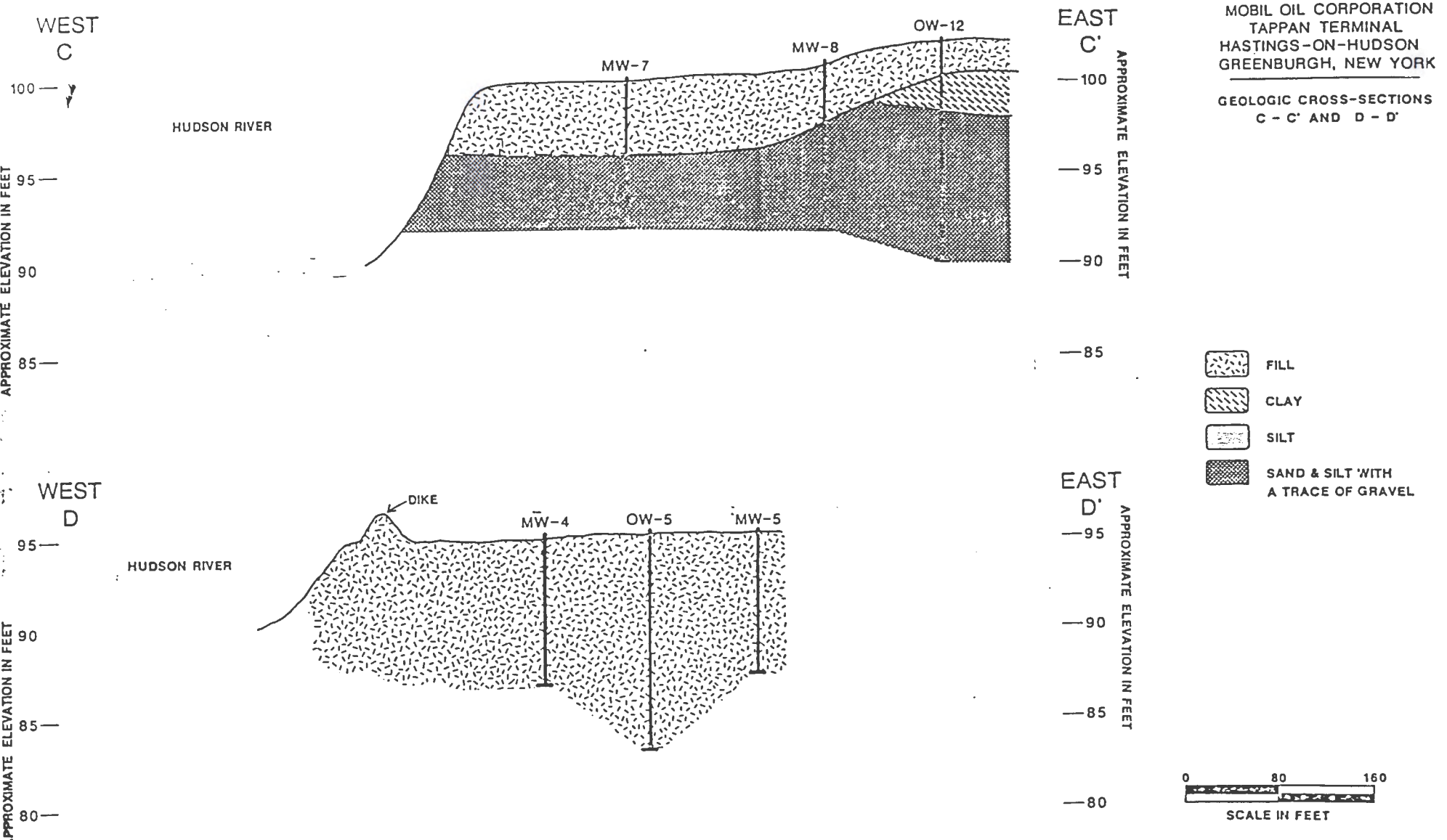

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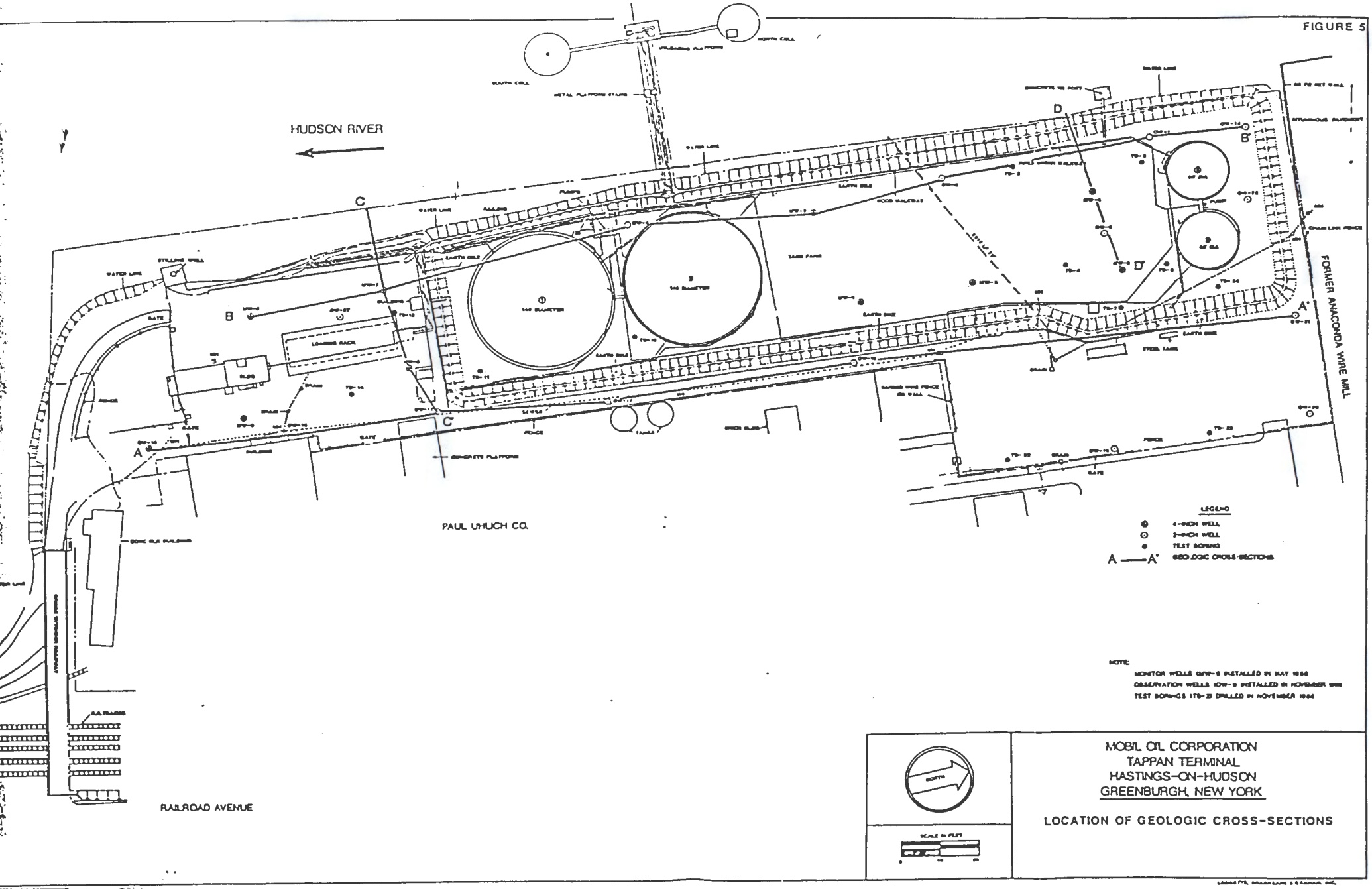
FIGURE 5



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LOCATION OF GEOLOGIC CROSS-SECTIONS

FIGURE 6

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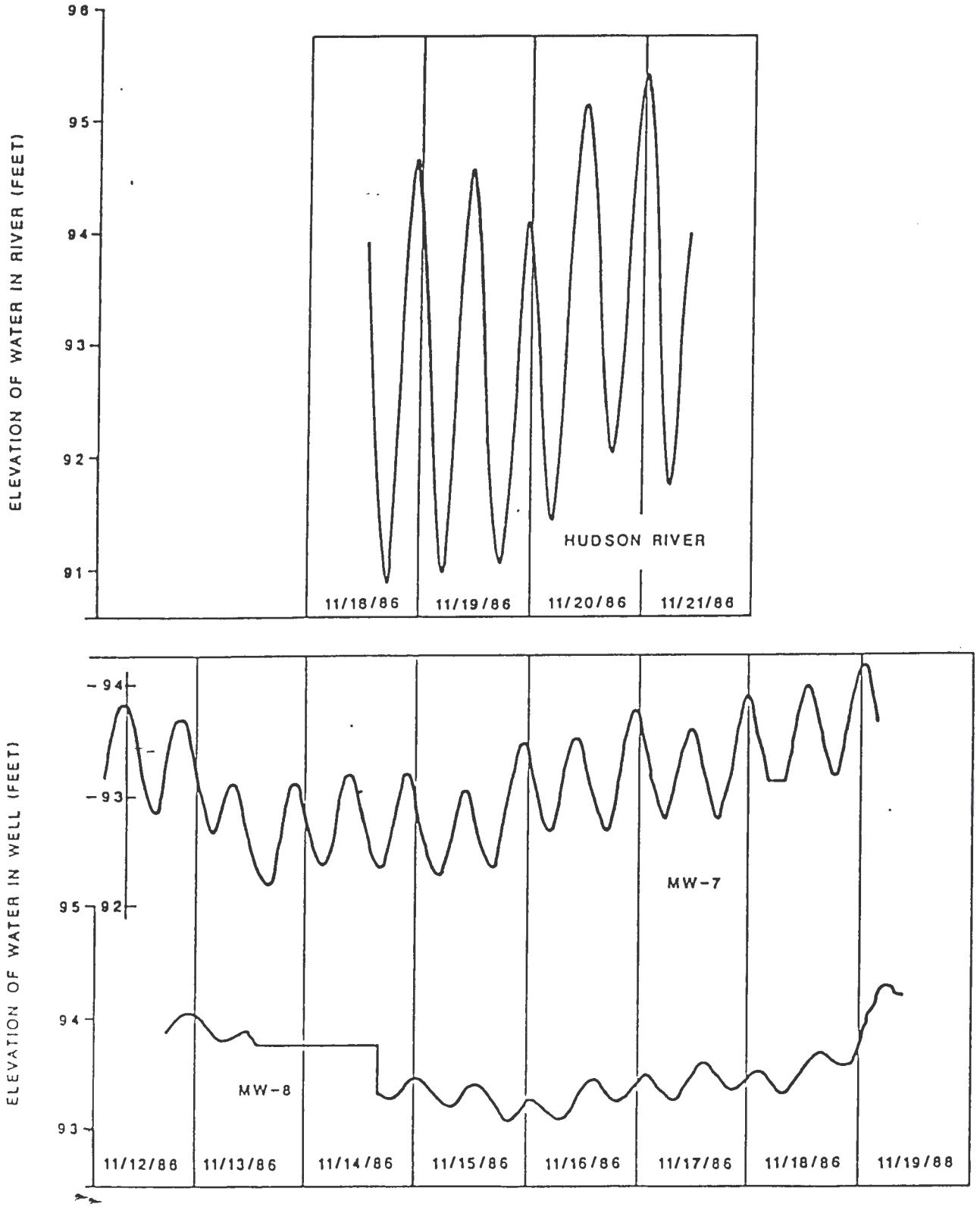
TIDAL FLUCTUATION IN HUDSON RIVER, MW-7 AND MW-8



NOTE: ELEVATIONS BASED ON AN ARBITRARY DATUM

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FIGURE 7

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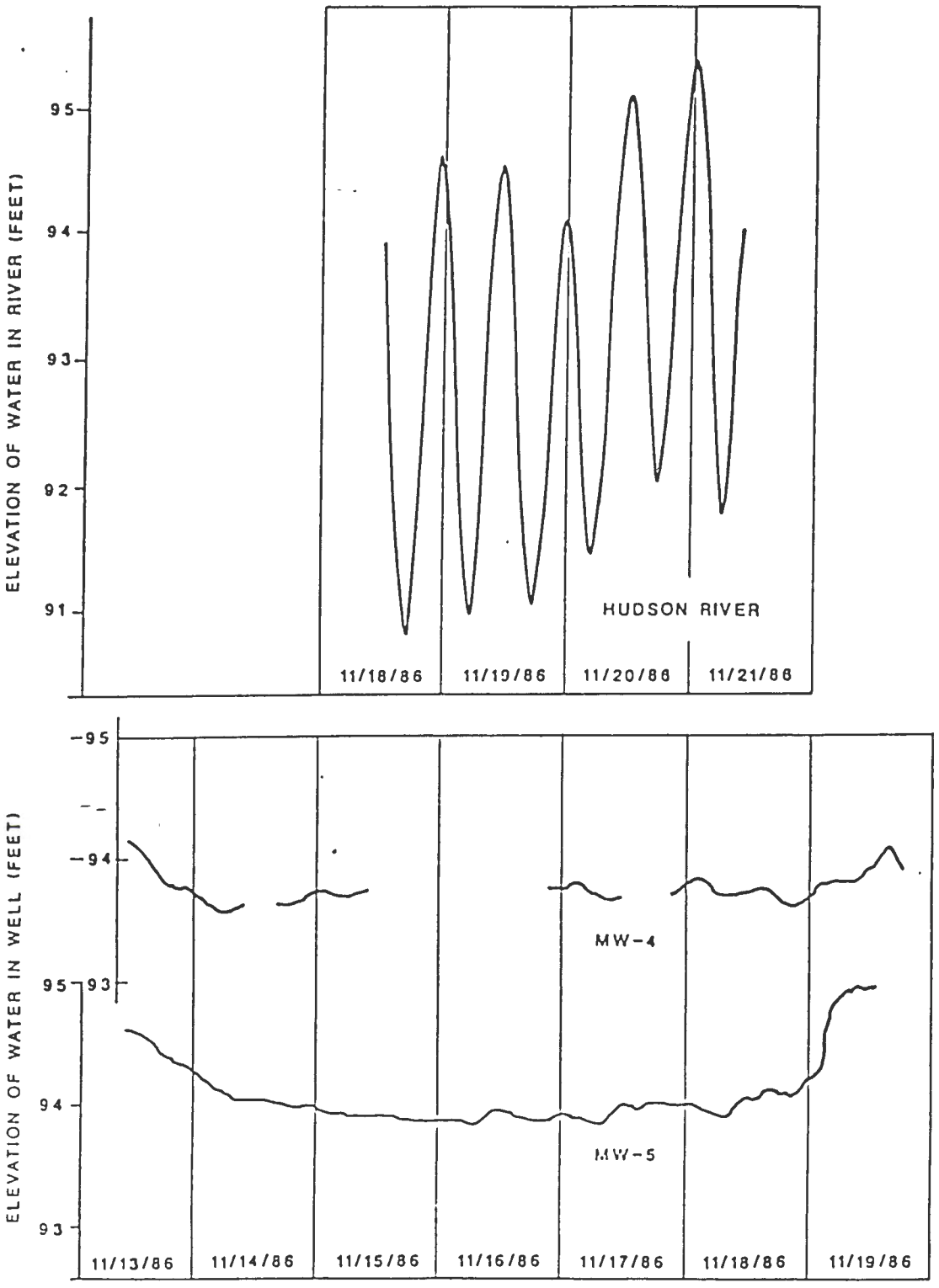
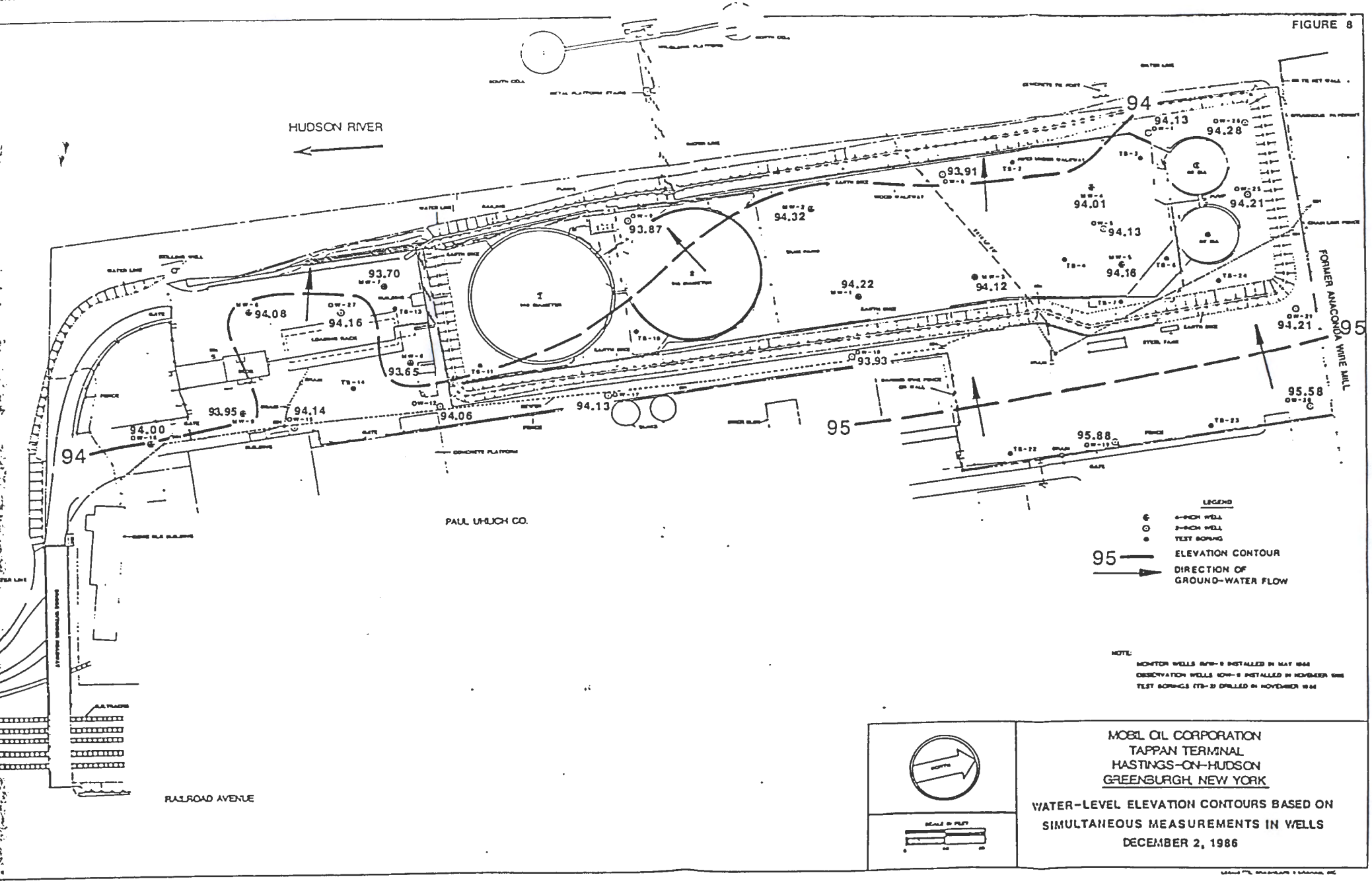
TIDAL FLUCTUATION IN HUDSON RIVER, MW-4 AND MW-5



NOTE: ELEVATIONS BASED ON AN ARBITRARY DATUM

LEGGETTE, BRASHEARS & GRAHAM, INC.

FIGURE 8



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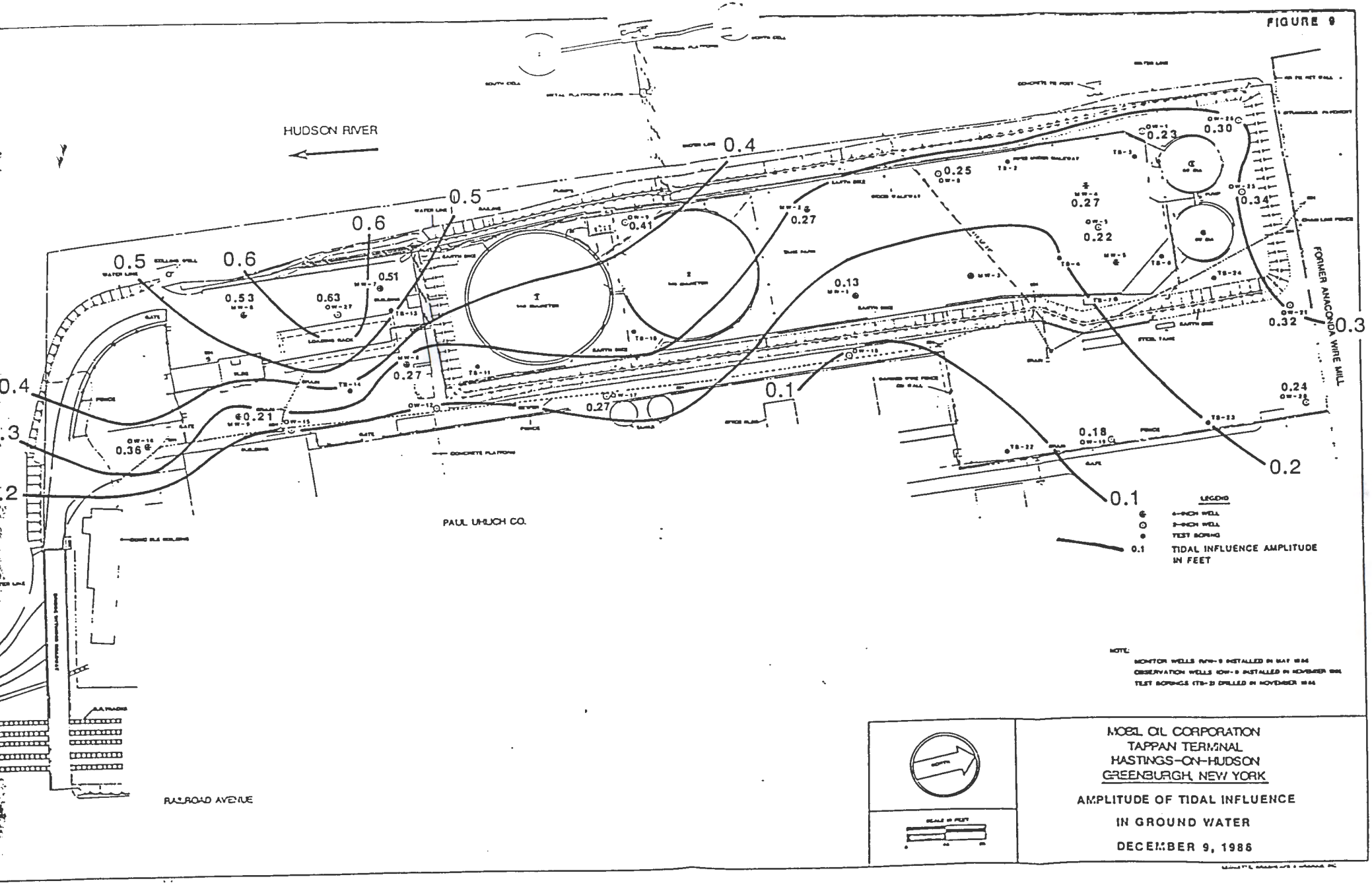
WATER-LEVEL ELEVATION CONTOURS BASED ON SIMULTANEOUS MEASUREMENTS IN WELLS
DECEMBER 2, 1986

FIGURE 9



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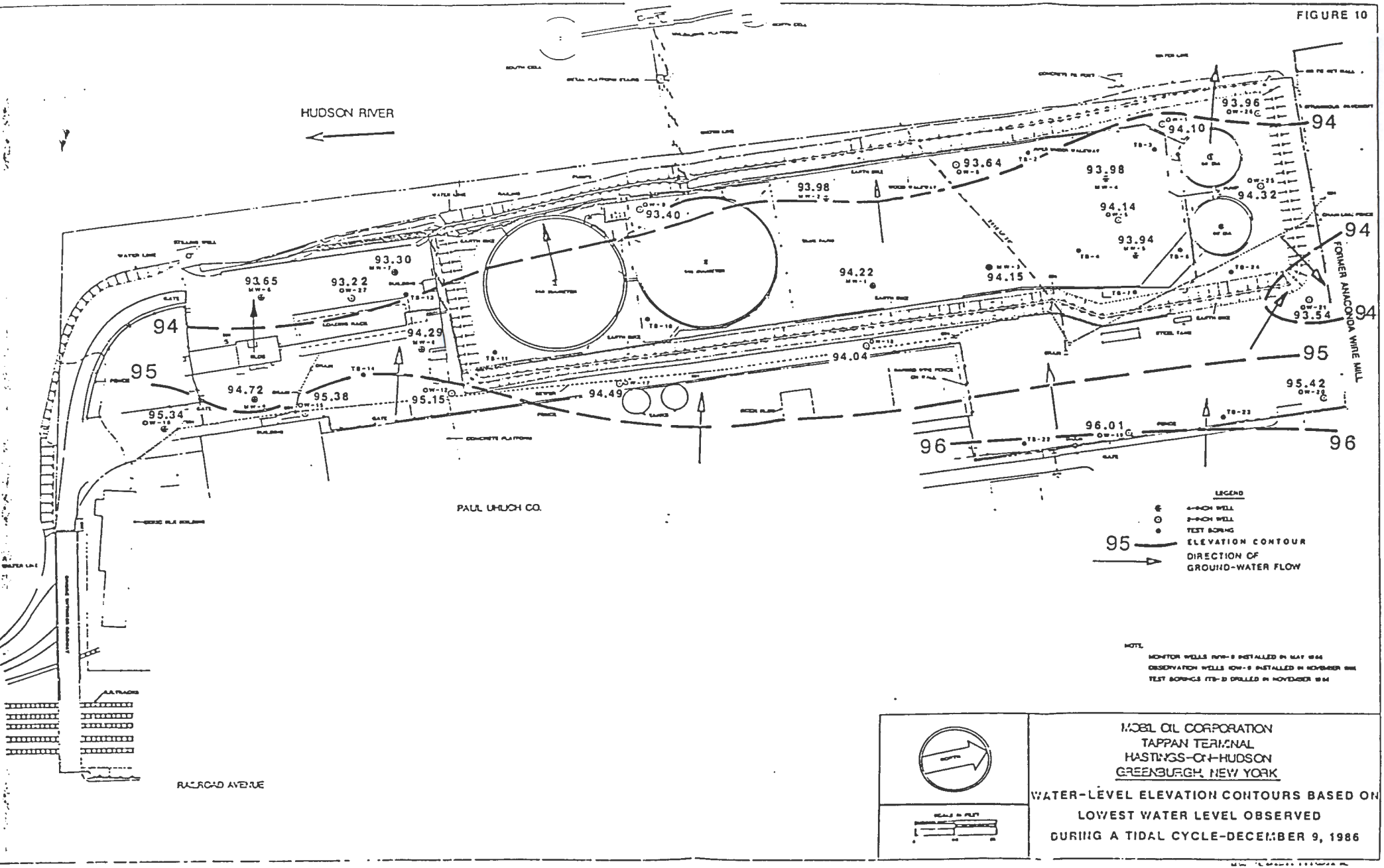
AMPLITUDE OF TIDAL INFLUENCE
IN GROUND WATER
DECEMBER 9, 1986

FIGURE 10



NOTE:

MONITOR WELLS (MW-) INSTALLED IN MAY 1986

OBSERVATION WELLS (OW-) INSTALLED IN NOVEMBER 1986

TEST BORINGS (TB-) DRILLED IN NOVEMBER 1986

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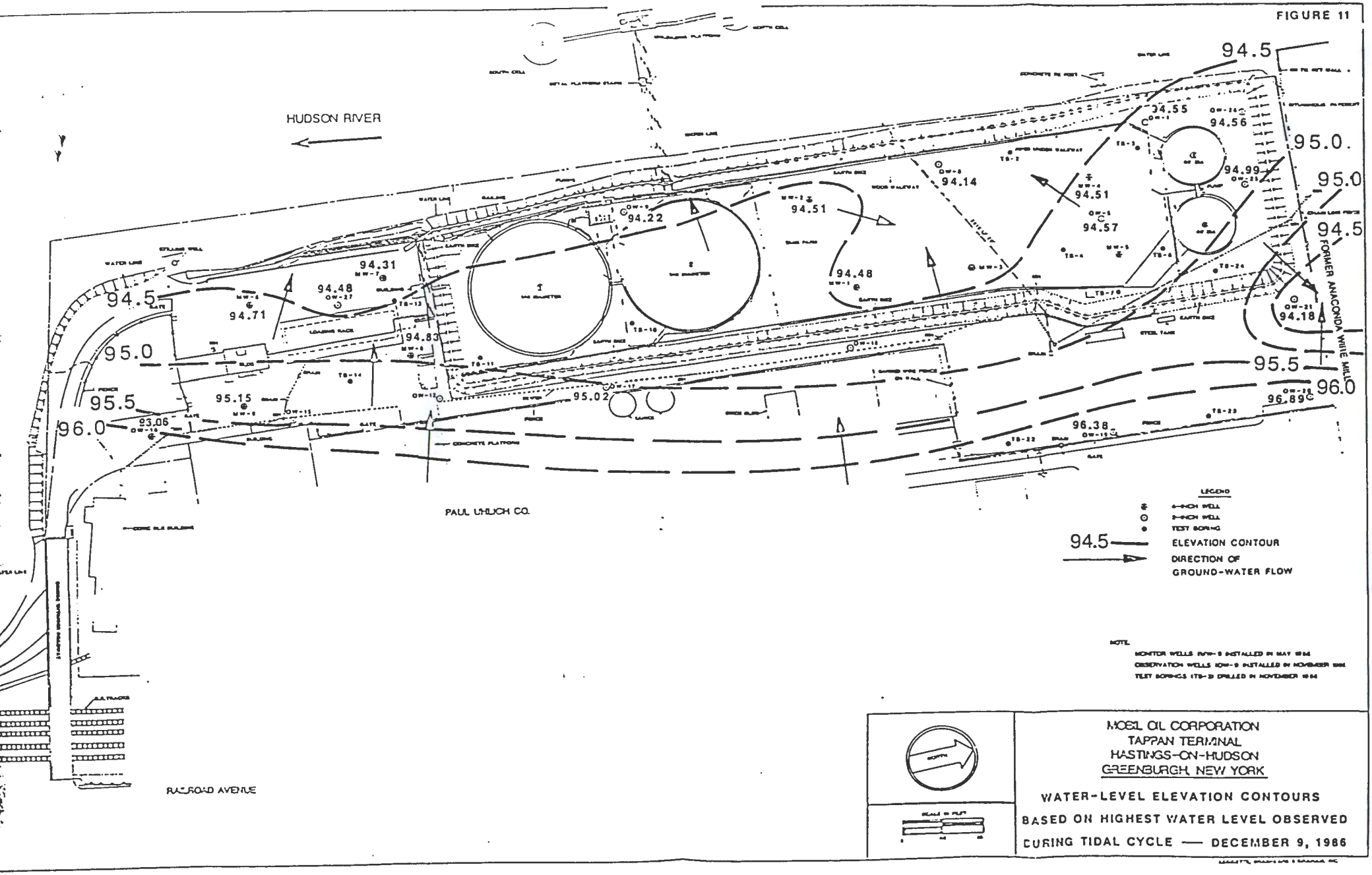
WATER-LEVEL ELEVATION CONTOURS BASED ON LOWEST WATER LEVEL OBSERVED DURING A TIDAL CYCLE-DECEMBER 9, 1986

FIGURE 11



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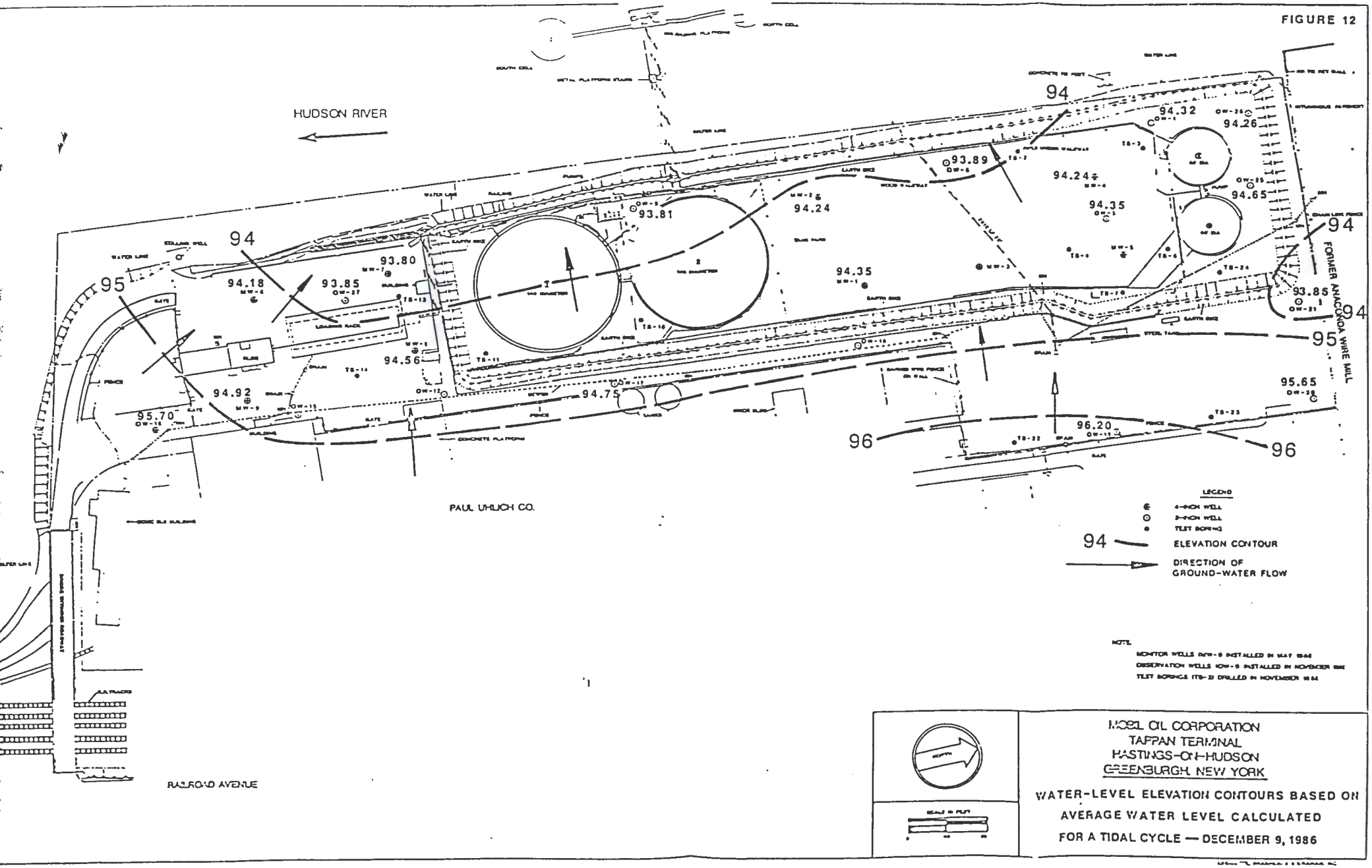
WATER-LEVEL ELEVATION CONTOURS
BASED ON HIGHEST WATER LEVEL OBSERVED
DURING TIDAL CYCLE — DECEMBER 9, 1986

FIGURE 12



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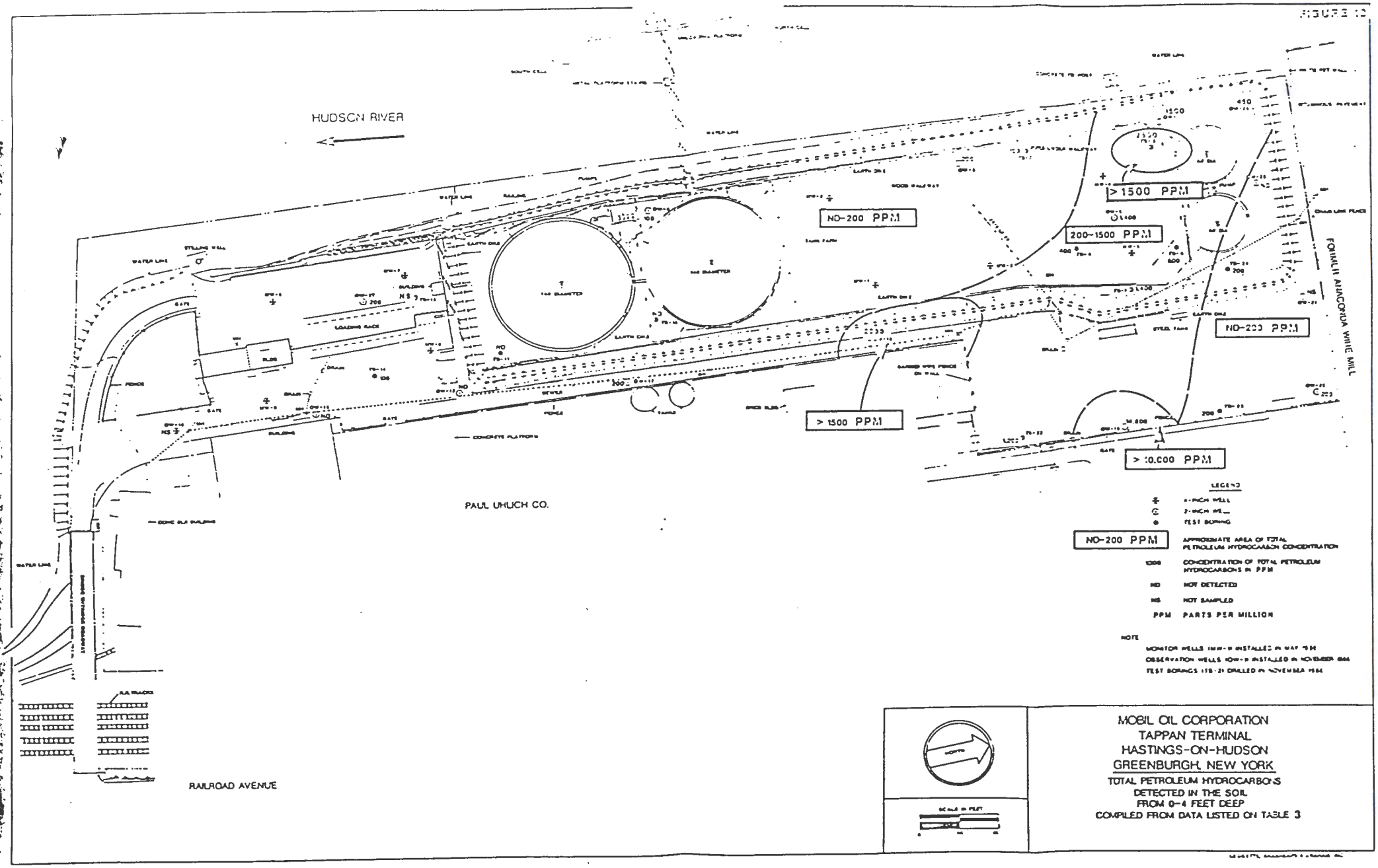
WATER-LEVEL ELEVATION CONTOURS BASED ON AVERAGE WATER LEVEL CALCULATED FOR A TIDAL CYCLE — DECEMBER 9, 1986


HUDSON RIVER
ND-200 PPM
>1500 PPM
200-1500 PPM
ND-200 PPM
> 1500 PPM
> 10,000 PPM
PAUL UHLICH CO.
RAILROAD AVENUE
FORMALITE ANACONDA WHITE MILL
LEGEND
ND-200 PPM
PPM PARTS PER MILLION
NOTE
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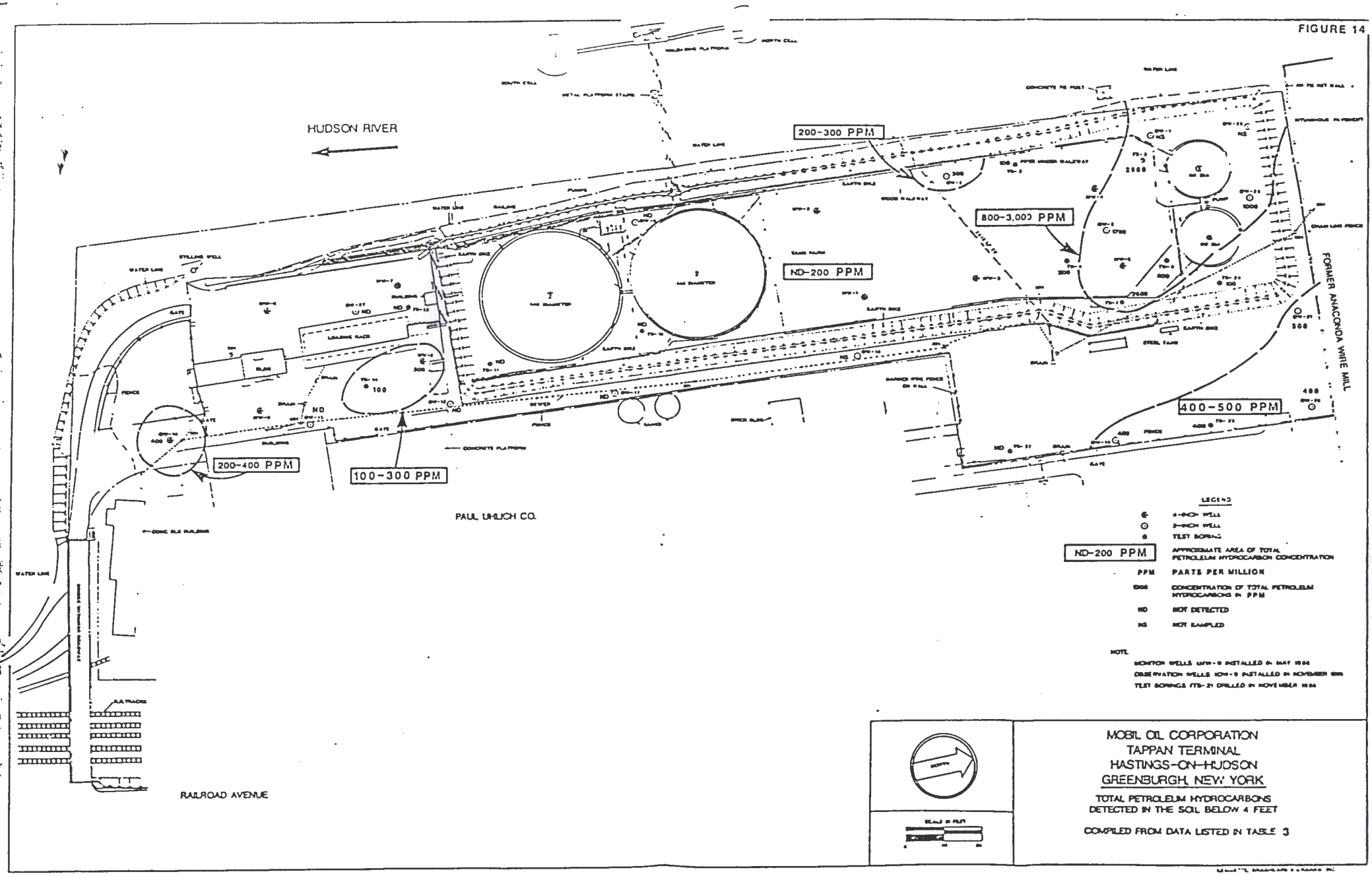
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK
TOTAL PETROLEUM HYDROCARBONS
DETECTED IN THE SOIL
FROM 0-4 FEET DEEP
COMPILED FROM DATA LISTED ON TABLE 3

FIGURE 14



MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

TOTAL PETROLEUM HYDROCARBONS
DETECTED IN THE SOIL BELOW 4 FEET

COMPILED FROM DATA LISTED IN TABLE 3

FIGURE 15

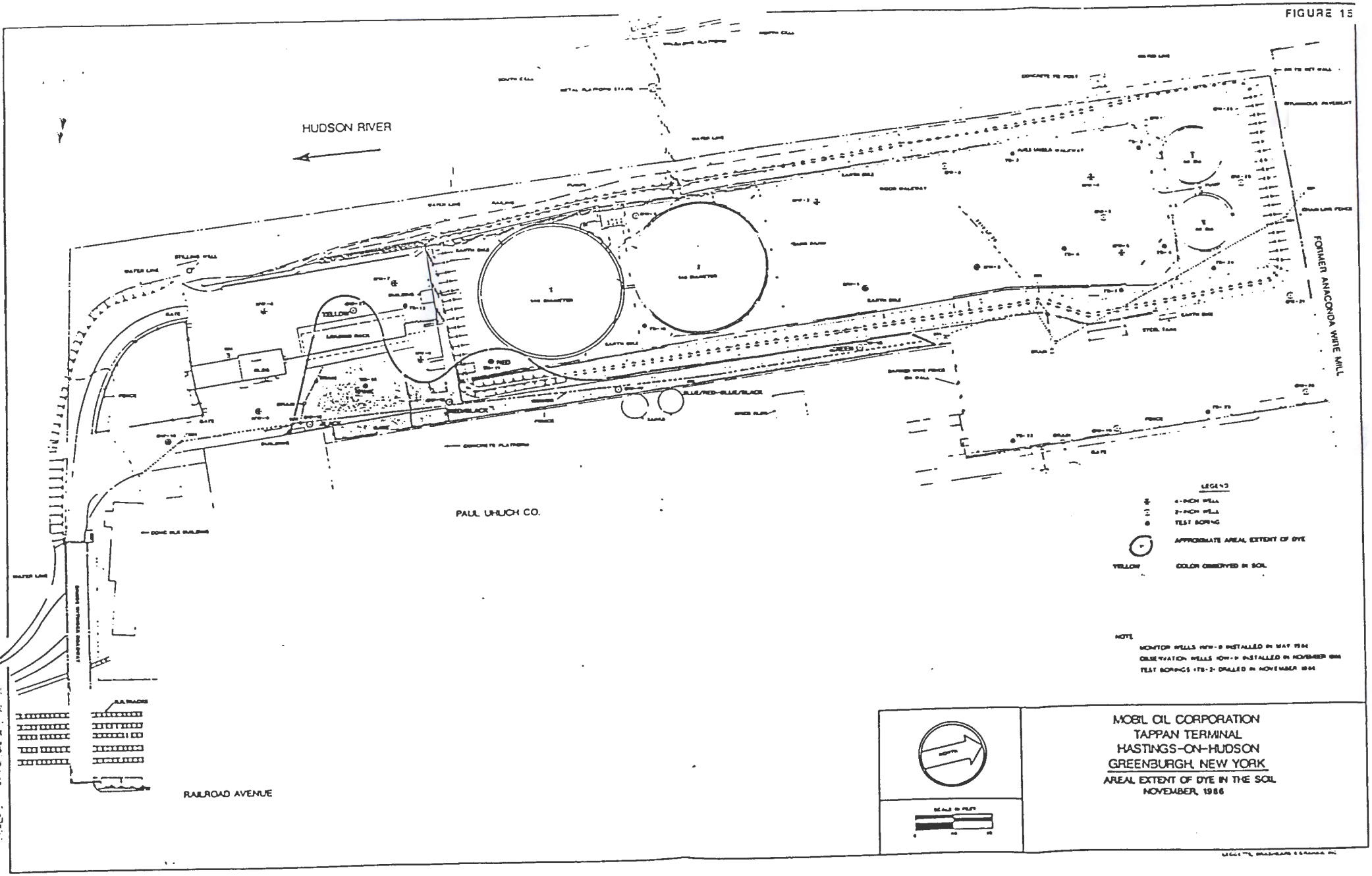
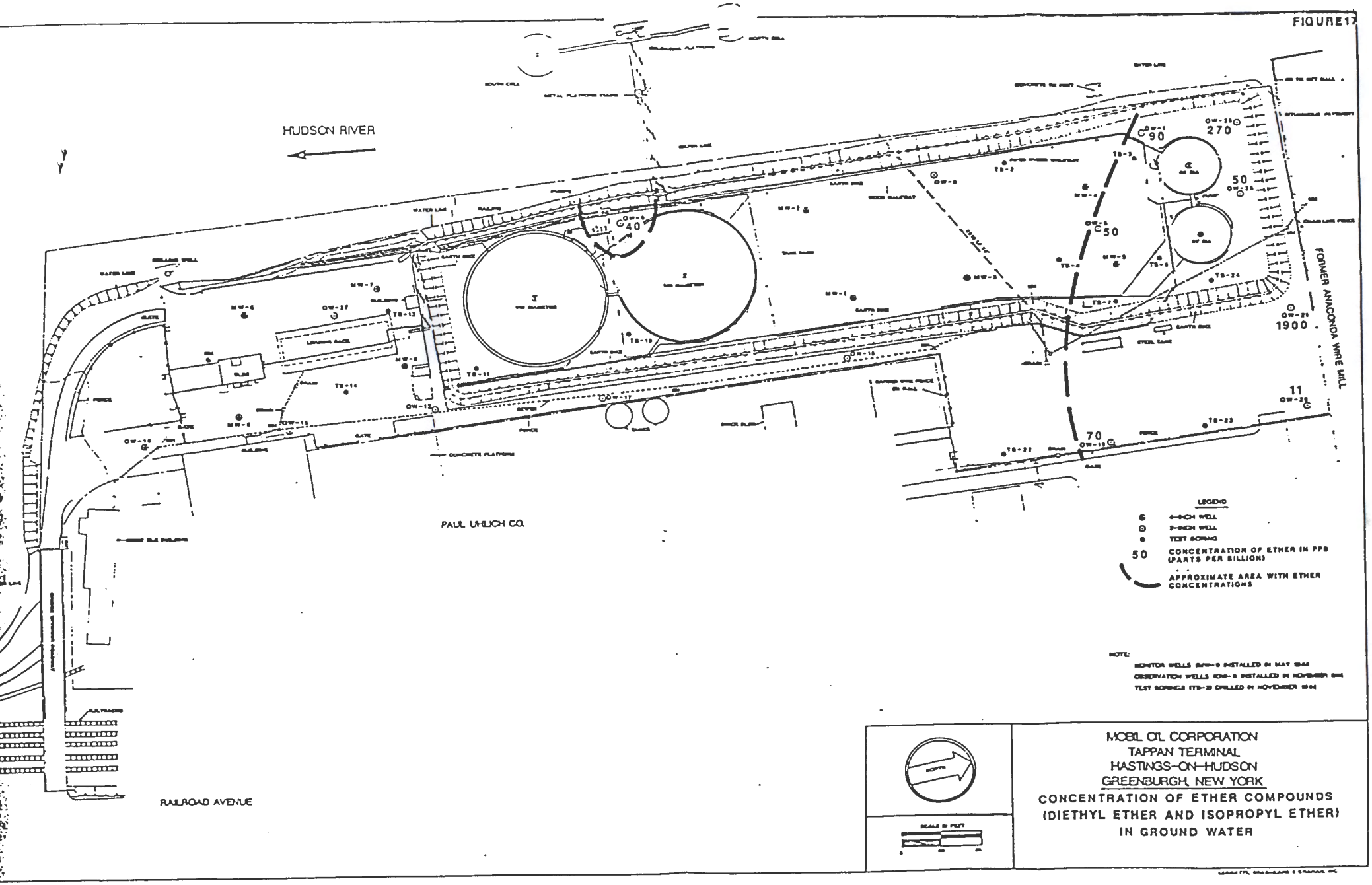

HUDSON RIVER
PAUL UHLICH CO.
FORMER ANACONDA WIRE MILL
RAILROAD AVENUE
YELLOW
RED
BLUE/RED-BLUE/BLACK
LEGEND
APPROXIMATE AREAL EXTENT OF DYE
COLOR OBSERVED IN SOIL
NOTE
MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK
AREAL EXTENT OF DYE IN THE SOIL
NOVEMBER, 1986

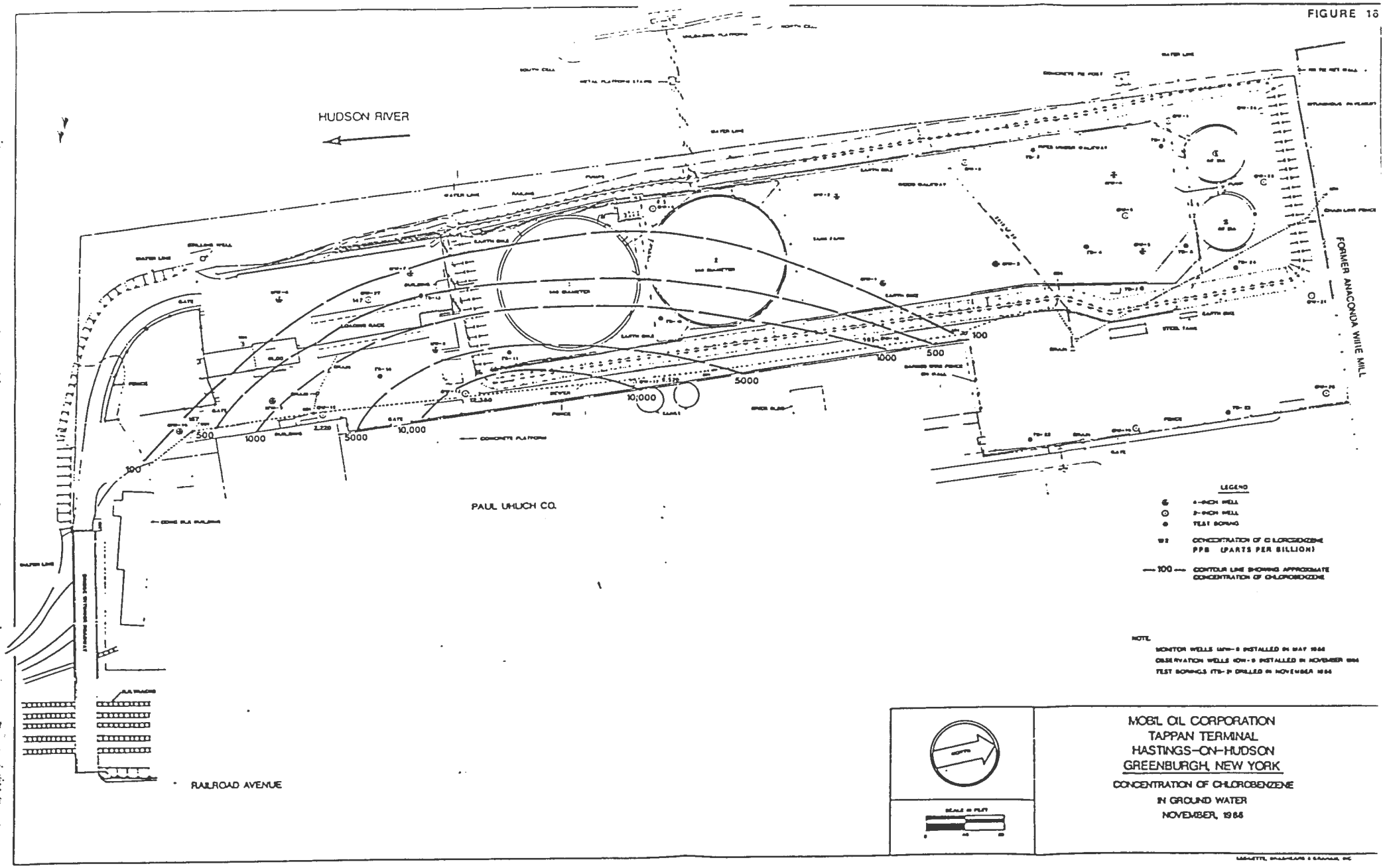
FIGURE 17



MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

CONCENTRATION OF ETHER COMPOUNDS
(DIETHYL ETHER AND ISOPROPYL ETHER)
IN GROUND WATER

FIGURE 16


HUDSON RIVER
PAUL UHLICH CO.
FORMER ANACONDA WIRE MILL
RAILROAD AVENUE
100
500
1000
5000
10,000
LEGEND
PPB (PARTS PER BILLION)
CONTOUR LINE SHOWING APPROXIMATE CONCENTRATION OF CHLOROBENZENE
NOTE
MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK
CONCENTRATION OF CHLOROBENZENE
IN GROUND WATER
NOVEMBER, 1984

TABLES

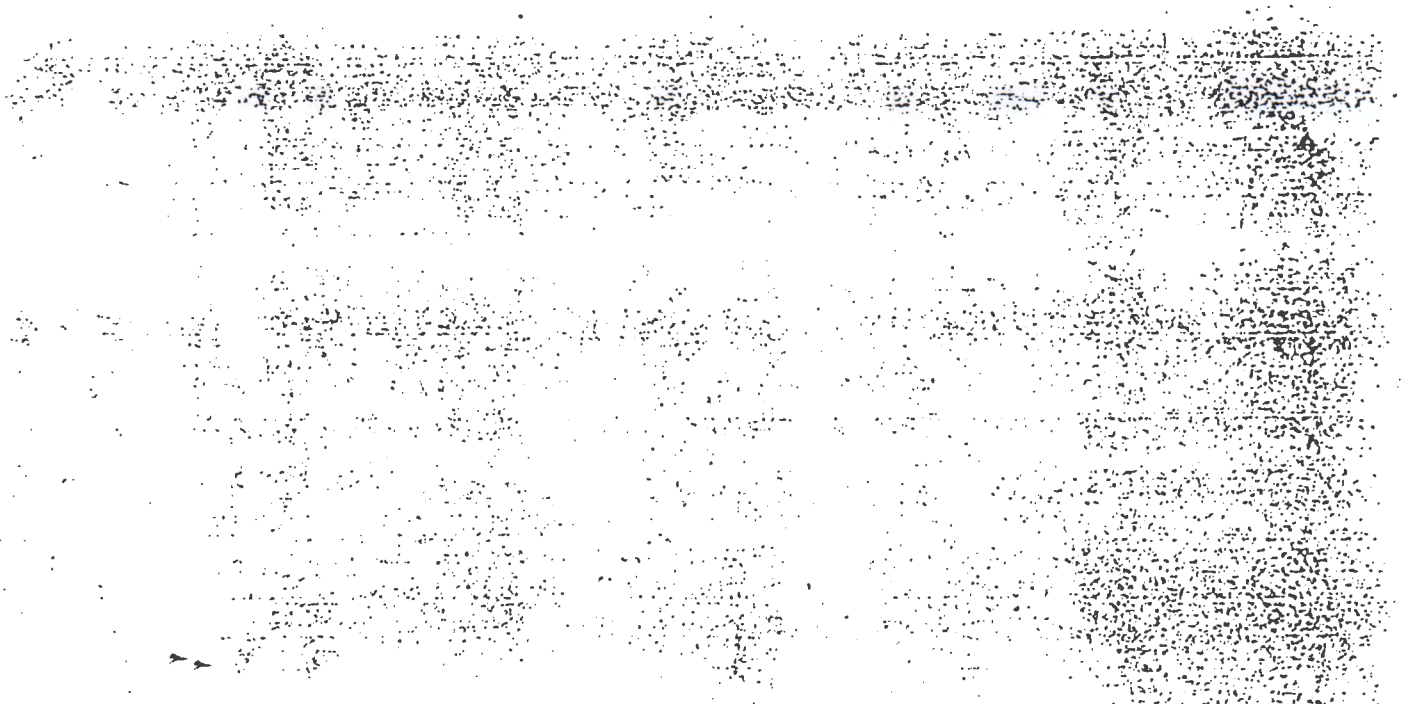


TABLE 1

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Summary of Test Borings and Monitor Well Construction

Test boring/ well no.	Elevation of well (TOC[1/])	Total depth drilled (ft)	Screen setting (ft bg)	Screen diameter (inches)
MW-1	98.17	10	0.5 - 10	4
MW-2	98.38	10	0 - 10	4
MW-3	97.99	11	1 - 11	4
MW-4	97.95	11	1 - 11	4
MW-5	97.29	10	0 - 10	4
MW-6	99.26	11	0.55 - 10.55	4
MW-7	100.50	11	1 - 11	4
MW-8	99.59	11	1 - 11	4
MW-9	100.27	10	0 - 10	4
OW-1	97.57	12	1 - 12	2
TB-2	--	12	--	--
TB-3	--	8	--	--
TB-4	--	10	--	--
OW-5	98.47	11	0.71 - 10.71	2
TB-6	--	12	--	--
TB-7	--	12	--	--
OW-8	98.19	12	1.46 - 12.46	2
OW-9	99.19	16	0.5 - 15	2
TB-10	--	7	--	--
TB-11	--	8	--	--
OW-12	101.55	12	1 - 15	2
TB-13	--	9	--	--
TB-14	--	11	--	--
OW-15	100.37	12	1.84 - 15.84	--
OW-16	97.64	17	2 - 17	4

TABLE 1
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Summary of Test Borings and Monitor Well Construction

Test boring/ well no.	Elevation of well (TOC[1/])	Total depth drilled (ft)	Screen setting (ft bg)	Screen diameter (inches)
OW-17	101.10	16	1.9 - 15.9	2
OW-18	98.01	11	1 - 11	2
OW-19	100.35	16	1 - 16	2
OW-20	101.12	13	1.73 - 11.73	2
OW-21	98.63	16	1 - 16	2
TB-22	--	12	--	--
TB-23	--	6	--	--
TB-24	--	13	--	--
OW-25	97.60	12	1 - 11	2
OW-26	97.09	12	1 - 11	2
OW-27	100.04	16	1.95 - 15.95	2

1/ TOC = Top of PVC casing.

TABLE 2

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Summary of Ground-Water Data[1/]

Well	Elevation (TOC[2/])	December 2, 1986 Depth to water	December 2, 1986 Water-level elevation	December 9, 1986 Depth to water (low)	December 9, 1986 Water-level elevation	December 9, 1986 Depth to water (high)	December 9, 1986 Water-level elevation	Amplitude	Average water-level elevation
MW-1	98.17	3.95	94.22	3.95	94.22	3.69	94.48	0.13	94.35
MW-2	98.38	4.06	94.32	4.40	93.98	3.87	94.51	0.27	94.24
MW-3	97.99	3.87	94.12	3.84	94.15	NO[3/]	--		
MW-4	97.95	3.94	94.01	3.97	93.98	3.44	94.51	0.27	94.24
MW-5	97.29	3.13	94.16	3.35	93.94	NO	--		
MW-6	99.26	5.18	94.08	5.61	93.65	4.55	94.71	0.53	94.18
MW-7	100.50	6.80	93.70	7.20	93.30	6.19	94.31	0.51	93.80
MW-8	99.59	5.94	93.65	5.30	94.29	4.76	94.83	0.27	94.56
MW-9	100.27	6.32	93.95	5.55	94.72	5.14	95.13	0.21	94.92
OW-1	97.57	3.44	94.13	3.47	94.10	3.02	94.55	0.23	94.32
OW-5	98.47	4.34	94.13	4.33	94.14	3.90	94.57	0.22	94.35
OW-8	98.19	4.28	93.91	4.55	93.64	4.05	94.14	0.25	93.89
OW-9	99.19	5.32	93.87	5.79	93.40	4.97	94.22	0.41	93.81
OW-12	101.55	7.49	94.06	6.40	95.15	NO	--		
OW-15	100.37	6.23	94.14	4.99	95.38	NO	--		
OW-16	97.64	3.64	94.00	2.30	95.34	1.58	96.06	0.36	95.70
OW-17	101.10	6.97	94.13	6.61	94.49	6.08	95.02	0.27	94.75
OW-18	98.01	4.00	94.01	NO	--	NO	--		
OW-19	100.35	4.47	95.88	4.34	96.01	3.97	96.38	0.18	96.20
OW-20	101.12	5.54	95.58	5.70	95.42	5.23	95.89	0.24	95.65
OW-21	98.63	4.42	94.21	5.09	93.54	4.45	94.18	0.32	93.86
OW-25	97.60	3.39	94.21	3.28	94.32	2.61	94.99	0.34	94.65
OW-26	97.09	2.81	94.28	3.13	93.96	2.53	94.56	0.30	94.26
OW-27	100.04	5.88	94.16	6.82	93.22	5.56	94.48	0.63	93.85

1/ All measurements in feet.
2/ TOC = Top of PVC casing. Assumed local datum 100 feet.
3/ NO = Not observed.

TABLE 3

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Total Petroleum Hydrocarbons in Soil Samples
(EPA Method 418.1)

Test boring or well no.	Date sampled	Depth in feet below grade (feet)	Total Petroleum hydrocarbons ppm	Total Petroleum hydrocarbons weight %	Technical Services Laboratories No.
OW-1	11/13/86	0 - 2	1,200	0.12	651489
	11/13/86	2 - 4	1,700	0.17	651490
TB-2	11/07/86	2 - 4	100	0.01	650941
	11/07/86	10 - 12	100	0.01	650942
TB-3	11/10/86	2 - 4	2,500	0.25	651500
	11/10/86	6 - 8	2,900	0.29	651501
TB-4	11/07/86	2 - 4	400	0.04	650943
	11/07/86	10 - 12	200	0.02	650945
OW-5	11/17/86	0 - 2	ND	ND	651506
	11/17/86	2 - 4	1,400	0.14	651507
	11/17/86	10 - 12	1,700	0.17	651508
TB-6	11/10/86	2 - 4	800	0.08	651502
	11/10/86	10 - 12	800	0.08	651503
TB-7	11/12/86	2 - 4	1,400	0.14	651495
	11/12/86	10 - 12	2,600	0.26	651518
OW-8	11/13/86	2 - 4	200	0.02	651491
	11/13/86	10 - 12	300	0.03	651492
OW-9	11/04/86	2 - 4	100	0.01	650956
	11/04/86	5 - 7	ND	ND	650957
TB-10	11/04/86	2 - 4	ND	ND	650947
	11/04/86	5 - 7	ND	ND	650948
TB-11	11/04/86	2 - 4	ND	ND	650944
	11/04/86	6 - 8	ND	ND	650949
OW-12	11/06/86	2 - 4	ND	ND	650958
	11/06/86	10 - 12	ND	ND	650959

TABLE 3
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Total Petroleum Hydrocarbons in Soil Samples
(EPA Method 418.1)

Test boring or well no.	Date sampled	Depth in feet below grade (feet)	Total Petroleum hydrocarbons ppm	Total Petroleum hydrocarbons weight %	Technical Services Laboratories No.
TB-13	11/05/86	5 - 7	ND	ND	650950
	11/05/86	7 - 9	ND	ND	650952
TB-14	11/04/86	2 - 4	100	0.01	650953
	11/05/86	4 - 6	100	0.01	650954
	11/05/86	9 - 11	100	0.01	650955
OW-15	11/16/86	2 - 4	ND	ND	650946
OW-15	11/06/86	10 - 12	ND	ND	650960
OW-16	11/07/86	4 - 6	ND	ND	650961
	11/07/86	10 - 12	400	0.04	650962
OW-17	11/07/86	2 - 4	200	0.02	650963
	11/07/86	10 - 12	ND	ND	650964
OW-18	11/14/86	0 - 2	1,100	0.11	651487
	11/14/86	2 - 4	3,000	0.30	651488
OW-19	11/12/86	0 - 2	14,600	1.46	651504
	11/12/86	10 - 12	400	0.04	651505
OW-20	11/11/86	2 - 4	200	0.02	651509
	11/11/86	6 - 8	700	0.07	651510
	11/11/86	10 - 12	ND	ND	651511
OW-21	11/10/86	4 - 6	200	0.02	650498
	11/10/86	11 - 13	700	0.07	650499
TB-22	11/12/86	2 - 4	1,200	0.12	651493
	11/12/86	10 - 12	ND	ND	651494
TB-23	11/12/86	2 - 4	200	0.02	651497
	11/12/86	4 - 6	400	0.04	651496

TABLE 3
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Total Petroleum Hydrocarbons in Soil Samples
(EPA Method 418.1)

Test boring or well no.	Date sampled	Depth in feet below grade (feet)	Total Petroleum hydrocarbons ppm	weight %	Technical Services Laboratories No.
TB-24	11/10/86	2 - 4	200	0.02	651512
	11/10/86	11 - 13	100	0.01	651513
OW-25	11/14/86	2 - 4	ND	ND	650483
	11/14/86	10 - 12	1,000	0.10	650484
OW-26	11/13/86	0 - 2	400	0.04	650485
	11/13/86	2 - 4	500	0.05	650486
OW-27	11/05/86	2 - 4	200	0.02	650965
	11/05/86	9 - 11	ND	ND	650966

ppm = parts per million.
ND = not detected; minimum detection limit = 0.01 weight % (100 mg/kg).

TABLE 4

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Semivolatile[1/] Analysis of Soil Samples
(EPA Method 8270)

		Sample Designation				
		TB-4	OW-16	OW-17	OW-18	OW-19
Technical Services Laboratories No.:		650943	650962	650963	651488	651504
Date sampled:		11/07/86	11/07/86	11/07/86	11/14/86	11/12/86
Sample depth[2/]:		2-4 feet	10-12 feet	2-4 feet	2-4 feet	0-2 feet
Compound	MDL (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)
Base/Neutrals						
n-Nitrosodimethylamine	6	ND	ND[3/]	ND	ND	ND
Bis(2-chloroethyl)ether	12	ND	ND	ND	ND	ND
m-Dichlorobenzene	6	ND	ND	ND	ND	ND
p-Dichlorobenzene	6	ND	ND	ND	ND	ND
o-Dichlorobenzene	6	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	12	ND	ND	ND	ND	ND
Hexachloroethane	6	ND	ND	ND	ND	ND
n-Nitrosodi-n-propylamine	6	ND	ND	ND	ND	ND
Nitrobenzene	6	ND	ND	ND	ND	ND
Isophorone	6	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	6	ND	ND	ND	ND	ND

TABLE 4
(continued)

		Sample Designation				
		TB-4	OW-16	OW-17	OW-18	OW-19
echnical Services Laboratories No.:		650943	650962	650963	651488	651504
ate sampled:		11/07/86	11/07/86	11/07/86	11/14/86	11/12/86
ample depth[2/]:		2-4 feet	10-12 feet	2-4 feet	2-4 feet	0-2 feet
Compound	MDL (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)
ase/Neutrals (continued)						
,2,4-Trichlorobenzene	6	ND	ND	ND	ND	ND
aphthalene	6	ND	ND	ND	ND	ND
exachlorobutadiene	6	ND	ND	ND	ND	ND
imethyl phthalate	30	ND	ND	ND	ND	ND
,6-Dinitrotoluene	30	ND	ND	ND	ND	ND
exachlorocyclopentadiene	12	ND	ND	ND	ND	ND
-Chloronaphthalene	6	ND	ND	ND	ND	ND
cenaphthylene	12	ND	ND	ND	ND	ND
cenaphthene	6	ND	ND	ND	ND	ND
i-n-octyl phthalate	30	ND	ND	ND	ND	ND
enzo(b)fluoranthene	30	ND	ND	ND	ND	ND
enzo(k)fluoranthene	60	ND	ND	ND	ND	ND
ndeno(1,2,3,cd)pyrene	60	ND	ND	ND	ND	ND
ibenz(a,h)anthracene	60	ND	ND	ND	ND	ND
enzo(ghi)perylene	30	ND	ND	ND	ND	ND
-4-Dinitrotoluene	12	ND	ND	ND	ND	ND
luorene	6	ND	ND	ND	ND	ND

TABLE 4
(continued)

	Sample Designation				
	TB-4	OW-16	OW-17	OW-18	OW-19
echnical Services Laboratories No.:	650943	650962	650963	651488	651504
ate sampled:	11/07/86	11/07/86	11/07/86	11/14/86	11/12/86
ample depth[2/]:	2-4 feet	10-12 feet	2-4 feet	2-4 feet	0-2 feet

Compound	MDL (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)
ase/Neutrals (continued)						
,2,4-Trichlorobenzene	6	ND	ND	ND	ND	ND
aphthalene	6	ND	ND	ND	ND	ND
exachlorobutadiene	6	ND	ND	ND	ND	ND
imethyl phthalate	30	ND	ND	ND	ND	ND
,6-Dinitrotoluene	30	ND	ND	ND	ND	ND
exachlorocyclopentadiene	12	ND	ND	ND	ND	ND
-Chloronaphthalene	6	ND	ND	ND	ND	ND
cenaphthylene	12	ND	ND	ND	ND	ND
cenaphthene	6	ND	ND	ND	ND	ND
i-n-octyl phthalate	30	ND	ND	ND	ND	ND
enzo(b)fluoranthene	30	ND	ND	ND	ND	ND
enzo(k)fluoranthene	60	ND	ND	ND	ND	ND
ndeno(1,2,3,cd)pyrene	60	ND	ND	ND	ND	ND
ibenz(a,h)anthracene	60	ND	ND	ND	ND	ND
enzo(ghi)perylene	30	ND	ND	ND	ND	ND
-4-Dinitrotoluene	12	ND	ND	ND	ND	ND
luorene	6	ND	ND	ND	ND	ND

TABLE 4
(continued)

	Sample Designation				
	TB-4	OW-16	OW-17	OW-18	OW-19
echnical Services Laboratories No.:	650943	650962	650963	651488	651504
ate sampled:	11/07/86	11/07/86	11/07/86	11/14/86	11/12/86
ample depth[2/]:	2-4 feet	10-12 feet	2-4 feet	2-4 feet	0-2 feet

Compound	MDL (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)	Amount (ppm)
cid Extractables						
-Chlorophenol	10	ND	ND	ND	ND	ND
henol	10	ND	ND	ND	ND	ND
-Nitrophenol	10	ND	ND	ND	ND	ND
,4-Dimethyl phenol	10	ND	ND	ND	ND	ND
,4-Dichlorophenol	10	ND	ND	ND	ND	ND
-Chloro-3-methyl phenol	10	ND	ND	ND	ND	ND
,4,6-Trichlorophenol	10	ND	ND	ND	ND	ND
,4-Dinitrophenol	200	ND	ND	ND	ND	ND
-Nitrophenol	100	ND	ND	ND	ND	ND
,6-Dinitro-2-methyl phenol	50	ND	ND	ND	ND	ND
entachlorophenol	50	ND	ND	ND	ND	ND

/ Includes priority pollutants: base/neutrals and acid extractables.
/ Depth in feet below grade.
/ This sample was diluted; MDL is twice listed value.
pm = parts per million.

TABLE 5

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Dye Analysis of Soil Extracts

Technical Services Laboratories Number:	650959		650963		650966		651488	
Date Received:	11/10/86		11/10/86		11/10/86		11/14/86	
Description from Label:	OW-12, 10-12 feet		OW-17, 2-4 feet		OW-27, 9-11 feet		OW-18, 2-4 feet	
Appearance:	Red-stained soil		Blue-stained soil		Yellow-stained soil		Soil with wood pieces no obvious color	
Analytical Data	**weight %**	**ppm**	**weight %**	**ppm**	**weight %**	**ppm**	**weight %**	**ppm**
Hexane soluble	0.3	3,000	4.7	47,000	0.2	2,000	1.4	14,000
Acetone soluble	1.1	11,000	1.8	18,000	0.9	9,000	0.8	8,000
Methanol soluble	2.1	21,000	4.0	40,000	--	--	--	--
Approximate Dye Content (estimated)	3.5	35,000	10.5	150,000	1.1	11,000	2.2	22,000
Insoluble	68.2	682,000	36.4	364,000	61.4	614,000	52.8	528,000
Loss from Evaporation	28.3	283,000	53.1	531,000	37.5	375,000	45.0	450,000
Color of Extracts (Acetone/Methanol)	Red		Blue Trace Red		Yellow		Green	
Identification by IR Analysis	Similar to Rhodamine 6GDN GAF Corporation		Cascade Blue Red- similar to Carminic Acid		Insufficient dye for identification		Anaplast Green OZ. American Aniline Products, Inc.	
Reference Spectra	Sadtler Ref X2320K		Sadtler Ref (Blue) X 3958 Sadtler Ref. (Red) X2684K		N/A		Sadtler Ref. X445K	

ppm = parts per million.

TABLE 6

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Summary of Ground-Water Parameters
Measured During the Water Sampling Program

Well no.	Date of measurment	Temperature C°	pH	Electric conductivity (umhos/cm)	Water description
OW-1	11/19/86	10	7.0	35	silty - gray
OW-5	11/19/86	Not taken			strong odor - sheen
OW-9	11/18/86	15.5	6.6	210	silty - gray
OW-12	11/18/86	19	5.8	73	silty - gray - sulphur odor
OW-15	11/18/86	18	6.5	60	silty black[1/]
OW-16	11/18/86	19.5	6.3	50	silty film - sulphur odor
OW-17	11/18/86	17	6.4	120	silty black - sulphur odor
OW-18	11/19/86	Not taken			product present - black thick
OW-19	11/19/86	12	7.1	60	silty - gray
OW-20	11/19/86	13	6.9	65	silty - gray
OW-21	11/19/86	12	7.1	70	silty - gray
OW-25	11/19/86	8.5	6.8	70	silty - black
OW-26	11/19/86	9	7.0	40	silty - gray
OW-27	11/18/86	12	6.7	150	silty - gray - sulphur odor
MW-8	11/19/86	11	6.7	30	silty - slight hydro-carbon odor
MW-5	11/19/86	11	6.5	98	sheen - odor hydrocarbon
Hudson River	11/19/86	10	6.7	90	cloudy - green

1/ On November 17, 1986 a spill from P. Uhlich Company came through fence and surrounded base of OW-15. Substance was black with viscosity of syrup, believed to be by-product of dye process.

TABLE 7

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Priority Pollutant Volatiles in Ground Water
(EPA Method 624)

Compound	MDL (ppb)	River Water	GW-1	GW-5	MW-5	MW-8	GW-9	GW-12[1/]	GW-15[1/]	GW-16	GW-17[1/]	GW-18[1/]	GW-19	GW-20	GW-21	GW-25	GW-26	GW-27
		Sample Designation																
Technical Services Laboratories Number:		651721	651722	651723	651719	651724	651725	651726	651727	651728	651729	651730	651733	651734	651735	651736	651737	651738
Date sampled:		11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/18/86	11/18/86	11/18/86	11/18/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/18/86
Acrolein	*	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Acrylonitrile	*	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Benzene	4.4	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bis(chloromethyl)ether	*	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Bromoform	4.7	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Carbon tetrachloride	2.6	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chlorobenzene	6.0	U	U	U	U	162	8.5	12,380	2,220	157	9,520	907	U	U	U	U	U	147
Chlorodibromomethane	3.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chloroethane	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
2-Chloroethylvinyl ether	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Chloroform	1.6	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dichlorobromomethane	2.2	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Dichlorodifluoromethane	*	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethane	4.7	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethane	2.8	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1-Dichloroethylene	2.8	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropane	6.0	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloropropylene	*	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Ethylbenzene	7.2	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methyl bromide	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methyl chloride	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Methylene chloride	5.0	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	6.9	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Tetrachloroethylene	4.1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Toluene	6.0	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,2-Dichloroethylene(trans)	1.6	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,1-Trichloroethane	3.8	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	5.0	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichloroethylene	1.9	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Trichlorofluoromethane	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Vinyl chloride	u	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

1/ Due to high levels of chlorobenzene these samples were diluted for analysis. Consequently the MDL for these sample runs is increased as follows: GW-12 and GW-15, 100 times. GW-17, 50 times. GW-18, 10 times.

MDL = Minimum detection limit.
ppb = parts per billion.
U = not detected.
* = This compound not recoverable by Method 624.
u = Detection limit undetermined.

TABLE 8

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Ground-Water Analysis
For Ether Compounds

	Wells Containing Ether Compounds, ppb							
Compound	OW-1	OW-5	OW-9	OW-19	OW-20	OW-21	OW-25	OW-26
Diethyl ether	50	20	40	50	4	1,600	40	160
Isopropyl ether	40	30	ND	20	7	300	10	110

ppb = parts per billion.

TABLE 9

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Priority Pollutant Metals in Ground Water

Well Number:		River Surface	MW-5	OW-1	OW-5	MW-8	OW-9	OW-12	OW-15	OW-16	OW-17	OW-18	OW-19	OW-20	OW-21	OW-25	OW-26	OW-27	
Technical Services Laboratories Number:		651721	651719	651722	651723	651724	651725	651726	651727	651728	651729	651730	651733	651734	651735	651736	651737	651738	
Samples analyzed on December 5, 1986																			
Analytical Data, ppm	Detection Limit, ppm																		EPA Method No.
Antimony	1.0	ND[1/]	ND	ND[1/]	ND	ND	ND	ND	ND	ND[1/]	ND	ND	ND	ND	ND	ND	ND[1/]	ND[1/]	204.1
Arsenic	0.005	ND[1/]	ND	ND[1/]	ND	ND	ND	ND	ND	ND[1/]	ND	ND	0.006	ND	ND	ND	ND[1/]	ND[1/]	206.2
Beryllium	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	210.1
Cadmium	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	213.1
Chromium	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	218.1
Copper	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	220.1
Lead	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	239.1
Mercury	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	245.1
Nickel	0.05	ND[1/]	ND	ND[1/]	ND	ND	ND	ND	ND	ND[1/]	ND	ND	ND	ND	ND	ND	ND	ND	249.1
Selenium	0.005	ND[1/]	ND	ND[1/]	ND	ND	ND	ND	ND	ND[1/]	ND	ND	ND	ND	ND	ND	ND	ND	270.2
Silver	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	272.1
Thallium	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	279.1
Zinc	0.05	ND	1.58	0.43	ND	0.14	0.22	2.07	0.94	0.06	0.06	ND	0.07	ND	ND	0.05	ND	0.09	289.1

1/ Detection limit for these samples was 0.15 ppm, due to salt water matrix interferences.

ppm = parts per million.

TABLE 10

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Priority Pollutant Semivolatiles in Ground Water
(EPA Method 625)

Compound	MDL (ppb)	Sample Designation																
		OW-1	MW-5	OW-5	MW-8	OW-9	OW-12	OW-15	OW-16	OW-17	OW-18	OW-19	OW-20	OW-21	OW-25	OW-26	OW-27	River
Environmental Testing & Certification Number:		P5825	P5832	P5824	P5823	P5822	P5819	P5818	P5817	P5821	P5816	P5830	P5829	P5828	P5827	P5826	P5820	P5821
Date sampled:		11/19/86	11/19/86	11/19/86	11/19/86	11/18/86	11/18/86	11/18/86	11/18/86	11/18/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/18/86	11/19/86
Base/Neutral																		
Acenaphthene	1.9	ND	BMDL	28.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	1.9	ND	ND	31.4	ND	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	28.5	ND	ND
Benzidine	44	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	5.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethyl) ether	5.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis (2-Chloroisopropyl)ether	5.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	10	ND	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	ND	BMDL	ND	BMDL	BMDL	ND	ND
4-Bromophenyl phenyl ether	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	4.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.9	ND	ND	ND	ND	ND	ND	ND	ND	64.3	48.4	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	1.9	ND	ND	ND	ND	BMDL	ND	ND	ND	ND	22.7	ND	ND	ND	ND	ND	ND	ND
1,-4-Dichlorobenzene	4.4	ND	ND	ND	ND	ND	BMDL	ND	ND	154	74.9	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	10	ND	ND	ND	ND	ND	BMDL	ND	ND	ND	ND	BMDL	ND	ND	BMDL	ND	ND	ND
2,4-Dinitrotoluene	5.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	2.2	ND	ND	104	BMDL	ND	ND	ND	ND	ND	ND	3.00	BMDL	279	ND	BMDL	ND	ND
Fluorene	1.9	ND	BMDL	34.2	2.81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 10
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Priority Pollutant Semivolatiles in Ground Water
(EPA Method 625)

Compound	MDL ppb	Sample Designation																
		OW-1	MW-5	OW-5	MW-8	OW-9	OW-12	OW-15	OW-16	OW-17	OW-18	OW-19	OW-20	OW-21	CW-25	OW-26	OW-27	River
Environmental Testing & Certification Number:		P5825	P5832	P5824	P5823	P5822	P5819	P5818	P5817	P5821	P5816	P5830	P5829	P5828	P5827	P5826	P5820	P5821
Date sampled:		11/19/86	11/19/86	11/19/86	11/19/86	11/18/86	11/18/86	11/18/86	11/18/86	11/18/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/19/86	11/18/86	11/19/86
Base/Neutral (continued)																		
Hexachlorobutadiene	0.91	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-c,d)pyrene	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	2.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	1.6	ND	ND	27.4	BMDL	ND	ND	ND	ND	26.1	30.8	8.80	ND	5.83	ND	ND	ND	ND
Nitrobenzene	1.9	ND	ND	ND	ND	ND	14.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	1.9	ND	ND	ND	ND	ND	108	ND	ND	33.4	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	5.5	ND	BMDL	125	ND	ND	ND	ND	ND	BMDL	ND	BMDL	ND	BMDL	ND	BMDL	ND	ND
Pyrene	1.9	ND	ND	75.1	BMDL	ND	ND	ND	ND	ND	ND	2.36	BMDL	2.45	ND	BMDL	ND	ND
1,2,4-Trichlorobenzene	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acid Extractable																		
2-Chlorophenol	3.3	ND	ND	ND	ND	ND	44.7	ND	ND	79.3	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	2.7	ND	ND	ND	ND	ND	4.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	42	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Chloro-m-cresol	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	3.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	2.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MDL = minimum detection limit.
BMDL = Below minimum detection limit.
ppb = parts per billion.

APPENDIX I

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-1

DATE 05/12/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm

DATE COMPLETED: May 12, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: J. Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 96.22 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 4-inch SLOT NO.: 20

SETTING: 0.50 - 10 feet bg

GRAVEL PACK SIZE: Grade 2

CASING: None

DEVELOPMENT: Suction pump
45 minutes,
05/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 4.18 feet btoc
05/13/86

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation:
98.17 feet

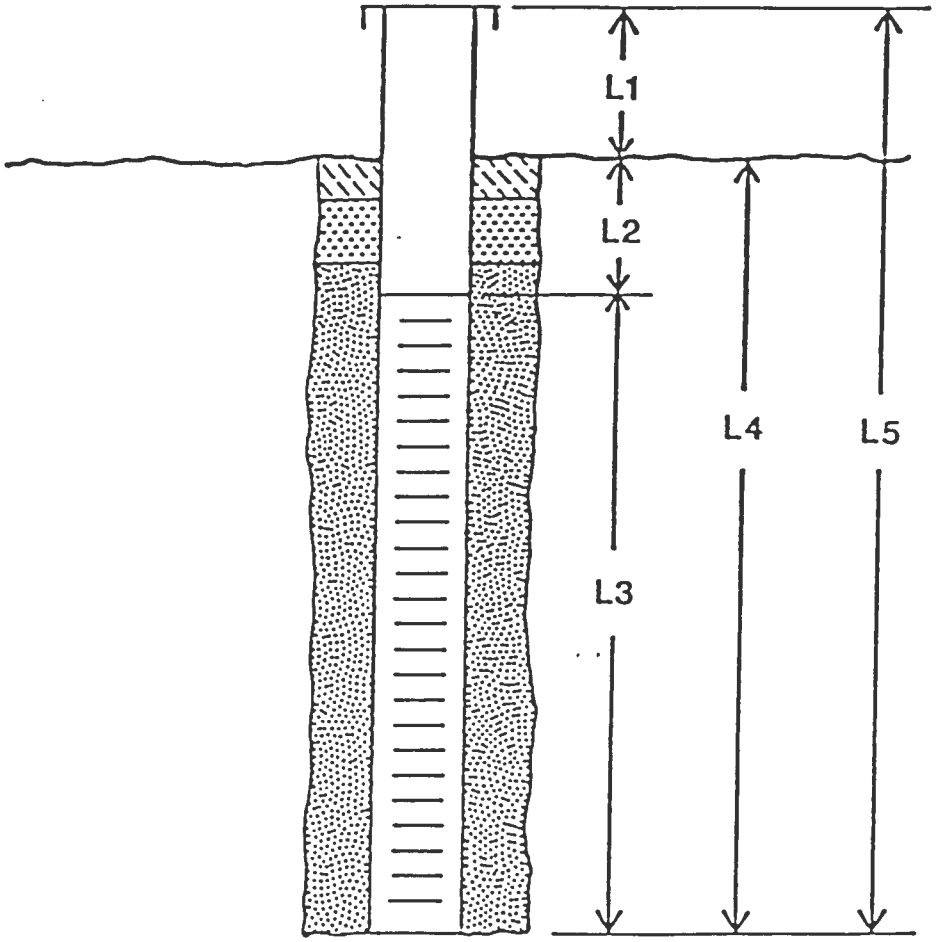
1/ Assumed datum

>100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with gravel; some sand, medium brown.
		Blow count: 3-5-3-2
2	4	Fill, with gravel; some sand, medium brown.
		Blow count: 1-1-2-1
4	6	No recovery.
		Blow count: 1-0-1-1
6	8	Fill; with gravel; saturated black.
8	10	Fill, with some gravel and sand, medium, black.
		End of hole.
		Cement: 0 - 0.5 foot bg
		Bentonite: 0.5 - 1.0 foot bg
		Sand pack: 1.0 - 10.0 feet bg
		Stick up: 1.95 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-1



WELL SIZE:	4-INCH DIAMETER		L1:	1.95	FEET
SCREEN SIZE:	0.020 INCH		L2:	0.5	FEET
CEMENT DEPTH:	0 - 0.5 FOOT		L3:	9.50	FEET
BACKFILL DEPTH:	———		L4:	10.0	FEET
BENTONITE DEPTH:	0.5 - 1.0 FOOT		L5:	11.95	FEET
SAND PACK DEPTH:	1.0 - 10.0 FEET				

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-2

DATE 05/12/86 PAGE 1 OF 1 PAGES

LOCATION Tank Farm

DATE COMPLETED May 12, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY J. Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. 96.33 feet 1/

WELL CONSTRUCTION

SCREEN TYPE PVC - Schedule 40

DIAM. 4-inch SLOT NO. 20

SETTING 0 - 10 feet bg

GRAVEL PACK SIZE Grade 2

CASING None

DEVELOPMENT Suction pump
45 minutes,
05/14/86

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL 4.23 feet btoc
05/13/86

PUMPING WATER LEVEL

YIELD

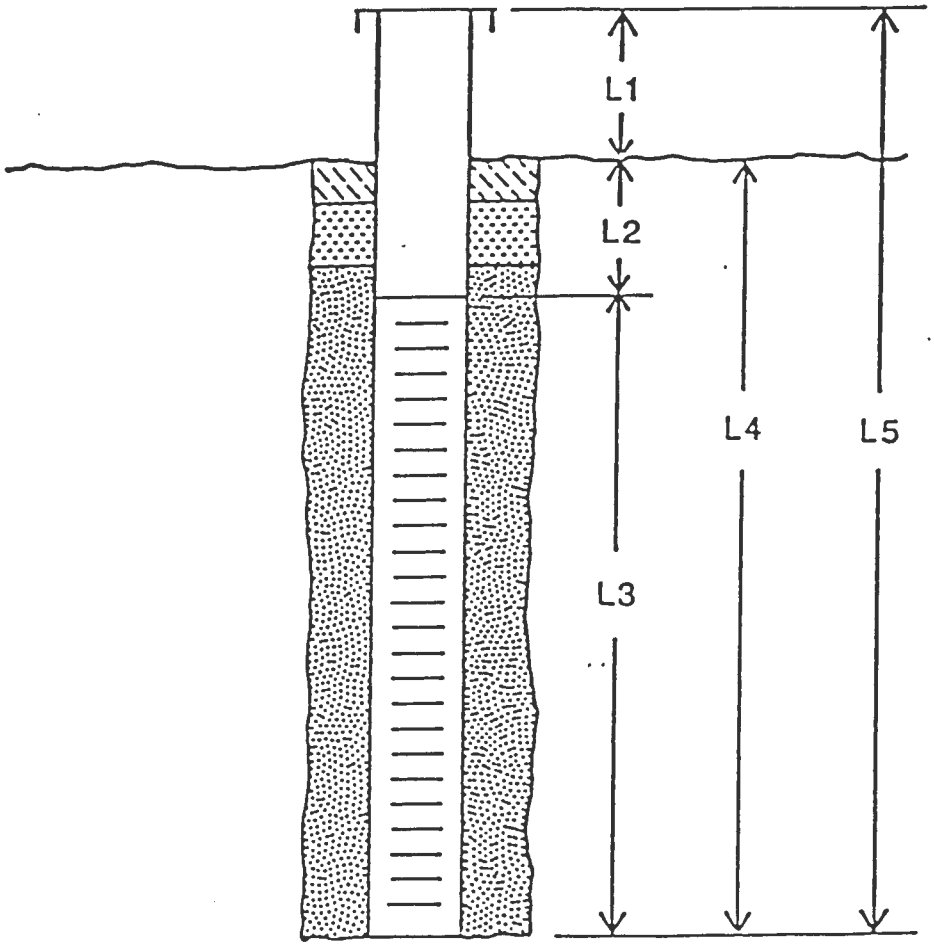
REMARKS PVC Elevation:
98.38 feet

1/ Assumed datum
→100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with gravel; glass, black.
		Blow count: 3-3-2-3
2	4	Fill, with gravel; glass, black, moist.
		Blow count: 1-2-1-1
4	6	Fill, with gravel; glass, black, saturated.
		Blow count: 1-3-1-1
6	8	Fill; with some sand, fine to very fine, gray.
		Blow count: 1-1-1-1
		End of hole.
		Cement: 0 - 1.0 foot bg
		Bentonite: 1.0 - 2.0 feet bg
		Sand pack: 2.0 - 10.0 feet bg
		Stick up: 2.05 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-2



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 1.0 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	1.0 - 2.0 FEET
SAND PACK DEPTH:	2.0 - 10.0 FEET

L1:	2.05	FEET
L2:	0	FEET
L3:	10.0	FEET
L4:	10.0	FEET
L5:	12.05	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD
WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-3

DATE 05/12/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm

DATE COMPLETED: May 12, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: J. Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 95.96 feet 1/

WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40

DIAM.: 4-inch SLOT NO.: 20

SETTING: 1 - 11 feet bg

GRAVEL PACK SIZE: Grade 2

CASING: None

DEVELOPMENT: Suction pump
30 minutes,
05/14/86

PUMPING TEST
DATE:

DURATION:

STATIC WATER LEVEL: 3.92 feet btoc
05/13/86

PUMPING WATER LEVEL:

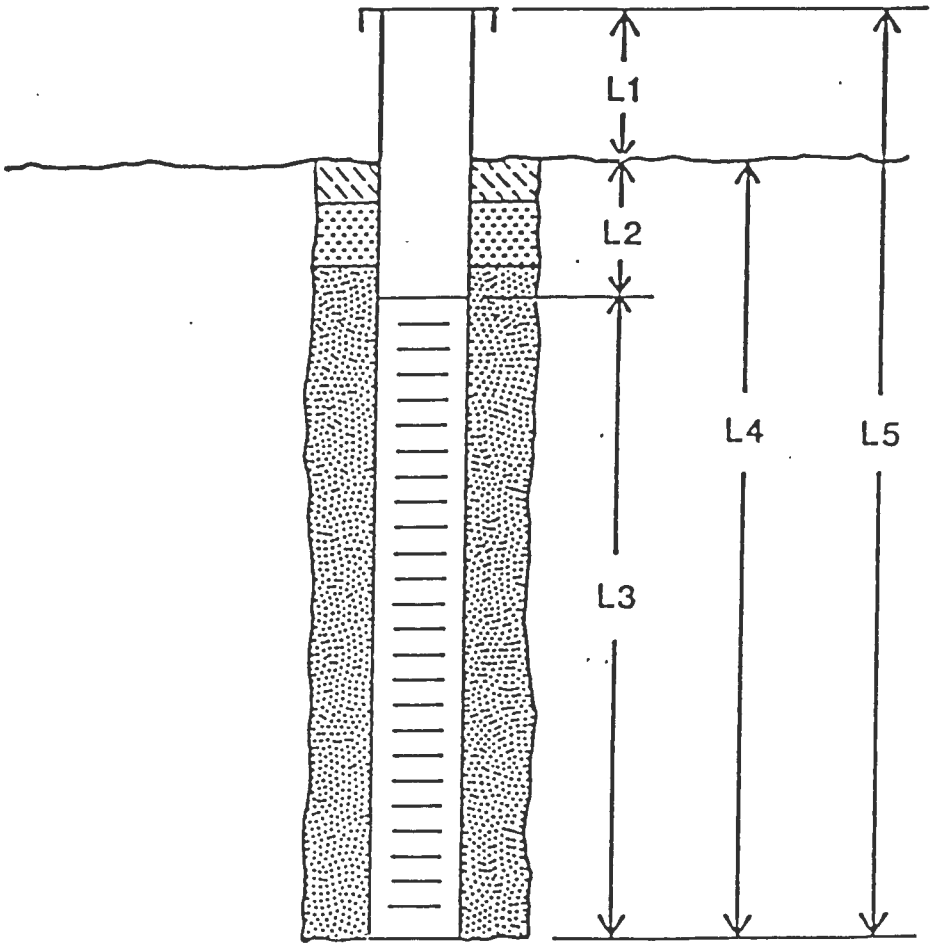
YIELD:

REMARKS: PVC Elevation:
97.99 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with sand, fine to very fine; brown, moist.
		Blow count: 2-10-9-8
2	4	Fill, with some sand, medium to fine; black,
		Blow count: 3-2-2-2
4	6	Fill, with some sand, fine; black, saturated.
		Blow count: 1-1-1-1
6	8	Fill; with some sand, fine to very fine, trace
		silt; black.
		Blow count: 1-1-1-1
		End of hole.
		Cement: 0 - .50 foot bg
		Bentonite: .50 - 1.0 foot bg
		Sand pack: 1.0 - 11.0 feet bg
		Stick up: 2.03 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-3



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 - 11.0 FEET

L1:	2.03	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	13.03	FEET

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WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-4

DATE 05/12/86 PAGE 1 OF 1 PAGES

LOCATION Tank Farm

DATE COMPLETED May 13, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY J. Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. 95.82 feet 1/

WELL CONSTRUCTION

SCREEN TYPE PVC - Schedule 40

DIAM. 4-inch SLOT NO. 20

SETTING 1 - 11 feet bg

GRAVEL PACK SIZE Grade 2

CASING None

DEVELOPMENT Suction pump
30 minutes,
05/14/86

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL 3.44 feet btoc
05/14/86

PUMPING WATER LEVEL

YIELD

REMARKS PVC Elevation:

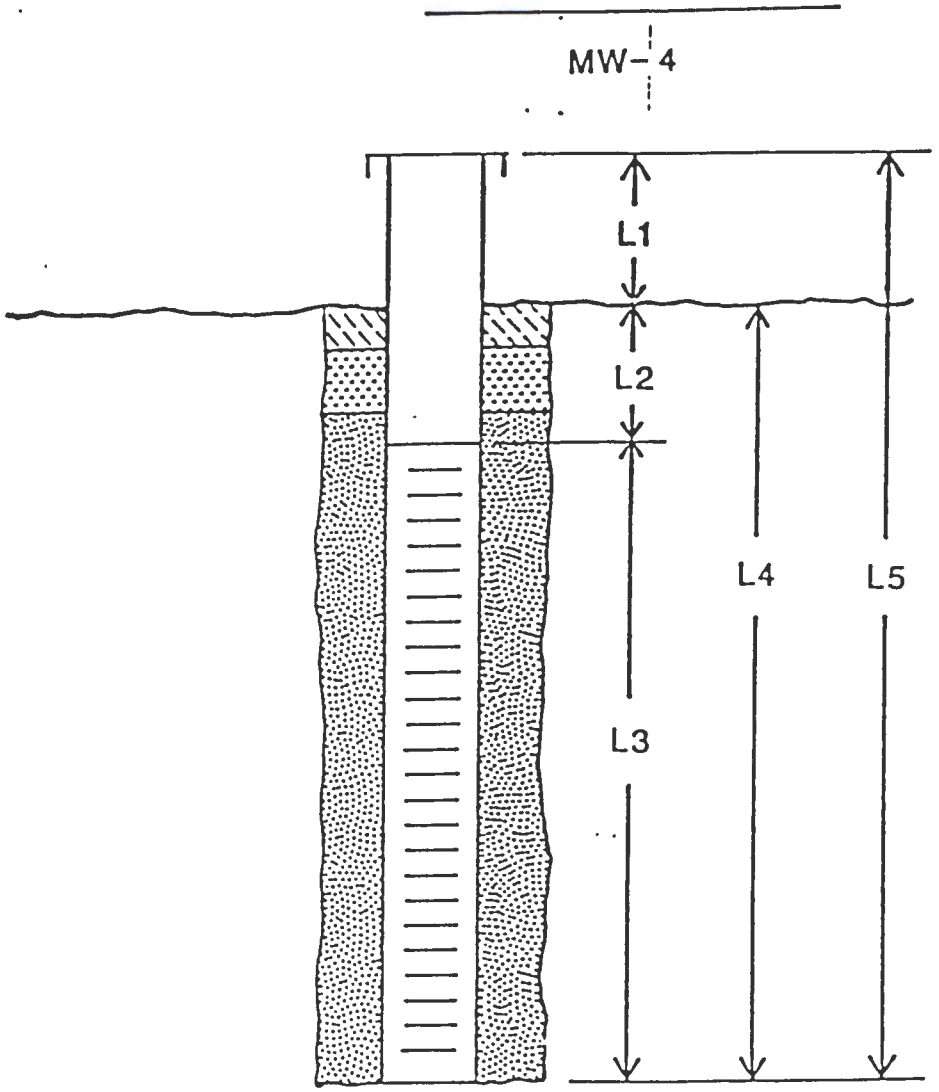
97.95 feet

1/ Assumed datum

100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with some sand, fine to very fine; trace silt; brown, gray, moist. Blow count: 6-6-5-2
2	4	Fill, with glass, wood, paper. Blow count: 1-2-1-1
4	6	Fill, with glass, wood, paper, saturated. Blow count: 2-2-2-1
6	8	Fill, with glass, wood, paper. Blow count: 2-3-1-1
		End of hole.
		Cement: 0 - .50 foot bg
		Bentonite: .50 - 1.0 foot bg
		Sand pack: 1.0 - 11.0 feet bg
		Stick up: 2.13 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 - 11.0 FEET

L1:	2.13	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	13.13	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

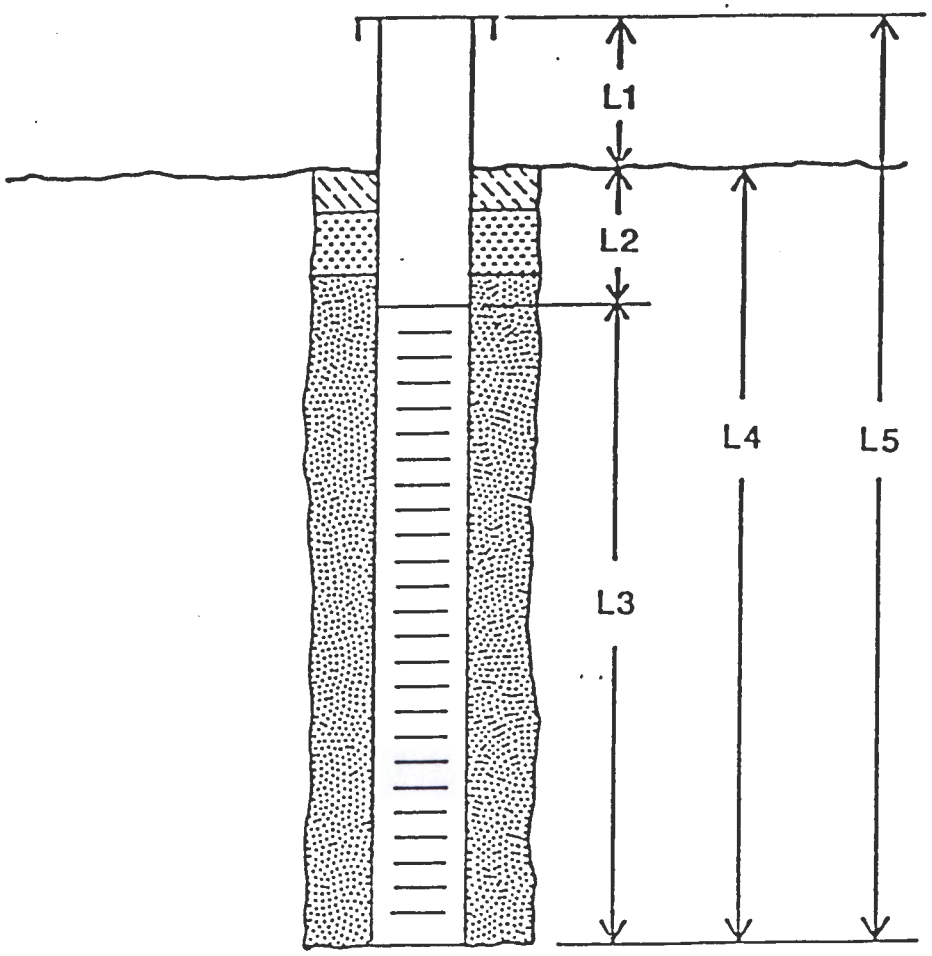
OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. MW-5
DATE 05/13/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm
DATE COMPLETED: May 13, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Hollow-stem auger
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: J. Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 96.54 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 4-inch SLOT NO.: 20
SETTING: 0 - 10 feet bg
GRAVEL PACK SIZE: Grade 2
CASING: None
DEVELOPMENT: Suction pump 30 minutes, 05/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 4.39 feet btoc 05/14/86
PUMPING WATER LEVEL:
YIELD:
REMARKS: PVC Elevation: 97.29 feet 1/ Assumed datum 100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill, with soil; black.
		Blow count: 1-6-9-1
2	4	Fill, with soil, black; hydrocarbon odor.
		Blow count: 1-1-1-1
4	6	Fill, saturated with hydrocarbon and water;
		black.
		Blow count: 2-3-5-2
6	8	Fill, saturated with hydrocarbon and water;
		black.
		Blow count: 3-2-2-1
		End of hole.
		Cement: 0 - .50 foot bg
		Bentonite: .50 - 1.0 foot bg
		Sand pack: 1.0 - 10.0 feet bg
		Stick up: 0.75 foot ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-5



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 - 10.0 FEET

L1:	0.75	FEET
L2:	0	FEET
L3:	10.0	FEET
L4:	10.0	FEET
L5:	10.75	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

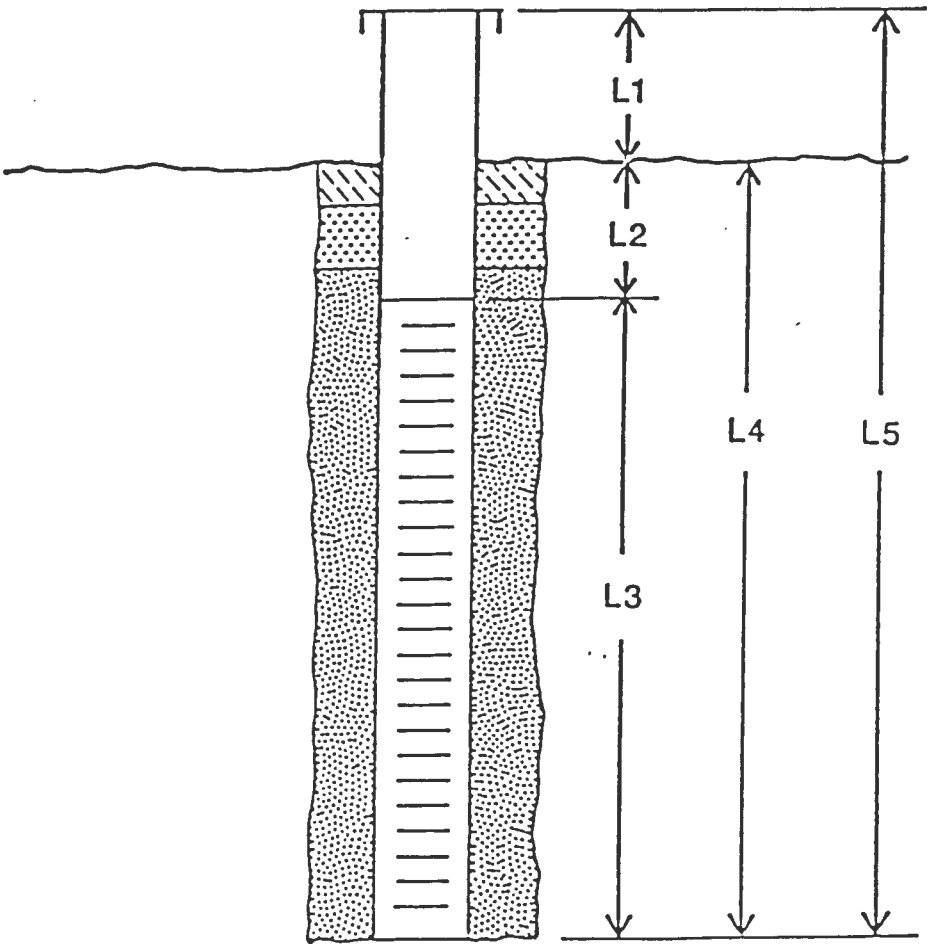
OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. MW-6
DATE 05/13/86 PAGE 1 OF 1 PAGES

LOCATION: Loading rack
DATE COMPLETED: May 14, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Hollow-stem auger
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: J. Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 97.21 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 4-inch SLOT NO.: 20
SETTING: 0.55 - 10.55 feet bg
GRAVEL PACK SIZE: Grade 2
CASING: None
DEVELOPMENT: Suction pump
30 minutes,
05/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 5.69 feet btoc
05/14/86
PUMPING WATER LEVEL:
YIELD:
REMARKS: PVC Elevation:
99.26 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	1	Asphalt and blue chip rock.
1	3	Fill, with soil; some glass, brown, black; hydrocarbon odor. Blow count: 7-10-13-15
3	5	Fill, with soil, some glass; black, brown, moist. Blow count: 3-4-4-4
5	7	No recovery. Blow count: 3-5-9-2
7	9	Fill, little sand, fine; some glass; black, brown, saturated. Blow count: 3-2-3-3
		End of hole.
		Cement: 0 - .30 foot bg
		Bentonite: .30 - .50 foot bg
		Sand pack: .50 - 11.0 feet bg
		Stick up: 2.05 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-6



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.30 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.30 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 11.0 FEET

L1:	2.05	FEET
L2:	0.55	FEET
L3:	10.0	FEET
L4:	10.55	FEET
L5:	12.60	FEET

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WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-7

DATE 05/13/86 PAGE 1 OF 1 PAGES

LOCATION: Loading rack

DATE COMPLETED: May 14, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: J. Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 98.10 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 4-inch SLOT NO.: 20

SETTING: 1 - 11 feet bg

GRAVEL PACK SIZE: Grade 2

CASING: None

DEVELOPMENT: Suction pump
30 minutes,
05/15/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 5.97 feet btoc
05/14/86

PUMPING WATER LEVEL:

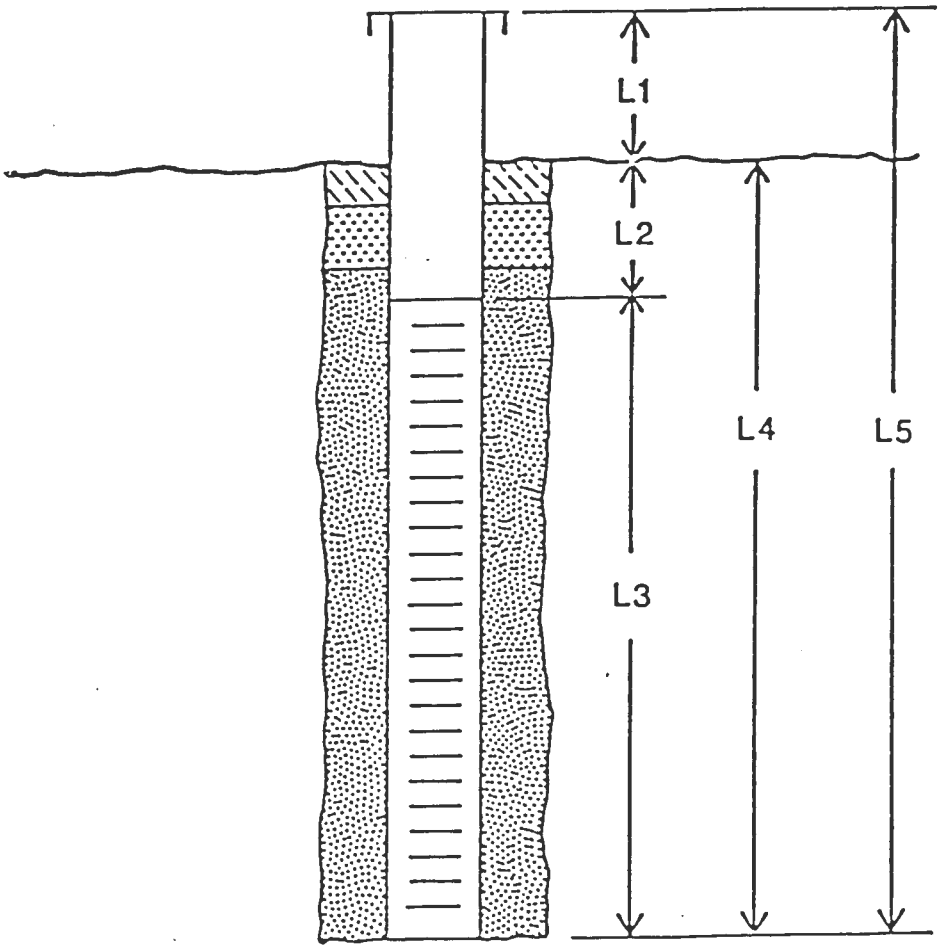
YIELD:

REMARKS: PVC Elevation:
100.50 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with some soil; brown, moist.
		Blow count: 20-21-13-26
2	4	Fill, with soil, trace of shell fragments;
		brown, moist.
		Blow count: 7-8-3-4
4	6	Fill, with some sand, medium to fine; brown,
		gray, moist.
		Blow count: 3-2-2-3
6	8	Fill, with some sand, medium to fine; brown,
		gray, saturated.
		Blow count: 1-1-1-1
		End of hole.
		Cement: 0 - .50 foot bg
		Bentonite: .50 - 1.0 foot bg
		Sand pack: 1.0 - 11.0 feet bg
		Stick up: 2.40 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-7



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 -11.0 FEET

L1:	2.40	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	13.40	FEET

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WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-8

DATE 05/14/86 PAGE 1 OF 1 PAGES

LOCATION Loading rack

DATE COMPLETED May 14, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY J. Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. 98.89 feet 1/

WELL CONSTRUCTION

SCREEN TYPE PVC - Schedule 40

DIAM. 4-inch SLOT NO. 20

SETTING 1 - 11 feet bg

GRAVEL PACK SIZE Grade 2

CASING None

DEVELOPMENT Bailed
45 minutes,
05/15/86

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL 6.92 feet btoc
05/15/86

PUMPING WATER LEVEL

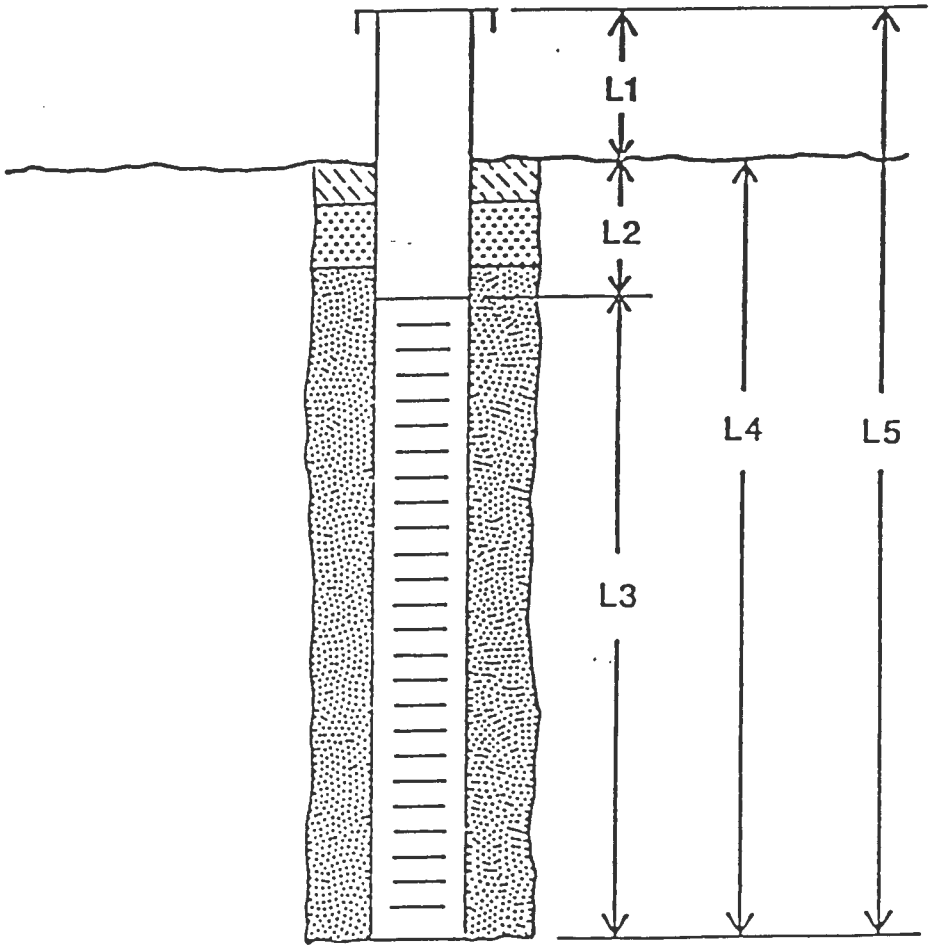
YIELD

REMARKS PVC Elevation:
99.59 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	1	Asphalt
1	3	Soil; brown.
		Blow count: 3-8-8-8
3	5	No recovery.
		Blow count: 2-2-2-2
5	7	Fill, with little sand, medium to fine, strong hydrocarbon odor.
		Blow count: 6-8-8-8
7	9	Fill, with some sand, medium to fine; black, saturated sludge, strong hydrocarbon odor.
		Blow count: 4-3-3-4
		End of hole.
		Cement: 0 - .50 foot bg
		Bentonite: .50 - 1.0 foot bg
		Sand pack: 1.0 - 11.0 feet bg
		Stick up: 0.70 foot bg
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-8



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 - 11.0 FEET

L1:	0.70	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	11.70	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. MW-9

DATE 05/14/86 PAGE 1 OF 1 PAGES

LOCATION Loading rack

DATE COMPLETED May 14, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY J. Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. 98.44 feet 1/

WELL CONSTRUCTION

SCREEN TYPE PVC - Schedule 40

DIAM. 4-inch SLOT NO. 20

SETTING 0 - 10 feet bg

GRAVEL PACK SIZE Grade 2

CASING None

DEVELOPMENT Suction pump
45 minutes,
05/15/86

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL 6.38 feet btoc
05/15/86

PUMPING WATER LEVEL

YIELD

REMARKS PVC Elevation:
100.27 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill, with soil and some sand, medium; brown, moist. Blow count: 10-9-6-5
2	4	Fill, with soil; brown. Blow count: 3-6-5-2
4	6	Fill, with gravel; saturated. Blow count: 5-6-4-5
6	8	Fill, with gravel, glass, wood. Blow count: 10-6-3-3
		End of hole.

Cement: 0 - .50 foot bg

Bentonite: .50 - 1.0 foot bg

Backfill: 1.0 - 2.0 feet bg

Bentonite: 2.0 - 3.0 feet bg

Sand pack: 3.0 - 10.0 feet bg

Stick up: 1.83 feet ag

NOTES:

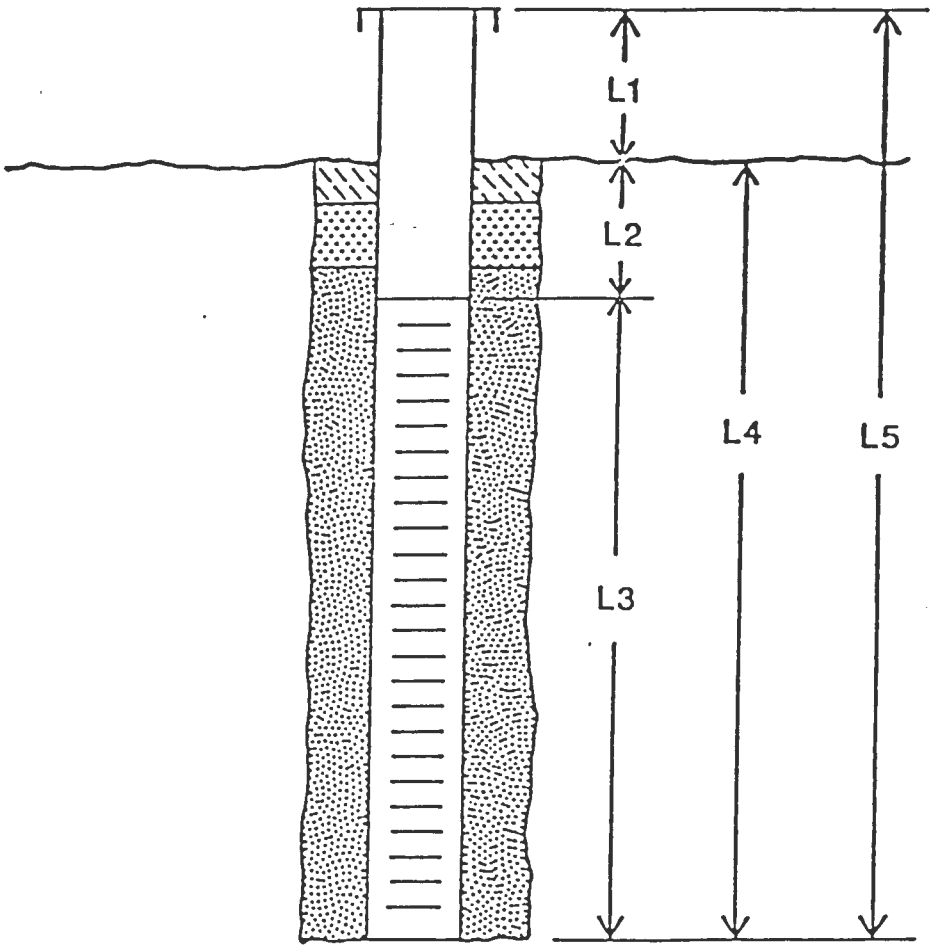
bg = below grade

btoc = below top of casing

ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

MW-9



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	1.0 - 2.0 FEET
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	2.0 - 10.0 FEET

L1:	1.83	FEET
L2:	0	FEET
L3:	10.0	FEET
L4:	10.0	FEET
L5:	11.83	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-1

DATE 11/13/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm

DATE COMPLETED: November 13, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Drive and wash

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 95.32 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1 - 12 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Suction pump

11/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 3.75 feet btoc low tide

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation:

97.57 feet

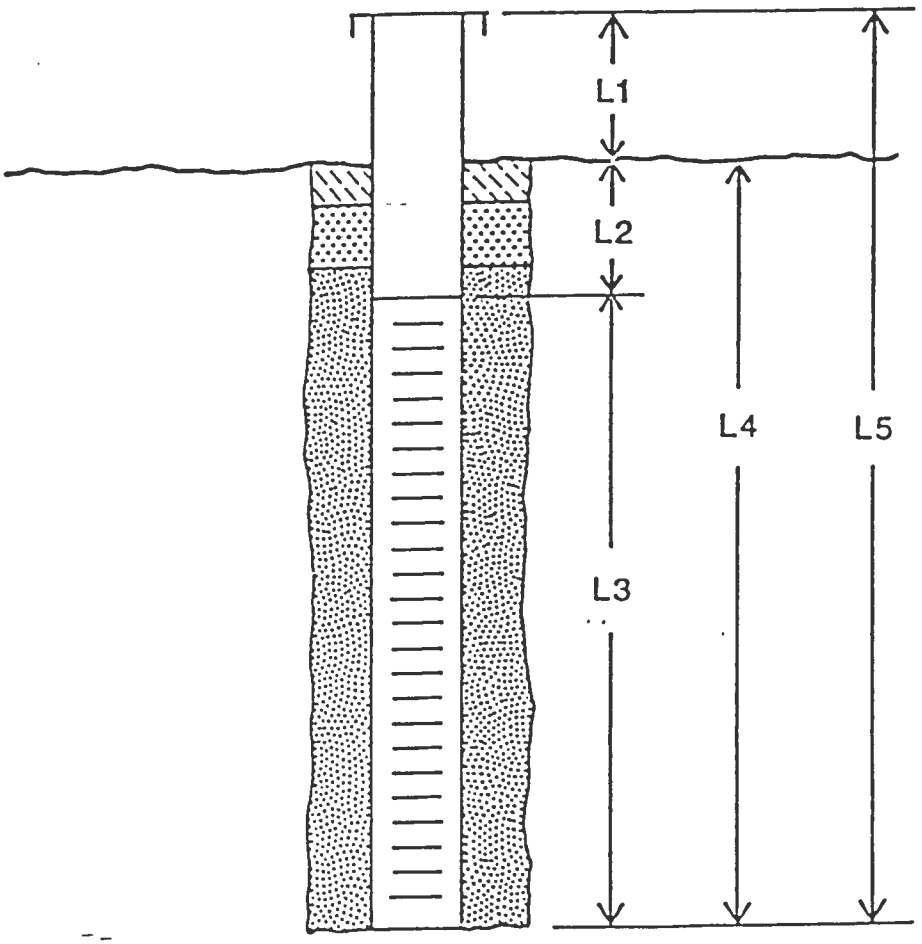
1/ Assumed datum

~ 100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, fine to very fine; some silt; very moist, organic odor, brown-black (0.6-foot recovery).
2	4	0 - 0.35 foot: SILT and CLAY, black with a layer of white. 0.35 - 0.8 foot: SAND and gravel, fine; saturated, brown (0.8-foot recovery).
10	12	GRAVEL (wash), some glass, saturated (0.3-foot recovery). End of boring 12 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 12 feet
		Stick up: 2.25 feet ag
		NOTES: bg = below grade btoc = below top of casing ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-1



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.5 - 12.0 FEET

L1:	2.25	FEET
L2:	1.0	FEET
L3:	11.0	FEET
L4:	12.0	FEET
L5:	14.25	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-2

DATE 11/07/86 PAGE 1 OF 1 PAGES

LOCATION Tank Farm

DATE COMPLETED November 7, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P.

WELL CONSTRUCTION

SCREEN TYPE

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING

DEVELOPMENT

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD Test Boring

REMARKS

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; little silt; trace of gravel, fine; saturated, brown (1.2-foot recovery).
2	4	Fill with SAND, medium to fine; little gravel, fine; trace of silt; saturated, brown, slight hydrocarbon odor. Could not get casing past 5 feet, had to move hole three times (wood), stayed within 5 feet of original location.
10	12	0 - 0.6 foot: SAND, fine; and silt; little gravel, fine; pieces of shell, saturated, brown black, slight hydrocarbon odor. 0.6 - 1.4 feet: SAND, medium to fine; and gravel, fine; some silt; strong hydrocarbon odor, visible sheen, black, saturated. End of boring 12 feet.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-3

DATE 11/10/86 PAGE 1 OF 1 PAGES

LOCATION Tank Farm

DATE COMPLETED November 10, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P.

WELL CONSTRUCTION

SCREEN TYPE

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING

DEVELOPMENT

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD

REMARKS Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine, some fine gravel, pieces of wood; moist, brown to black (0.5-foot recovery).
2	4	Fill with SAND, fine to very fine; saturated, slight sheen of hydrocarbon; black (0.5-foot recovery).
6	8	Fill with SAND, fine to very fine; little silt, slight hydrocarbon odor, black (0.4-foot recovery).
		End of boring 8 feet.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

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WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-4

DATE 11/07/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm

DATE COMPLETED: November 7, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.:

WELL CONSTRUCTION

SCREEN TYPE:

DIAM. SLOT NO.

SETTING:

GRAVEL PACK SIZE:

CASING:

DEVELOPMENT:

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL:

PUMPING WATER LEVEL:

YIELD:

REMARKS: Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, fine to very fine, little gravel, fine; piece of wood; moist; hydrocarbon odor, brown, black (1.20-foot recovery).
2	4	Fill with SAND, medium to fine; and GRAVEL, fine; some silt; saturated, strong hydrocarbon odor, sheen on spoon, black (1.50-foot recovery).
4	8	Auger cuttings: saturated with hydrocarbon, black.
8	10	Fill with SAND, medium to fine; some gravel, fine, little silt; saturated, strong hydrocarbon odor, sheen on spoon, black (1.35-foot recovery).
		End of boring 10 feet.

WELL LOG

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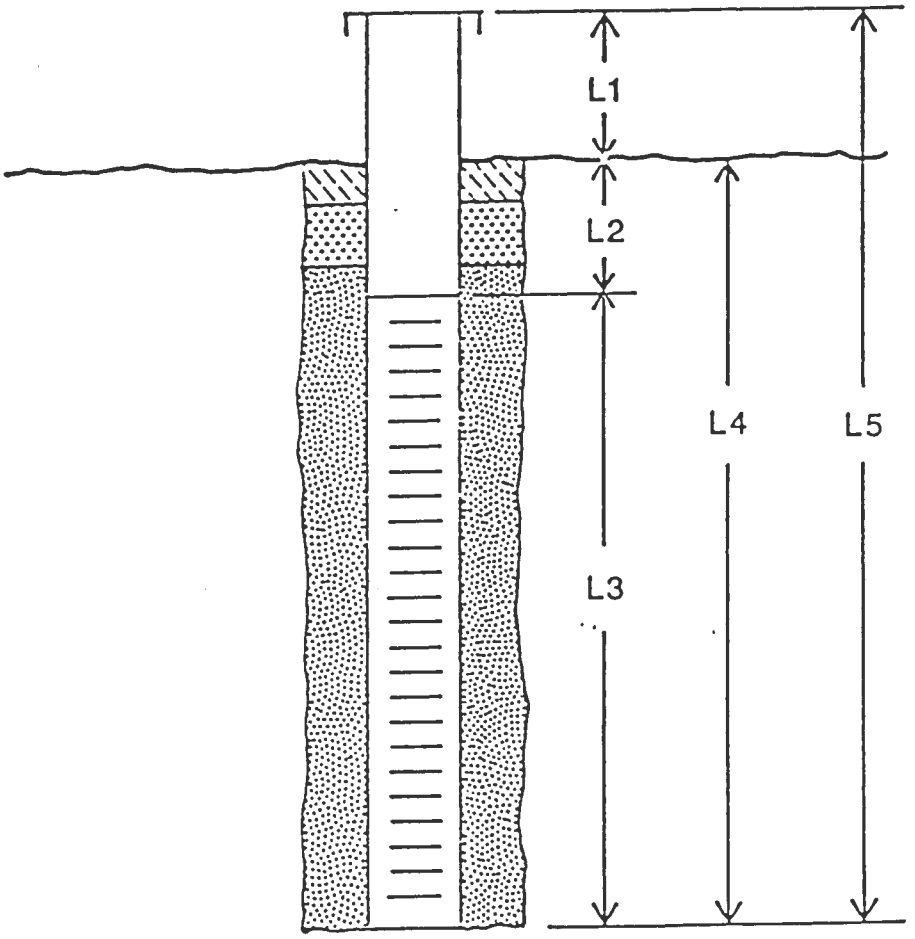
OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. OW-5
DATE 11/17/86 PAGE 1 OF 1 PAGES

LOCATION: North end of Tank Farm
DATE COMPLETED: November 17, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Drive and wash
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 96.47 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC
DIAM.: 2-inch SLOT NO.: 20
SETTING: 0.71 - 10.71 feet bg
GRAVEL PACK SIZE: Grade 2
CASING: PVC
DEVELOPMENT: 11/17/86, 30 minutes, suction pump
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 4.10 feet btoc 11/17/86
PUMPING WATER LEVEL:
YIELD: Poor
REMARKS: PVC Elevation: 98.47 feet
1/ Assumed datum 100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	From bottom of spoon.
		0 - 0.35 foot: Fill with sand, medium to fine; some silt; moist; hydrocarbon odor; black.
		0.35 - 0.7 foot: Sand, medium to fine; and silt; moist, brown, 0.7-foot recovery.
2	4	Fill, sand, fine to very fine; and silt; trace of gravel, fine; saturated with hydrocarbon, strong odor (fuel oil), sheen on spoon, black, 0.35-foot recovery.
10	12	Fill with sand, medium to fine, and gravel, fine; little silt, saturated, slight hydrocarbon odor, pieces of glass, 0.3-foot recovery, brown, black.
		End of boring.
		Cement: 0 - 0.3 foot bg
		Bentonite: 0.3 - 0.6 foot bg
		Sand pack: 0.6 - 11 feet bg
		Stick up: 2.00 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-5



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 -0.30 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.30 - 0.60 FOOT
SAND PACK DEPTH:	0.60 - 11.0 FEET

L1:	2.0	FEET
L2:	0.71	FEET
L3:	10	FEET
L4:	10.71	FEET
L5:	12.71	FEET

WELL LOG

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OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. TB-6
DATE 11/10/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm
DATE COMPLETED: November 10, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Hollow-stem auger
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.:
WELL CONSTRUCTION
SCREEN TYPE:
DIAM.: SLOT NO.:
SETTING:
GRAVEL PACK SIZE:
CASING:
DEVELOPMENT:
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL:
PUMPING WATER LEVEL:
YIELD:
REMARKS: Test Boring

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, fine to very fine; little gravel, fine; trace of silt; brown, black (0.5-foot recovery).
2	4	Fill with SAND, fine to very fine; trace of gravel, fine; moist; hydrocarbon odor, black (0.4-foot recovery).
10	12	Fill with SAND, fine to very fine; little silt; saturated, slight hydrocarbon odor, black (1.0-foot recovery).
		End of boring 12 feet.

WELL LOG

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OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. TB-7
DATE 11/12/86 PAGE 1 OF 1 PAGES

LOCATION Tank Farm
DATE COMPLETED November 12, 1986
DRILLING COMPANY Tes Corporation
DRILLING METHOD Drive and wash
SAMPLING METHOD Split spoon
SAMPLES EXAMINED BY John Benvegna
REFERENCE POINT Grade
ELEVATION OF R.P.
WELL CONSTRUCTION
SCREEN TYPE
DIAM. SLOT NO.
SETTING
GRAVEL PACK SIZE
CASING
DEVELOPMENT
PUMPING TEST
DATE
DURATION
STATIC WATER LEVEL
PUMPING WATER LEVEL
YIELD
REMARKS Test Boring

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, fine to very fine; bottom of spoon moist, brown, black (1.0-foot recovery).
2	4	Fill with SAND, fine to very fine; little silt; pieces of wood, saturated, strong hydrocarbon odor, black (0.4-foot recovery).
10	12	Fill with SAND, medium to fine; and GRAVEL, fine; little silt; saturated, strong hydrocarbon odor, sheen on spoon, black (0.5-foot recovery).
		End of boring 12 feet.

WELL LOG

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OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. OW-8
DATE 11/13/86 PAGE 1 OF 1 PAGES

LOCATION: Tank Farm
DATE COMPLETED: November 13, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Hollow-stem auger
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 96.19 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 2-inch SLOT NO.: 20
SETTING: 1.46 - 12.46 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Suction pump
11/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 5.01 feet btoc low tide
PUMPING WATER LEVEL:
YIELD: Poor
REMARKS: PVC Elevation:
98.19 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; little silt, trace of gravel, fine; moist, brown (1.5-foot recovery).
2	4	Fill with SAND, fine to very fine; trace of silt; pieces of shell and wood, saturated, organic odor, brown (0.6-foot recovery).
10	12	Fill with SAND, medium; and GRAVEL, fine; pieces of paper, saturated, black, brown (0.5-foot recovery).
		End of boring 12 feet.
		Cement: 0.0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 12 foot bg
		Stick up: 2.0 ft ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

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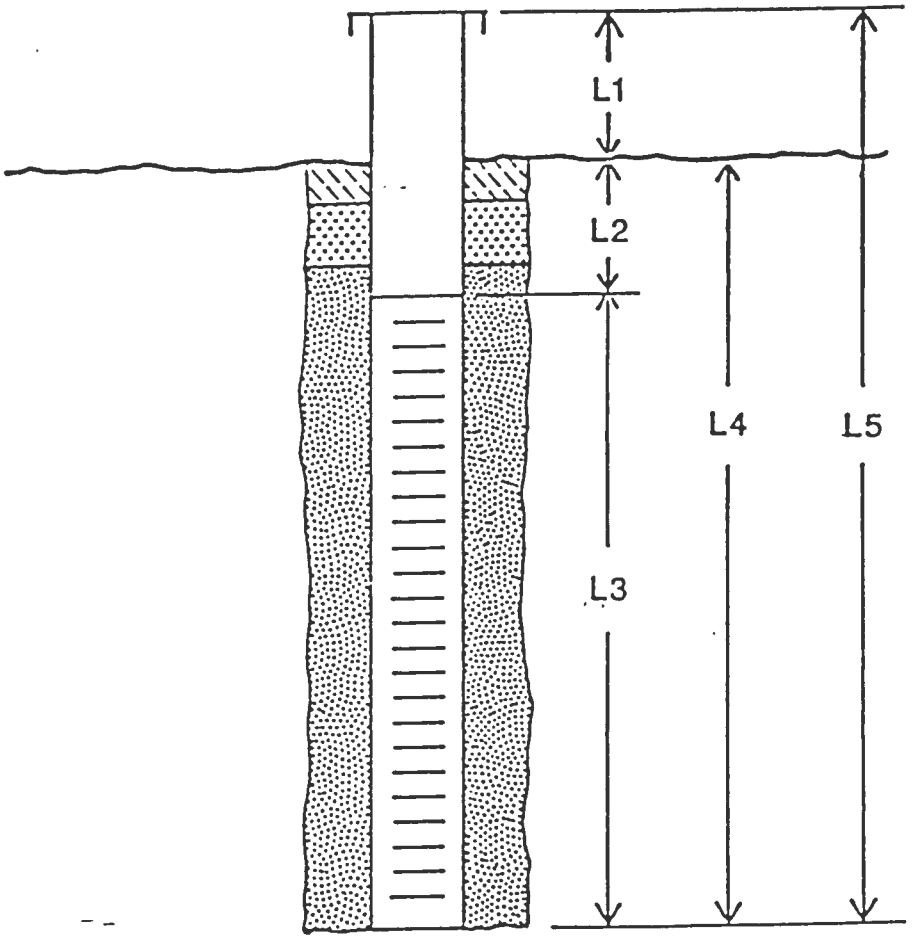
OW- 8



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.5 - 12.0 FEET

L1:	2.0	FEET
L2:	1.46	FEET
L3:	11.0	FEET
L4:	12.46	FEET
L5:	14.46	FEET

WELL LOG

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OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. CW-9
DATE 11/04/86 PAGE 1 OF 1 PAGES

LOCATION: Southwest side of Tank Farm
DATE COMPLETED: November 5, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Drive and wash
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 96.69 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 2-inch SLOT NO.: 20
SETTING: 0.5 - 15 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Suction pump
11/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 4.66 feet btoc high tide
PUMPING WATER LEVEL:
YIELD: Good
REMARKS: PVC Elevation:
99.19 feet
1/ Assumed datum
100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, very fine; and SILT; piece of paper; moist, brown (2.0-foot recovery).
2	4	Fill with GRAVEL, medium to fine; trace of silt; pieces of glass, moist, brown (1.2-foot recovery).
5	7	Fill with GRAVEL, medium to fine; trace of silt; pieces of glass, saturated, brown (1.2-foot recovery).
12	14	No recovery.
14	16	SILT; saturated, black, gray, sulfur odor.
		End of boring 16 feet.
		Cement: 0.0 - 0.2 foot bg
		Bentonite: 0.2 - 0.4 foot bg
		Sand: 0.4 - 15 feet bg
		Stick up: 2.5 ft ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

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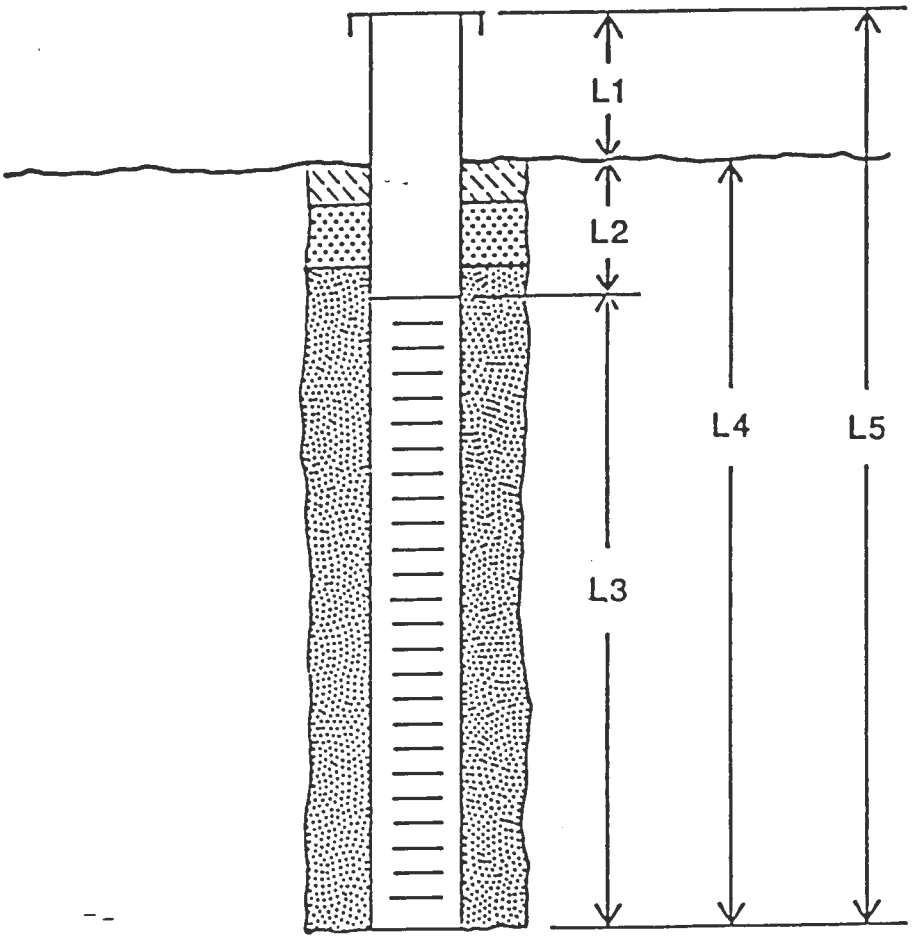
OW-9



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.40 FOOT
SAND PACK DEPTH:	0.40 - 15.0 FEET

L1:	2.5	FEET
L2:	0.5	FEET
L3:	14.5	FEET
L4:	15.0	FEET
L5:	17.50	FEET

WELL LOG

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72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-10

DATE 11/04/86 PAGE 1 OF 1 PAGES

LOCATION Southeast side of Tank Farm

DATE COMPLETED November 14, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. ---

WELL CONSTRUCTION

SCREEN TYPE ---

DIAM. ---- SLOT NO. ----

SETTING ----

GRAVEL PACK SIZE ----

CASING ----

DEVELOPMENT ----

PUMPING TEST

DATE ----

DURATION ----

STATIC WATER LEVEL ----

PUMPING WATER LEVEL ----

YIELD ----

REMARKS Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	0 - 1.0 foot: Fill with SAND, fine; brown.
		1 - 1.3 feet: Fill with glass, pieces of shell, moist, black (1.3-foot recovery).
2	4	Fill with GRAVEL, fine; some SAND, medium to fine; pieces of glass; saturated, slight hydrocarbon odor, sheen on spoon, black (1.0-foot recovery).
4	6	Fill with SAND and GRAVEL, medium to fine, pieces of glass, saturated, strong hydrocarbon odor, sheen on spoon, visible hydrocarbon, black (1.5-foot recovery).
5	7	Fill with SAND and GRAVEL, medium to fine, pieces of glass, saturated, strong hydrocarbon odor, sheen on spoon, visible hydrocarbon, black (1.5-foot recovery).
		End of boring 7 feet.

WELL LOG

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WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-11

DATE 11/04/86 PAGE 1 OF 1 PAGES

LOCATION Southeast corner of Tank Farm

DATE COMPLETED November 4, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. ____

WELL CONSTRUCTION

SCREEN TYPE ____

DIAM. ____ SLOT NO. ____

SETTING ____

GRAVEL PACK SIZE ____

CASING ____

DEVELOPMENT ____

PUMPING TEST

DATE ____

DURATION ____

STATIC WATER LEVEL ____

PUMPING WATER LEVEL ____

YIELD ____

REMARKS Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with sand, fine; pieces of shell and glass, brown, black, white (1.3-foot recovery).
2	4	SILT and CLAY; saturated, hydrogen sulfide odor, black, traces of red dye (1.0-foot recovery).
4	6	Silt; pieces of shell, hydrogen sulfide odor, saturated, black, traces of red dye (0.8-foot recovery).
6	8	Silt; pieces of shell, hydrogen sulfide odor, saturated, black, traces of red dye (0.5-foot recovery).
		End of boring 8 feet.

WELL LOG

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OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-12

DATE 11/06/86 PAGE 1 OF 1 PAGES

LOCATION: Northeast corner of loading rack

DATE COMPLETED: November 6, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Drive and wash

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 100.38 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1 - 15 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Airlift

November 13, 1986

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 7.70 feet btoc high tide

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation: 101.55 feet.

1/ Assumed datum 100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SILT; some gravel, fine, pieces of wood and brick, moist; traces of red dye; brown; black (1.6-foot recovery).
2	4	Fill-silt and clay; very moist, black (1.5-foot recovery).
4	6	Fill with SILT; little sand, medium; trace of gravel, pieces of glass and wood, saturated, trace of red dye, black, brown (1.0-foot recovery).
10	12	Fill with SILT and SAND, medium to fine; trace of gravel, fine; some black dye, saturated, black (0.4-foot recovery).
		End of boring 12 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 15 feet bg
		Stick up: 1.17 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
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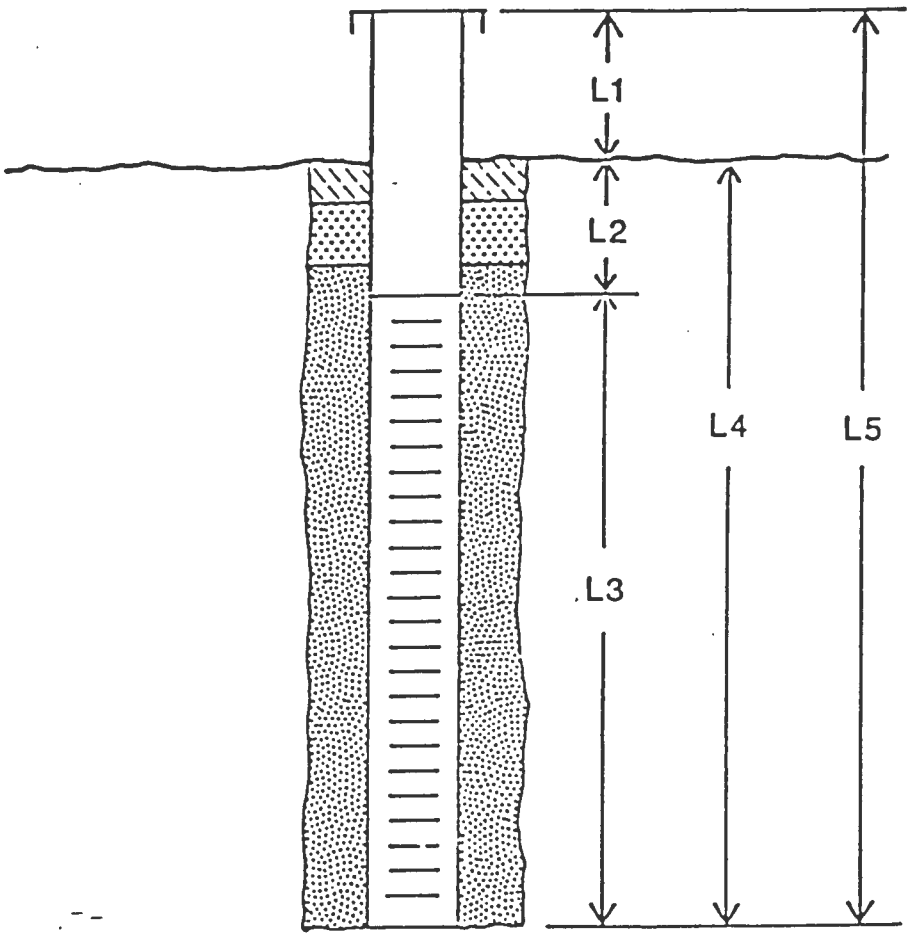
OW-12



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 – 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 – 0.50 FOOT
SAND PACK DEPTH:	0.5 – 15.0 FEET

L1:	1.17	FEET
L2:	1.0	FEET
L3:	14.0	FEET
L4:	15.0	FEET
L5:	16.17	FEET

WELL LOG

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72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-13

DATE 11/05/86 PAGE 1 OF 1 PAGES

LOCATION Northwest corner of loading rack

DATE COMPLETED November 5, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. ____

WELL CONSTRUCTION

SCREEN TYPE ____

DIAM. ____ SLOT NO. ____

SETTING ____

GRAVEL PACK SIZE ____

CASING ____

DEVELOPMENT ____

PUMPING TEST

DATE ____

DURATION ____

STATIC WATER LEVEL ____

PUMPING WATER LEVEL ____

YIELD ____

REMARKS Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, fine; and silt; pieces of shell, brown, white (0.7-foot recovery).
2	4	Fill with sand, fine to very fine; some silt; spots of light brown and dark brown, moist (0.8-foot recovery).
5	7	Fill with SILT; some gravel, fine, saturated, black, brown, spots of white (1.0-foot recovery).
7	9	Fill with SILT and SAND, fine to very fine; trace of gravel; saturated, brown (1.2-foot recovery).
		End of boring 9 feet.

WELL LOG

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WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-14

DATE 11/05/86 PAGE 1 OF 1 PAGES

LOCATION East side of loading rack

DATE COMPLETED November 5, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P.

WELL CONSTRUCTION

SCREEN TYPE

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING

DEVELOPMENT

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD

REMARKS Test Boring

DEPTH IN FEET FROM	TO	DESCRIPTION
0	0.5	Blacktop.
2	4	Fill with SILT and GRAVEL, fine; moist, trace of pink dye; black, very moist (0.7-foot recovery).
4	6	Fill with SILT and GRAVEL, fine; saturated, strong hydrocarbon odor, sheen on spoon, black (0.5-foot recovery).
9	11	Fill with SILT: little sand and gravel, medium to fine; saturated, strong hydrocarbon odor, visual sheen (0.6-foot recovery).
		End of boring 11 feet.

WELL LOG

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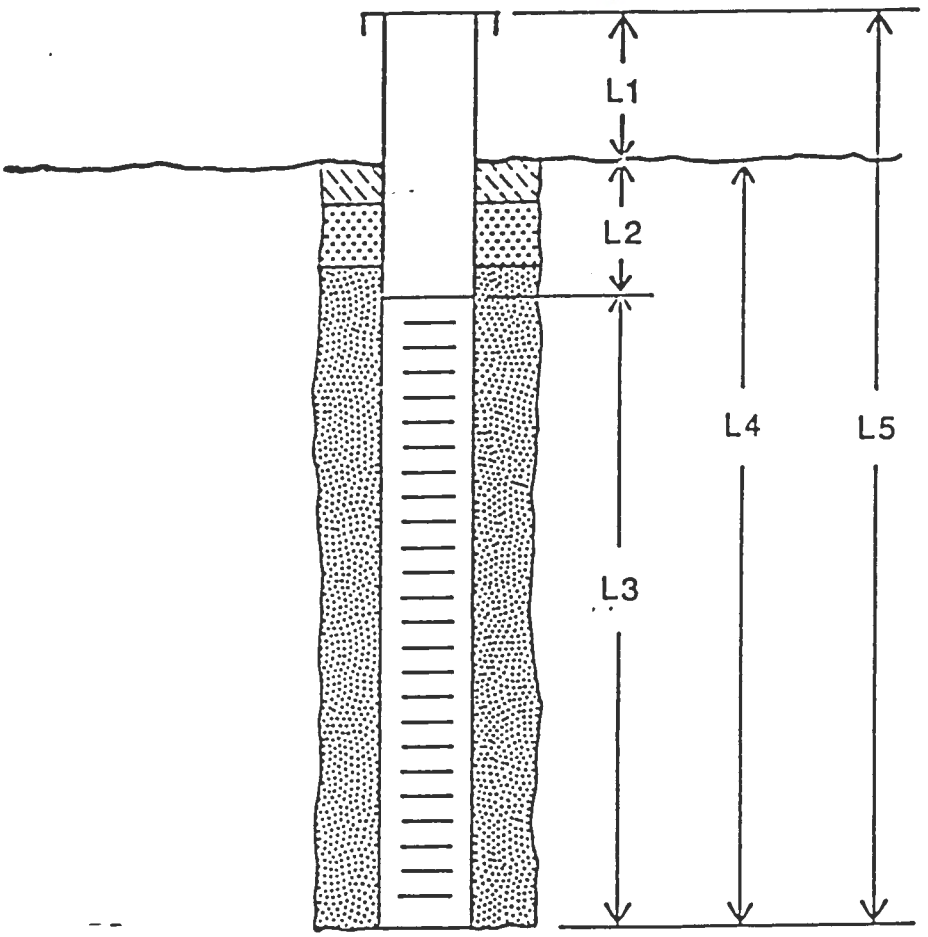
OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. ON-15
DATE 11/06/86 PAGE 1 OF 1 PAGES

LOCATION: Far east side of loading rack area
DATE COMPLETED: November 6, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Drive and wash
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 98.67 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 2-inch SLOT NO.: 20
SETTING: 1.84 - 15.84 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Airlift
11/13/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 6.48 feet btoc high tide
PUMPING WATER LEVEL:
YIELD:
REMARKS: PVC Elevation: 100.37 feet
1/ Assumed datum 100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; and silt, less of sand, fine; light brown at 0.5 foot; moist, black stain, dve? (1.6-foot recovery).
2	4	Fill with SAND, medium to fine; little silt; trace of gravel, fine; less of sand, 0.2 foot from bottom of spoon, fine, light brown, moist, black, brown (1.1-foot recovery).
4	6	Fill with SAND, medium to fine; some silt; trace of gravel, fine; lens of SAND, fine; light brown, 1.0 foot from bottom of spoon, saturated, black, brown (1.4-foot recovery).
10	12	Fill with SAND, medium to fine; trace of silt; saturated, pieces of wood, black (0.4-foot recovery).
		End of boring 16 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 16.0 feet bg
		Stick up: 1.70 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-15



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 16.0 FEET

L1:	1.70	FEET
L2:	1.84	FEET
L3:	14.0	FEET
L4:	15.84	FEET
L5:	17.54	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD
WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-16

DATE 11/07/86 PAGE 1 OF 2 PAGES

LOCATION: Outside front gate

DATE COMPLETED: November 7, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 97.94 feet 1/

WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 4-inch SLOT NO.: 20
SETTING: 2 - 17 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Suction pump
11/14/86

PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 4.13 feet btoc low tide
PUMPING WATER LEVEL:
YIELD: Good

REMARKS: Step down cap and gate box.
PVC Elevation:
97.64 feet
1/ Assumed datum:
100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	0.3	Blacktop.
0.3	2	Fill with SAND, fine to very fine; and SILT; pieces of brick (1.7-foot recovery).
2	4	Fill with SAND, medium to fine; little SILT; trace of gravel, fine; pieces of glass, moist, brown, black, spots of white (1.3-foot recovery).
4	6	Fill with SAND, medium to fine; some silt; little gravel, fine; saturated, black (1.7-foot recovery).
10	12	Fill with SAND, medium to fine; some silt; little gravel, fine; saturated, strong hydrocarbon odor, sheen on spoon, black (1.45-foot recovery).
12	17	Auger cuttings - approximately.
		Fill with SAND, medium to fine; some silt; little gravel, fine; saturated, strong hydrocarbon odor, sheen on spoon, black (1.45-foot recovery).
		End of boring 17 feet.
		Cement: 0.5 - 1.0 foot bg
		Bentonite: 1.0 - 1.5 foot bg
		Sand: 1.5 - 17 feet bg
		Stick up: none

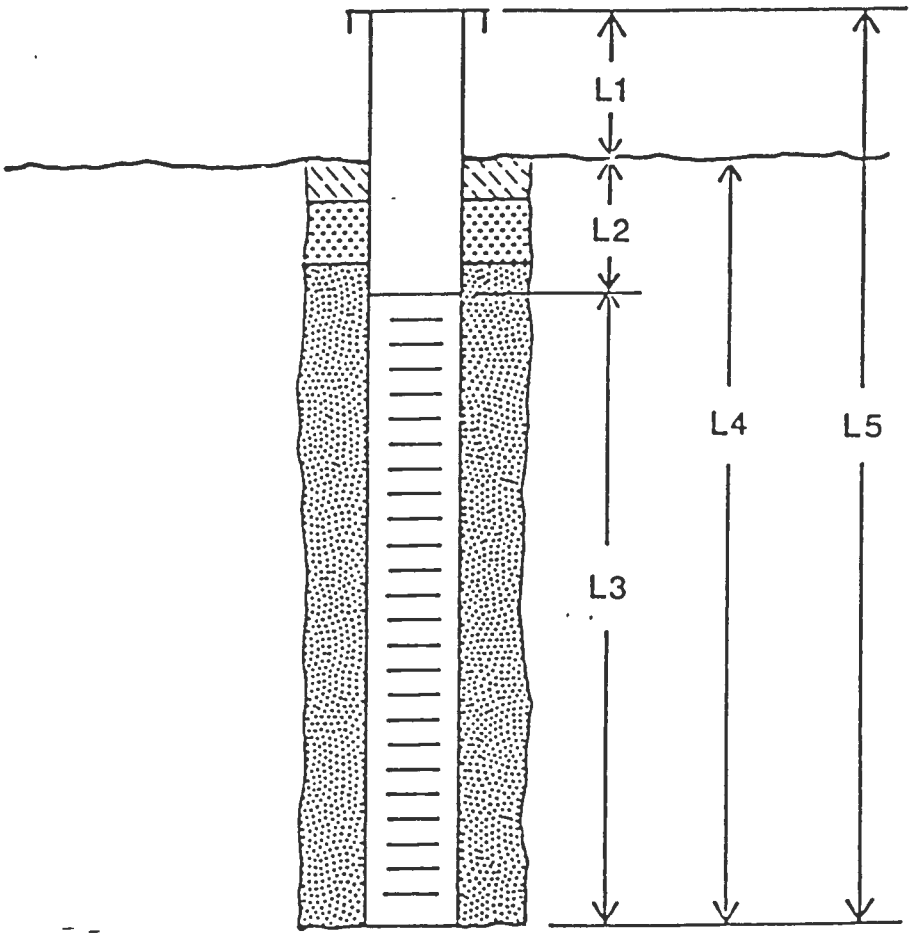
OWNER Mobil Oil Corporation, Hastings, New York

WELL NO. OW-16 PAGE 2 OF 2 PAGES

DEPTH IN FEET FROM	TO	DESCRIPTION
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-16



WELL SIZE:	4-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0.5 – 1.0 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	1.0 -1.5 FOOT
SAND PACK DEPTH:	1.5 – 17.0 FEET

L1:	0.0	FEET
L2:	2.0	FEET
L3:	15.0	FEET
L4:	17.0	FEET
L5:	17.0	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-17

DATE 11/07/86 PAGE 1 OF 1 PAGES

LOCATION: Southeast side of Tank Farm

DATE COMPLETED: November 7, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Drive and wash

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 99.35 feet[1/]

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1.9 - 15.9 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Suction pump

11/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 7.0 feet btoc low tide

PUMPING WATER LEVEL:

YIELD: Moderate

REMARKS: PVC Elevation:

101.10 feet

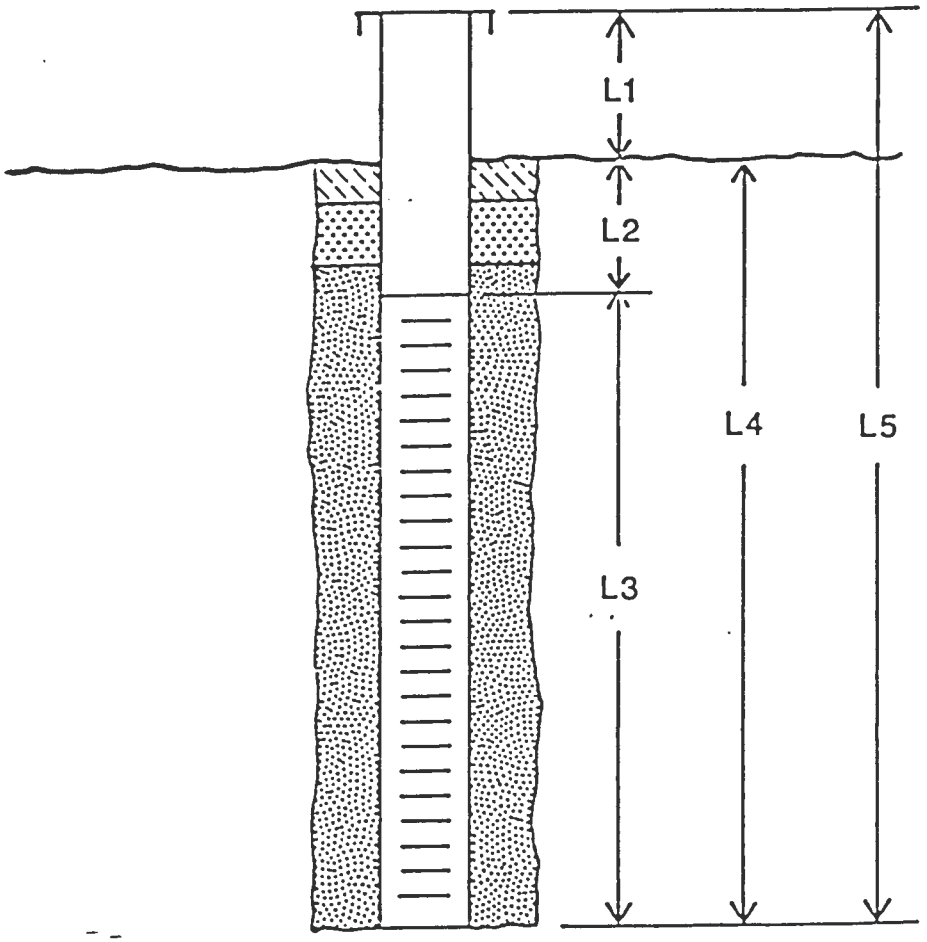
1/ Assumed datum

~100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; and SILT; pieces of wood and glass, moist, black stain (carbon?) (1.5-foot recovery).
2	4	Fill with SAND, medium to fine; and SILT; trace of gravel, fine; saturated, strong odor (hydrogen sulfide), blue and black stain (0.5-foot recovery).
4	6	Fill with SAND, fine to very fine; and SILT; saturated, strong odor (hydrogen sulfide), blue and black stain (1.0-foot recovery).
10	12	Fill with SAND, fine to very fine; and SILT; saturated, strong odor (hydrogen sulfide), blue and black stain (0.4-foot recovery).
		Drive casing to 16 feet - install well.
		End of boring 16 feet.
		Cement: 0 - 0.1 foot
		Bentonite: 0.1 - 0.5 foot
		Sand: 0.5 - 16 feet bg
		Stick up: 1.75 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-17



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.10 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.10 - 0.5 FOOT
SAND PACK DEPTH:	0.5 -16 FEET

L1:	1.75	FEET
L2:	1.9	FEET
L3:	14.0	FEET
L4:	15.90	FEET
L5:	17.65	FEET

WELL LOG

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WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-18

DATE 11/14/86 PAGE 1 OF 1 PAGES

LOCATION Middle of Tank Farm east side

DATE COMPLETED November 14, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P. 96.46 feet 1/

WELL CONSTRUCTION

SCREEN TYPE PVC - Schedule 40

DIAM. 2-inch SLOT NO. 20

SETTING 1 - 11 feet bg

GRAVEL PACK SIZE No. 2

CASING PVC

DEVELOPMENT Suction pump

11/17/86

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD

REMARKS PVC Elevation:

98.01 feet

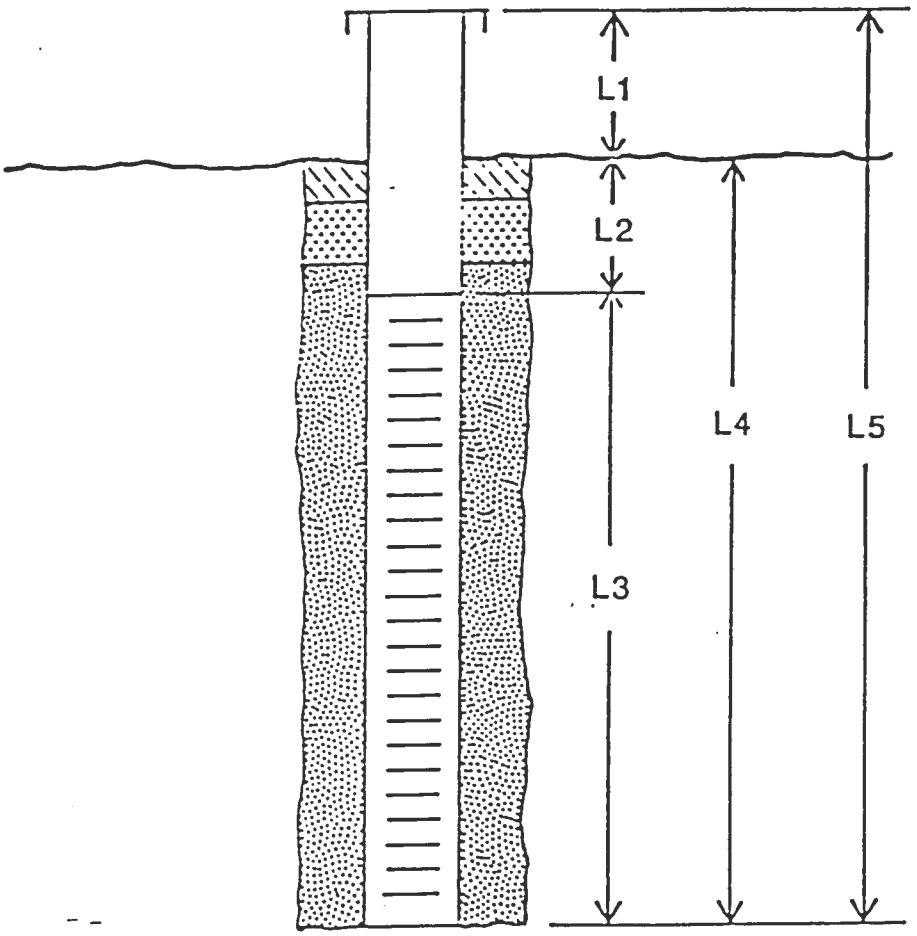
1/ Assumed datum

~100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, very fine; and SILT, trace of gravel, fine; moist, slight hydrocarbon color; black (1-foot recovery).
2	4	Fill with SAND, very fine; and SILT; pieces of wood, saturated with hydrocarbon, strong odor (0.6-foot recovery).
10	12	Bent spoon - no sample, could not get past 11 feet, installed well at 11 feet.
		End of boring 11 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 11 feet bg
		Stick up: 1.55 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-18



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 11.0 FEET

L1:	1.55	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	12.55	FEET

WELL LOG

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OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-19

DATE 11/12/86 PAGE 1 OF 1 PAGES

LOCATION: Inside gate at Tank Farm entrance

DATE COMPLETED: November 12, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 98.70 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1 - 16 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Airlift

11/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 5.10 feet btoc low tide

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation:

100.35 feet

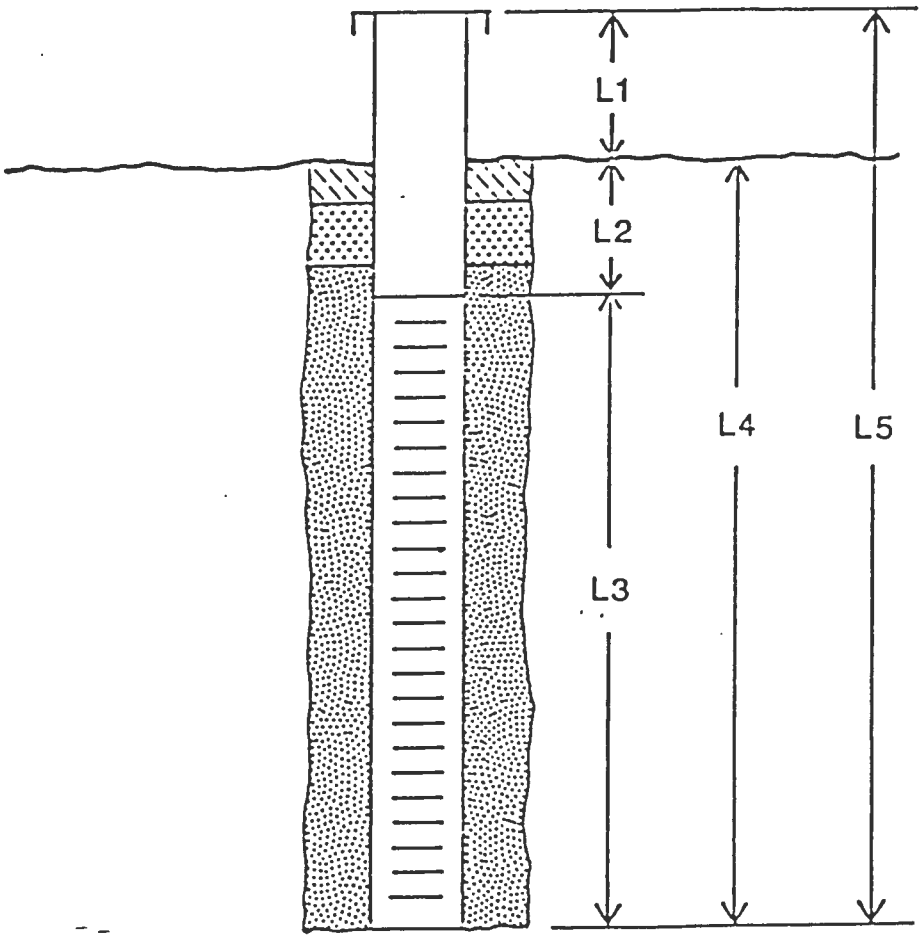
1/ Assumed datum

~100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; and SILT; some gravel, fine; moist, slight hydrocarbon odor, brown, black (1.6-foot recovery).
2	4	Fill with SAND, fine; some silt; saturated, light brown, gray (1.55-foot recovery).
4	6	SAND, fine to very fine; little silt; trace of gravel, fine; saturated (1.80-foot recovery).
10	12	Sand, medium to fine; little silt; saturated, black, brown, specks of red and white (0.9-foot recovery).
		Auger to 16 feet.
		Cement: 0 - 0.2 foot bg
		Backfill: 0.2 - 0.8 foot bg
		Bentonite: 0.8 - 1.2 feet bg
		Sand: 1.20 - 16 feet bg
		Stick up: 1.65 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-19



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	0.20 - 0.80 FOOT
BENTONITE DEPTH:	0.80 - 1.20 FEET
SAND PACK DEPTH:	1.20 - 16.0 FEET

L1:	1.65	FEET
L2:	1.0	FEET
L3:	15.0	FEET
L4:	16.0	FEET
L5:	17.65	FEET

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-20

DATE 11/11/86 PAGE 1 OF 2 PAGES

LOCATION: Far northeastern corner of Tank Farm

DATE COMPLETED: November 12, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 98.97 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM. 2-inch SLOT NO. 20

SETTING: 1.73 - 11.73 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Airlift

11/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 6.14 feet btoc low tide

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation: 101.12 feet

1/ Assumed datum ~100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; little silt; trace of gravel, fine; pieces of brick, black, brown (1.5-foot recovery).
2	4	Fill with SAND, medium to fine; trace of gravel, fine; layer of silt of approximately 0.1-foot thick at bottom of spoon, moist (0.5-foot recovery).
6	8	Fill with SAND, fine to very fine; and SILT; trace of gravel, fine; saturated, slight hydrocarbon odor, black, grav (0.6-foot recovery).
		Could not pass 6 feet - moved hole 3 feet.
10	12	Fill with SAND, fine to very fine; and SILT; saturated, slight hydrocarbon odor, grav (1.0-foot recovery).
		Auger to 13 feet - install well.
		End of boring 13 feet.
		Cement: 0.0 - 0.5 foot bg
		Backfill: 0.5 - 1.5 feet bg
		Bentonite: 1.5 - 2.0 feet bg
		Sand: 2 - 13 feet bg
		Stick up: 2.15 feet ag

OWNER Mobil Oil Corporation, Hastings, New York

WELL NO. OW-20 PAGE 2 OF 2 PAGES

DEPTH IN FEET FROM	TO	DESCRIPTION
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

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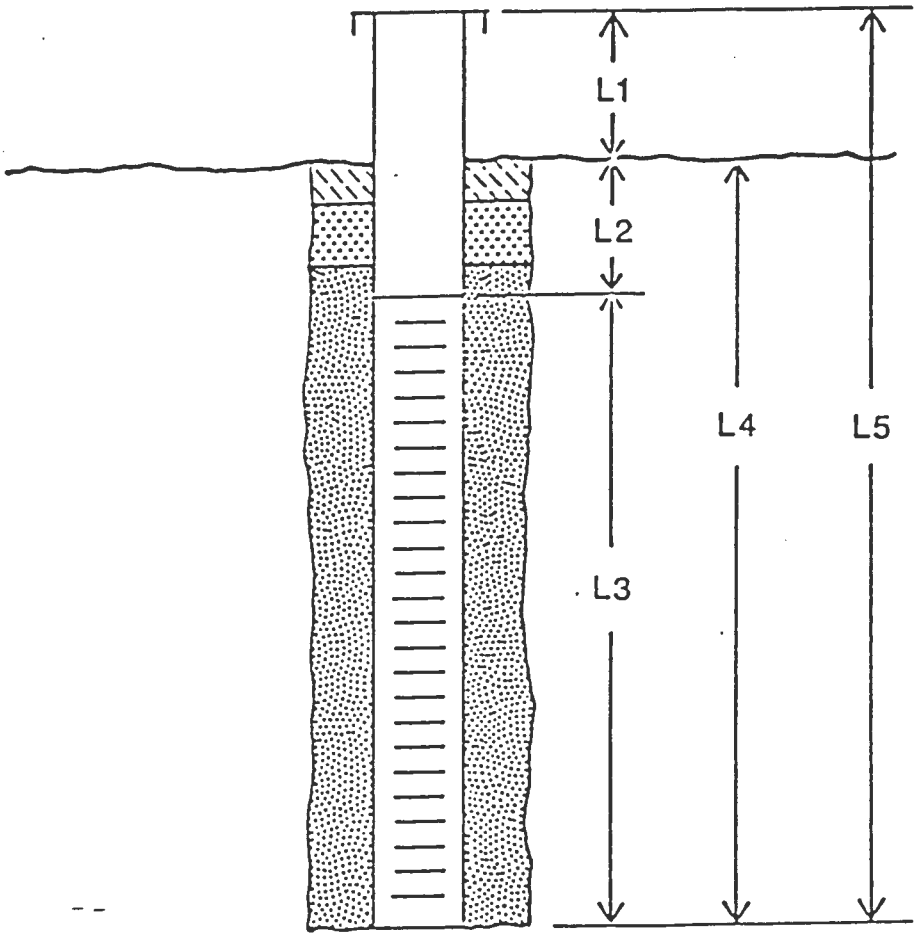
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-20



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	0.50 - 1.5 FEET
BENTONITE DEPTH:	1.50 - 2.0 FEET
SAND PACK DEPTH:	2.0 - 13.0 FEET

L1:	2.15	FEET
L2:	1.73	FEET
L3:	10.0	FEET
L4:	11.73	FEET
L5:	13.88	FEET

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.
CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. OW-21
DATE 11/10/86 PAGE 1 OF 2 PAGES

LOCATION: North end of Tank Farm
DATE COMPLETED: November 10, 1986
DRILLING COMPANY: Tes Corporation
DRILLING METHOD: Hollow-stem auger
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 97.18 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 2-inch SLOT NO.: 20
SETTING: 1 - 16 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Airlift
11/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 5.17 feet btoc low tide
PUMPING WATER LEVEL:
YIELD:
REMARKS: PVC Elevation: 98.63 feet
1/ Assumed datum
≈100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	0.3	Blacktop.
0.3	2	Fill with SAND, fine to very fine; and SILT, some gravel, fine; moist, black (0.6-foot recovery).
2	4	From bottom of spoon.
		0 - 0.5 foot: SILT AND CLAY, moist, black and gray.
		0.5 - 1.2 feet: GRAVEL, medium; gray (1.2-foot recovery).
4	6	0 - 0.6 foot: SAND, fine to very fine and GRAVEL, fine; brown gray.
		0.6 - 1.2 feet: SAND, fine to very fine; and silt; saturated, gray (1.2-foot recovery).
11	13	SAND, medium to fine; and SILT; some gravel, fine; saturated, hydrogen sulfide odor, gray (1.0-foot recovery).
		Auger to 16 feet - install well to 16 feet.
		Cement: 0.0 - 0.5 foot bg
		Bentonite: 0.5 - 1 foot bg
		Sand: 1 - 16 feet bg
		Stick up: 1.45 feet ag

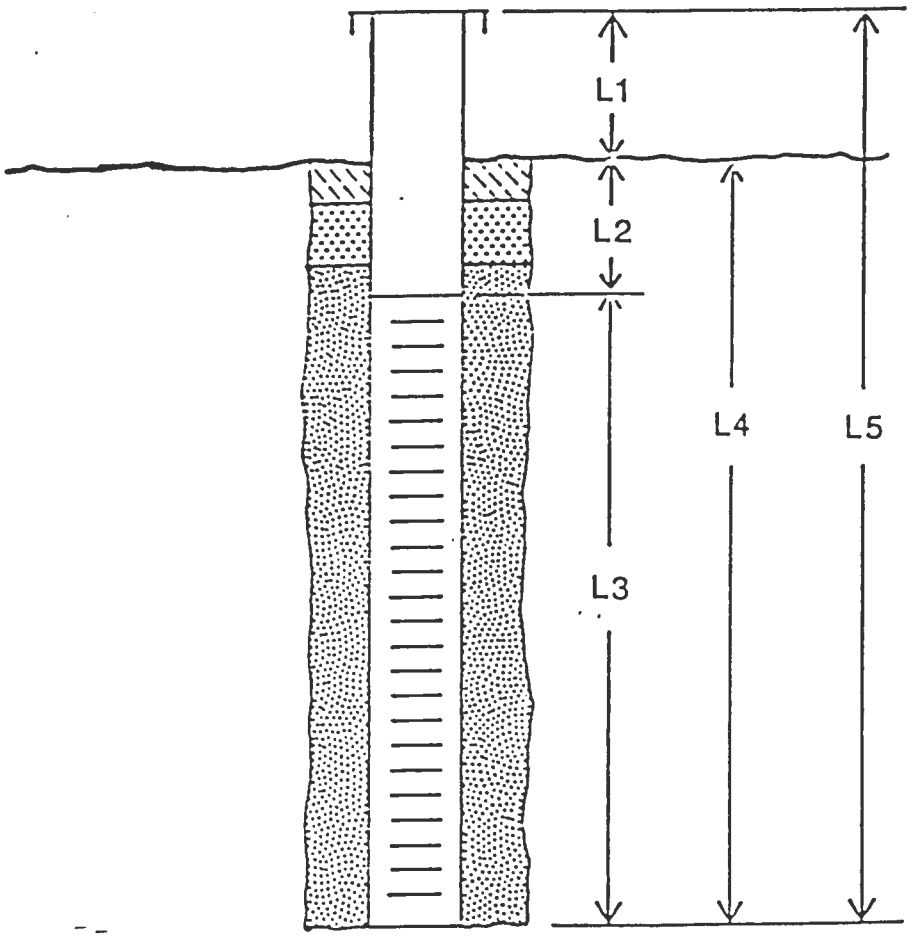
OWNER Mobil Oil Corporation, Hastings, New York

WELL NO. OW-21

DEPTH IN FEET FROM	TO	DESCRIPTION
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-21



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.5 FOOT
BACKFILL DEPTH:	0.5 - 1.0 FOOT
BENTONITE DEPTH:	0.5 - 1.0 FOOT
SAND PACK DEPTH:	1.0 - 16 FEET

L1:	1.45	FEET
L2:	1.0	FEET
L3:	15.0	FEET
L4:	16.0	FEET
L5:	17.45	FEET

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-22

DATE 11/12/86 PAGE 1 OF 1 PAGES

LOCATION Far east side of Tank Farm

DATE COMPLETED November 12, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Hollow-stem auger

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P.

WELL CONSTRUCTION

SCREEN TYPE

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING

DEVELOPMENT

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD

REMARKS Test Boring

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; some gravel, fine; moist, brown (0.6-foot recovery).
		Underground obstruction (foundation?) - moved hole 2 feet.
2	4	Fill with SAND, medium tc fine; little gravel, fine; trace of silt; very moist, pieces of brick, black brown (0.8-foot recovery).
		Obstruction and moved hole again 2 feet.
10	12	From bottom of spoon.
		0 - 0.5 foot: SAND, fine tc very fine; and SILT; black.
		0.5 - 1.3 feet: SILT and CLAY; gray, black; saturated, hydrocarbon odor.
		End of boring 12 feet.

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-23

DATE 11/12/86 PAGE 1 OF 1 PAGES

LOCATION: Northeast corner of Tank Farm

DATE COMPLETED: November 12, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.:

WELL CONSTRUCTION

SCREEN TYPE:

DIAM.: SLOT NO.:

SETTING:

GRAVEL PACK SIZE:

CASING:

DEVELOPMENT:

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL:

PUMPING WATER LEVEL:

YIELD:

REMARKS: Test Boring

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; little SILT, and gravel, fine; moist, brown (1.2-foot recovery).
2	4	Fill with SAND, fine to very fine; little silt; trace of gravel, fine; very moist, brown (1.0-foot recovery).
4	6	Fill with SAND, coarse to medium, some fine sand, and gravel, fine; little silt; saturated, grav (0.6-foot recovery). Could not drill past 6 feet - last sample 4 to 6 feet.

WELL LOG

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72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. TB-24

DATE 11/10/86 PAGE 1 OF 1 PAGES

LOCATION North end of Tank Farm

DATE COMPLETED November 10, 1986

DRILLING COMPANY Tes Corporation

DRILLING METHOD Drive and wash

SAMPLING METHOD Split spoon

SAMPLES EXAMINED BY John Benvegna

REFERENCE POINT Grade

ELEVATION OF R.P.

WELL CONSTRUCTION

SCREEN TYPE

DIAM. SLOT NO.

SETTING

GRAVEL PACK SIZE

CASING

DEVELOPMENT

PUMPING TEST

DATE

DURATION

STATIC WATER LEVEL

PUMPING WATER LEVEL

YIELD

REMARKS Test Boring

DEPTH IN FEET FROM	TO	DESCRIPTION
0	2	Fill with SAND, fine to very fine; little silt, pieces of brick, moist, brown (1.0-foot recovery).
3	4	Fill with SAND, very fine and silt, piece of brick, moist, hydrocarbon odor, black (0.7-foot recovery).
11	13	Fill with SAND, very fine; and SILT; trace of gravel, fine; saturated, black (0.6-foot recovery).
		End of boring 13 feet.

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-25

DATE 11/14/86 PAGE 1 OF 1 PAGES

LOCATION: North end of Tank Farm

DATE COMPLETED: November 14, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Drive and wash

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 95.75 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1 - 11 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Suction pump

11/14/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 3.65 feet btoc low tide

PUMPING WATER LEVEL:

YIELD: Poor

REMARKS: PVC Elevation:

97.60 feet

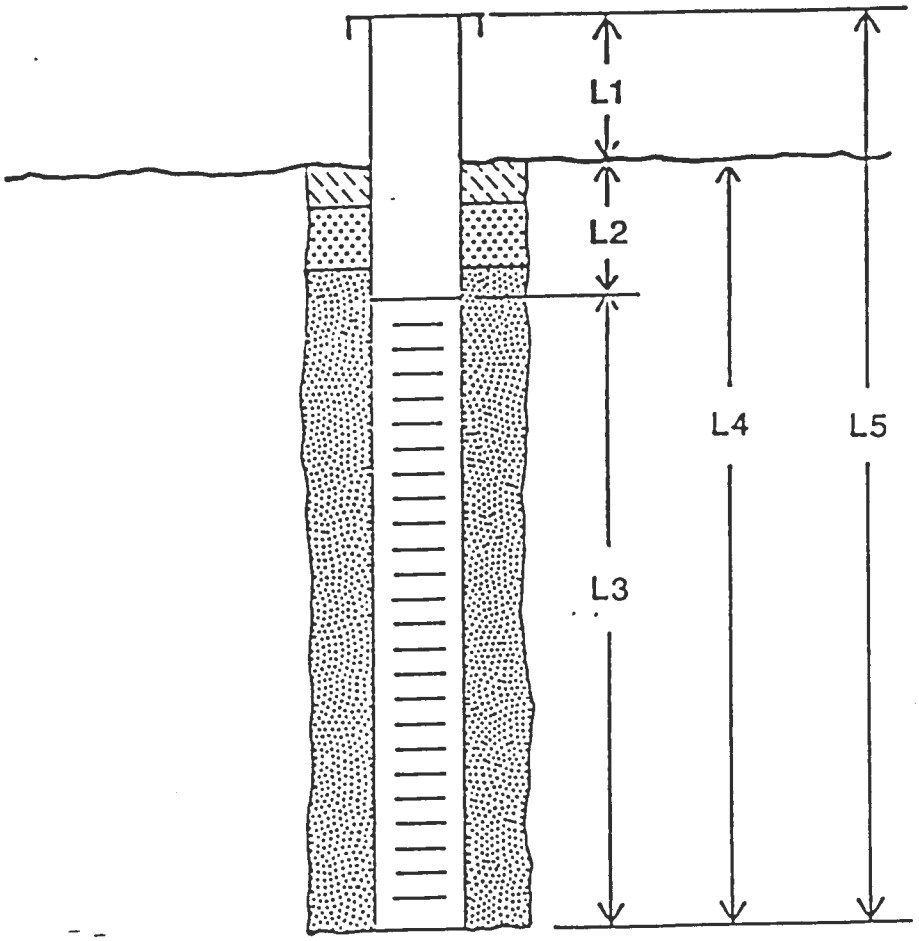
1/ Assumed datum

100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	Fill with SAND, medium to fine; little silt; pieces of brick; very moist, black (1.2-foot recovery).
2	4	From bottom of spoon. 0 - 0.3 foot: Fill with SAND, fine to very fine and silt. 0.3 - 0.6: SAND, medium; and gravel, fine; saturated, hydrogen sulfide odor, black (0.6-foot recovery).
10	12	SILT AND CLAY; trace of gravel, fine; piece of wood, saturated, black (1.3-foot recovery). End of boring 12 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 11 feet bg
		Stick up: 1.85 feet bg
		NOTES: bg = below grade btoc = below top of casing ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-25



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 11.0 FEET

L1:	1.85	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	12.85	FEET

WELL LOG

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CONSULTING GROUND-WATER GEOLOGISTS
72 DANBURY ROAD
WILTON, CT. 06897

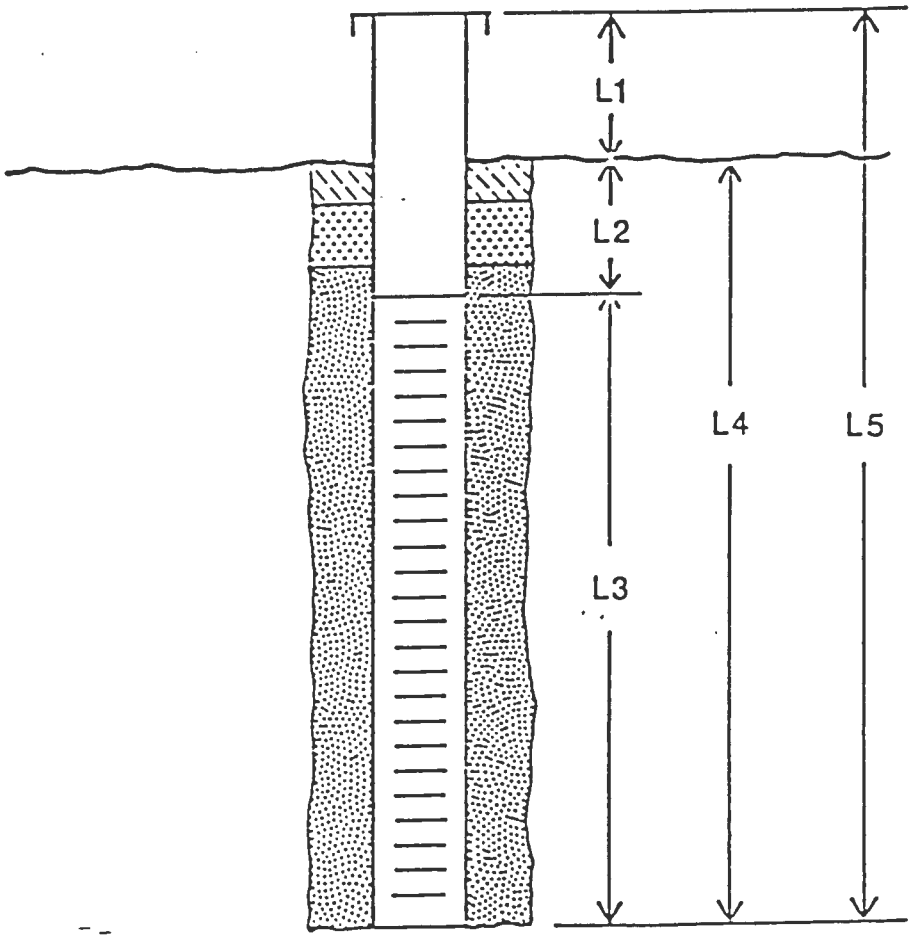
OWNER Mobil Oil Corporation
Hastings, New York
WELL NO. OW-26
DATE 11/13/86 PAGE 1 OF 1 PAGES

LOCATION: Far northwest corner of Tank Farm
DATE COMPLETED: November 13, 1986
DRILLING COMPANY: TES Corporation
DRILLING METHOD: Drive and wash
SAMPLING METHOD: Split spoon
SAMPLES EXAMINED BY: John Benvegna
REFERENCE POINT: Grade
ELEVATION OF R.P.: 94.89 feet 1/
WELL CONSTRUCTION
SCREEN TYPE: PVC - Schedule 40
DIAM.: 2-inch SLOT NO.: 20
SETTING: 1 - 11 feet bg
GRAVEL PACK SIZE: No. 2
CASING: PVC
DEVELOPMENT: Suction pump
11/14/86
PUMPING TEST
DATE:
DURATION:
STATIC WATER LEVEL: 3.54 feet btoc low tide
PUMPING WATER LEVEL:
YIELD: Moderate
REMARKS: PVC Elevation: 97.09 feet
1/ Assumed datum 100 feet.

DEPTH IN FEET FROM	DEPTH IN FEET TO	DESCRIPTION
0	2	From bottom of spoon.
		0 - 0.5 foot: SAND, medium to fine; trace of silt; brown.
		0.5 - 1.3 feet: SAND, very fine; and silt, very moist, black (1.3-foot recovery).
2	4	0 - 0.8 foot: SILT AND CLAY; pieces of wood, black.
		0.8 - 1.2 feet: SAND, medium and gravel, fine; saturated, black, hydrogen sulfide odor (1.2-foot recovery).
10	12	Wash gravel - no return (2 times).
		End of boring 12 feet.
		Cement: 0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 11 feet bg
		Stick up: 2.2 feet ag
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-26



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 11.0 FEET

L1:	2.2	FEET
L2:	1.0	FEET
L3:	10.0	FEET
L4:	11.0	FEET
L5:	13.20	FEET

LEGGETTE, BRASHEARS & GRAHAM, INC.

WELL LOG

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING GROUND-WATER GEOLOGISTS

72 DANBURY ROAD

WILTON, CT. 06897

OWNER Mobil Oil Corporation

Hastings, New York

WELL NO. OW-27

DATE 11/05/86 PAGE 1 OF 1 PAGES

LOCATION: West side of loading rack

DATE COMPLETED: November 5, 1986

DRILLING COMPANY: Tes Corporation

DRILLING METHOD: Hollow-stem auger

SAMPLING METHOD: Split spoon

SAMPLES EXAMINED BY: John Benvegna

REFERENCE POINT: Grade

ELEVATION OF R.P.: 98.34 feet 1/

WELL CONSTRUCTION

SCREEN TYPE: PVC - Schedule 40

DIAM.: 2-inch SLOT NO.: 20

SETTING: 1.95 - 15.95 feet bg

GRAVEL PACK SIZE: No. 2

CASING: PVC

DEVELOPMENT: Airlift

11/13/86

PUMPING TEST

DATE:

DURATION:

STATIC WATER LEVEL: 5.34 feet btoc high tide

PUMPING WATER LEVEL:

YIELD:

REMARKS: PVC Elevation:

100.04 feet

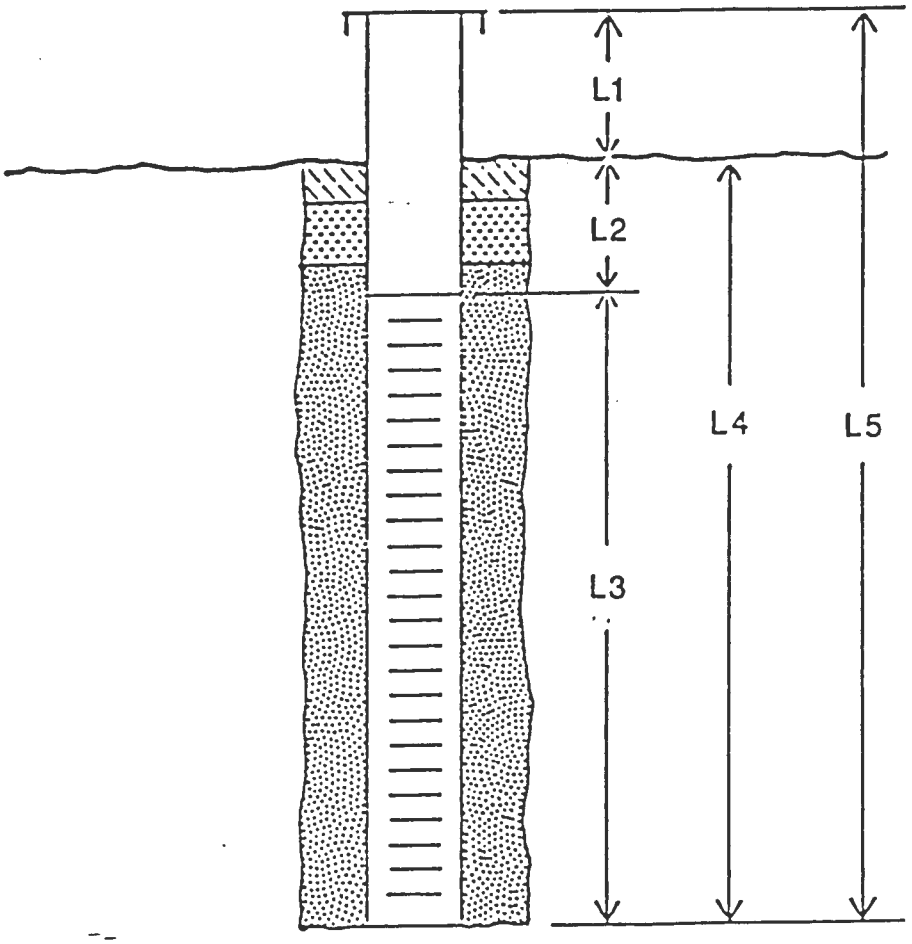
1/ Assumed datum

+100 feet.

DEPTH IN FEET FROM	TO	DESCRIPTION
0	0.35	Blacktop.
0.35	2	From bottom of spoon.
		0 - 1.35 feet: SAND, medium to fine; brown
		black.
		1.35 - 1.65 feet: Blue stone and cement
		(1.65-foot recovery).
		Trouble drilling past 2 feet - moved hole
		3 feet south.
2	4	Fill with SILT; some gravel, fine; saturated,
		black (1.0-foot recovery).
4	6	Fill with SILT; some gravel, fine; saturated,
		black (1.0-foot recovery).
9	11	Fill with SILT; and gravel, fine; saturated,
		black (0.5-foot recovery), hydrogen sulfide
		odor.
		Auger to 15 feet - install well to 16 feet.
		Cement: 0.0 - 0.2 foot bg
		Bentonite: 0.2 - 0.5 foot bg
		Sand: 0.5 - 16 feet bg
		Stick up: 1.70 feet bg
		NOTES:
		bg = below grade
		btoc = below top of casing
		ag = above grade

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

OW-27



WELL SIZE:	2-INCH DIAMETER
SCREEN SIZE:	0.020 INCH
CEMENT DEPTH:	0 - 0.20 FOOT
BACKFILL DEPTH:	———
BENTONITE DEPTH:	0.20 - 0.50 FOOT
SAND PACK DEPTH:	0.50 - 16.0 FEET

L1:	1.70	FEET
L2:	1.95	FEET
L3:	14.0	FEET
L4:	15.95	FEET
L5:	17.65	FEET

APPENDIX II

[illegible] ENGINEERING & GEOLOGICAL CONSULTANTS, INC.

CONSULTING HYDROGEOLOGISTS — 72 DANBURY RD. WILTON CT. 06897 (203) 762-1207

PROJ. NO. | CLIENT/LOCATION: MOBIL HASTINGS N.Y.

SAMPLERS: (Signature) Elizabeth Bogle, John Bemegnie, William Hamilton

PAGE I

STA. NO.	DATE	TIME	PUMP	BAIL	REMARKS / COLOR, ODOR, ETC.	NO. OF CONTAINERS TOTAL	TYPE OF SAMPLE (SOIL, GW, SW, ETC.)	PRODUCT PRESENT	TEMP. °C	pH	CONDUCTIVITY µmhos	DTW	PARAMETERS TO BE ANALYSED FOR
OW-16	11/18	1430		X	CLOUDY - FILM - SHEEN ODOR	8	GW		19.50	6.3	50	4.08	OW 18 & OW 5
OW-15	11/18	1345		X	cloudy / SPILL 11/17/86 FROM P. ULICH	8	GW		18.0	6.5	60	5.71	WERE NOT
OW-12	11/18	1400		X	cloudy - DARK GREY color - sulfer odor.	8	GW		19.0	5.8	73	7.84	FILTERED DUE
OW-27	11/18	1380		X	Cloudy. Dark Grey sulfer odor.	7	GW		12.0	6.7	150	5.83	TO PRODUCT BEING
OW-17	11/18	1449		X	Cloudy. Dark grey-Black SLIGHT SULFER SMELL	7	GW		17.0	6.4	120	7.72	PRESENT
OW 9	11/18	15:35		X	SLIGHTLY cloudy - LT GRAY color	8	GW		15.5	6.6	210	5.23	THE [illegible]
OW-8	11/19	11:30		X	SLIGHTLY - CLOUDY	7	GW		11.0	6.7	30	5.39	[illegible] FOR
OW-10	11/19	1100		X	Product present - Dark Grey STRONG ODOR NOT FILTERED	11	GW	✓	NOT	TAKEN	/	4.93	ONLY [illegible]
[illegible]	11/19	1130		X	CLOUDY - SLIGHT GREY SHEEN - SULFUR ODOR - DARK [illegible]	9	GW	SHEEN	NOT	TAKE	N	3.45	ONLY [illegible]
OW 1	11/19	1200		X	CLOUDY - GREY	7	GW		10	7.0	35	3.75	
[illegible]-21	11/19	1215		X	CLOUDY GREY	7	GW		9	7.0	40	3.51	
OW-25	11/19	1315		X	[illegible] - CLOUDY - [illegible]	7	GW		8.5	6.8	70	3.67	
OW-21	11/19	1550		X	[illegible]	7	GW		12	7.1	70	[illegible]	WEATHER CONDITIONS
OW 20	11/19	[illegible]		X	[illegible]	7	GW		13	6.9	65	[illegible]	11/18
OW 19	11/19	[illegible]		X	NOT [illegible]	7	GW		12	7.1	60	[illegible]	OVERCAST. WARM

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
John Bemegnie	11/20/86 1245	C.L. Tatsch 11/20/86			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	11/17/86 SILVERTHER [illegible] - SLIGHT OIL ODOR

CHAIN OF CUSTODY

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING HYDROGEOLOGISTS

72 DANBURY RD, WILTON CT. 06897 (203) 762-1207

PROJ. NO. | CLIENT/LOCATION: MOBIL HASTINGS N.Y.

SAMPLERS: (Signature) [signature]

PAGE II

SAMPLE NO.	DATE	TIME	PUMP	BAIL	REMARKS / COLOR, ODOR, ETC.	NO. OF CONTAINERS	TYPE OF SAMPLE (SOIL, GW, SW, ETC.)	PRODUCT PRESENT	TEMP.	PH	CONDUCTIVITY	PARAMETERS TO BE ANALYSED FOR
R	11/19	1630		X	CLOUDY	7	SW		10	6.7	90	
-5	11/19	1545		X	SHEEN - ODOR - NOT FILTERED	7	GW	X	11	6.5	98	

WEATHER CONDITIONS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Ron Bermeyne	11/20/86 1246	CL Tatel 11/20/86			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks

CHAIN OF CUSTODY

F.I.L

LEGGETTE, BRASHEARS & GRAHAM, INC.

CONSULTING HYDROGEOLOGISTS

72 DANBURY RD, WILTON CT. 06897 (203) 762-1207

NO. | CLIENT/LOCATION: MOBIL - HASTINGS N.Y.

RS: (Signature) John Bonvegna

DATE	TIME	PUMP	BAIL	REMARKS / COLOR, ODOR, ETC.	NO. OF CONTAINERS	TYPE OF SAMPLE (SOIL, GW, SW, ETC.)	PRODUCT PRESENT	TEMP. C°	PH	CONDUCTIVITY µmhos	PARAMETERS TO BE ANALYSED FOR
11/18	1430		X		(2)	GW		17.5	6.3	70	SVOA
11/6	1345		X		2			15	6.5	60	
11/6	1400		X		2			19	5.6	75	
11/6	1330		X		2			12	6.7	110	
11/6	1430		X		2			17	6.4	130	
11/6	1500		X		2			15.5	6.6	510	
11/6	1100		X		2			11	6.1	50	
11/6	1500		X		(2)		X	NOT	TAKEN		
11/6	1430		X		2		X				
11/6	1430		X		2			10	7	55	
11/6	1500		X		2			9	7	60	
11/6	1500		X		2			12.5	6.8	70	
11/6	1350		X		2			12	7.1	70	
11/6	1400		X		2			13	6.9	75	
11/6	1500		X		2	↓		12	7.1	70	

WEATHER CONDITIONS
11/16 WINDY OVERCAST
11/19 COLD WINDY

Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bonvegna	11/20 1450	David Reed

Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Date / Time	Received for Laboratory by: (Signature)

Remarks: Samples split with E.T.C

CHAIN OF CUSTODY

CONSULTING HYDROGEOLOGISTS

72 DANBURY RD, WILTON CT. 06897 (203) 762-1207

PROJ. NO. | CLIENT/LOCATION: Mobil / Hasting

SAMPLERS: (Signature) John Benvenga

STA. NO.	DATE	TIME	PUMP	BAIL	REMARKS/ COLOR, ODOR, ETC.	NO. OF CONTAINERS	TYPE OF SAMPLE (SOIL,GW,SW,ETC.)	PRODUCT PRESENT	TEMP.	pH	CONDUCTIVITY	PARAMETERS TO BE ANALYSED FOR
TB-14	11/10	1330			2-4 ft		SOIL					
TB-14	"	"			4-6 ft.		"					
TB-14	"	"			9-11 ft.		"					
TB-2	"	"			2-4 ft		"					
W-27	"	"			2-4		"					
W-27	"	"			9-11		"					
TB 13	"	"			5-7		"					
TB 13	"	"			7-9		"					
W-1	"	"			2-4		"					
W-9	"	"			5-7		"					
TB-10	"	"			2-4		"					
TB-10	"	"			5-7		"					
TB-11	"	"			2-4		"					
TB-11	"	1400			6-8		"					
W-12	"				2-4		"					

WEATHER CONDITIONS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	11/10/87 1350	C.L. Tritel			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

CHAIN OF CUSTODY

ENGINEERING-SCIENCE, INC.

CONSULTING HYDROGEOLOGISTS

72 DANBURY RD. WILTON CT. 06897 (203) 762-1207

PROJ. NO. | CLIENT/LOCATION: Mobil / Hastings

SAMPLERS: (Signature) John Semerjian

STA. NO.	DATE	TIME	PUMP	BAIL	REMARKS / COLOR, ODOR, ETC.	NO. OF CONTAINERS	TYPE OF SAMPLE (SOIL,GW,SW,ETC.)	PRODUCT PRESENT	TEMP.	pH	CONDUCTIVITY	PARAMETERS TO BE ANALYSED FOR
[illegible]-12	11/10	1330			10-12		Soil					
[illegible]-15					2-4							
[illegible] 15					10-12							
[illegible]-17					2-4							
[illegible] 17					10-12							
[illegible]-16					4-6							
[illegible]-16					10-12							
TB-4					2-4							
P.-4					10-12							
TB 2					10-12							

WEATHER CONDITIONS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
M. Ferman L.	11/10/86 1330	C.L. Tatch			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

CHAIN OF CUSTODY

LE RE E, TA. IEA..S .. GI..HA..., I..S.

CONSULTING HYDROGEOLOGISTS

72 DANBURY RD. WILTON CT. 06897 (203) 762-1207

PROJ. NO. | CLIENT/LOCATION: MOBIL - HASTINGS

SAMPLERS: (Signature) John Berregna

STA. NO.	DATE	TIME	PUMP	BAIL	REMARKS / COLOR, ODOR, ETC.	NO. OF CONTAINERS Total 32	TYPE OF SAMPLE (SOIL, GW, SW, ETC.)	PRODUCT PRESENT	TEMP.	pH	CONDUCTIVITY	PARAMETERS TO BE ANALYSED FOR
DW25	11/14				2-4 / 10-12	2	Soil					
DW26	11/13				0-2 / 2-4	2	"					
[illegible]19	11/14				0-2 / 2-4	2	"					
[illegible]W 1	11/15				0-2 / 2-4	2	"					
[illegible]W 8	11/13				2-4 / 10-12	2	"					
[illegible]2	11/1[illegible]				2-4 / 10-12	2	"					
TF-7	11/13				2-4 / 10-12	2	"					
TF-[illegible]	11/12				2-4 / 4-6	2	"					
DW-21	11/10				4-6 / 11-13	2	"					
TF-3	11/[illegible]				2-4 / 6-8	2	"					
TP-6	11/10				2-4 / 10-12	2	"					
DW-19	11/12				0-2 / 10-12	2	"					
DW-5	11/17				0-2 / 2-4 / 10-12	3	"					
DW20	11/11				2-4 / 6-8 / 10-12	3	"					
TF-24	11/10				2-4 / 11-13	2	"					

WEATHER CONDITIONS

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[signature]	11/17/91 1500				
Relinquished by: (Signature)	Date / Time	Received by: (Signature) [signature]	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

CHAIN OF CUSTODY

TABLE II-1

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Ulrich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Volatile Organics[3/]

Parameter	Date sampled											
	04/19/85	04/25/85	06/04/85	06/05/85	07/30/85	07/31/85	10/21/85	10/22/85	11/25/85	11/26/85	08/13/86	08/14/86
Methyl chloride	*10	*20	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Methyl bromide	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Vinyl chloride	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Chloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Methylene chloride	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,1-Dichloroethylene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,1-Dichloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,2-Trans-dischloroethylene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Chloroform	*10	*10	*10	*10	*10	*10	11	11	*10	11	17	20
Dichlorodifluoromethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,2-Dichloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,1,1-Trichloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Carbon tetrachloride	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Dichlorobromomethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,2-Dichloropropane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,3-Dichloropropoene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Trichloroethylene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Benzene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Chlorodibromomethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
1,1-2-Trichloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Cis-1,3-dichloropropene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
2-Chloroethyl vinyl ether	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100
Bromoform	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100	*100

TABLE II-1
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Volatile Organics[3/]

Parameter	Date sampled											
	04/19/85	04/25/85	06/04/85	06/05/85	07/30/85	07/31/85	10/21/85	10/22/85	11/25/85	11/26/85	08/13/86	08/14/86
1,1,2,2-Tetrachloroethane	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Toluene	*10	*10	*10	*10	24	16	*10	*10	*10	*10	42	21
Chlorobenzene	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10	20
Ethylbenzene	*10	10	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Xylene	20	34	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Metaxylene	*10	12	*10	*10	*10	*10	*10	*10	*10	*10	*10	*10
Bromomethane	*10	*10	*10	*10	*10	*10	--	--	--	--	--	--
t-1,3-Dichloropropane	*10	*10	*10	*10	*10	*10	--	--	--	--	--	--
Tetrachloroethene	*10	*10	*10	*10	*10	*10	--	--	--	--	--	--

1/ Data provided by Blasland & Bouck Engineers, P.C. as authorized by Westchester County Industrial Pretreatment Program.
2/ Sampling station: sewer line on the Tappan Terminal Property.
3/ Results reported in parts per billion.

* Denotes less than.
-- Not analyzed.

TABLE II-2

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Ulrich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Base/Neutral Extractables[3/]

Parameter	Date sampled 04/19/85	04/25/85	06/04/85	06/05/85	07/30/85	07/31/85	10/21/85	10/22/85	12/17/85	12/18/85
Base/neutral extractable organics	*25	*25	*10	--	*25	*0.01	63	93	63	100
Acenaphthene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Anthracene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Bis(2-ethylhexyl) phthalate	83	157	*0.01	158	*0.01	*0.01	--	--	--	--
Butyl benzyl phthalate	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Di-n-butyl phthalate	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
1,2-Dichlorobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
1,4-Dichlorobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Diethyl phtalate	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Di-n-Octyl phthalate	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Flouranthene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Fluorene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
Naphthalene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
N-nitrosodimethylamine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	43	72
N-nitrosodiphenylamine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
phenanthrene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	11	--	--
Pyrene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--	--	--
2,4,6-Trichlorophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--
2-Chlorophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--
2,4-Dichlorophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--
Pentachlorophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--
4-Nitrophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--
2,4-Dinitrophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--	--	--

1/ Data provided by Blasland & Bouck Engineers, P.C. as authorized by Westchester County Industrial Pretreatment Program.
2/ Sampling station: sewer line on the Tappan Terminal Property.
3/ Results reported in parts per billion.

* Denotes less than.
-- Not analyzed.

TABLE II-3

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Acid Extractables[3/]

Parameter	Date sampled 04/19/85	04/25/85	06/04/85	06/05/85	07/30/85	07/31/85	12/17/85	12/18/85
2,4-Dimethylphenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--
2-Nitrophenol	*0.01	*0.01	*0.01	*0.01	*0.01	*0.01	--	--
Hexachlorobutadiene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
1,3-Dichlorobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
1,2,4-Trichlorobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Hexachlorobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
2-Chloronaphthalene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Hexachloroethane	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Acid Extractable Organics	*250	*250	*25	*25	*25	--	*250	*250
Bis(2-chloroethyl) ether	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Bis(2-chloroisopropyl) ether	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
4-Bromophenyl phenyl ether	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Benzo(A)pyrene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Benzo(A)anthracene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Benzo(B)fluoranthene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Benzo(K)flouranthene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Chrysene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Acenaphtylene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Benzo(g,h,i)perylene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Dibenzo(a,h)anthracene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Indeno(1,2,-3-c,d) pyrene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
1,2-diphenyldrazine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Nitrobenzene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
2,4-Dinitrotoluene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
2,6-Dinitrotoluene	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Dimethyl phthalate	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Enzidine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
1,3-Dichlorobenzidine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
Isophorone	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--
N-nitrosodi-n-propylamine	*0.01	*0.01	*0.01	--	*0.01	*0.01	--	--

1/ Data provided by Blasland & Bouck Engineers, P.C. as authorized by Westchester County Industrial Pretreatment Program.
2/ Sampling station: sewer line on the Tappan Terminal Property.
3/ Results reported in parts per billion.

* Denotes less than.
-- Not analyzed.

TABLE II-5
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Conventional and Non-Conventional Pollutants[3/]

Date	Flow (gpd)	pH	Bio-chemical oxygen demand	Total suspended solids	Chemical oxygen demand	Total organic carbon	Total kjeldahl nitrogen	Nitrogen ammonia	Oil and grease	Cyanide (total)	Phenol (total)	Total toxic organics	Phosphorous (total)	Pesticides/PCBS (toxaphene)
04/21/86	172,190	8.1 -12.1	240	380	--	--	--	1.6	--	--	--	--	--	--
04/22/86	137,183	4.0 -12.4	490	390	--	--	--	320	--	--	--	--	--	--
	--	--	--	--	--	--	--	22	--	--	--	--	--	--
05/19/86	224,325	3.54-12.13	480	140	--	--	--	1.6	--	--	--	--	--	--
05/20/86	201,212	7.01-12.91	300	110	--	--	--	1.1	--	--	--	--	--	--
06/16/86	190,740	2.12- 7.21	300	26	--	--	--	1.6	--	--	--	--	--	--
06/17/86	173,760	1.49- 8.73	1,000	73	--	--	--	1.9	--	--	--	--	--	--
07/16/86	211,834	5.64-12.56	480	240	--	--	--	--	--	--	--	--	--	--
07/17/86	266,587	5.66-12.48	210	170	--	--	--	--	--	--	--	--	--	--
08/13/86	184,756	4.21-12.40	59	190	350	200	--	0.53	38	*0.05	0.35	0.06	--	--
	--	--	--	--	--	--	--	--	8.2	*0.05	2.0	--	--	--
08/14/86	165,084	3.93-12.13	550	340	830	240	--	0.75	19	*0.05	0.35	0.04	--	--
	--	--	--	--	--	--	--	--	*5.0	*0.05	0.19	--	--	--

1/ Data provided by Blasland & Bouck Engineers, P.C. as authorized by Westchester County Industrial Pretreatment Program.
2/ Sampling station: sewer line on the Tappan Terminal Property.
3/ Results reported in parts per million unless otherwise noted.

* Denotes less than.
-- Not analyzed.

TABLE II-5
(continued)

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Conventional and Non-Conventional Pollutants[3/]

Date	Flow (gpd)	pH	Bio-chemical oxygen demand	Total suspended solids	Chemical oxygen demand	Total organic carbon	Total kjeldahl nitrogen	Nitrogen ammonia	Oil and grease	Cyanide (total)	Phenol (total)	Total toxic organics	Phosphorous (total)	Pesticides/PCBS (toxaphene)
07/30/85	152,338	7.0 -13.9	660	180	1,202	490	2.02	--	16	*0.5	*0.001	0.02	0.69	--
	--	--	--	--	--	--	--	--	13	*0.5	0.041	--	--	--
07/31/85	210,554	6.3 -13.1	700	450	1,454	530	10.6	--	--	--	--	0.02	0.81	--
09/04/85	142,793	5.1 -12.8	70	250	--	--	--	--	--	--	--	--	--	--
09/05/85	210,263	5.1 -13.2	280	260	--	--	--	--	--	--	--	--	--	--
10/21/85	130,002	5.1 -13.4	480	84	800	310	0.59	--	26	*0.05	0.054	0.07	--	--
	--	--	--	--	--	--	--	--	*5.0	*0.05	0.01	--	--	--
10/22/85	148,702	3.3 -13.1	300	120	--	--	260	1.3	8.0	*0.05	0.036	0.63	--	0.52
	--	--	--	--	--	--	--	--	6.0	*0.05	0.12	--	--	--
11/25/85	245,344	3.8 -13.3	45	140	580	300	--	14	8.8	*0.05	0.16	*0.01	--	--
	--	--	--	--	--	--	--	--	14	*0.05	0.022	--	--	--
11/26/85	225,896	3.9 -12.7	120	27	380	180	--	1.2	6.7	*0.05	0.038	0.01	--	--
	--	--	--	--	--	--	--	--	*5.0	*0.05	0.210	--	--	--
12/17/85	162,914	6.3 -13.6	540	210	680	280	--	6.0	23	--	0.13	0.11	--	--
	--	--	--	--	--	--	--	--	14	--	0.11	--	--	--
	--	--	--	--	--	--	--	--	14	--	0.11	--	--	--
12/18/85	197,846	7.1 -12.8	460	320	1,200	290	--	4.9	46	--	0.15	0.17	--	--
	--	--	--	--	--	--	--	--	62	--	0.015	--	--	--
01/21/86	188,496	4.8 -12.5	258	170	--	--	--	20	--	--	--	--	--	--
01/22/86	303,688	9.4 -13.3	170	290	--	--	--	*0.05	--	--	--	--	--	--
02/19/86	274,965	6.3 -11.8	480	67	--	--	--	2.8	--	--	--	--	--	--
02/20/86	274,965	5.6 -11.8	420	120	--	--	--	21	--	--	--	--	--	--

TABLE II-5

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Conventional and Non-Convantional Pollutants[3/]

Date	Flow (gpd)	pH	Bio-chemical oxygen demand	Total suspended solids	Chemical oxygen demand	Total organic carbon	Total kjeldahl nitrogen	Nitrogen ammonia	Oil and grease	Cyanide (total)	Phenol (total)	Total toxic organics	Phosphorous (total)	Pesticides/PCBS (toxaphene)
12/03/84	--	--	--	--	--	--	--	--	61	--	--	--	--	--
12/04/84	155,805	3.6 -13.1	440	80	839	--	--	2.32	17	--	--	--	0.51	--
12/05/84	190,715	7.2 -12.7	640	120	1,252	470	--	99.8	--	--	--	--	1.25	--
01/28/85	--	--	--	--	--	--	--	--	18	--	0.005	--	--	--
	--	--	--	--	--	--	--	--	47	--	0.617	--	--	--
01/29/85	217,405	5.4 -12.9	480	220	1,046	--	--	--	3	--	0.028	--	--	--
	--	--	--	--	--	--	--	--	1	--	0.024	--	--	--
01/30/85	182,445	5.1 -13.3	1,300	57	2,500	--	--	--	--	--	--	--	--	--
04/17/85	211,392	3.9 -12.8	640	500	--	--	--	--	2	*0.05	0.007	--	--	--
	--	--	--	--	--	--	--	--	7	*0.05	0.036	--	--	--
04/18/85	158,561	4.0 -13.8	310	170	--	--	--	--	*1	*0.05	*0.001	--	--	--
	--	--	--	--	--	--	--	--	18	*0.05	0.008	--	--	--
04/19/85	--	--	--	--	560	250	--	--	--	--	--	0.10	--	--
04/25/85	--	--	--	--	--	570	--	1.93	--	--	--	0.21	--	--
06/03/85	--	--	--	--	--	--	--	--	30	*0.05	0.010	--	--	--
	--	--	--	--	--	--	--	--	24	*0.05	--	--	--	--
06/04/85	191,877	7.3 -13.3	280	93	470	--	300	38.7	55	3.2	0.021	*0.01	0.15	--
	--	--	--	--	--	--	--	--	20	*0.5	0.001	--	--	--
06/05/85	213,015	4.4 -13.4	360	70	970	--	20.9	--	--	--	--	0.16	5.8	--
07/29/85	--	--	--	--	--	--	--	--	10	*0.05	0.075	--	--	--
	--	--	--	--	--	--	--	--	83	*0.5	*0.001	--	--	--

TABLE II-4

MOBIL OIL CORPORATION
TAPPAN TERMINAL
HASTINGS-ON-HUDSON
GREENBURGH, NEW YORK

Paul Uhlich & Company, Inc.[1/]
Location 01[2/]
Summary of Analytical Results
for Metal Pollutants[3/]

Parameter	Date sampled 12/04/84	12/05/84	01/29/85	01/30/85	04/17/85	04/18/85	06/04/85	06/05/85	07/30/85	07/31/85	10/21/85	10/22/85	11/25/85	11/26/85	12/17/85	12/18/85	08/13/86	08/14/86
Arsenic	*0.02	*0.02	0.05	*0.02	0.03	0.029	*0.02	*0.02	*0.02	*0.02	*0.02	*0.02	0.02	*0.02	*0.02	0.04	*0.02	*0.02
Cadmium	--	--	--	--	0.007	0.003	--	--	--	--	0.003	*0.002	*0.002	0.003	*0.002	0.005	*0.002	*0.002
Copper	--	--	--	--	1.4	0.25	--	--	--	--	0.21	0.11	0.11	0.12	0.13	0.17	0.04	0.06
Chromium	--	--	--	--	--	--	--	--	--	--	--	--	0.02	0.03	--	--	--	--
Chromium total	--	--	--	--	--	--	--	--	--	--	0.05	0.03	--	--	0.03	0.05	0.02	0.02
Lead	--	--	--	--	*0.05	*0.05	--	--	--	--	0.15	*0.05	0.09	0.12	0.09	0.17	0.08	*0.05
Mercury	--	--	--	--	--	--	--	--	--	--	*0.001	*0.001	*0.001	*0.001	*0.001	*0.001	*0.001	--
Nickel	--	--	--	--	--	--	--	--	--	--	*0.05	*0.05	*0.05	*0.05	*0.05	*0.05	*0.05	*0.05
Silver	--	--	--	--	--	--	--	--	--	--	*0.02	*0.02	*0.02	*0.02	*0.02	*0.02	*0.02	*0.02
Zinc	--	--	--	--	0.17	0.17	--	--	--	--	0.14	0.22	0.15	0.09	0.11	0.20	0.07	0.08

1/ Data provided by Blasland & Bouck Engineers, P.C. as authorized by Westchester County Industrial Pretreatment Program.
2/ Sampling station: sewer line on the Tappan Terminal Property.
3/ Results reported in parts per million.

* Denotes less than.
-- Not analyzed.